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Understanding Victoria's Biosecurity System: Semi- structured interviews

Final report

Strengthening Victoria's Biosecurity System Program

Agriculture Victoria

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Executive Summary

This project is part of Agriculture Victoria's Strengthening Victoria's Biosecurity System (SVBS) Program. A vital component of the SVBS Program is to understand industry, community and government views, knowledge and aspirations for Victoria's Biosecurity System. RM Consulting Group was commissioned to conduct a series of stakeholder interviews to contribute to building this understanding.

An interview guide was prepared setting out questions under six themes: relationships; strengths and weaknesses; roles and responsibilities; understanding of biosecurity; biosecurity interests; and decision-making.

A list of interviewees was developed in consultation with Agriculture Victoria. In total, 114 stakeholders were interviewed. The sample included government, industry and community stakeholders. Government was the largest sector represented in the sample (n=40) covering the three levels – federal, state and local. A similar number of industry stakeholders were interviewed (n=38), comprising representatives from 12 industry types. The interviewees classed as community (n=36) were mostly comprised of interest group representatives, primarily from the environment sector. A small number of grower and state groups, including peak community bodies such as the Victorian National Parks Authority, were also interviewed.

The original sample (of 103 interviewees) included only four interviewees identified as Aboriginal people or Traditional Owners. To better capture input from this stakeholder group, an additional 11 interviews were conducted, focussing on Traditional Owner Corporations and Aboriginal people working in Traditional Owner focussed roles in Victorian government agencies.

It is important to note that the sample used in this project is biased towards people who are likely to understand biosecurity since they have some direct involvement in it. This means that while the sample includes people who could be considered leaders, it also could omit people who could bring fresh perspectives and novel ideas.

FINDINGS AND CONCLUSIONS FOR EACH THEME

RELATIONSHIPS – factors that support and limit co-operation and trust between actors within the system.

Highlights from interviews

Government relationship with the primary industry sector – Most of the primary industries representatives interviewed reported that their relationship with the Victorian Government on biosecurity is strong. In many cases this was due to past experiences addressing pest and disease outbreaks or other emergency responses. Through this experience, industry organisations and Government bodies involved in biosecurity are well known to each other.

Government relationships with local government and the environment and natural resources sector – Interviewees from local government and those interested in environmental biosecurity (including threats to native ecosystems) reported that, with respect to biosecurity, they currently have limited contact with State Government agencies. They perceived that government does not see biosecurity as an important issue for them. They felt that government does not seek input from the wider community on biosecurity, which suggests a lack of interest in community knowledge, experience and skills. A significant exception to this pattern is the approach that has been in place over recent years with the community weed and pest working groups.

Government relationships with Traditional Owners and Aboriginal people – There is broad recognition that the Victorian Government has a strong commitment to Aboriginal engagement and self-determination, which provides an environment that supports meaningful partnerships. Compared to Parks Victoria and DELWP, Agriculture Victoria's engagement of Aboriginal people and Traditional Owners is lagging. Regardless, there is interest among Traditional Owners to work in partnership with government, as well as with private land managers, but investing in building relationships with Traditional Owners, particularly with Elders, is critical.

Challenges with relationship building – Many of the relationships highlighted by interviewees were based on shared experiences working together on an incident or emergency response. Outside of these emergency situations, creating relationships can be a challenge. Building relationships requires time and resources, and the product or outputs from this investment can be difficult to identify and quantify which can, in turn, make them a challenge to fund.

FINDINGS
1.1 Regardless of history, the willingness to engage with government on biosecurity is very strong. This interest comes from those already highly engaged and also those that do not feel connected to government – all were keenly interested in improving relationships and working together.
1.2 The strength and quality of relationships between the Victorian Government and other participants in the system (government and non-government) varies widely. The relationship is generally strong between the state and federal governments, and with primary industries organisations (e.g. peak bodies). In the environment and natural resource sector, the predominant view is that, over recent times, engagement has declined and the opportunities to collaborate or participate in decision-making have been very limited.
1.3 Relationships in the animal and plant health areas are the strongest due, at least in part, to history and to the clarity of respective roles and responsibilities in the biosecurity system.
1.4 Interviewees from the environment and natural resource sector feel disconnected from government. They are unclear about the strategic priority government places on environment and natural resource related biosecurity issues.
1.5 Historically, interactions with Traditional Owners have largely focussed on compliance with cultural heritage protections. Parks Victoria and DELWP are now establishing genuine partnerships with Traditional Owners, driven by commitments to Aboriginal self-determination. Agriculture Victoria is not considered to be strong in its engagement of Traditional Owners. Regardless, the Traditional Owner organisations interviewed are interested in partnering in biosecurity management (drawing on Country Plans) though organisational capacity is limited.
1.6 From the perspective of the Traditional Owners and Aboriginal people interviewed, the quality of relationships is the major factor that affects trust between Aboriginal people and others involved in biosecurity. It is critical that Elders are part of the conversation and solutions to biosecurity issues.

ROLES AND RESPONSIBILITIES – the roles of industry, community and the government in the context of the biosecurity system.

Highlights from interviews

Sharing responsibility – Interviewees were not surprised or uncomfortable with the concept that biosecurity is a shared responsibility. Some interviewees from both industry and community were concerned by any assumption that government was taking the lion's share of responsibility for biosecurity issues. There are many industries who have taken leadership for their biosecurity matters for many years and some see government as having stepped away. In the environment and Natural Resource Management (NRM) sector, interviewees highlighted that their community-led groups have often taken on responsibilities that were previously fulfilled by government.

Many interviewees noted that the process of determining how responsibility should be shared had to be collaborative and ultimate arrangements clear and transparent to all. When the roles are mapped, it becomes

apparent where the roles and responsibilities of government, industry and community intersect, and therefore where there is great potential for genuine partnership based on shared interests. Based on systems mapping of the current system this includes emergency response, leadership and coordination, monitoring and surveillance, risk assessment, preparedness, and extension and capacity building. More singular responsibility for players in the system includes government having responsibility for compliance and enforcement, border control and quarantine, legislation and policy, while industry has lead responsibility for control of established/ endemic pests and disease, stewardship, verification/QA, and traceability.

Government’s approach to its regulatory role – A frequent comment was that an enforcement option was critical for dealing with so-called recalcitrant land managers. This seemed to be less about changing the behaviour of that land manager and more about supporting the good practices of land managers who were ‘doing the right thing’. One interviewee described the state government’s regulatory/legislative responsibilities as falling across a spectrum of actions – from soft (engagement and information provision) to hard (compliance and enforcement). They reflected that as resourcing at the State Government level came under pressure there has been a withdrawal from the ‘soft’ services, which left a stronger (relative) focus on compliance and enforcement. Across these different views one view was common – there was little understanding of rationale for when enforcement actions were preferred and when not.

Government meeting its own responsibilities – Many interviewees pointed to areas where they felt government was falling short of its own biosecurity responsibilities. Most prominent of these was the challenge of managing weeds and pests on public land, but other points mentioned included extension and capacity building, ensuring technical capacity in government agencies and compliance and enforcement. This perception represented a significant barrier for some interviewees.

FINDINGS

2.1 The concept that responsibility for biosecurity should be shared is widely accepted, as is the recognition that government neither could, nor should, address biosecurity issues alone. However, there is some concern that government may not fully appreciate the extent to which some actors have already assumed biosecurity responsibilities. Some parties feel that there has been ‘cost shifting’ (from government to industry) and withdrawal of government services. This will affect their perspectives on discussions of shared responsibilities.

2.2 Interviewees identified specific leadership roles for government in biosecurity. Those most strongly noted were regulation and compliance, community engagement and building partnerships, information provision, coordination in all areas, policy development, surveillance, monitoring for future risks and developing and retaining necessary expertise.

2.3 Interviewees are open to a renewed focus on partnerships that do not necessarily have government sitting at the centre. Participants are enthusiastic to engage in the conversations about how to build true partnerships.

2.4 In the natural resource management sector, organisations like Landcare feel that they have already taken on greater responsibility for biosecurity advice and support to land managers. Some see this as Landcare having been left to provide this support alone, where previously they worked in partnership with government agencies. There is no desire to withdraw from this role but there is interest in returning to a partnership approach with organisations like Landcare networks and Catchment Management Authorities providing key connections into community.

STRENGTHS OF THE CURRENT SYSTEM – positive aspects of the current biosecurity system and areas to retain.

Highlights from interviews

History and track record – Interviewees from across the sample recognised Victoria’s strong track record for biosecurity management and for consulting and collaborating with agricultural industries. This includes specific examples such as the livestock identification system and comprehensive and effective responses to disease outbreaks in both animal and plant industries. Many interviewees noted that the state’s technical capability is

among the best in the nation. Interviewees with a nationwide perspective also highlighted the importance of Victoria's leadership in biosecurity issues like the sheep and goat electronic identification system.

Strong institutions and foundations – A particular strength highlighted by many interviewees was that Victoria has strong institutional arrangements in place. This includes regional, industry and community organisations who recognise the importance of biosecurity. Even in the case of environment and natural resource sectors, where recent interactions on biosecurity were criticised, the interest and capacity in regional organisations like Catchment Management Authorities, Landcare and Friends groups is still present.

FINDINGS

3.1 The Victorian Government (particularly Agriculture Victoria), has very strong relationships and networks with the relevant Australian Government departments and with many agricultural industries. These relationships are mature, robust and based on a strong history of collaboration.

3.2 The state has delivered some important examples of emergency planning (scenario planning for varroa mite) and preparedness in some areas, particularly those related to primary production.

3.3 Victoria has demonstrated leadership and achievements in some extremely difficult areas – especially in livestock identification, most recently in electronic identification for sheep.

3.4 Victoria's capability in emergency response is a particular strength. This is being demonstrated currently in the avian influenza outbreak but this is just another in a long succession of responses that stretch over decades.

3.5 Victoria's technical capabilities in biosecurity are highly regarded and are viewed as among the best in the country.

WEAKNESSES OF THE CURRENT SYSTEM – negative aspects of the current biosecurity system and areas to focus on for reform.

Highlights from interviews

Legislation, policy and strategy – A range of interviewees noted that Victoria's legislation is not contemporary and does not align with approaches used in other states and territories around Australia. Some interviewees linked this lack of clear legislation, strategy and policy to perceptions that decisions are heavily influenced by lobbying or by the 'loudest voices'. Some interviewees felt that this explained the apparent focus on agricultural pests and diseases rather than environmental biosecurity issues. The perception among some of those interviewed was that government was very active and effective in its responses to disease or pest incursions, but efforts in prevention, including surveillance and enforcement of current regulations, are far less prominent.

Engaging all players in the system – The current biosecurity system brings together government agencies, organisations and peak bodies, representing primary industry and food production, and organisations representing interests in the natural environment. Interviewees pointed to two areas where the current model is deficient. The first is the definition of 'industry'. Government routinely engages industry on biosecurity issues. For the most part this is via peak bodies or formal industry organisations, who represent commercial operations. However, some of the biosecurity risk comes from actors who would not consider themselves to be part of an industry. For example, small or lifestyle farms that are carrying small numbers of livestock.

The second relates to the environment and natural resource sector. Some interviewees felt that the current approach seemed to be based on an assumption that these interests could be covered by engaging the 'community'. The constituency for environmental and natural resource biosecurity matters is not the general community. Some interviewees expressed a concern that the necessary time had not been invested in identifying the relevant groups and developing relationships with them.

FINDINGS

4.1 The government's policies suggest that prevention is the most cost-effective approach and therefore the highest priority. Interviewees, from across the sample, noted that actions often seem to be inconsistent with this.

4.2 Many interviewees noted that Victoria's legislation has gone from reflecting leading thinking to now being among the weakest and least contemporary. It is a major barrier to being able to deliver a transparent and coordinated biosecurity approach.

4.3 Some interviewees perceive that the state lacks an overall biosecurity strategy, and this means that government actions are (overly) prone to being influenced by the loudest voices or by lobbying from interest groups.

4.4 Consistency across states is a significant issue for national businesses. Different biosecurity processes in each state and lack of coordination across borders, and at a national level, adds to costs for these businesses as they seek to meet biosecurity requirements.

4.5 Some interviewees perceive that community and stakeholder engagement is tokenistic and not driven by a genuine desire to develop shared understandings, collaborate on decision-making and genuinely share responsibility, resources and decision-making.

There is a perception that Agriculture Victoria engages intensively with some industry groups and peak bodies, with a belief that this constitutes broad community engagement.

4.6 Many interviewees noted that action on biosecurity action is widely under-resourced. The long-term nature of biosecurity management is a particular challenge for government's short-term funding cycles. Funding biosecurity as short-term projects leads to inconsistency and uncertainty regarding government's commitment to biosecurity.

4.7 Interviewees noted that compliance and enforcement are among the key roles of government but the policy or strategic basis for the current approach is not clear. Participants are seeking both a more collaborative and balanced approach to the use of enforcement.

4.8 Some interviewees raised concerns that in the current system, reporting a biosecurity incursion had serious negative consequences for the land manager and the use and operation of their property. This has the potential to prevent reporting and compromise the ability to detect new or emerging pests and disease.

4.9 Interviewees from across different primary production sectors highlighted that backyard and lifestyle farmers are not well connected to 'industry' but they can be the source of significant risks for the whole system. Connecting with these people to help them to see that they have biosecurity responsibilities should be a priority. Some interviewees noted examples where this has already been done well including the fruit industry in the Cobram area (see Queensland Fruit Fly case study) and apiarists in Canberra.

4.10 Interviewees from across interest groups raised concerns about the low level of community awareness of the importance of biosecurity. They noted that it was not surprising that in most cases, awareness of a pest or disease was driven by direct experience, but this does not appear to be resulting in any increase in general awareness or concern about biosecurity.

4.11 There is a perception among some interviewees that there is a lot of data collection going on but little sharing of that data with stakeholders – industries, community, environment, and NRM bodies.

DECISION-MAKING – what shapes and influences (individual or organisational) decisions and actions regarding biosecurity.

Highlights from interviews

For many of the interviewees the factor that most shapes their biosecurity decisions and actions is self-interest or direct benefits. Interviewees who were familiar with government decision-making processes drew attention to their concerns about priorities and actions. For instance, someone called attention to the question of why government chooses to invest in some places or species and not others. An example of this is the relative

attention given to an established widespread pest like blackberries versus the perception of little attention given to deer.

For the Traditional Owners and Aboriginal people interviewed, legislation (esp. the *Aboriginal Heritage Act 2006*) is a key driver of biosecurity decision-making but so too is cultural practice. Actions that might be considered conventional treatments of weeds or pest animals have a clear cultural context because they are considered to be part of the process of healing Country. Employment is also a significant influence on the approaches Traditional Owner organisations use with management of all healthy Country matters including biosecurity.

FINDINGS

5.1 Industry viability (maintaining and growing a product) and trade (access to markets and maintaining a competitive advantage) are key drivers of biosecurity action.

5.2 Biosecurity management is part of 'healing and managing Country' – the major driver of decision-making for the Traditional Owners and Aboriginal people interviewed. This wholistic view includes using traditional practices like fire as part of the options for healing Country (which could include managing biosecurity threats).

5.3 A direct risk, near miss or direct involvement in an emergency event were strong influences on decision-making for many interviewees, particularly those linked to primary production.

5.4 A desire to protect the reputation of the industry (i.e. maintaining a clean green image, being a good steward, ensuring sustainable practices and production) was an important driver for some interviewees.

5.5 Surveillance and early detection of a biosecurity risk was noted as a key influence (incentive), but this was tempered by concerns about the repercussions (for a business) that could come with a detection on your property.

5.6 Legislative and regulatory obligations were key drivers for many interviewees (government and non-government), however some non-government participants noted that it was unclear why government chooses to act on weeds or pests in some places but not others (e.g. blackberry but not deer).

5.7 There are limitations and constraints within existing legislation that can present a barrier for Traditional Owners being engaged in biosecurity and current legislation falls short of protecting all elements of cultural heritage (i.e. totem animals and intangible heritage).

BIOSECURITY UNDERSTANDING AND INTERESTS – an understanding of biosecurity from the individual (or organisation) vantage point and why biosecurity is important.

Highlights from interviews

The benefits of participating in the biosecurity system were readily identifiable for the vast majority of interviewees. For those involved in primary production (including aquaculture) the benefits directly related to production and markets, and involved responses to pest or disease incursions. For Traditional Owners, interest and understanding of biosecurity is part of a much broader "whole of Country" perspective, and management of pest plants and animals is one part of a wholistic approach to healing Country. One potential benefit that was not widely mentioned by interviewees was the link between biosecurity and human health. The focus of the majority of those interviewed was either on primary production or environmental protection, so human health was not a key explicit interest of many interviewees.

FINDINGS

6.1 Defining biosecurity is not a barrier to engaging stakeholders – those who have a direct stake understand its significance (for their business, industry and for the community and environment) and have a functional definition.

6.2 For most participants in the system, their understandings of biosecurity are based on their interactions and direct experience with biosecurity issues, typically incursion or emergency responses.
6.3 For interviewees from the primary production sector, their interest in biosecurity is driven by the direct impacts it can have on their business. They noted that this included pests and disease that affect production, protection of market access, and disease or pest free status for their industry or just for the individual business.
6.4 Protection of the natural environment was a primary driver for those working in the environment and natural resource management sector. The natural environment was less of a driver for those working in primary production, though it was mentioned by some.
6.5 For the Aboriginal people and Traditional Owners interviewed, management of pest plants and animals is one part of a wholistic approach to healing Country. They do not see biosecurity issues separately from the many other influences over the health of Country. There is a clear understanding of the threats and impacts of pest plants and animals on cultural values, and traditional practices are often used to address weed and pest animal issues, as well as serving important cultural functions e.g. the use of fire.
6.5 The link between biosecurity and human health was made by some participants, but this was mainly confined to those involved on the consumer side of food production or those involved in public health. Given that these interviews were conducted during the COVID-19 pandemic this could be considered a relatively low level of association.

1 Introduction

1.1 BACKGROUND

Strengthening Victoria's Biosecurity System Program

This project is part of Agriculture Victoria's Strengthening Victoria's Biosecurity System (SVBS) Program. This program was established as a result of the Victorian Government's significant 2018–19 State Budget investment to strengthen the state's biosecurity system and prepare for the future. The four-year program involves working with government, industry and community to ensure the continued strong performance of Victoria's biosecurity system.

Agriculture is a key driver of the program because of its importance to the Victorian economy, and to rural and regional prosperity. In 2018–19 food and fibre exports contributed \$14.2 billion to the economy and in 2019–20 the sector employed 198,500 people – 86,000 in food and fibre production and 112,500 in manufacturing¹. An effective biosecurity system is central to the health, prosperity and way of life of all Victorians. However, pressure on the biosecurity system is increasing due to the increased movement of people and goods, changing community expectations, climate change, land use and industry practices.

A vital component of the SVBS Program is understanding industry, community and government views, knowledge and aspirations for Victoria's biosecurity system, particularly:

- Their understanding and awareness of biosecurity
- Their thoughts on how we can work together to continue to protect Victoria from biosecurity threats
- Their insights into current and future frameworks for biosecurity management in Victoria including what an ideal biosecurity system looks like.

RM Consulting Group was commissioned to conduct a series of in-depth stakeholder interviews to provide insights and a deeper understanding of how Victoria's biosecurity system can be improved. These interviews are intended to help Agriculture Victoria build a bigger picture, provide new perspectives, identify opportunities to strengthen the biosecurity system and help determine how industry, community and government can work together to meet future challenges.

1.2 PURPOSE

The purpose of conducting the semi-structured interviews was to develop an in-depth understanding of how industry, community and government stakeholders understand and contribute to biosecurity.

The interviews sought to develop an understanding of:

- Biosecurity from the individual (or organisational) vantage point, their role in the system and why biosecurity is important to them
- The drivers (incentives, motivations) and benefits of participating in the biosecurity system
- What shapes and influences their (individual or organisational) decisions and actions regarding biosecurity
- Factors that promote or prevent co-operation and trust between stakeholders within the biosecurity system
- The strengths and weaknesses in the current system.

¹ Agriculture Victoria (June 2020) *An Overview of Victoria's Agriculture – Factsheet #3*. URL: https://agriculture.vic.gov.au/data/assets/pdf_file/0006/554154/Food-and-Fibre-Economic-Factsheet-3_June-2020.pdf (Accessed 30 Nov 2020).

1.3 STRUCTURE OF THIS REPORT

This report presents the findings from 114 stakeholder interviews. Those findings are presented in the following way:

- Comments or insights that were raised across the spectrum of interviewees are noted, as are any detailed issues or comments
- Theme-based narratives to bring together issues and insights raised
- An evidence matrix summarising key insights and providing qualitative and quantitative evidence
- Case studies to provide greater depth on some specific issues.

A specific chapter reporting on the findings from the interviews with Aboriginal people and Traditional Owners has also been included in this report.

ACKNOWLEDGEMENT OF COUNTRY

We acknowledge and respect Victorian Traditional Owners as the original custodians of Victoria's land and waters, their unique ability to care for Country and deep spiritual connection to it. We honour Elders past and present whose knowledge and wisdom has ensured the continuation of culture and traditional practices.

We are committed to genuinely partner, and meaningfully engage, with Victoria's Traditional Owners and Aboriginal communities to support the protection of Country, the maintenance of spiritual and cultural practices and their broader aspirations in the 21st century and beyond.

ABORIGINAL SELF-DETERMINATION

The Victorian Government is committed to self-determination as the guiding principle in Aboriginal affairs as set out in the Victorian Aboriginal Affairs Framework 2018-2023. Government action to enable self-determination acknowledges that Aboriginal Victorians hold the knowledge and expertise about what is best for themselves, their families and their communities. This principle is a key driver of the approach Agriculture Victoria has taken in this work to engage with the Traditional Owners and Aboriginal communities on biosecurity.



2 Approach used

2.1 APPROACH

The first step in the process was to design an interview guide. The guide sets out questions under six themes: understanding of biosecurity; biosecurity interests; decision-making; relationships; strengths and weaknesses; and roles and responsibilities. A set of open-ended questions were developed for each of the six themes to act as prompts for the interviewer. A copy of the guide is provided in Appendix 1. The interview followed a semi-structured format allowing interviewers to explore the complexity and emerging topics in more detail with their respondents.

A list of stakeholders was developed in consultation with the Agriculture Victoria project team and agreed upon prior to contact being made with each interviewee. The RMCG interview team contacted stakeholders via email and/or telephone inviting their participation in an interview. The interviews took approximately 45–60 minutes to complete and were conducted online (via a platform such as Zoom or Teams) or via telephone. Interviews were voice recorded and the responses were captured in writing (in Survey Monkey). This provided a central and consistent means of recording and storing the large volume of qualitative data.

Interviews were conducted in stages. Tranche 1 interviews (n=33) were representative of the overall sample and were conducted to test the interview process, identify opportunities for improvement and to test the data collection system and frame. On completion of the Tranche 1 interviews, a workshop was convened with the RMCG interview team. During the workshop, common themes, concepts and ideas emerging from the interviews were discussed and the data collection process was reviewed. This resulted in a more streamlined approach for the remaining interviews. A similar workshop was conducted at the end of the Tranche 2 interviews (n=70). These workshop discussions provided the basis for our analysis, which was further supported by a quantitative review of the data. To do this a classification system was devised, whereby commonly identified themes were assigned a code, e.g. the code 'environment' was assigned to responses that referred to protecting natural values.

Following the completion of this set of 103 interviews, an additional 11 Aboriginal people and Traditional Owners were interviewed to develop a deeper understanding of Aboriginal Victorian's views of biosecurity. The findings from these supplementary interviews have been reported here in a separate chapter.

The final step was the development of this report, which details the findings of the 114 interviews.

2.2 THE SAMPLE

Figure 2-1 and

Figure 2-2 provide summaries of the interview sample population. In total, 103 stakeholders participated in the first set of interviews and another 11 Traditional Owners and Aboriginal people were interviewed after this initial set. The sample population comprised government, industry and community stakeholders. Government was the largest sector represented in the sample (n=40) and this included three levels of government (federal, state and local). A similar proportion of industry stakeholders were interviewed (n=38), comprising representatives from 12 industry types with horticulture and livestock industries having the largest representation.

Community was the smallest stakeholder group (n=36) and was dominated by interest groups and included Traditional Owner corporations. A small number of grower and state groups, including peak community bodies such as the Victorian National Parks Authority, were also interviewed. The sample didn't include any general community members, i.e. those not linked to an industry group, peak body or interest group. As a result, the

sample is biased towards those who are very likely to understand biosecurity as they are directly involved. This means that while the sample includes people who could be considered leaders it also could omit people who could bring fresh perspectives and novel ideas.

Across the sample, more males (69 per cent) were interviewed than females (31 per cent). Overall, the sample engaged a diverse cross-section of stakeholders currently engaged in the biosecurity system with broad coverage across interest areas, and types of involvement in biosecurity.



Figure 2-1: Summary of the interview population (n=114)

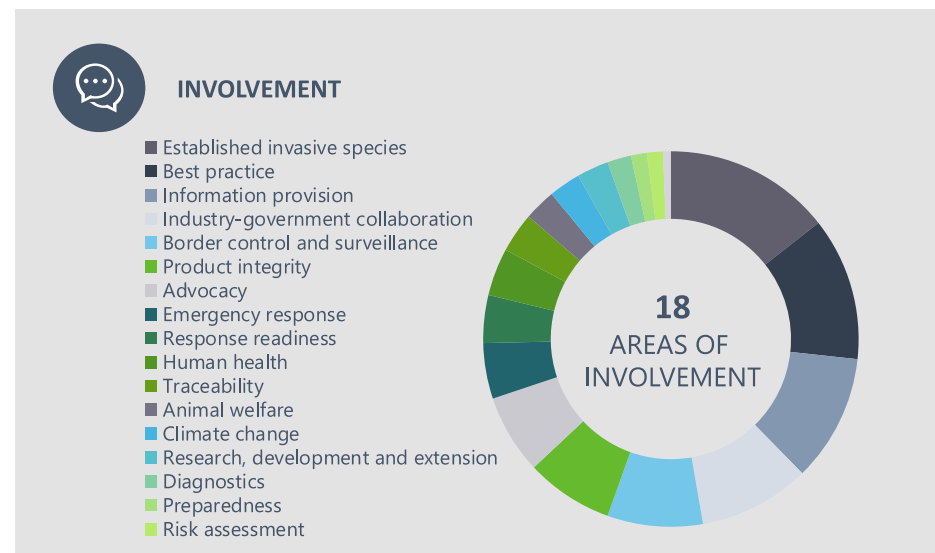
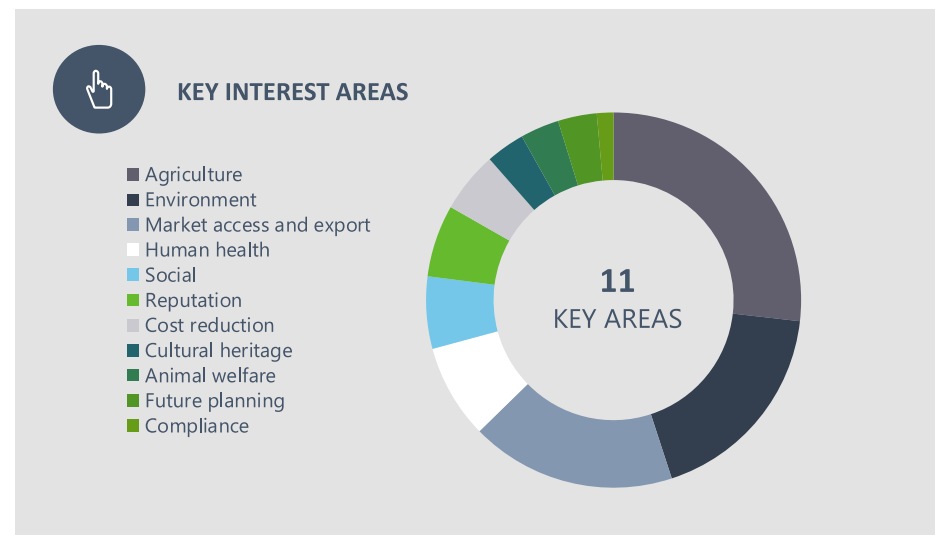
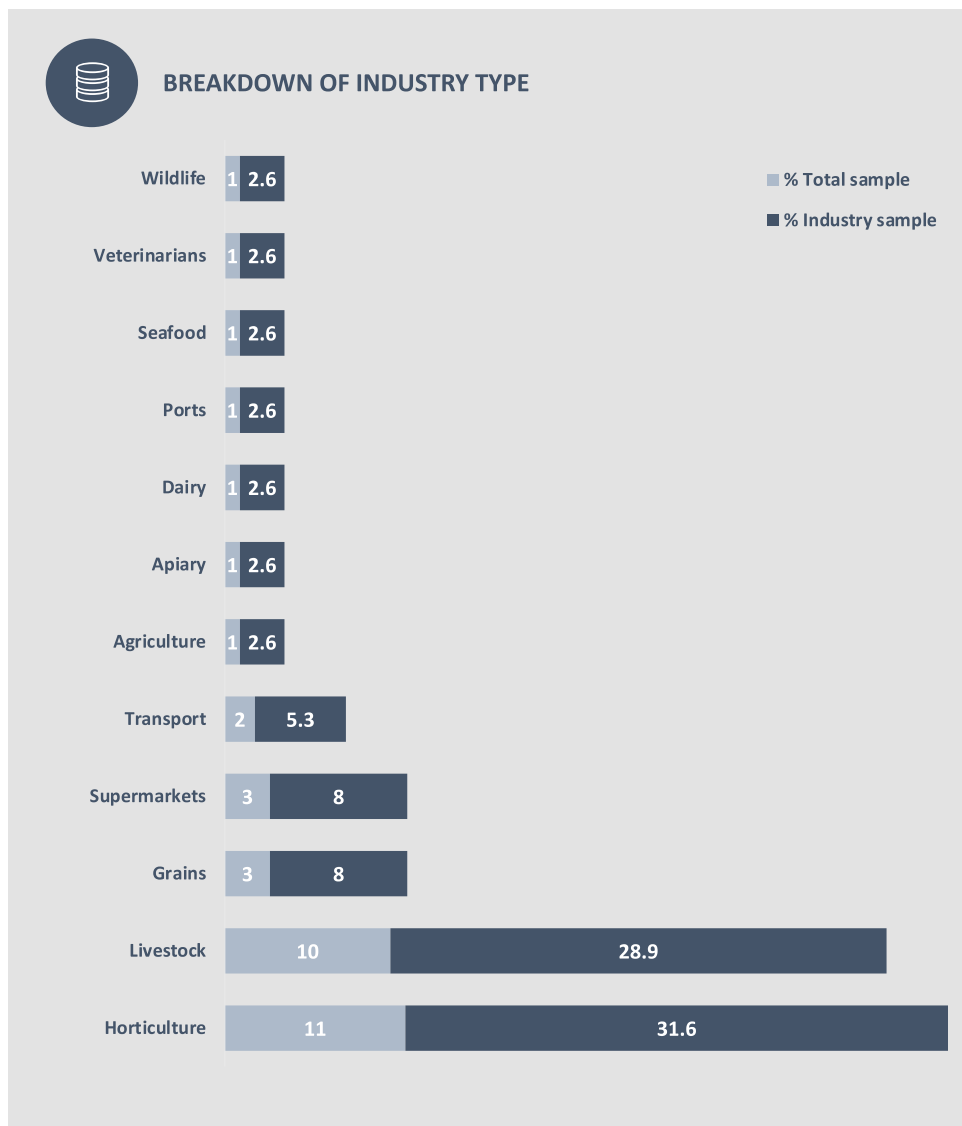


Figure 2-2: Summary of the interview population (n=114)

3 Relationships

Theme: factors that support and limit co-operation and trust between actors within the system.

3.1 INSIGHTS FROM INTERVIEWS

3.1.1 ISSUES AND INSIGHTS FROM THE INTERVIEWS

In this section we have collated a list of the issues and insights that were raised by a wide range of interviewees:

- Relationships between government and other participants in the biosecurity system are inconsistent and the quality of them varies – some are very strong and have a good history, some were previously strong but are now poor. Regardless of this history, willingness and interest in engaging with government on biosecurity issues is universally strong.
- Among interviewees from areas where relationships were not strong, there was a sense that people have moved on from the frustrations they felt from (perceived) withdrawal of government services and resources. That said there were still concerns raised about long-running issues like enforcement, management of established pests (particularly on public land), declarations of pest species and management of ‘new’ pests, especially deer.
- Interviewees reported that the relationship between state and federal government agencies is very strong and collaborative. Although not a widely held view, some interviewees from the Australian government raised concerns about the consistency of representation from Victoria. Concern about staff turnover within government and the difficulties this presents for building trusting relationships were noted by some.
- Relationships with livestock and plant industries were highlighted as particularly strong. All parties brought a thorough understanding of biosecurity issues, including their respective roles and responsibilities. The agencies and organisations (and sometimes the individuals) are known to each other. The combination of this familiarity with clear processes and protocols appears to be instrumental in building these strong relationships.
- There have also been examples of strong relationships built from preparedness projects. The example most frequently mentioned was the collaboration with the apiary industry on varroa mite, which spans industry, government, research institutions and the broader community.
- Some interviewees noted that a more contemporary view of a partnership approach would be one where government does not need to be at the centre of the process. There was widespread interest from participants in engaging in conversations about how to create the most effective and efficient partnership (i.e. collaborative determination of roles and responsibilities). One noted that they felt it doesn’t matter who takes the lead (industry or government) as long as the respective roles and relationships are clear and transparent.
- Agriculture Victoria’s recent history with community-led agriculture and natural resource management groups could present a barrier to building relationships. Interviewees from these groups noted that they had strong links to government agencies, but over the last 5–10 years, government services and resources in biosecurity were withdrawn which left them feeling that their efforts and interests in biosecurity management were not valued by government.
- Government agency’s approach to building relationships appears to be based on two categories of stakeholders – industry and community. Over the course of these interviews it has become apparent that the concept of there being a ‘community’ interested in biosecurity is flawed. Interest in biosecurity is not driven by being a community member but by the interests of the individuals (e.g. keeping bees, running beef animals, growing particular plants). This focus on interests is a more meaningful basis on which to engage.

- Some interviewees from the environment and natural resource sector noted that there is no clear 'go to' organisation or peak body that government can readily engage (i.e. no equivalent to what is in place for agricultural industries). This meant that engagement of the NRM and environment sector was ad-hoc and (overly) influenced by personal relationships.

3.1.2 SPECIFIC ISSUES AND INSIGHTS

In this section we have noted issues or ideas raised by interviewees that were specific to a sector or organisation:

- Some participants in the system felt they had important interests in biosecurity, especially for surveillance, but they did not feel they were 'in the loop' with Agriculture Victoria (as the lead on biosecurity policy). This included representatives from the Environment Protection Authority and Melbourne Water.
- Some interviewees reported that they felt that government vets were reactive and did not have strong positive relationships with their local livestock industry. They did not have a strong presence in the community (e.g. at saleyards) which meant that links to networks of producers and players in livestock production were very limited. This was noted as a limitation to the ability to build surveillance culture across the industry.
- Interviewees from the environment and natural resource management sector noted that there is no formal structure for citizen science to be incorporated into the biosecurity system and there is a sentiment that the role of community in monitoring and surveillance is undervalued by government. Some also noted that this indicated to them that State Government may not have an interest in community engagement, rather they were more focussed on regulation and policy.
- The need for a regular industry-government forum on biosecurity was noted by some of the "on-ground" players in order to provide a channel for direct input and intelligence from the 'field' (e.g. beekeepers, fruit growers).



3.2 KEY FINDINGS

Table 3-1: Key findings

QUANTITATIVE DATA	PARTICIPANT PERSPECTIVES
FINDING 1.1: Regardless of history, the willingness to engage with government on biosecurity is very strong. This interest comes from those already highly engaged and also those that do not feel connected to government – all were keenly interested in improving relationships and working together.	
<p>96 per cent of identified contacts willingly participated in the interview process.</p> <p>94 per cent of those interviewed indicated that they would like to stay engaged with the SVBS program and further engagement opportunities.</p>	<p>“The fact that Ag Vic are doing this work is a positive recognition that this area is under-resourced.” – Horticulture industry respondent</p> <p>“The fact that they are doing this work, that is motivating. Great to see.” – Horticulture industry respondent</p> <p>“This consultation is a first – bringing it to the forefront. There are not strong relationships currently, but we have strong interest to re-engage.” – Landcare respondent</p>
FINDING 1.2: The strength and quality of relationships between the Victorian Government and other participants in the system (government and non-government) varies widely. The relationship is generally strong between the state and federal governments, and with primary industries organisations (e.g. peak bodies). In the environment and natural resource sector, the predominant view is that, over recent times, engagement has declined and the opportunities to collaborate or participate in decision-making have been very limited.	
<p>26 per cent of respondents indicated that they had variable relationships with stakeholders within the biosecurity system.</p> <p>Respondents indicated that variable relationships were a result of:</p> <ul style="list-style-type: none"> ▪ Staff turnover ▪ Personality clashes ▪ Significance and/or tension surround the issue ▪ Disconnection or poor communication within Agriculture Victoria. <p>26 per cent of respondents indicated that they had the opportunity to contribute to biosecurity decisions.</p> <p>Of that 26 per cent, only 10 per cent indicated that involvement in decision-making occurred as a result of an established partnership.</p> <p>The remaining participants described contribution to decision-making as ad-hoc:</p> <ul style="list-style-type: none"> ▪ No formal mechanism or partnership ▪ Opportunistic rather than as a result of regular and open communication ▪ Issue and scale dependent ▪ Inclusive of some stakeholders and not others. 	<p>“Relationships with Victorian Government is strong. Formal arrangements include many committees that function very well.” – Federal Government respondent</p> <p>“The SafeMeat partnership enables all to be heard and for the unified development of policy.” – Livestock industry respondent</p> <p>“Victoria is a state where it is difficult to have any influence, compared to other states which are more open to debate. The recreational shooting and hunting lobby are very influential in Victoria, as are VFF. Government seems unwilling to take a stand against them.” – Community interest group respondent</p> <p>“Influence on decision-making has varied over the years due to a lack of continuity at the policy level – changes over the years has made it difficult to build relationships.” – Catchment Management Authority respondent</p> <p>“At the moment there’s no strategic coordinated approach to incorporating citizen science into policy. Feedback to community is also very important and something that’s often overlooked once the data has been collected. Community want to know their influence and how it’s informed decision-making. Even if processes are slow, people need to be informed that things are happening.” – Community interest group respondent</p> <p>“Generally the relationships are good, but it can take time to build when staff change.” – Community interest group respondent</p> <p>“Relationships are often only as good as the key people – when people leave, they can take the key contacts with them. Need to keep the good relationships going / developing during the good times, so they are ready to engage when things are challenging or issues arise.” – Dairy industry respondent</p> <p>“There is a disconnect between the senior people and the people on the ground. Dysfunctional part – contemporary thinking in the Department doesn’t translate to the boots on the ground.” – Grower/producer respondent</p>

QUANTITATIVE DATA	PARTICIPANT PERSPECTIVES
FINDING 1.3: Relationships in the animal and plant health areas are the strongest due, at least in part, to history and to the clarity of respective roles and responsibilities in the biosecurity system.	
<p>52 per cent of industry respondents indicated that they had positive relationships with stakeholders within the biosecurity system.</p> <p>80 per cent of industry respondents with positive stakeholder relationships were from the horticulture and livestock industry sectors.</p>	<p>"Relationships are very good – the governance is in place and usually works well. It is subject to the personalities involved but the foundations are very strong." – Livestock industry respondent</p> <p>"Victoria relationship is good with a number of collaborative projects. Victoria is a leader of national work and leads capability around biosecurity." – Plant industry respondent</p>
FINDING 1.4: Interviewees from the environment and natural resource sector feel disconnected from government. They are unclear about the strategic priority government places on environment and natural resource related biosecurity issues.	
<p>30 per cent of respondents indicated that they had negative or variable relationships with stakeholders within the biosecurity system.</p> <p>100 per cent of community respondents with negative or variable stakeholder relationships were from the environment and natural resource management sectors.</p>	<p>"There are different expectations between what we want to achieve with blackberry compared to say state government's expectations. This difference is at the heart of the tension." – Community interest group respondent</p> <p>"On the one hand, the Landcare network is being told that they are an important part of the system and solution, community driven priorities and shared responsibility is really important. On the other hand, when they make an effort to make some positive suggestions that will make a difference in the region. It falls flat. Partnership approach isn't genuine or two-way." – Landcare respondent</p> <p>"There's a culture of doing what we've always done e.g. baiting foxes. There isn't a level of urgency to address problems. The invasion curve implies that it's "all too hard, let's not put anything into it." – Community interest group respondent</p> <p>"The understanding of the impact of pest animals on the natural environment can be very poor and, in its absence, support for control actions can be difficult to secure." – Community interest group respondent</p>

3.3 SUMMARY NARRATIVES

GOVERNMENT RELATIONSHIPS WITH LOCAL GOVERNMENT AND THE ENVIRONMENT AND NATURAL RESOURCES SECTOR

Interviewees whose interests were focussed on environmental biosecurity (including threats to native ecosystems) reported that, with respect to biosecurity, they currently have limited contact with State Government agencies. They reflected that, over recent years, the Victorian State Government had stepped back from working with them on issues like established weeds and pest animals. This was based on many and various observations including:

- an apparent loss of support for regional strategic planning for weed and pest animal management – State Government funded the preparation of regional weed and pest animal management strategies (by CMAs) around 2010 but has not supported renewal or implementation
- the inability to readily access advice from State Government officers on pest plant and animal management
- that representatives from the environment and natural resources sector had very few recent examples where government actively sought their input on biosecurity matters
- the lack of expertise among staff in the region and an associated inability to get support for enforcement actions
- there is no system or opportunity for citizen science to be included in biosecurity.

Similarly, interviewees from local government reported that they are very concerned about the arrangements for management of roadside weeds. They have little funding security with new agreements required every two years. This combined with a low level of engagement from Agriculture Victoria raises concerns about future arrangements, in particular that support will be withdrawn leaving local governments to cover roadside weed management within current resources.

There are at least two important impacts of this recent history. The first is the perception that government does not see biosecurity as an important issue for local government and for the environment and natural resources sector. The second is that government is not seeking input from the wider community, which can be read as a lack of interest on the part of government in community knowledge, experience and skills in biosecurity.

A significant exception to this pattern is the approach that has been in place over recent years with the community weed and pest working groups. This includes the Victorian Rabbit Action Network, the Victorian Gorse Taskforce, the Victorian Serrated Tussock Working Party and the Victorian Blackberry Taskforce. These groups have a strong relationship with Agriculture Victoria and operate under a model that is a true collaboration where resources, responsibility and decision-making are all shared. While this model reflects a true partnership, it is limited in its scope and impact because of its narrow focus on four particular pest species.

GOVERNMENT RELATIONSHIP WITH THE PRIMARY INDUSTRY SECTOR

Most of the primary industries representatives interviewed reported that their relationship with the Victorian Government on biosecurity is strong. In many cases this was due to past experiences addressing pest and disease outbreaks or other emergency responses (the current avian influenza being another in that series). The parties involved were often known to each other from some of these previous experiences. Importantly, the strength of these relationships appears to be the product of both this previous experience and also the long established systems and processes that are triggered during these events, which established clear roles for both industry and government.

The maturity of these relationships, particularly those found between industry representative organisations, State Government bodies and Federal Government bodies, is also a reflection of the relative stability of this part of the system. That is, the industry organisations are known, as are the government bodies involved in biosecurity. This means that in the event of an emergency response, parties take up their respective roles and relationships are fostered by the clarity of purpose and role descriptions that are known across all organisations involved.

CHALLENGES WITH RELATIONSHIP BUILDING

As already mentioned, many of the current relationships that were highlighted by interviewees were based on shared experiences working together on an incident or emergency response. The relationship is forged in the process of responding to a crisis. This has and will continue to be a significant means of building relationships that, in some cases, led to subsequent work on preparedness.

Outside of these emergency situations, creating relationships can be a challenge, particularly with the government's focus on tangible and measurable outputs and outcomes. Building relationships requires time and resources, and the product or outputs from this investment can be difficult to identify and quantify which can, in turn, make them a challenge to fund.

3.4 CASE STUDIES

3.4.1 HAWKWEED – COMMUNITY COLLABORATION FOR SURVEILLANCE AND MONITORING

The valuable role that community can play in surveillance and early detection of a weed, pest or disease is demonstrated in the detection and response to an infestation of hawkweed at the Falls Creek Alpine Resort. Hawkweed is highly invasive and threatens natural ecosystems, restricting the growth of neighbouring plants by releasing chemicals into the soil².

Three species of hawkweed – orange hawkweed (*Hieracium aurantiacum*), mouse-ear hawkweed (*H. pilosella*) and king devil hawkweed (*H. praealtum*) are known to have established small populations at the Falls Creek Alpine Resort and surrounding areas of Victoria's Alpine National Park³. The main source of hawkweed is thought to have originated from ornamental gardens at Falls Creek. One of the first reports of the weed came from a botanist and bushwalking enthusiast who was passing by the area and happened to notice the weed. The 'citizen scientist' was quick to notify Parks Victoria who promptly coordinated a program to target the weed. The control program was a combined effort between State Government agencies, the science community, Victorian National Parks Association and the community.

Community volunteers have since played an important role in the eradication response. Working closely with scientists and land managers, volunteers carried out hawkweed surveys which involved walking in a line formation and scanning the ground for the species. This team effort has limited incursions and controlled known infestations. Non-flowering hawkweeds are more difficult to detect and in recent years the Project Control Group has investigated the potential for trained dogs to detect hawkweed.

The detection and response to hawkweed infestations demonstrates the important role that community can play in biosecurity. This is reiterated in the following interview response:

"The strength of citizen science in biosecurity is the sheer number of eyes you can have looking for something and the monitoring role they can play. Citizen science can cover a huge area. They can provide diversity, coverage and frequency in data collection that agencies or researchers can't. People can look for something daily if it's in their local area. Another strength is that people know their local area."

INSIGHTS

- Community can play an important role in the surveillance and early detection of weeds, pests and disease.
- The challenge of controlling an invasive species like hawkweed requires skills and analysis across many groups. Good existing relationships between government agencies, the science community and the broader community is important in achieving a prompt, coordinated and effective response.
- Currently there are no formal avenues for citizen science data to contribute to biosecurity in Victoria. This is a significant opportunity.

² Agriculture Victoria (2020). *Hawkweed*. URL: <https://agriculture.vic.gov.au/biosecurity/weeds/state-prohibited-weeds/hawkweed> (Accessed 26 Nov 2020).

³ Hauser, C., Smith, N. & Pascoe, C. (2014) *Victoria's Hawkweed Eradication Program*. URL: <http://decision-point.com.au/article/victorias-hawkweed-eradication-program/> (Accessed 26 Nov 2020).

3.4.2 PLANT INDUSTRY PARTNERSHIPS: HORTICULTURE'S FOCUS ON KEEPING DAMAGING PESTS AND DISEASES OUT

Biosecurity for Australian plant industries, a critical issue, focusses on:

- Protecting the industry from exotic pests and diseases through the management of incursions
- Managing endemic pests and diseases to maintain profitability and ensure access to export markets through compliance with country specific protocols.

Plant-based agricultural production systems have much to gain from good biosecurity management. It protects the industry from incursions and maximises opportunities for export. This is recognised by representative bodies such as Summerfruit Australia, Ausveg, Citrus Australia and Australian Fresh Produce Alliance. These organisations and others actively work with government at both the state and federal level to ensure that robust systems for surveillance, diagnosis and risk analysis are in place.

Partnerships are essential to the successful management of biosecurity risks for the domestic and export industry. The relationships between industry and government are mature and underpinned by an established governance structure.

The system has been tested over the years with numerous incursions. The citrus industry recently experienced an incursion of citrus canker (*Xanthomonas citri* subsp. *citri*) in Darwin in 2018 which was immediately managed. Other exotic pests of concern include fall armyworm (*Spodoptera frugiperda*), recently detected for the first time in Australia and brown marmorated stink bug (*Halyomorpha halys*), one of the top 40 National Priority Pest Plants⁴ posing a huge threat to fruit and vegetables.

Whilst appearing complex to the external observer, the roles and responsibilities of those involved in the plant biosecurity system are well understood. The Plant Health Committee is the peak government plant biosecurity policy and decision-making forum. It is comprised of representatives from all State and Territory Governments and the Australian Government. In addition, the Emergency Plant Pest Response Deed (EPPRD)⁵ is an formal legally binding agreement between Plant Health Australia, the Australian Government, all State and Territory Governments and the national plant industry body. Each commodity also has specific plans such as the Summerfruit Industry and Orchard Biosecurity Plans⁵. Industry also relies on productive relationships at the state level to ensure appropriate monitoring, surveillance and reporting.

Queensland fruit fly (QFF) (*Bactrocera tryoni*) is a serious pest that can infest many types of fruit and fruiting vegetables. The management of QFF and disinfection methods are essential for meeting strict protocols for export of citrus, stone fruit and table grapes to countries including China and also of concern for major retailers such as Woolworths.

Being clear on the role of Agriculture Victoria in partnership with industry is critical and making sure there is ongoing and regular communication with industry essential.

“Biosecurity is about protecting industry from exotic pests and diseases and managing endemic pests and diseases to meet export requirements. There are many biosecurity committees that we as the representative body are part of but we struggle to get most of our growers to understand biosecurity – they relate more to managing pests and diseases on their property. We work very closely with Plant Health Australia on the Deed and with Agriculture Victoria on a biosecurity plan and communicating with industry”.

⁴ <https://www.agriculture.gov.au/pests-diseases-weeds/plant/national-priority-plant-pests-2019>.

⁵ <https://www.planthealthaustralia.com.au/industries/summerfruit/>.

INSIGHTS

- Plant industries have a lot to gain from effective partnerships to protect them from incursions and facilitate export.
- Partnerships are critical across all jurisdictions (Federal and State).
- There are numerous governance structures in place to support these partnerships including the National Biosecurity Committees and Deeds through Plant Health Australia.
- Industry representative bodies are keen to continue to improve the partnerships with State Government through activities such as Roundtables.
- Trust is an essential component of any partnership particularly in relation to reporting of possible incursions and ensuring that things don't 'go underground'.
- While industry understands the importance of these partnerships in biosecurity, individual growers are less aware.

3.4.3 ELECTRONIC IDENTIFICATION FOR SHEEP AND GOATS IN VICTORIA

An electronic National Livestock Identification System (NLIS) for sheep and goats was introduced in Victoria in 2017. The identification system is an important biosecurity reform that enables prompt tracing of animals during disease and food safety emergencies, helps to maintain and expand market access for Victoria's valuable livestock industries and supports innovation and greater productivity through the supply chain.

Victoria's sheep and goat industries have embraced the change, despite there being strong opposition from stakeholders and national industry bodies in the planning phases. Their concerns were primarily in relation to the cost and utility of the technology from a producer perspective and a differentiation from the national approach.

Critical to the successful implementation of the NLIS for sheep and goats was a strong partnership approach between Agriculture Victoria, the sheep and goat industries of Victoria and third-party providers. Key aspects of the partnership included:

- The livestock industry taking the lead on championing the reform
- Extensive trialling of the technology to prove effectiveness
- Victorian Government committing the \$17.06 million Sheep and Goat Transition funding to support the mandatory implementation which included:

- cost neutral tags for the first 12 months
- funding for the purchase and installation of infrastructure
- access to technical support and consultants
- training and extension activities
- Investment in research and development for new and innovative software and equipment.

Since the introduction of sheep electronic identification (EID) in Victoria in 2017, the livestock industry has demonstrated a sound level of compliance with the new requirements. The success of the NLIS for sheep and goats demonstrates the power of a genuine partnership. This is reiterated in the following interview response:

"Partnerships between stakeholders are critical. Unless you have buy-in, you will struggle to be successful. Example of government doing trials / proof of concept on ear tags for sheep to demonstrate that the measure would work. This helped overcome resistance by livestock agents and some in VFF who saw the measure as an additional cost and burden. Also, the livestock industry championed the measure, which was important. Provision of financial support to industry from government helped to get the scheme implemented initially."

INSIGHTS

- Engaging industry should not just be confined to an active biosecurity response. Rather, building and nurturing relationships is an essential component of biosecurity preparedness.
- Established and trusting relationships between Agriculture Victoria and industry representatives were critical to the formation of a genuine partnership where roles and responsibilities were discussed and decided in collaboration.
- Sharing responsibility in this instance meant government agreeing with industry to devolve leadership for the NLIS to industry.



4 Roles and responsibilities

Theme: the roles of industry, community and the government in the context of the biosecurity system.

4.1 INSIGHTS FROM INTERVIEWS

4.1.1 ISSUES AND INSIGHTS FROM THE INTERVIEWS

In this section we have collated a list of the issues and insights that were raised by a wide range of interviewees:

Government

- The Australian Government's role in (national) border control and quarantine was noted as critical by many interviewees.
- Support for the established structures and arrangements (e.g. the national Deeds, was identified as a role by many government interviews).
- Respondents generally saw both regulatory enforcement and compliance as key government roles (i.e. there was no distinction between enforcement and compliance). However, some raised the concern that enforcement actions may be occurring at the expense of engagement and 'soft' regulation (e.g. support to comply). The importance of a balanced approach to using regulation was raised by some interviewees.
- Leadership and coordination of risk assessment, particularly where risks may occur outside what is the traditional view of the 'industry' (e.g. small and lifestyle farms). The approach to Queensland fruit fly in the Shepparton and Cobram areas was noted as an example of industry identifying the risk arising from abandoned orchards and backyard growers. A partnership with government was established to tackle this risk.
- One of government's responsibilities, biosecurity management on public land, was highlighted by many interviewees as an area where government is not fulfilling its role and responsibility.
- Coordination and consistency between the states and at a national level was noted by interviewees involved in the food distribution (e.g. supermarkets). They highlighted that different requirements in each state added to their costs of operation.
- Leadership and coordination of surveillance for new pests and diseases was noted by some interviewees. Some also queried the level of investment in surveillance, concerned about whether current efforts were adequate. Others noted that the current system does not reward early detection – the impact of finding a pest or disease on your own property can be very negative which can discourage early reporting.
- Other areas noted as important government roles were:
 - coordination role – especially incursion responses
 - establishing the foundational standards (expectations) and clarifying expectations for 'good' biosecurity management by industry and community
 - developing and retaining necessary expertise
 - assisting industry with increasing awareness and preparedness
 - providing information about risks and new hazards.

Industry

- In broad terms, ‘industry’ respondents felt that they have a clear picture of their roles and responsibilities in biosecurity. Several of the industry representatives interviewed could point to parts of the system where they believed there were weaknesses or vulnerabilities, but they tended to see the task of addressing these issues as belonging to government rather than industry.
- For plant and animal industries in particular, protocols are in place, expertise is known, and generally roles are understood by all parties. However, interviewees also noted that both plant and animal industries are more strongly driven by responding to an incident or outbreak, rather than prevention or preparedness.
- The concept of shared responsibility is widely accepted – there could be some danger in government assuming that this sharing is not already happening. For example, livestock identification and traceability is an area where there is already a long and strong record of sharing responsibility.
- Control of established invasive plants and animals and endemic disease was noted by industry interviewees as part of normal business operations.

Community

- Several interviewees felt that the general awareness and understanding of biosecurity across the broader community was inadequate, particularly given that some common practices (such as home poultry and other livestock keeping is relatively common) bring with them significant biosecurity risks.
- Interviewees from the environment and natural resource sector noted that there are already many examples of community groups taking an active role in surveillance and monitoring of pests and diseases, usually in partnership with a government agency (e.g. Parks Victoria’s hawkweed detection program).
- Interviewees from the environment and natural resource sector were concerned about the impact of continuing to increase responsibilities on Landcare and community-based groups to provide biosecurity related information, services and advice.

4.2 KEY FINDINGS

Table 4-1: Key findings

QUANTITATIVE DATA	PARTICIPANT PERSPECTIVES
FINDING 2.1: The concept that responsibility for biosecurity should be shared is widely accepted, as is the recognition that government neither could, nor should, address biosecurity issues alone. However, there is some concern that government may not fully appreciate the extent to which some actors have already assumed biosecurity responsibilities. Some parties feel that there has been ‘cost shifting’ (from government to industry) and withdrawal of government services. This will affect their perspectives on discussions of shared responsibilities.	
<p>Shared responsibility is evidenced by the fact that many of the roles and responsibilities considered important for government, were also identified as being central to industry. These include:</p> <ul style="list-style-type: none"> ▪ Partnerships (32 per cent of respondents thought this is a key role for government and 16 per cent for industry) ▪ Information provision (23 per cent for government and 19 per cent for industry) ▪ Monitoring and surveillance (13 per cent for government and 8 per cent for industry). <p>24 per cent identified a reduction in government funding and resources as a weakness of the biosecurity system. The withdrawal of technical expertise within government</p>	<p>“Government involvement has been in and out over the years due to changing funding cycles. Victoria is a lead for the summerfruit industry and the shared responsibility should be acknowledged in relation to decision-making and costs when establishing programs.” – Horticulture industry respondent</p> <p>“To develop the shared model, it is critical that government goes to the community and industry with an open mind and an ability to share information, resources, and to evolve power and decision-making to the stakeholders. The shared models need to be developed with the stakeholders rather than the government providing the approach and seeking permission and support after the fact.” – State Government respondent.</p>

QUANTITATIVE DATA	PARTICIPANT PERSPECTIVES
departments was also identified as a weakness by 15 per cent of respondents.	<p>"Shared responsibility – government needs to take THEIR share. They've not done it in the past. 'We've been sharing the responsibility for a long time already.'" – Landcare respondent</p> <p>"Responsibility for cost sharing – current model is not bad, except roadside cost sharing is non-existent and is not yet well managed. Huge disease issues and weed breeding potential on roadsides." – Grains industry respondent</p>
FINDING 2.2: Interviewees identified specific leadership roles for government in biosecurity. Those most strongly noted were regulation and compliance, community engagement and building partnerships, information provision, coordination in all areas, policy development, surveillance, monitoring for future risks and developing and retaining necessary expertise.	
<p>The following roles and responsibilities were identified by respondents as being a priority for government:</p> <ul style="list-style-type: none"> • Compliance and regulation (37 per cent) • Community engagement (37 per cent) • Partnerships (31 per cent) • Information provision (23 per cent) • Coordination (22 per cent) • Legislation and policy (22 per cent) • Monitoring and surveillance (13 per cent) • Emergency response (12 per cent) • Developing standards (11 per cent) • Preparedness (10 per cent) • Funding/resources (10 per cent) • Public land management (9 per cent) • Technical expertise (8 per cent). 	<p>"Government role has to be driven by something greater than profit, economic gain and growth. We need regulations that truly care for country in all ways." – State Government respondent</p> <p>"There is a role for government to ensure parts of the industry that are not covered by levy organisations are still subject to biosecurity requirements and responsibilities. E.g. peri-urban farms with one or two animals." – Livestock industry respondent</p> <p>"Government there to enforce any regulations. Regulations are put in place by government, but determined in consultations with industry and the supply chain." – Industry respondent</p> <p>"Government play a key role in preparedness, education, reporting and response. Private enterprise will do what they need to do in relation to markets, and production." – Industry respondent</p>
FINDING 2.3: Interviewees are open to a renewed focus on partnerships that do not necessarily have government sitting at the centre. Participants are enthusiastic to engage in conversations about how to build true partnerships.	
<p>The data indicates that establishing genuine partnerships is seen as a key responsibility of both government AND industry:</p> <ul style="list-style-type: none"> • 32 per cent of respondents believe government have a key role in establishing partnerships with industry and community • 16 per cent of respondents identified partnerships with government as an important role for industry • 16 per cent of respondents believe "partnerships" is an opportunity to strengthen the biosecurity system. This includes industry and government both being involved in priority setting and decision-making. • Genuine community and stakeholder engagement, that seeks to understand and meet community needs, was also identified as a primary role for government by 36 per cent of respondents. 	<p>"It would be ideal to work more collaboratively and systematically rather than just through incident response." – Federal Government respondent</p> <p>"We love the dialogue and conversation – we are a partnership driven organisation and relish the partnerships. Would be awesome to start building some stronger linkages and relationships with all levels of the Department. They do great work and they are under the pump. It's a tough working environment and anything that we can do to make it easier would great." – Catchment Management Authority respondent</p> <p>"Growers are doing monitoring for endemics and government are undertaking surveillance for exotics – this could be undertaken in partnership." – Horticulture industry respondent</p> <p>"There also needs to be more trust in industry and the opportunity to work collaboratively. Development of effective relationships and communication and flow of data between government and industry is essential for this." – Horticulture industry respondent</p>
FINDING 2.4: In the natural resource management sector, organisations like Landcare feel that they have already taken on greater responsibility for biosecurity advice and support to land managers. Some see this as Landcare having been left to provide this support alone, where previously they worked in partnership with government agencies. There is no desire to withdraw from this role but there is interest in returning to a partnership approach with organisations like Landcare networks and Catchment Management Authorities providing key connections into community.	

QUANTITATIVE DATA	PARTICIPANT PERSPECTIVES
<p>Only a small proportion of respondents (24 per cent) identified roles for community in biosecurity, but of those who did the following roles were identified:</p> <ul style="list-style-type: none"> ▪ Awareness, including a key role for Landcare in helping with awareness raising and extension (70 per cent) ▪ Monitoring and surveillance (43 per cent) ▪ Delivering biosecurity projects (13 per cent) ▪ Working together at a landscape scale e.g. via Landcare (9 per cent). 	<p>“There's possibly a role for Landcare to help with extension if they're resourced properly. Landcare can offer peer to peer conversations with land holders which would be more effective than Ag Vic coming in. Ag Vic should be there to do the enforcement when/if that's needed. The State Government funding of Landcare facilitators is so important. You need people who don't wear badges to have the "cup of tea" conversation with landholders.” – Local Government respondent</p> <p>“One of the values of a Landcare group is that they can descend as a whole to deal with a problem as a group – working together at a landscape scale. We can mobilise very readily for a good cause.” – Landcare respondent</p> <p>“Strength of citizen science in biosecurity is the sheer number of eyes you can have looking for something and the monitoring role they can play. Citizen science can cover a huge area. They can provide diversity, coverage and frequency in data collection that agencies or researchers can't. People can look for something daily if it's in their local area. Another strength is that people know their local area.” – Citizen science respondent</p>

4.3 SUMMARY NARRATIVES

SHARING RESPONSIBILITY

Interviewees were not surprised or uncomfortable with the concept that biosecurity is a shared responsibility. Depending on their perspective they were comfortable with the idea that as a direct beneficiary, an industry or sector should share the costs of biosecurity. Similarly, most interviewees noted that government neither could nor should solve biosecurity matters alone.

It is critical to note that some interviewees from both industry and community were concerned by any assumption that government was taking the lion's share of responsibility for biosecurity issues. There are many industries who have taken leadership for their biosecurity matters for many years and some see government as having stepped away (leaving them little other option). They would welcome 'sharing' the responsibility because with this would come a stronger and more collaborative relationship with government. There may even be some areas that would say that this sharing would amount to an increase in help from government (from a current low base).

In the environment and NRM sector, interviewees highlighted that their community-led groups have often taken on responsibilities that were previously fulfilled by government. For example, there are many Landcare groups that have taken the lead as information providers on weeds, pest animals and environmental biosecurity matters – roles that would have previously been part of government's regional weed and pest management staff. This pattern is not universal or consistent across the state. There are some parts of the state where the local NRM group (e.g. Landcare) or the Catchment Management Authority has not been in the position to provide this service or assistance.

In conclusion, none of those interviewed found the concept of shared responsibility to be inappropriate or confronting. A common response to this concept was that the process of determining how responsibility should be shared had to be collaborative and ultimate arrangements clear and transparent to all. The basis of frustrations with current arrangements could often be traced back to an apparent lack of strategy or clear rationale for changes in service delivery and resource allocation.

Further evidence that the concept of shared responsibilities is widely accepted is provided in the systems map for government, industry and community roles (Figure 4-1). When the roles are mapped in this way, it becomes apparent where the roles and responsibilities of government, industry and community intersect, and therefore where there is great potential for genuine partnership based on shared interests. Based on our mapping of the current system this includes emergency response, leadership and coordination, monitoring and surveillance, risk assessment, preparedness, and extension and capacity building.

There are also some roles that respondents identified as being the clear responsibility of specific players in the system. This includes government having responsibility for compliance and enforcement, border control and quarantine, legislation and policy, and industry having lead responsibility for control established/ endemic pests and disease, stewardship, verification/QA, and traceability. This again provides evidence that there is comfort with the idea that the direct beneficiary (i.e. public or private) should shoulder the costs of biosecurity in these instances.

In addition to identifying potential partnerships, the systems map also highlights significant opportunities for community and industry engagement to facilitate influence on decision-making, as well as areas where information and knowledge flows are crucial.



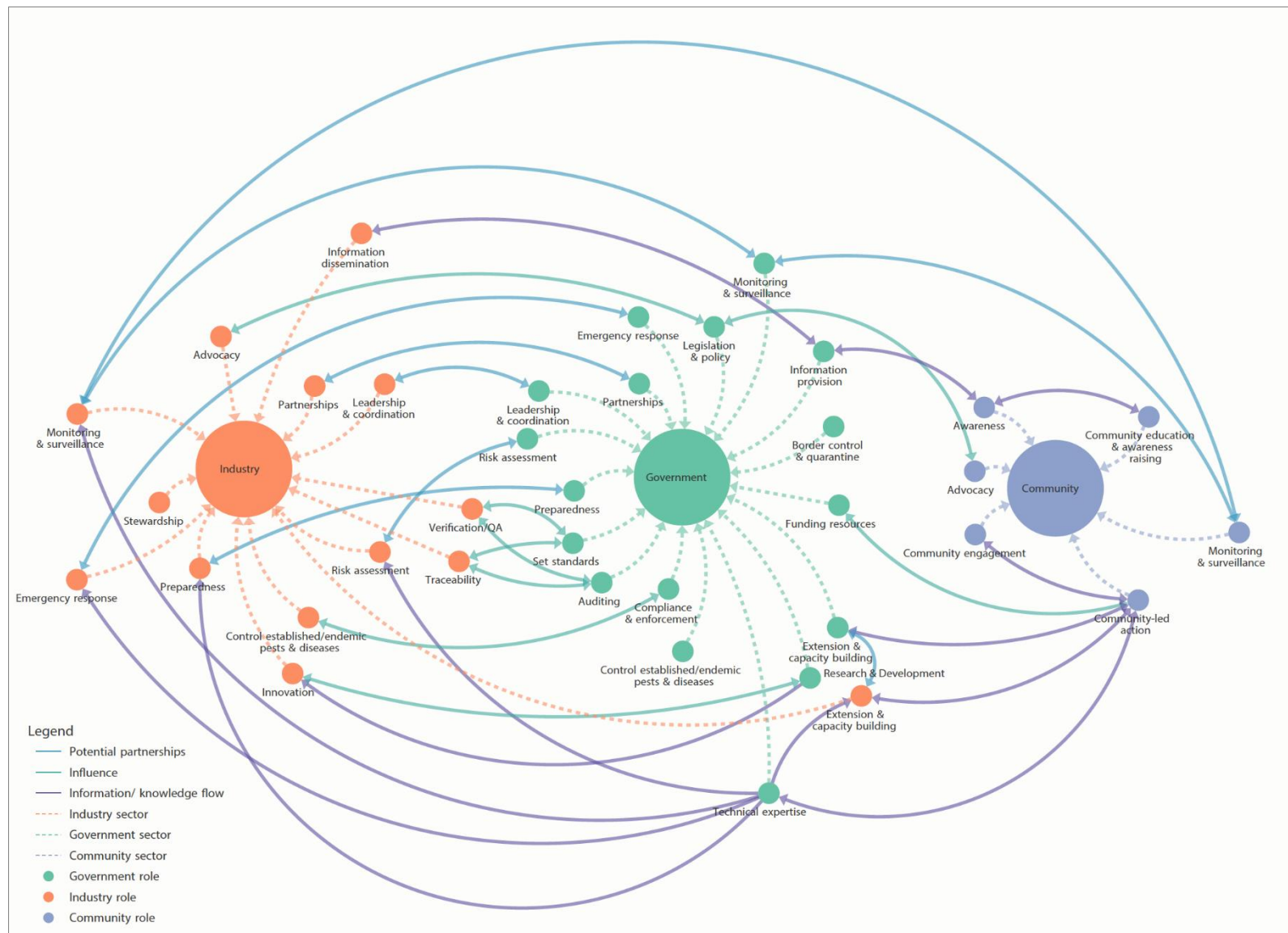


Figure 4-1: Systems map for government, industry and community roles in biosecurity

GOVERNMENT APPROACH TO ITS REGULATORY ROLE

Many interviewees felt strongly about the importance of the State Government's role in regulatory compliance. A frequent comment was that an enforcement option was critical for dealing with so-called recalcitrant land managers. This seemed to be less about changing the behaviour of that land manager and more about supporting the good practices of land managers who were 'doing the right thing'.

One interviewee described the State Government's regulatory/legislative responsibilities as falling across a spectrum of actions – from soft (engagement and information provision) to hard (compliance and enforcement). They reflected that as resourcing at the State Government level came under pressure there has been a withdrawal from the 'soft' services, which left a stronger (relative) focus on compliance and enforcement. One of the problems this creates is that the only time people see government is when it's an enforcement situation.

That said, views on the government's current approaches to compliance and enforcement among interviewees covered a wide spectrum – some felt that there was very little enforcement, others that enforcement had been done in an uncoordinated and heavy-handed way (with no consultation with local groups). Across these different views one view was common – there was little understanding of rationale for when enforcement actions were preferred and when not.

GOVERNMENT MEETING ITS OWN RESPONSIBILITIES

Discussions of roles and responsibilities often turned to considering where the government is meeting its own obligations. This was raised in the context of a discussion on shared responsibility. Many interviewees pointed to areas where they felt government was falling short of its own biosecurity responsibilities. Most prominent of these was the challenge of managing weeds and pests on public land, but other points mentioned included extension and capacity building, ensuring technical capacity in government agencies and compliance and enforcement.

This perception represented a significant barrier for some interviewees. They felt that it could be perceived as hypocritical for government to seek increased efforts in biosecurity from non-government parties when some of those parties are managing consequences or impact from poor government management of biosecurity.

4.4 CASE STUDIES

4.4.1 BIOSECURITY IN GRAINS TRANSPORT

Biosecurity is so important to Australian bulk grain freight operators and their customers. As Kelvin Baxter explains, “it is now part of almost everything we do”.

Australia’s grain industry thrives on the basis of its image as a provider of a high-quality product to world markets. Bulk grain transport is a key component of Australia’s grain industry, and presents one of the key risks, particularly for the spread of a wide range of bio-hazards (weeds, contaminant seeds) both arriving-at, and leaving the farm gate. Maintaining the highest possible levels of vehicle hygiene is a constant consideration for Australian east coast bulk transport operator, Kelvin (Kel) Baxter.



Kel Baxter is the founder and managing director of Kel Baxter transport, which he founded in Berrigan NSW in 1990. He has held a number of freight industry leadership positions and is the current chair of the Australian Trucking Association’s (The ATA) Industry Technical Council (or ITC).

In 2020 Kel’s company bulk transport fleet consists of forty-five prime movers and trailer combinations including B-Doubles, B-triples and road-trains. Kel explains the geographical spread of the business highlights why biosecurity is a high priority: *“we deliver grain all over, anywhere from Geelong, Victoria to Condamine, Queensland”* and *“the examples of working with (and transporting feed for) piggeries, organic sorghum growers and a wide variety of grain growers up and down the eastern seaboard constantly reinforces the need to maintain clean vehicles and to adhere to the highest biosecurity standards”*.

“As we all know in the transport industry, bad news travels fast, so we are vigilant about maintaining clean vehicles and the highest possible standards”.

INSIGHTS FROM THIS INTERVIEW

- Participants in the Australian grains industry, including grain growers, expect high standards of cleanliness from transport operators and, for some accredited producers (such as organic grain growers), separate auditing and accrediting of freight systems and associated grain-drying and storage businesses are now standard procedure.
- The pressure from bulk farm input-suppliers to maintain high standards and cleanliness is high, particularly from the Victorian bulk-fertiliser importers. There is now a universal requirement for all trucks forwarding fertiliser from Victoria’s ports (especially Geelong) to be inspected, and for trucks that have residual grain or other contaminants to be refused service.
- Successful attitudes and adoption of biosecurity standards starts with business owners and, if well understood and applied throughout a business, can provide access to better freight contracts and a distinct commercial advantage.

4.4.2 COMMUNITY-LED ENFORCEMENT FOR RABBITS AND BLACKBERRY

European rabbits (*Oryctogagus cuniculus*) and blackberry (*Rubus fruticosus*) are two of Victoria's most challenging invasive species. They both pose serious agricultural and environmental threats, with rabbits alone costing an estimated \$216 million in lost agricultural production per annum⁶. Given their prolific growth, these species demand collaboration across government and community to manage to acceptable levels.

Over the past 13 years, the Granite Creeks Project (a Landcare network near Euroa) and Agriculture Victoria have worked in partnership to deliver a coordinated approach to invasive plant and animal control across the Granite Creeks landscape. The Landcare community in the area have played an active role in rabbit and blackberry control over a period of 25 years. This community-led action is the result of sustained effort from passionate community leaders and a community with a shared interest in preserving the valuable assets within their landscape – environmental, economic and social.

In 2007, in recognition of the community achievements, Agriculture Victoria offered to establish a partnership with Landcare to deliver a coordinated compliance and enforcement program to enhance the outcomes of their community-led work. Agriculture Victoria work collaboratively with community representatives to identify hotspots that would benefit from supporting enforcement processes. Landcare are not directly involved in the enforcement process. However, any landholder that does receive a compliance notice is provided with the contact details for the Landcare network, who willingly offer support and assistance to deal with the identified weed and/or pest animal problems.

The collaborative approach has achieved fantastic results in the landscape, with the most recent transect count for rabbits coming in at 0.8 rabbits/km, down from 70 rabbits/km recorded in their initial baseline monitoring transect count.

"We are very supportive of the process in the community, as it is supporting the good works that we are achieving together. It has created a standard, and people know that enforcement will happen if you don't do the right thing. Most people really enjoy the pat on the back they get when the Department comes to have a look and finds it in good shape".

INSIGHTS

- The community led-enforcement model is seen as a win-win from both the community and government perspectives. It provides an active contribution to achieving community priorities and also offers great value for money for government investment.
- The success of the community led-enforcement model has relied on long-standing personal relationships between community leaders and Agriculture Victoria regional staff who are trusted by the community and the Department alike.
- Using the enforcement process to introduce landholders to Landcare in the region has been integral to generating long-term behavioural change – Landcare offer ongoing support with education, equipment and resources.

⁶ Gong W, Sinden J, Braysher M & Jones R. (2009). The Economic Impact of Vertebrate Pests in Australia. Invasive Animals Cooperative Research Centre, Canberra.

4.4.3 HORTICULTURE INDUSTRIES AND SHARED RESPONSIBILITY

Plant industries have highlighted the importance of managing incursions and endemic pests and diseases to gain access to export markets. The significant private benefits ensure that industry is willing (and expected) to contribute to the management of pests and diseases.

To some extent, this shared responsibility is articulated through the Emergency Plant Pest Response Deed⁷ developed with industry by Plant Health Australia (PHA). The Deed describes roles and responsibilities during an incursion, shared costs and compensation, and guidance and facilitation for the response. It documents shared responsibilities and creates shared ownership of the issues. Relationships are operating at many levels but of prime concern are the Peak Industry Bodies (PIB) who are members of PHA. From an AV perspective there is a focus on external relationships particularly with industry through the Horticulture Industry Network, PHA committees and a number of Roundtables that facilitate strong industry connections. There is a lot of pro-active work with industries including simulation exercises and industry liaison to ensure responsibilities are understood.

Ausveg is the PIB for the vegetable and potato industries and has been involved in responses to a number of incursions including tomato-potato psyllid (TPP) (*Bactericera cockerelli*). TPP is a tiny sap-sucking, winged insect that feeds on tomato, potato, capsicum, chilli, goji berry, tamarillo, eggplant and sweet potato causing production losses and spread of a serious plant disease known as 'zebra chip' in potato. TPP was first detected in Western Australia in February 2017. There have been no confirmed reports of TPP in Victoria. Ausveg recognised the importance of ensuring growers can identify TPP and understand the need to immediately report its presence. The consequences to a grower when reporting a notifiable pest includes loss of business due to quarantine, negative impact to social standing and potential loss of future contracts. The need for a trusted relationship with government is essential and compensation for individual losses is appropriate.

The management of endemic pests and diseases is often associated with the expectation of meeting production and profit goals. Best practice in control of endemics usually makes good business sense and so the private benefit drives the response. Accessing export markets through meeting country protocols also has a strong private benefit with the potential for lucrative prices. The Department of Agriculture, Water and Environment (DAWE) supports trade and ensures that our produce meets international standards and protocols. DAWE also works with industry to make sure that practices such as fumigation are conducted appropriately.

In many instances industry is leading the assessment of pest and disease incursion risks and the monitoring of endemic pests and diseases. Where the private benefit is clear, industry is often at the forefront of the biosecurity response. However, there are biosecurity challenges beyond the scope of individual industries. Protection of our borders requires a coordinated large-scale response. For this reason, biosecurity is a shared responsibility – the beneficiaries are not always clear and so it is expected that there will be ongoing tensions as to the relative contributions from different sectors – industry, community, environment.

“Agriculture Victoria has a role in biosecurity to support industry efforts in pest and disease management, identify and communicate high risk areas and work with industry on monitoring and surveillance. There is an opportunity for Agriculture Victoria to better understand industry needs and how we operate and strengthen the relationships between industry and government.”

⁷ <https://www.planthealthaustralia.com.au/biosecurity/emergency-plant-pest-response-deed/>

INSIGHTS

- There are strong private benefits for plant industries in protection from incursions and management of endemic pest and diseases.
- Plant industries recognise there is a shared responsibility and frequently lead the way.
- Plant industries work collectively in response to incursions through a well-designed and robust Emergency Plant Pest Response Deed.
- Plant industries are supported by government (Federal and State) to manage endemic pest and diseases and to meet export protocols.
- The relative private/public benefits of biosecurity are very different for different sectors.
- Shared responsibility and cost sharing require ongoing discussions to determine the true beneficiaries and role of government.

4.4.4 QUEENSLAND FRUIT FLY PROGRAM

Queensland Fruit Fly (QFF, *Bactrocera tryoni*) is considered one of the most serious pests of fruit and vegetables in Australia. Fruit and vegetables at risk of infestation include pome fruit, stone fruit, tomatoes, berry fruits, cherries, citrus and grapes. Infestations can threaten commercial and backyard production, productivity and international trade opportunities.

The Managing Fruit Fly in Victoria Action plan 2015-2020 was developed by Agriculture Victoria and Victorian regional stakeholders including horticultural industries and councils⁸. This plan supported the establishment of regional governance groups in Greater Sunraysia, Goulburn Murray Valley and the Yarra Valley. Each group developed Regional Fruit Fly Action Plans for their area and employed regional coordinators to manage the plan's delivery. The aim is to improve the management of QFF, increase collaboration and coordination of fruit fly activity and support market access.

Agriculture Victoria grants have funded the program which has been delivered by local councils, education and not for profit organisations.

Each regional group comprises members from industry, community and government. For example, the Goulbourn Murray Valley Regional Governance Group comprises members of Cobram and District Fruit Growers, Fruit Growers Victoria, agronomists, five councils representing Campaspe, Moira, Greater Shepparton, Strathbogie and Berrigan (NSW) Shires, Agriculture Victoria, SPC Ardmona and the Lions Club.

The program engages with commercial and home gardeners to promote best practice control measures such as baiting, spraying and using netting to provide a physical barrier to stop female QFF reaching fruit and laying eggs. Grants have also provided funds to remove unwanted fruit trees in residential areas (that can act as host trees) at no cost to property owners and for a school program to raise community awareness and help reduce the spread of QFF. Volunteers have provided their time to support the program's awareness activities.

The program provides an example of industry, government and community sharing the responsibility for QFF. The program has been well received by local growers, as a grower from Cobram states:

⁸ Agriculture Victoria (2021) Action on Queensland Fruit Fly in Regional Victoria. URL: <https://agriculture.vic.gov.au/biosecurity/pest-insects-and-mites/priority-pest-insects-and-mites/queensland-fruit-fly/action-on-queensland-fruit-fly-in-regional-victoria> (Accessed 23 May 2021)

“What’s being done with fruit fly currently is fantastic. Fruit fly has no silver bullet to get rid of it. It involves everybody – backyard gardeners, councils, community, growers, government. It’s everyone. On farm we control it well with baiting, spraying and hygiene. But we can’t control what’s happening in the community. But the councils are managing hygiene, getting rid of unwanted host trees and running school programs. And we’re really noticing the impact of the program in Cobram”.

INSIGHTS

- Sharing the responsibility for pest control is possible across industry, government and community at the local scale.
- There is often no “silver bullet” to managing a pest or disease. A coordinated response that draws on a range of measures (e.g. trapping, baiting and spraying) may be more effective.
- Engaging backyard producers and making their involvement easy (e.g. free tree removal) is important in achieving widespread disease control.
- Supporting “on-ground” efforts with community education, such as through schools, can assist in creating lasting change.

5 Strengths of the current system

Theme: positive aspects of the current biosecurity system and areas to retain.

5.1 INSIGHTS FROM INTERVIEWS

5.1.1 ISSUES AND INSIGHTS FROM INTERVIEWS

In this section we have collated a list of the issues and insights that were raised by a wide range of interviewees:

- The Victorian Government has very good existing relationships, networks and partnerships with many of the players in the biosecurity system, particularly in the primary industries sector. There have also been excellent examples of collaboration between government and industry.
- Victoria's biosecurity policy has a strong background and underlying framework.
- Victoria is considered to have strong capability in incident response which includes clear links with national agencies. This ability to launch an emergency response (using the Australian Incident Management System) has been demonstrated again in the recent avian influenza response. The technical capability of Agriculture Victoria is considered to be among the best in Australia (e.g. epidemiologists, world class laboratory, livestock traceability).
- Victoria has shown critical leadership in some extremely difficult areas. Work on electronic identification (EID) in sheep and goats was seen as hugely important and some interviewees noted that success of this program was due to Victoria's leadership.
- There have been important examples of emergency planning and preparedness work in some sectors (e.g. scenario planning for varroa mite).
- Victoria has critical formal institutional arrangements already in place which can be called upon for biosecurity actions and initiatives. For example, Catchment Management Authorities (CMA) are in place covering all of the state and can be engaged as needed.
- Government is the only body that can reach out to the whole community about biosecurity and the view of many interviewees is that this is what's needed. For example, making the connection between animal keeping as pets or for home production is critical for the livestock industry.

5.2 KEY FINDINGS

Table 5-1: Key findings

QUANTITATIVE DATA	PARTICIPANT PERSPECTIVES
FINDING 3.1: The Victorian government (particularly Agriculture Victoria), has very strong relationships and networks with the relevant Australian government departments and with many agricultural industries. These relationships are mature, robust and based on a strong history of collaboration.	
23 per cent of respondents identified existing partnerships and national collaboration as a strength of the biosecurity system. 38 per cent of respondents that identified existing partnerships and national collaboration as a strength were government representatives and 38 per cent were industry representatives.	"A strength is the Delivery Leadership Group ⁹ structure which enables us to participate in discussions with Agriculture Victoria and get information from them which helps us gain a better understanding of what Agriculture Victoria does on weed management." – Community interest group respondent

⁹ The Delivery Leadership Group was comprised of eight community leaders, drawn from the four Community Pest Management Groups (blackberry, gorse, serrated tussock and rabbits), and an independent chair. This group was responsible for overseeing the allocation of project grant funding to the four groups and had a key focus on coordination and collaboration between the groups and with government.

QUANTITATIVE DATA	PARTICIPANT PERSPECTIVES
	<p>The relationship we have with the Department in the biosecurity sector is robust, based on honesty.” – Industry peak body respondent</p> <p>“Links between agencies at national level are clear and documented.” – Livestock industry respondent</p>
FINDING 3.2: The state has delivered some important examples of emergency planning (scenario planning for Varroa mite) and preparedness in some areas, particularly those related to primary production.	
	<p>“Victoria is the strongest state in emergency planning in biosecurity. We’ve done courses in emergency situations and have run at least one emergency scenario planning session as if varroa mite had hit. So we’re part of the way there in emergency planning.” – Industry respondent</p>
FINDING 3.3: Victoria has demonstrated leadership and achievements in some extremely difficult areas – especially in livestock identification, most recently in electronic identification for sheep.	
See Case Study ‘Electronic identification for sheep and goats in Victoria’ (6.4.3).	<p>“Partnerships between stakeholders are critical. Unless you have industry buy-in you will struggle to be successful. Example – Government doing trials / proof of concept on ear tags for sheep to demonstrate that the measure would work. This helped overcome resistance by livestock agents and some in the VFF who saw the measure as an additional cost and burden. Also, the livestock industry championed the measure, which was important. Provision of financial support to industry from government helped to get the scheme implemented initially.” – Community interest group respondent</p> <p>“The traceability system and the leadership that Victoria showed in creating this system is a strength.” – Federal Government respondent</p>
FINDING 3.4: Victoria’s capability in emergency response is a particular strength. This is being demonstrated currently in the avian influenza outbreak but this is just another in a long succession of responses that stretch over decades.	
14 per cent of respondents identified emergency response or Emergency Response Deeds as a strength of the biosecurity system.	<p>“Biosecurity response in the plant health sector is well rehearsed. There is a strong national response capability.” – Plant industry respondent</p> <p>“Animal biosecurity has a good agreed system in place to deal with an outbreak – including authorisations and processes. Key players are aware of their roles and responsibilities and those of others. There is a clear understanding of the purpose of each of the steps in the system.” – Industry peak body respondent</p> <p>“Victoria’s response to avian influenza has been extraordinary particularly given it coincided with COVID 19.” – Federal Government respondent</p> <p>“Avian Influenza outbreak this year – it was well-managed, but it was quite small. The policies and procedures were good as the thinking had been done beforehand.” – State Government respondent</p>
FINDING 3.5: Victoria’s technical capabilities in biosecurity are highly regarded and are viewed as among the best in the country.	

QUANTITATIVE DATA	PARTICIPANT PERSPECTIVES
12 per cent of respondents identified technical expertise as a strength of the biosecurity system.	<p>"Their State laboratory is world class. Great reputation." – Animal industry respondent</p> <p>"Victoria has excellent scientific resources and staff in their biosecurity areas." – Federal Government respondent</p> <p>"The strengths in Victoria include an engaged and committed workforce with a good footprint across the state, excellent technical expertise, a culture of wanting to do good work and a commitment to understanding the partners." – State Government respondent</p>

5.3 SUMMARY NARRATIVES

HISTORY AND TRACK RECORD

Interviewees from across the sample recognised Victoria's strong track record for biosecurity management. This includes specific examples such as the livestock identification system, in particular the recent sheep and goat electronic identification system, and comprehensive and effective responses to disease outbreaks in both animal and plant industries.

This track record draws on the state's technical capability which many interviewees noted as being among the best in the nation. This includes technical capability that has both depth and breadth in both the field and the laboratory. This was demonstrated most recently by the comprehensive response to avian influenza, but this is just another example in a decades long history of responding to biosecurity incursions and emergencies.

Victoria's leadership in translating research and conceptual models into policy and action was also widely recognised and acknowledged. This includes, for example, developing and applying the concept of the invasion curve and the associated influence this had in shaping government policy and investment. In particular the influence of considering the relative cost effectiveness of investing at different points on that curve.

Interviewees with a nationwide perspective also highlighted the importance of Victoria's leadership across many biosecurity issues. The most recent highlight noted by numerous interviewees is the sheep and goat electronic identification system which was a particularly challenging initiative. The leadership in consulting and collaborating with industry was noted as a particular highlight of Victoria's approach. Other examples of this leadership mentioned during interviews were the collaborations with apiary industry and with fruit growers in the Goulburn Valley.

STRONG INSTITUTIONS AND FOUNDATIONS

A particular strength highlighted by many interviewees was that Victoria has strong institutional arrangements in place that provide an important foundation for current and future biosecurity management approaches. This includes regional, industry and community organisations who recognise the importance of biosecurity.

Even in the case of environment and natural resource sectors where recent interactions on biosecurity were criticised, the interest and capacity in regional organisations like Catchment Management Authorities is still present. Similarly, community lead groups like Landcare or Friends of groups are active and have a keen interest in biosecurity. Should government choose to increase its activity in any aspect of biosecurity, capable and interested industry groups, agencies and community-based organisations are already in place. For example, a key role of Catchment Management Authorities is to facilitate efficient and effective investment in biosecurity.

5.4 CASE STUDIES

5.4.1 PREPARING FOR VARROA MITE

Most people who work in horticulture, agriculture and natural resource management have heard of varroa mite – the tiny red-brown parasites of honey bees that feed and reproduce on larvae and pupae. The parasite causes malformation and weakening of the honey bees as well as transmitting numerous viruses, all of which can lead to the eventual breakdown and death of a colony¹⁰.

Two species of varroa – *Varroa destructor* and *Varroa jacobsoni*. *V. jacobsoni* – have been detected in northern Australia where there have been incursions of Asian honey bees (AHB), which have evolved to tolerate infestations of the parasite. However, the mite poses a serious risk to Australia's European honey bee (EHB) population and the production of honey and pollination services¹¹.

According to the Victorian Apiarists Association (VAA), *"V. destructor is the nasty one that we don't want". It's not in Australia yet, but is just about everywhere else in the world. Varroa could wipe out 50 per cent of farn bees and all of the feral bees (those not part of a hive). That would leave about 25 per cent of the European honey bee population which would have a devastating impact on food production. It took mainland USA around 8-9 years to recover and Hawaii four years"*.

Entry of varroa into Australia would likely occur from nests or swarms of EHB or AHB arriving on a vessel docking at an Australian seaport. Learning from lessons elsewhere, Victoria has taken the lead in emergency scenario planning for a varroa outbreak. This has involved a coordinated effort between agencies and industry to run a scenario for a varroa outbreak and enacting response plans. According to the VAA, *"Victoria is the strongest state in emergency planning in biosecurity. We've done courses in emergency situations and have run at least one emergency scenario planning session as if varroa had hit. So we're part of the way there in emergency planning"*.

Even though Victoria is leading the way in emergency planning, according to the VAA there's still a need for more sentinel hives around the ports and airports that are delivering cargo. *"There's potential to set up automated systems that alert officers to when there's activity in a sentinel hive. This would be a cost saving, meaning officers wouldn't have to check the hives every ten days or so, and we could have more of them"*.

The association is always looking for opportunities to strengthen biosecurity and reduce the risk of varroa arriving in the state. In addition to more sentinel hives, they see education of recreational beekeepers, greater representation of beekeepers on biosecurity committees for other industries and increased support for research as key actions to prepare for, and manage, the varroa risk.

INSIGHTS

- Victoria has good examples of close collaboration with industry to prepare for potential biosecurity issues.
- Scenario planning is an engaging approach that can be a very effective way to test both plans and responses.
- Apiarists and the State Government are working closely and sharing the different responsibilities for biosecurity in their industry.

¹⁰ Bee Aware (2020) *Varroa mites*. URL: <https://beeaware.org.au/archive-pest/varroa-mites/#ad-image-0> (Accessed 22 December 2020).

¹¹ Queensland Department of Agriculture and Fisheries (2020) *Varroa mites*. URL: <https://www.daf.qld.gov.au/business-priorities/biosecurity/animal-biosecurity-welfare/animal-health-pests-diseases/beekeeping-in-queensland/diseases-and-pests/asian-honey-bees/varroa-mites> (Accessed 22 December 2020).

6 Weaknesses of the current system

Theme: negative aspects of the biosecurity system as it stands and areas to focus on for reform.

6.1 INSIGHTS FROM INTERVIEWS

6.1.1 ISSUES AND INSIGHTS FROM THE INTERVIEWS

In this section we have collated a list of the issues and insights that were raised by a wide range of interviewees:

- Many interviewees highlighted that Victoria's legislation is out of date – having gone from leading the thinking to now being among the weakest and least contemporary. Some also noted that this flowed on to the state's strategic and operational delivery of biosecurity which was complex and fragmented across different legislation and different agencies.
- Interviewees from the environment and natural resource sector felt that there were competing policy objectives, the impacts and cost to the environment seemed to be a lower priority. Deer management was an example of this mentioned by several interviewees. Their perception was that there has been little action on deer control because of the focus on protecting deer as a game species despite their significant impacts on the natural environment.
- Poor internal communication within Agriculture Victoria was noted by some government interviewees who noted that within government the biosecurity system is very siloed and there were situations where they felt there was poor connection between policy and operations.
- Some interviewees suggested that a statewide strategic approach to biosecurity was lacking, and this meant that government actions are (overly) prone to being influenced by the loudest voices. They felt that action seemed to correlate with the sectors who were effective at lobbying government.
- Some interviewees noted that one of the current challenges is that responses to biosecurity issues can be affected by factors that seem unrelated to the issue, like land tenure. An example of this is that the options to manage feral cats and deer differ between public and private land. This can make for an approach that seems to be fragmented and inconsistent.
- Some interviewees noted that they felt that while policy suggests that prevention is highest priority, actions and resource allocation by government doesn't align with this. E.g. deer, lack of investment in quarantine and inspection, lack of support for things like truck washdown facilities.
- Some interviewees raised concerns that government's focus on response may have been leaving Agriculture Victoria's preparedness and future planning work under-resourced.
- Climate change presents many biosecurity challenges and a significant proportion of interviewees mentioned the changing risks under changing climate. This is very much a preparedness and prevention situation. However, there is no sense that government is setting any strategic direction or taking leadership in this area. Interviewees see this as a key role of government because it is a technical and data driven area and government has most of the knowledgeable people in this area. Various agencies and groups are looking to government to lead in this area.
- Some interviewees felt that focussing on enforcement was a weakness. They felt that it was not effective, doesn't drive change and can ostracise landholders (i.e. they don't want to interact with government).
- Coordination of biosecurity management across borders and at a national scale was noted as a weakness by interviewees involved in the transport sector. Consistency across states is a significant issue for these national businesses and biosecurity processes that are different in each state adds cost and risk to their operations.
- Some interviewees perceive that community and stakeholder engagement is token and not driven by a genuine desire to develop shared understandings, collaborate on decision-making and genuinely share responsibility, resources and decision-making.

- While technical capacity and expertise was noted as a strength of the Victorian system, some interviewees did raise concerns that investment in maintaining that capacity seemed to be declining.

6.1.2 SPECIFIC ISSUES AND INSIGHTS

Several very specific gaps or weaknesses were raised by interviewees. They included:

- ballast water arrangements
- peri-urban and lifestyle farmers are not engaged in the biosecurity system and not subject to biosecurity requirements (e.g. no PIC codes) which presents risks to commercial industries
- poor engagement with wildlife stakeholders
- roadside weed management and coordination with Local Government
- shipping container hygiene.

6.2 KEY FINDINGS

Table 6-1: Key findings

QUANTITATIVE DATA	PARTICIPANT PERSPECTIVES
FINDING 4.1: The government's policies suggest that prevention is the most cost-effective approach and therefore the highest priority. Interviewees, from across the sample, noted that actions often seem to be inconsistent with this.	
<p>18 per cent of respondents identified preparedness as a weakness of the biosecurity system.</p> <p>Respondents indicated that this weakness was a result of:</p> <ul style="list-style-type: none"> Complacency driven by a lack of serious outbreaks in Australia driving a reduction in capability and resources in preparedness Lack of data on impact, spread, distribution and control for environmental risks Focus on incident response A poor understanding of what preparedness actually is Poor horizon scanning, i.e. responding to climate change and changing public expectations Disconnect or poor communication within Agriculture Victoria. 	<p>"Unless you can actually document what preparedness is – you can't really measure progress against it. That is the challenge with it. There is a big difference between being prepared for foot and mouth disease vs a fire season, vs avian influenza outbreak. That should be a big focus for Victoria for this initiative. At the end of this, you should really be able to know what being prepared is." – Federal Government respondent</p> <p>"The risk in Australia is that we don't have many outbreaks, so don't get the funding to do the preparedness. It doesn't need a lot of money, just need to have systems that can be scaled up quickly with rapid deployment of people." – State Government respondent</p> <p>"Data on cost benefits, spread and distribution models, non-market value of impacts, and ability to control are used to determine appropriate actions. This data is often readily available for agricultural diseases and pests but is less clear and available for environmental issues. Recording this data is critical to allow better preparedness and transparent decision-making." – Federal Government respondent</p> <p>"Agriculture Victoria need additional resourcing for preparedness work. Because of the lack of resourcing they are not combat ready.... Ideally they should be moving from an incident response to a policy response with a focus on prevention. They are not able (resourced) to do the horizon scanning and consider changing public expectations, e.g. climate change impacts." – Victorian Government respondent</p>
FINDING 4.2: Many interviewees noted that Victoria's legislation has gone from reflecting leading thinking to now being among the weakest and least contemporary. It is a major barrier to being able to deliver a transparent and coordinated biosecurity approach.	
<p>11 per cent of respondents identified Victoria's current legislative arrangement as a weakness of the biosecurity system.</p>	<p>"Victorian legislation is outdated. For example Victoria would have to pay compensation if other states declined. The national deeds are disconnected from Victorian legislation." – Federal Government respondent</p>

QUANTITATIVE DATA	PARTICIPANT PERSPECTIVES
	<p>“Triggers vary by pest. There are some listed in the CaLP Act, while freshwater pests are listed in the Fisheries Act and action is only triggered if there is a threat to the commercial fisheries. Invertebrates can only be triggered by the Plant Biosecurity Act which is a Federal Act therefore this is a major gap at the state level. Victoria needs a Biosecurity Act that applies a risk based approach and includes a general biosecurity duty. This would mean it is not necessary to declare species individually.” – State Government respondent</p> <p>“Victoria’s response to deer typifies the issues with the legislation being outdated. There is little agility in the legislation hence the response to deer was slow and inadequate. An enforcement led approach is not the right model. Approaches that build knowledge and understanding in the community to form a stewardship ethic is critical.” – Community interest group respondent</p>
FINDING 4.3: Some interviewees perceive that the state lacks an overall biosecurity strategy, and this means that government actions are (overly) prone to being influenced by the loudest voices or by lobbying from interest groups.	
<p>17 per cent of respondents identified Victoria’s lack of state policy / strategic plan as a weakness of the biosecurity system.</p> <p>Respondents indicated that this weakness results in:</p> <ul style="list-style-type: none"> ▪ No clear vision that links to and recognises various industries and the community ▪ Competing policy objectives between agriculture and the natural environment ▪ Actions being highly influenced by industry or community advocates or politics ▪ Poor integration and alignment between plant, animal and human health sectors ▪ Under-resourcing for preparedness ▪ Disconnect between modelling that dictates investment and what is happening on the ground. 	<p>“There need to be stronger conversations and better stakeholder engagement – through a strategy/plan. Need to lift engagement and explore what people think. Be better at listening and use the intelligence and information.” – State Government respondent</p> <p>“Why cats over foxes? Why deer over cats? In the vulnerability that Victoria has at the moment, there’s no real framework or plan. The plan would capture metrics, distribution and abundance. It would provide rigour to decision-making – it’s ad-hoc. It doesn’t come together to give you a bigger picture view. We may have missed the boat with deer, because the community weren’t complaining about it ten years ago. Now it’s a serious problem. There’s a lag period because we are reactive.” – State Government respondent</p>
FINDING 4.4: Consistency across states is a significant issue for national businesses. Different biosecurity processes in each state and lack of coordination across borders, and at a national level, adds to costs for these businesses as they seek to meet biosecurity requirements.	
<p>13 per cent of respondents identified national coordination as a weakness of the biosecurity system.</p>	<p>“Harmonisation – the major weakness is the different legislation across the states. There is an opportunity to harmonise legislation.” – Supermarket industry respondent</p> <p>“The states should harmonise their legislation and trade protocols. Reporting would become easier. States need to harmonise responses / standards / legislation. An example of where this doesn’t work is potato cyst nematode and area freedom which differs between states.” – Horticulture industry respondent</p> <p>“We need harmonisation of legislation across all states. New Zealand has one Act.” – State Government respondent</p>
FINDING 4.5: Some interviewees perceive that community and stakeholder engagement is tokenistic and not driven by a genuine desire to develop shared understandings, collaborate on decision-making and genuinely share responsibility, resources and decision-making. There is a perception that Agriculture Victoria engages intensively with some industry groups and peak bodies, with a belief that this constitutes broad community engagement.	

QUANTITATIVE DATA	PARTICIPANT PERSPECTIVES
<p>22 per cent of respondents identified community stakeholder engagement as a weakness of the biosecurity system.</p>	<p>“Government want the community at the centre of everything we do – they say it, yet they don’t. It is a leadership issue and a control issue. It is easy to say and it is trendy to say, but when you interrogate it, it is not genuine. It is a slogan, not a doing thing.” – Catchment Management Authority respondent</p> <p>“The language of community engagement is thrown around in policy jargon and program descriptions – it all refers to one-way agency engagement with the community – not two-way. Local facilitators and CMA staff are not usually engaged – we are also part of the community and would add value to the engagement processes.” – Landcare respondent</p> <p>“There needs to be recognition that there is not just one community but many types of communities and community engagement is not a one-way activity. Flip it around, consider how can we support local communities to engage with government more effectively, build greater levels of trust, clearer logic and rationale.” – Landcare respondent</p> <p>“Agriculture Victoria rely a lot on our members (for intelligence, etc.), but it’s not really appropriate. It compromises us and our members are the ones who are engaged and doing the right thing, so it potentially skews what’s really happening.” – Horticulture industry organisation respondent</p> <p>“The view that there is an industry that can be clearly defined and engaged via things like a peak body needs to be revised.” – Federal Government respondent</p>
<p>FINDING 4.6: Many interviewees noted that action on biosecurity action is widely under-resourced. The long-term nature of biosecurity management is a particular challenge for government’s short-term funding cycles. Funding biosecurity as short-term projects leads to inconsistency and uncertainty regarding government’s commitment to biosecurity.</p>	
<p>22 per cent of respondents identified funding / resources as a weakness of the biosecurity system.</p> <p>Specifically, respondents indicated that short-term funding cycles and the quantity of resources were insufficient for:</p> <ul style="list-style-type: none"> • Monitoring and surveillance • Control of established pests on public land • Research and development • Extension and education • Biosecurity actions, e.g. support for roadside management, support for coordinated community invasive plant and animal programs. 	<p>“Under-resourcing of Parks Victoria (PV) is an issue, they currently get <0.5 per cent of the state budget which is totally inadequate. But it becomes habitually PV are acting like NGOs in that they apply for funding from CMAs and the Australian Government.” – Community interest group respondent</p> <p>“Managing weeds on roadsides needs more money to do it properly. Cost we estimated to do the work in a bad year \$1-1.5mill. Gov’t gives us \$75,000. It is somewhere between that number in terms of what is required – \$500,000 – \$1M to do it well using a programmed approach – all zones get dealt with at some point in time.” – Local Government respondent</p> <p>“The impression is that Victoria has had a slow but steady dis-investment in biosecurity compared to other states.” – Federal Government respondent</p>
<p>FINDING 4.7: Interviewees noted that compliance and enforcement are among the key roles of government but the policy or strategic basis for the current approach is not clear. Participants are seeking both a more collaborative and balanced approach to the use of enforcement.</p>	
<p>14 per cent of respondents identified compliance / enforcement as a weakness of the biosecurity system.</p>	<p>“There is some prosecution in the region – but does it actually generate change? The real value of prosecution is to motivate those that can drift into non-compliance, sends a warning. The system wouldn’t be fixed in my view if there was lots and lots of compliance. The theory of practice change suggests that it might not get you the whole way there. Balance between incentivising and</p>

QUANTITATIVE DATA	PARTICIPANT PERSPECTIVES
	<p>compliance.” – Catchment Management Authority respondent</p> <p>“Compliance can undermine the positive relationships that we have established with Landcare. When compliance was happening, there was a bit of tension between all of us. Need better engagement on this if there is more of this work done.” – Local Government respondent</p> <p>“Compliance – the policy is outdated and not risk focused. There needs to be a greater consideration of issues for trade. Soft compliance – engagement and awareness are increasingly more important and should be focused on.” – State Government respondent</p>
FINDING 4.8: Some interviewees raised concerns that in the current system, reporting a biosecurity incursion had serious negative consequences for the land manager and the use and operation of their property. This has the potential to prevent reporting and compromise the ability to detect new or emerging pests and disease.	
10 per cent of respondents identified fear to report as a weakness of the biosecurity system.	<p>“Reporting a notifiable pest results in a) loss of business due to quarantine and b) negative impact on social standing and c) potential loss of future contracts. The system doesn't support reporting. This highlights that the legislation and quarantine are a problem. The response to an incursion needs to be faster to enable businesses to get up and running quickly.” – Horticulture industry respondent</p> <p>“There are significant issues associated with biosecurity in relation to the social impacts. There is a social stigma connected with biosecurity and incidences such as an incursion. The effect on farming families, needs to be considered. Poor policy related to biosecurity can force issues underground.” – Horticulture industry respondent</p>
FINDING 4.9: Interviewees from across different primary production sectors highlighted that backyard and lifestyle farmers are not well connected to ‘industry’ but they can be the source of significant risks for the whole system. Connecting with these people to help them to see that they have biosecurity responsibilities should be a priority. Some interviewees noted examples where this has already been done well including fruit industry in the Cobram area (see Queensland Fruit Fly case study) and apiarists in Canberra.	
11 per cent of respondents identified engagement of backyard / lifestyle farmers as a weakness of the biosecurity system.	<p>“Peri-urban areas and lifestyle farms that carry a few animals can be invisible to the system because those properties do not get property identification codes (PICs). Industry organisations cannot represent these small farmers but they have the potential to have a major impact on commercial operators.” – Livestock industry respondent</p> <p>“There are around 10,000 registered beekeepers in Victoria and about 95 per cent of these are recreational. Only a small number are members of clubs and therefore getting information about biosecurity. The other 7,000 or so are not getting education. This poses a massive biosecurity risk to other commercial beekeepers as well as food production more broadly.” – Apiary industry representative</p>
FINDING 4.10: Interviewees from across interest groups raised concerns about the low level of community awareness of the importance of biosecurity. They noted that it was not surprising that in most cases, awareness of a pest or disease was driven by direct experience, but this does not appear to be resulting in any increase in general awareness or concern about biosecurity.	
15 per cent of respondents identified community awareness as a weakness of the biosecurity system.	<p>“Information from Ag Vic – the Biosecurity aspect is virtually untapped – we need to learn a lot more, we need to do a lot more. General awareness of people needs to significantly improve. We are at the embryo stage.” – Grower / producer respondent</p>

QUANTITATIVE DATA	PARTICIPANT PERSPECTIVES
	<p>“Biosecurity is not well understood and communicated at a regional level. Hard to keep this at the front of people’s minds. Not until something happens that we all have to scramble around and work out what we should be doing.” – Catchment Management Authority respondent</p> <p>“Many people don’t know about how the system operates. Most people wouldn’t be able to describe the system, but would know what impact on their business and the importance of good biosecurity.” – State Government respondent</p> <p>“Need to bring community along. Need to be better at story telling – something people can relate to. People need a reason to be involved. Story telling is a really big part of breaking down the jargon.” – Community interest group respondent</p>
FINDING 4.11: There is a perception among some interviewees that there is a lot of data collection going on but little sharing of that data with stakeholders – industries, community, environment, and NRM bodies.	
<p>A small proportion of respondents (8 per cent) identified data transparency and sharing as a weakness. They thought making information more accessible was an opportunity for improvement.</p>	<p>“There is an opportunity to recognise industry data. The best approach would involve a partnership between industry and government with an MoU which would ensure appropriate editing and validation.” – Horticulture industry respondent</p> <p>“There should be more transparency with data and information that is collected.” – Federal Government respondent</p>

6.3 SUMMARY NARRATIVE

LEGISLATION, POLICY AND STRATEGY

A range of interviewees noted that the current legislation and corresponding policies and strategy represent a significant deficiency in Victoria’s biosecurity system. Victoria’s legislation is not contemporary and does not align with approaches used in other states and territories around Australia. Interviewees reported that the current system is disjointed and confusing with multiple different Acts influencing biosecurity approaches.

Some interviewees linked this lack of clear legislation, strategy and policy to perceptions that decisions are heavily influenced by lobbying or by the “loudest voices”. Some of the interviewees that raised these concerns felt that this explained the apparent focus on agricultural pests and diseases rather than environmental biosecurity issues – that is, the agricultural industry sector had greater influence over decisions because of their stronger links to government and their ability to readily identify the economic impacts of biosecurity issues.

Another aspect of this same view was that while policy principles were clear – most notably that prevention should be the highest priority – this was not apparent in actions and resource allocation. The perception among some of those interviewed was that government was very active and effective in its responses to disease or pest incursions, but efforts in prevention, including surveillance and enforcement of current regulations, was far less prominent. Examples of this were varied but included:

- poor monitoring and enforcement of the livestock identification system (e.g. checking use of PICs and record keeping at saleyards)
- lack of investment in simple prevention measures like vehicle washdown facilities
- the lack of attention given to deer as their populations increased over the last decade or so
- the lack of a systematic approach to surveillance for new weed pests particularly environmental weeds.

ENGAGING ALL PLAYERS IN THE SYSTEM

In broad terms the current biosecurity system brings together government agencies, organisations and peak bodies representing primary industry and food production, and organisations representing interests in the natural environment. Interviewees pointed to two areas where this current model is deficient.

The first is the definition of 'industry'. Government routinely engages industry on biosecurity issues. For the most part this is via peak bodies or formal industry representative organisations, which reflects commercial operations. However, many interviewees pointed out that some of their risk comes from players who would not consider themselves to be part of an industry. For example, there are many small or lifestyle farms that carry livestock but are not captured in the livestock and property identification system. Peak bodies generally don't consider these players to be part of their industry and, while government's focus is on engaging through industry bodies, they will remain outside the system. Some interviewees from government agencies suggested that industries need to take a broader view and include these players in their sphere, while some industry representatives interviewed saw this as a key role for government.

The second area where the current engagement approach is deficient relates to the environment and natural resource sector. Some interviewees felt that the current approach seemed to be based on an assumption that these interests could be covered by engaging the 'community'. The constituency for environmental and natural resource biosecurity matters is not the general community – just like industry there are groups that have a strong interest in this. While it may often be the case that they are not as formally constituted as industry organisations, there are identifiable groups and organisations who have a strong, and long-running, interest in these areas. Some interviewees expressed a concern that the necessary time had not been invested in identifying these groups and developing relationships with them.

Finally, several interviewees laid out a large challenge for government. They felt that since the whole community has a stake in biosecurity, to some degree the whole community needs to be engaged in better understanding biosecurity. In keeping with the findings from our questions about why people take an interest in biosecurity, the challenge that lies at the heart of this is to identify the self-interests. A broad engagement effort like this would require there be a clear personal benefit or cost among the target audience that can be linked to biosecurity.



7 Decision-making

Theme: what shapes and influences (individual or organisational) decisions and actions regarding biosecurity.

7.1 INSIGHTS FROM INTERVIEWS

7.1.1 ISSUES AND INSIGHTS FROM THE INTERVIEWS

In this section we have collated a list of the issues and insights that were raised by a wide range of interviewees:

- Emergency Plant Pest Response Deed (EPPRD), managed by Plant Health Australia and the Emergency Animal Disease Response Agreement (EADRA), managed by Animal Health Australia, outline responsibilities and activities in the event of an incursion (www.agriculture.gov.au/ag-farm-food/levies/biosecurity-levies). These determine triggers for action and many government level decisions – there are gaps though.
- Drivers for action mentioned by interviewees from the primary production sector were:
 - reputation protection – sustainable practices, “clean, green” image
 - trade issues particularly market access, responding to consumer and market demand, opportunities for competitive advantage, accreditation/quality assurance, compliance with standards
 - industry economic viability (e.g. market retention)
 - food safety and human health
 - shareholder profit
 - regulatory requirements.
- Risks, near misses or direct involvement in an emergency event were frequently mentioned as the factors that influenced decisions and actions. Some interviewees also mentioned that these experiences prompted them to increase their preparedness for future events. Experiences of financial impacts from biosecurity issues (pest and disease outbreaks) were also highlighted as influencers of decisions.
- Threats to the natural environment (terrestrial and aquatic) were noted by some interviewees as were threats to cultural heritage.
- Some interviewees suggested that there is a lot of data collection occurring but little sharing of that data with stakeholders. The data collection referred to included data associated with systems like livestock identification, monitoring activities and research.

7.2 KEY FINDINGS

Table 7-1: Key findings

QUANTITATIVE DATA	PARTICIPANT PERSPECTIVES
FINDING 5.1: Industry viability (maintaining and growing a product) and trade (access to markets and maintaining a competitive advantage) are key drivers of biosecurity action.	
25 per cent of respondents identified industry viability as being a key driver to take biosecurity action. Of these, 63 per cent were from industry with a range of sectors being represented including: <ul style="list-style-type: none">▪ Seafood	“At the farmer level it’s about ensuring they can manage their business day to day – buying and selling animals. Remaining productive and viable, as well as having sustainable, resilient farmers.” – Livestock industry respondent

QUANTITATIVE DATA	PARTICIPANT PERSPECTIVES
<ul style="list-style-type: none"> ▪ Nursery and garden ▪ Grains ▪ Meat ▪ Honey ▪ Citrus ▪ Wool ▪ Transport. <p>22 per cent identified trade as an influence in decision-making. The majority of these respondents (76 per cent) were from industry.</p>	<p>“Making sure all biosecurity programs act together to manage our agricultural economy to operate, and has market access that is maintained or improved (as the driver to act).” – State Government respondent</p> <p>“Decision-making is influenced by scientific reports and a very real fear of market impact.” – Grains industry respondent</p>
<p>FINDING 5.2: A direct risk, near miss or direct involvement in an emergency event were strong influences on decision-making for many interviewees, particularly those linked to primary production.</p>	
<p>21 per cent of respondents identified risk management as being a key driver in taking biosecurity action. This included respondents from a range of industries including:</p> <ul style="list-style-type: none"> ▪ Wine ▪ Livestock transport ▪ Beef ▪ Nuts ▪ Grains ▪ Vegetables ▪ Summer fruits ▪ Honey ▪ Dairy. <p>9 per cent of respondents identified incursions, or a near miss, as being a driver to act.</p>	<p>“Varroa mite is the big threat... Varroa destructor is the nasty one that we don't want. We're very vigilant and everyone is very aware of it.... The impact that bees have on food production has been estimated to be somewhere between \$16-19 billion. If we get varroa destructor it will have a major impact on that, at least for the first four years (based on the time it's taken industries to recover elsewhere in the world, e.g. Hawaii).” – Apiary industry respondent</p> <p>“At a macro level, the beef industry is worth \$2B, so we need to take action to protect industry from a shock that would impact this.” – Livestock industry respondent</p> <p>“We participate in biosecurity to understand the main areas of risks. The main area in dairy of risk – is on farm. Feed, antibiotics, animal health products. Try to ensure disease free animals. Want to ensure our industries are protected and maintain the high standard.” – Dairy industry respondent</p> <p>“Incursions mean that there is more experience and previous incidents have made sure that communities/farming groups are ready. However, this is often a hard way to learn.” – Grains industry respondent</p>
<p>FINDING 5.3: A desire to protect the reputation of the industry (i.e. maintaining a clean green image, being a good steward, ensuring sustainable practices and production) was an important driver for some interviewees.</p>	
<p>15 per cent of respondents identified reputation as being a strong reason to take biosecurity action.</p>	<p>“We have a clean, green image in Australia and we want to keep that. Efficient growers. Minimal chemical use. Very good integrated pest management (IPM) programs. We have a really efficient and easier growing systems than if we had the pests and diseases they have overseas.” – Horticulture industry respondent</p> <p>“In Australia, the clean, green image matters and needs to be protected.” – Grains industry respondent</p> <p>“Reputation, cost and the environment (are drivers to act).” – Aquaculture industry respondent</p>
<p>FINDING 5.4: Surveillance and early detection of a biosecurity risk was noted as a key influence (incentive), but this was tempered by concerns about the repercussions (for a business) that could come with a detection on your property.</p>	

QUANTITATIVE DATA	PARTICIPANT PERSPECTIVES
<p>The following aspects of the biosecurity system were identified as weaknesses by some respondents compromising confidence in surveillance:</p> <ul style="list-style-type: none"> ▪ (lack of) enforcement and compliance (14 per cent) ▪ fear to report (10 per cent) ▪ data transparency and sharing (8 per cent). <p>8 per cent of respondents identified monitoring and surveillance as an opportunity for improvement.</p>	<p>“It can be hard to be honest about a biosecurity issue in your industry or jurisdiction – people don’t want to be seen to be telling tales out of school – there are different levels of capacity within each of them. There can be a negative attitude towards what surveillance can do to a producer if a disease is detected, e.g. all livestock destroyed. Needs to be reframed to the benefits of surveillance.” – Federal Government respondent</p> <p>“There are significant issues associated with biosecurity in relation to the social impacts. There is a social stigma connected with biosecurity and incidences such as an incursion. The effect on farming families, needs to be considered. Poor policy related to biosecurity can force issues underground.” – Horticulture industry respondent</p>
<p>FINDING 5.5: Legislative and regulatory obligations were key drivers for many interviewees (government and non-government), however some non-government participants noted that it was unclear why government chooses to act on weeds or pests in some places but not others (e.g. blackberry but not deer).</p>	
<p>20 per cent of respondents said that legislated responsibilities were a key driver to act, however, most of these respondents (75 per cent) were from government agencies.</p> <p>However, 18 per cent of respondents identified biosecurity policy and planning as a weakness, stating it is outdated and the prioritisation of weeds and pests is confusing.</p> <p>A small proportion (7 per cent) of respondents expressed concern that decisions are influenced by politics and lobbying rather than science.</p> <p>With specific reference to deer, 5 per cent of respondents believed deer management is restricted by legislation.</p>	<p>“Data on cost-benefits, spread and distribution models, non-market value of impacts, and ability to control are used to determine appropriate actions. This data is often readily available for agricultural diseases and pests but is less clear and available for environmental issues. Recording this data is critical to allow transparent decision-making.” – Federal Government respondent</p> <p>“Victoria’s response to deer typifies the issues with the legislation being outdated. There is little agility in the legislation hence the response to deer was slow and inadequate.” – Environment NGO respondent</p> <p>“Still a lot of room for improvement, i.e. still hoping for policy change with deer.” – Local Government respondent</p> <p>“At the moment because we get money from Ag Vic we have to focus on listed species, but Bluebell Creeper for example is not listed but may be an issue under future climate change.” – Local Government respondent</p>

7.3 SUMMARY NARRATIVE

For many of the interviewees the factor that most shapes and influences biosecurity decisions and actions is self-interest or direct benefits. There was generally a strong and direct relationship between biosecurity and primary production, so adopting biosecurity measures had a direct benefit – protection of business and financial interests. For others, these benefits were related to social (e.g. pride in the good stewardship of land) or environmental (protection of native flora and fauna) values that would flow to the individuals and/or their community.

Interviewees were asked how they might go about influencing decision-making to ensure good biosecurity outcomes. The responses of non-government interviewees tended to not look beyond themselves or their industry. Some did not seem to recognise this as a question about their interest or ability to influence government decision-making but more a question about their own internal processes and decision-makers. This could indicate that, beyond their own businesses, they are not aware of means or opportunities to influence biosecurity outcomes.

Interviewees who were more familiar with government decision-making processes drew attention to their concerns about priorities and actions. For instance, someone called attention to the question of why government chooses to invest in some places or species and not others. An example of this is the relative attention given to an established widespread pest like blackberries versus the perception of little attention been given to deer.



7.4 CASE STUDIES

7.4.1 ADAPTABILITY IN BIOSECURITY POLICY

Greening Australia's Climate Future Plots

Greening Australia is trialling a less traditional approach to revegetation and restoration projects in an effort to build habitat resilience to the uncertain and unpredictable effects of climate change. Rather than planting exclusively local provenance species, which is standard practice, they are incorporating a mix of local and climate pre-adapted plant genotypes (seed from hotter and drier climates) into a series of Climate Future Plots. This isn't about guessing what species might survive under future climate change but using genotypes of the same species that will be better adapted to future climate.

The aim of the Climate Future Plots is to enhance the resilience of natural landscapes to the changing climate and actively inform future restoration and biodiversity conservation management¹².

This approach calls into question the need for biosecurity approaches that enable the movement of seed to support future climate plantings. As one Greening Australia respondent noted:

"Seeds and seed movement (is an important biosecurity issue). This relates to climate change and shifting climatic zones. For example we may need to use red gum seeds from Dubbo in a revegetation program in Gippsland. Planting for future climates requires a renewed approach to local provenance".

Not only does this project highlight the need for biosecurity approaches that support climate preparedness, but also presents an opportunity for other organisations and industries to learn from their method and technologies. The need to plan for climate change impacts was highlighted as a gap in the current biosecurity system by some respondents (particularly in the natural resource management sector), and there was evidence to suggest that stakeholders are seeking ways to translate climate change information and modelling into action "on the ground". This is reflected in the following responses:

"Understanding climate change impacts on weeds (is a current weakness). Is it even worth spending money on gorse and blackberry? Will they die out with decreased rainfall and drier conditions? Will serrated tussock spread under a future climate? Ag Vic could help inform some of this, be future looking... do some of the modelling and question where we spend money." – Local Government respondent

"The incorporation of climate change risk (e.g. what diseases, pests, weeds are likely to increase or decrease under future climate scenarios) into local planning still has a long way to go. It's still very strategic. There's no investment to do the modelling then incorporate into planning and then do the work. As a start we should be looking at the species that will stop industry or cause an increased environmental impact." – Catchment Management Authority respondent

INSIGHTS

- Biosecurity approaches need to accommodate climate change preparedness, such as the movement of seed to support future climate plantings.
- Investment in weeds, pests and disease today should consider future climate change impacts.
- Translating climate change modelling and scenario planning into action "on the ground" is challenging, but not impossible. There is opportunity to learn, and apply technologies, from other industries.

¹² Greening Australia (2020) *Climate Future Plots*. URL: <https://www.greeningaustralia.org.au/climate-future-plots/> (Accessed 26 Nov 2020).

7.4.2 VICTORIAN ABALONE AQUACULTURE INDUSTRY – LESSONS FROM THE ABALONE VIRUS

In 2006, the Victorian abalone industry was dealt a devastating blow as a result of a disease outbreak that appeared at two on-land abalone farms east of Portland, Victoria. The disease was first noticed when the abalone showed unusual and never-seen-before symptoms that resulted in rapid and mass mortality. It took several weeks to establish that the deaths were caused by the abalone viral ganglioneuritis (AVG), caused by the abalone herpes virus.

Over a series of weeks, the virus had wiped out almost 100 per cent of stock on the farms. Over a series of months, the virus rapidly spread across the coast of Victoria and decimated up to 90 per cent of the wild abalone ocean population. It is believed the virus is spread by either direct contact between abalone, through the water column, potentially via other activities that involve human or equipment contact between infected and healthy abalone and/or by other marine species. A similar virus has been found in farmed abalone in Taiwan.

This outbreak caused millions of dollars of lost production and statewide loss of jobs in aquaculture and commercial fishing. In 2009, an industry code of practice and biosecurity program was developed to limit any possible biosecurity risk and disease transfer. The code of practice includes measures for recreational abalone harvesting and the commercial aquaculture industry.

Through experiencing this unfortunate event, there were many lessons learnt. The industry is more mature and better equipped to respond. State Government, abalone aquaculture and commercial fishing industry have adapted and overhauled the industries approach to biosecurity. The abalone farms were permitted to restock in line with national biosecurity guidelines and it took five years for the wild abalone population to recover enough to resume commercial harvesting.

These lessons were put into practice following the re-emergence of the disease in 2021. AVG was detected in wild abalone off the coast of Cape Nelson on 1 May. Immediate reporting by abalone fishers has led to a fast response and implementation of disease controls.

Nevertheless, while the abalone industry is committed to best practice biosecurity management, there are inconsistencies in the biosecurity measures adopted in other commercial fisheries, by recreational boaters and divers, and in management of shipping channels, waste and ballast discharge. This means the risk of new disease outbreaks remains.

“We have come a long way in 15 years. We as an industry have a responsibility to ourselves to be on top of it.” – Aquaculture industry respondent

INSIGHTS

- A post-outbreak review (including key stakeholder workshops) of the lessons and knowledge gaps has informed future biosecurity preparedness, response and management of incursions.
- Time is of the essence when responding to previously unknown symptoms.
- It is possible that established biosecurity prevention controls may have limited the extent of the outbreak.

8 Biosecurity understanding and interests

Theme: an understanding of biosecurity from the individual (or organisation) vantage point and why biosecurity is important.

8.1 INSIGHTS FROM INTERVIEWS

8.1.1 ISSUES AND INSIGHTS FROM INTERVIEWS

In this section we have collated a list of the issues and insights that were raised by a wide range of interviewees:

- Primary producers see biosecurity requirements as a market signal or requirement from their buyer.
- Government agencies see biosecurity as one of government's responsibilities to the agricultural sector, the natural environment and the broader community.
- The sample in this project was biased to people who are very likely to understand it. This includes community members who were all linked to an industry group, peak body or interest group and were engaged in biosecurity.
- Understanding of biosecurity was strongly influenced by the ways a stakeholder's interests are affected, e.g. government respondents defined biosecurity in relation to their legislative requirements, livestock producers were keenly aware of animal identification and traceback systems, while fruit growers were well aware of pest and disease outbreak zones (e.g. Queensland fruit fly).
- The way stakeholders understand and engage with the system depends on their drivers which vary by stakeholder type and circumstance. Interests are relatively clear where there is trade or commerce involved – both keeping things out of Australia and establishing and verifying disease or pest free status. In contrast, some of the interviewees representing the Indigenous community brought a very different perspective to their view of biosecurity – namely that the presence of invasive species is an indicator of the impacts of European agriculture being imposed on the Australian landscape.
- Interviewees with a link to primary production had very direct and clear drivers for their interest in biosecurity – e.g. the continued successful and safe operation of their business. For these interviewees a good biosecurity system was a way to:
 - meet the demand for evidence (e.g. surveillance) to show 'freedom' from pests/disease
 - maintain a 'clean and green' image or reputation for an industry and its products
 - maintain access to export markets through accreditation and quality assurance
 - reduce animal welfare risk and associated potential impacts on trade
 - predict and plan for new pests and diseases and the pathways for incursions.
- Interviewees from many different interest areas noted the importance of biosecurity management to the protection of natural assets and the environment (or the resource-base). That is, the link between biosecurity and environment was not confined to interviewees whose main interest was the environment or natural resource management.
- Many of those interviewed were in positions in government organisations that were focussed on biosecurity, so their interest was driven by a legislative or regulatory imperative that came with their role.
- Similarly, among the interviewees from the private sector, many participants were in positions that are directly related to biosecurity for their industry. The fact that this position or role exists is a reflection of the importance that their industry or organisation places on managing their biosecurity risk.
- Many interviewees spoke directly to the question of risk when asked why biosecurity is important to them. This included risk to primary production, the natural environment, to market access, to cultural

and natural values and to human health. This interest in risk often included mention of the likelihood and consequences that could flow from a biosecurity threat (rather than a more general version of risk).

- For interviewees with an interest in human health, biosecurity relates to the human-animal interface with a particular focus on understanding the impacts of climate change on biosecurity and the implications for safe drinking water and food safety for humans. Their view is that food safety is currently outside the biosecurity system, but it should be included. They see prevention and preparedness as critical, but these areas are under-resourced currently.

8.2 KEY FINDINGS

Table 8-1: Key findings

QUANTITATIVE DATA	PARTICIPANT PERSPECTIVES
FINDING 6.1: Defining biosecurity is not a barrier to engaging stakeholders – those who have a direct stake understand its significance (for their business, industry and for the community and environment) and have a functional definition.	
<p>Respondents defined biosecurity as being inclusive of:</p> <ul style="list-style-type: none"> ▪ New and emerging pests and diseases (53 per cent) ▪ Established and endemic pests and diseases (41 per cent) ▪ Market access for farm products (31 per cent) ▪ Quality assurance (17 per cent) ▪ Animal health (16 per cent) ▪ Human health (14 per cent) ▪ Animal welfare (6 per cent). <p>A small number of respondents indicated that 'biosecurity' is not a widely used term within the broader community.</p>	<p>"Definition of biosecurity is very clear. The international definition is what should be used with its focus on prevention and management of risk." – State Government respondent</p> <p>"Biosecurity – I think of things at the airport – customs and quarantine. It is never used in the community. It is a really confusing term. If we talked to people about biosecurity they might think about new pests and weeds, but would never associate it with established pests and weeds. If they want to keep using that then they need to do some work communicating what it means." – Landcare respondent</p>
FINDING 6.2: For most participants in the system, their understandings of biosecurity are based on their interactions and direct experience with biosecurity issues, typically incursion or emergency responses.	
<p>Respondents interact with biosecurity in many different ways including:</p> <ul style="list-style-type: none"> ▪ Established/endemic pests and diseases (20 per cent) ▪ Best practice at the farm scale (18 per cent) ▪ Information provision (16 per cent) ▪ Industry-government collaboration (14 per cent) ▪ Border control and surveillance (12 per cent) ▪ Product integrity (11 per cent) ▪ Advocacy (10 per cent) ▪ Emergency response (7 per cent) ▪ Response readiness (6 per cent) ▪ Human health (6 per cent) ▪ Traceability (5 per cent) ▪ Animal welfare (4 per cent) ▪ Climate change (4 per cent) ▪ Research, development and extension (4 per cent) ▪ Diagnostics (3 per cent) ▪ Preparedness (2 per cent) ▪ Risk assessment (2 per cent) ▪ Compliance and regulation (1 per cent). 	<p>"At a farm level it's economically smart to minimise disease and weed base-levels. At a national level it's similar." – Grains industry respondent</p> <p>"I have no formal role in biosecurity outbreak – part of information provision and industry connections." – Landcare respondent</p> <p>"My involvement in biosecurity is through delivery of programs and projects that control established invasive plants and animals that threaten environmental assets." – Catchment Management Authority respondent</p> <p>"We advocate and represent the grower with State and Federal organisations on biosecurity and feed grower views to decision-makers." – Horticulture industry respondent</p> <p>"We have a wide range of biosecurity responsibilities including animal health and welfare, emergency animal disease response, product integrity and market access." – Livestock industry respondent</p> <p>"I would act out of personal understanding of Aboriginal culture. Knowledge retained to work in harmony with the land." – Victorian Government respondent</p>
FINDING 6.3: For interviewees from the primary production sector, their interest in biosecurity is driven by the direct impacts it can have on their business. They noted that this included pests and disease that effect	

QUANTITATIVE DATA	PARTICIPANT PERSPECTIVES
production, protection of market access, and disease or pest free status for their industry or just for the individual business.	
<p>58 per cent of respondents identified “agriculture” (preventing risk to production and profitability) as a benefit of participating in biosecurity. Nearly half (46 per cent) of these respondents were from industry. This included representation from across industries and the supply chain, including:</p> <ul style="list-style-type: none"> ▪ Wine ▪ Seafood ▪ Vegetables ▪ Fruit ▪ Nuts ▪ Meat ▪ Poultry ▪ Honey ▪ Dairy ▪ Wool ▪ Retail (supermarkets) ▪ Transport <p>38 per cent of respondents also identified “market access” (maintaining access to markets and export) as a key driver. Of these respondents, 70 per cent were from industry.</p>	<p>“Benefits [of biosecurity action] include productivity on farm. Relates to market access-domestic and export. Price, quality of product, business health and viability.” – Industry respondent</p> <p>“Profitability, environment, access to markets, risk management – the impact that it can have on their business [are all drivers for biosecurity action]. Most farmers are controlling weeds on their farms – these are just the general weeds. Those that are a biosecurity risk they would be on to quicker – anything that poses a risk to food safety and impact on profitability.” – Catchment Management Authority respondent</p> <p>“Benefits [of biosecurity are a] safe quality product and being able to sell it into a market of choice.” – Dairy industry respondent</p> <p>“[A main area of interest] is the ability for Australia to both produce and export agricultural products that aren’t affected by potential biosecurity risks and aren’t exporting risks.” – Community interest group respondent</p>
FINDING 6.4: Protection of the natural environment was a primary driver for those working in the environment and natural resource management sector. The natural environment was less of a driver for those working in primary production, though it was mentioned by some.	
<p>39 per cent of respondents identified protection of the natural environment as a key interest or benefit. The majority of these respondents were from government (47 per cent) or community (42 per cent) profile groups within the NRM sector. This includes:</p> <ul style="list-style-type: none"> ▪ Catchment Management Authorities and the Victorian Catchment Management Council ▪ Local councils ▪ Parks Victoria ▪ Department of Environment Land Water and Planning ▪ Agriculture Victoria ▪ Greening Australia ▪ Landcare ▪ Weed action groups ▪ Victorian National Parks Association ▪ Aboriginal corporations ▪ Water authorities. 	<p>“The main drivers for me to be involved are reducing environmental impacts – if a pest or disease gets out of control, resorting to harsh methods of control can impact the natural environment.” – Landcare respondent</p> <p>“Our role is protecting biodiversity and environmental assets, not necessarily agricultural assets.” – State Government respondent</p> <p>“Participation in biosecurity is driven by who the funder is, focus on Weeds Of National Significance and state listed species that are prioritised in the catchment.” – Catchment Management Authority respondent</p>
FINDING 6.5: The link between biosecurity and human health was made by some participants, but this was mainly confined to those involved on the consumer side of food production or those involved in public health. Some participants raised the concern that food safety is currently not considered part of biosecurity, which they see as incorrect.	
<p>18 per cent of respondents identified human health as a driver for participation in biosecurity. Nearly half of these respondents were from industry (47 per cent) and from government (47 per cent). While 18 per cent may appear low, it is important because only a very small proportion of the sample (much less than 18 per cent) was explicitly linked to human health.</p>	<p>“From a human health and environmental perspective it is understanding the impacts of climate change on biosecurity and ensuring safe drinking water and food safety for humans. Major emphasis is on prevention and containment/management. Ensuring we don’t have spread of biological food agents from animals to humans – prefer prevention rather than response, e.g. salmonella, listeria.” – Victorian Government respondent</p> <p>“Organisms that could be transmitted to humans. The other issue is in relation to climate change and impacts and how they impact biosecurity issues and how that could translate to food safety issues.” – Dairy industry respondent</p> <p>“Government needs to more broadly consider climate change and environmental impacts on human health. E.g. how does this relate to urban planning. What is the impact of algal blooms – toxins that effect humans/animals.” – State Government respondent</p>

QUANTITATIVE DATA	PARTICIPANT PERSPECTIVES
	<p>"[Government] does get involved when there is a reportable case and need to focus on identifying the source of infection and recalling the food. Food safety is outside the 'traditional' Biosecurity system. But should really be included." – Victorian Government respondent</p> <p>"Main areas of interest are animal diseases that affect humans. Ensuring human health is maintained and illness reduced (is a key benefit)." – Livestock industry respondent</p>

8.3 SUMMARY NARRATIVE

The benefits of participating in the biosecurity system were readily identifiable for the vast majority of interviewees. For those involved in primary production (including aquaculture) the benefits directly related to production and markets. This included factors like animal health and welfare, plant health, market access, disease or pest free status and maintaining 'clean and green' production.

Benefits related to the natural environment were mostly mentioned by those with direct interests in natural resource management and conservation, but also by some of those involved in primary production. This appears to be based on a sense that biosecurity is part of general good management and stewardship of the resource base.

The examples or situations most often mentioned when discussing the benefits of the biosecurity system were responses to pest or disease incursions. The most recent example, avian influenza, was noted by many interviewees as a compelling example of the benefits of a responsive and effective biosecurity management system. Some interviewees were able to recall specific examples where they had been directly involved in a response and were very positive about the capacity of the agencies and stakeholders in Victoria to rise to the challenge to address outbreaks or incursions.

Finally, one potential benefit that was not widely mentioned by interviewees was the link between biosecurity and human health. This may be surprising given the dominance of the COVID-19 pandemic but may also reflect the composition of the sample used for these interviews. The focus of the majority of those interviewed was either on primary production or environmental protection, so the responses do not necessarily reflect a lack of interest or recognition of the potential links between biosecurity and human health.



8.4 CASE STUDY

8.4.1 PORK PRODUCTION AND BIOSECURITY

An historically vulnerable industry stepping up

Tim Kigma is a pig farmer with more than 30 years pig-industry experience, owning and operating a 1,400 sow breeding facility at Gunbower in North Central Victoria. He has been involved in the Victorian Farmers Federation (VFF) Pigs group for more than 10 years and is now a VFF Director and the VFF Pigs group chairman.



As Tim explains biosecurity is extremely important to his business (and to all Victorian pig farmers) and a commitment to good biosecurity needs to become second nature to all industry participants. Tim sees biosecurity as essential and for pig farmers simply a farm business continuity issue. Tim explains, *“From a farm point of view biosecurity concerns cover livestock, staff and vehicles – particularly third-party vehicles such as animal-transport vehicles”*.

Tim sees good biosecurity as a cornerstone of running a good business. Tim believes good biosecurity is paramount and that issues such as improving the knowledge of all growers (even very small pig growers), continuous improvement of quarantine measures to reduce unauthorised meat-product imports into Australia and managing wild pigs (which have the potential to spread a range of diseases) are all current and critical issues for the Victorian pig industry.

Tim believes biosecurity in the pig industry is “high on the Federal and State Government’s radar”, and that the current (Covid19 related) reduction in inbound traveller numbers has provided some additional protection, at least in the short term.

Tim’s commitment to biosecurity and his strict quality assurance prohibits live pigs from outside his facility entering the premises. All breeding and genetic improvement is achieved through the use of certified artificial insemination. He believes a strong understanding at a farm level is important and that at a farm level he has a strong understanding of biosecurity issues that can impact his business. The issues that are most critical to Tim are animal health-related issues. Tim explains, “My clear focus on farm is how I can best protect my animals and my staff from diseases by taking strong steps to avoid biosecurity failures.”

INSIGHTS

- Modern pig-farming in Victoria requires a strong and ongoing commitment to actively minimise a range of animal health biosecurity risks, particularly in regard to movements of animals and people in and out of the defined bio-secure zones on pig growing and pig breeding properties.
- As a significant employer of farm labour, the Victorian pig industry has a strong focus on training of owners and staff working in the industry to maintain very high standards, particularly the maintenance of measures to avoid contamination or disease-spread.
- There are a range of biosecurity threats to the pig industry, and as an industry leader in regular liaison with the Victorian Government, Tim believes the Victorian government agencies are acutely aware of the vigilance needed to maintain high levels of animal health in the Victorian pig industry.

9 Interviews with Traditional Owners and Aboriginal people

APPROACH

In planning this part of the project, Agriculture Victoria established an internal working group of Department of Jobs, Precincts and Regions (DJPR) staff with extensive knowledge of the Aboriginal community – from their own Aboriginal heritage and / or their longstanding professional networks in the community – to ensure the work was culturally sensitive, appropriate and relevant to Aboriginal stakeholders.

The approach used here is consistent with the interview method applied for the initial 103 stakeholder interviews. The interview guide remained the same and was based on exploring six themes:

1. understanding of biosecurity
2. biosecurity interests
3. decision-making
4. relationships
5. strengths and weaknesses
6. roles and responsibilities.

A set of open-ended questions were developed for each of the six themes, with advice from the working group, to act as prompts for the interviewer. A copy of the guide is provided in Appendix 1. The interview followed a semi-structured format allowing interviewers to explore the complexity and emerging topics in more detail with their respondents.

The project working group identified a range of individuals and organisations from which to select people to participate in an interview. The proposals sought geographic and role diversity while acknowledging the formal roles of Aboriginal institutions and networks. Groups nominated included:

- the 11 Traditional Owner corporations (as the highest priority)
- rangers working on Country (or for) Parks Victoria
- Indigenous facilitators based with Catchment Management Authorities
- a representative of Seed Mob, with the aim of seeking a youth perspective
- Local Aboriginal Networks and Aboriginal members of Victorian water boards.

These organisations were contacted as a priority, however not all were available to participate in an interview. The RMCG team contacted people via email and/or telephone inviting their participation in an interview. The interviews took approximately 45-60 minutes to complete and were conducted online or via telephone.

THE SAMPLE

A total of eleven interviews were conducted. A list of the groups consulted is provided in Table 9-1.

Table 9-1. Groups and organisations interviewed

ORGANISATION
Taungurung Land and Waters Council Aboriginal Corporation
Wadawurrung Traditional Owners Aboriginal Corporation
Dja Dja Wurrung Clans Aboriginal Corporation
First People of the Millewa-Mallee Aboriginal Corporation
Parks Victoria
North Central Catchment Management Authority (CMA)
Department of Environment, Land, Water and Planning (DELWP)

We also drew on the feedback previously received from the three Aboriginal interviewees that participated in the initial 103 interviews in 2020.

REPORTING FINDINGS

This section of the report presents the findings of the interviews with Aboriginal people and Traditional Owners under three themes:

- relationships
- decision-making
- biosecurity understanding and interests.

Comments and insights that were raised across the spectrum of interviewees are noted under each of the themes, as are key insights and supporting qualitative evidence.

The interviews also explored questions around roles and responsibilities, as well as strengths and weaknesses of the current system. We found that some interviewees did note matters relating to these two themes but they were generally raised in the context of one of the three main themes presented in this report. That is, they did not have extensive and specific comments on these themes. For this reason, we have not presented specific findings for roles and responsibilities, or for strengths and weaknesses.

We think it is important to note that this lack of commentary on these two themes does not necessarily point to any information or knowledge gaps among the Aboriginal people and Traditional Owners interviewed. The interviews were shaped by the interests and roles of the interviewees. Strengths and weaknesses were raised and have been noted under the three themes. Roles and responsibilities were also noted by some, but we judged that the key points were also better represented by discussing them in the other themes.

9.1 SETTING THE SCENE

For those Traditional Owners interviewed, their interest and understanding of biosecurity is part of a much broader 'whole of Country' perspective; a perspective that encompasses the ecological, cultural and spiritual elements of healing and caring for Country. Biosecurity issues are not seen as separate from the many other

influences on whether Country is healthy, and the impacts are seen landscape-wide – not based on land tenures.

Many of the Traditional Owner corporations have their own Country Plan, an aspirational document that guides their approach in caring for Country within the delivery of natural resource and land management on their determined Country. Each Country Plan articulates their cultural rights and practices for Country, including aspirational goals for development, preservation and revival of cultural heritage, and is used to inform strategic planning in each group's region.

This 'whole of Country' view can be intangible, particularly when looking at land management with an empirical science focus. The wholistic cultural view is not just about the plants and animals, but also about protecting all elements of land and culture, even the 'intangible heritage' such as the oral traditions, stories, rituals, social practices, craft, and environmental and ecological knowledge¹³.

For many of the individuals we spoke to, the responsibility for managing the land is underpinned by a deep, personal connection to Country. It's a connection that runs beyond the biophysical and was encapsulated by one interviewee who said of managing the land, "it's just in my heart".

Understanding this perspective is important as we begin to explore Traditional Owner views, experiences and involvement in Victoria's biosecurity system.

CAPACITY OF TRADITIONAL OWNER GROUPS

Across the Traditional Owner groups that were interviewed there was a clear understanding that weeds and pest animals threatened Aboriginal values and managing these threats was important. This is reflected in many of the Country Plans, which detail aspirations about managing threats to environment and culture.

While this concern was widely held, there are substantial differences in the resourcing and capacity of the Traditional Owner organisations, which influences their ability to manage weeds and pests. Traditional Owner organisations have a broad remit. They have a key role in protecting Victoria's Aboriginal cultural heritage and sharing traditional knowledge to care for Victoria's land and waters¹⁴. They also provide policy advice; strategic leadership; and continuously improve the capacity, integrity and independence of Traditional Owners across Victoria¹⁵. Biosecurity management, usually as pest plant and animal management, is one priority among many. While the aspiration to be actively involved in biosecurity management is common across those interviewed, capacity and resource limitations, as well as competing priorities, mean that action is limited.

9.2 RELATIONSHIPS

Theme: factors that support and limit co-operation and trust between actors within the system.

9.2.1 INSIGHTS FROM INTERVIEWS

This section is a collation of the issues and insights that were raised by the interviewees:

¹³ Victorian Aboriginal Heritage Council (2021). Aboriginal Cultural Heritage Register – intangible heritage. URL: <https://www.aboriginalheritagecouncil.vic.gov.au/taking-care-culture-discussion-paper/aboriginal-cultural-heritage-register-intangible-heritage> (Accessed 5 May 2021)

¹⁴ Federation of Traditional Owner Corporations, 'What we do together', <https://www.fvtoc.com.au/what-we-do-together>, access May 2021.

¹⁵ Gunaikurnai Land and Waters Aboriginal Corporation (GLaWAC), 'About GLaWAC'. <https://gunaikurnai.org.au/about-glawac/>, accessed May 2021

- There is broad recognition that the current Victorian Government has a strong commitment to Aboriginal engagement and self-determination, which provides an enabling environment for agencies to recognise Traditional Owner rights and to develop meaningful partnerships.
- Even though there is a 'whole of government' commitment to Traditional Owner engagement and self-determination, there are discrepancies in the extent to which agencies support this. For example, Agriculture Victoria is not considered to be as active in its engagement with Aboriginal people and Traditional Owners compared to Parks Victoria and the Department of Environment, Land, Water and Planning (DELWP).
- A common theme among Traditional Owners was that they don't see many opportunities to gain funding to address pest plant and animal threats, particularly on land where they have a management role.
- Parks Victoria is considered to be reasonably well resourced and committed to working in partnership with Traditional Owners. This commitment is articulated in their *Managing Country Together Framework* – a central document driving the organisation's approach to establishing meaningful partnerships with Traditional Owners, sharing decision-making and supporting Aboriginal self-determination through the management of the park's estate.
- DELWP is also strongly influenced by their organisational commitment to Aboriginal self-determination and have recently completed their *Aboriginal Self-Determination Reform Strategy 2020-2025*.
- Some interviewees expressed a need for senior managers in the Victorian Government to build relationships with Traditional Owners in their region, particularly with Elders, so they improve their engagement. Central to this is understanding cultural sensitivities and practices, such as meeting Elders on Country or, if talking about Country, knowing that the discussion must occur outside.
- Overall, there is interest among Traditional Owners to work in partnership with government and private land managers, but they are constrained by resourcing and capacity.
- It was reported that some government programs require project proponents to obtain Traditional Owner support as part of the project application process. When the proponent, e.g. Local Government or a Landcare group, engages with the Traditional Owners early in the project planning phase, this can lead to a better project design, as well as strengthened relationships.

9.2.2 KEY FINDINGS

Table 9-2: Key findings

KEY FINDINGS AND QUALITATIVE DATA
<p>Finding A2.1: The quality of relationships is the major factor that affects trust between Aboriginal people interviewed and others involved in biosecurity. This trust building must occur at a person-to-person scale, as well as at an organisational level.</p> <p>"Connection with the biosecurity system – it is not good enough – I always go to the land manager if I have an issue. I wasn't even aware that Agriculture Victoria was responsible for this stuff."</p> <p>"Water sector and land managers relationships are good – huge networks. Ag Victoria, no not so much..."</p>
<p>Finding A2.2: Historically, interactions with Traditional Owners has been largely focussed on compliance with cultural heritage protections. Parks Victoria and DELWP are moving beyond this to establishing genuine partnerships with Traditional Owners. This is driven by organisation-wide commitments to Aboriginal self-determination. By contrast, Agricultural Victoria is not considered to be strong in its engagement of Traditional Owners.</p>

<p>"There is an opportunity to raise the minimum standard, which is purely a regulatory obligation (compliance with the Act). Just because a process is met, doesn't mean values are protected. Agencies can do more to support Traditional Owners to protect cultural heritage better."</p> <p>"Water sector and land managers relationships are good – huge networks. Ag Victoria, no not so much... Ag Vic do a good job but have nothing in their policy to ensure the next generation does a good job. Developing a Reconciliation Action Plan would hold them to account."</p>
<p>Finding A2.3: From the perspective of the Traditional Owners interviewed, responding to biosecurity requires engagement of Elders to be part of the conversation and solutions.</p>
<p>"It's all in my heart – I love the place, I grew up there, I can't handle having my Elders complaining and not being heard."</p>
<p>Finding A2.4: The Traditional Owner organisations interviewed are interested in partnering in biosecurity management, which is reflected in the Country Plans, but organisational capacity is limited.</p>
<p>"Farmers often comes to Ag Vic first. Having a first point of contact for this would be great. They could play a bigger role in handing back cultural artifacts. Even if it's just the middleman between landholders and Aboriginal Victoria."</p>

9.3 DECISION-MAKING

Theme: what shapes and influences (individual or organisational) decisions and actions regarding biosecurity?

9.3.1 INSIGHTS FROM INTERVIEWS

This section is a collation of the issues and insights that were raised by the interviewees:

- Cultural practice is a key influence on biosecurity decision-making. Even actions that might be considered conventional treatments of weeds or pest animals are placed in a cultural context because they are considered to be part of the process of healing Country.
- Employment is a significant influence on the approaches Traditional Owner organisations use with management of all healthy Country matters, e.g. biosecurity might bring funding and employment opportunities, which is an important factor in decision-making. Employment in land management is also considered to be an important way to pass land management knowledge from one generation to the next.
- Traditional Owners may not view biosecurity from the same risk-based approach used by science and government. They have a complex view of landscape which considers seasons and the timing of activities as part of the process of deciding what is required to heal or manage Country. This is in contrast to western land management where, for example, the efficacy of chemical application is more likely to determine the timing of activities.
- Legislation is a key driver that shapes and influences decision-making, with several examples cited by interviewees:
 - The *Aboriginal Heritage Act 2006* influences decision-making, both positively and negatively. The strength of the *Act* is in the protection it affords cultural heritage values. The unintended consequence is that it can prevent some pest management activities, such as rabbit control works that involve soil disturbance. The *Act* in its current form can deter landholders from engaging in the appropriate cultural heritage assessment processes.

- The impact of agricultural animals (domesticated and feral), and specifically hard-hooved animals, on cultural heritage values on private and public land is a concern for Traditional Owners, yet agricultural animals are not recognised as a threat in the *Aboriginal Cultural Heritage Act 2006*. This is considered a significant gap. In the case of Barmah National Park, there are tensions between the protection of European and Aboriginal cultural heritage values. Horses are valued in the park for European historical reasons, while traditional cultural values are significantly threatened by horses, but this impact is not recognised in management or legislation.
 - Legislation can be a barrier to engaging Traditional Owners in biosecurity in general. For example, Traditional Owners can feel marginalised from managing their own land and prevented from cultural land practices (e.g. burning) because of legislative requirements. One respondent noted that invasive species “aren’t our fault” but they have a major effect on Traditional Owners. This is in a context where Traditional Owner groups have limited legal and resourcing ability to affect landscapes.
 - The protection of totem animals is largely unrecognised in legislation. A totemic species may not be a threatened species, so therefore not a priority for investment and protection. The review of the *Victorian Flora and Fauna Guarantee Act (1988)* currently underway could lead to recognition of totem animals in the legislation.
 - A 2016 reform of the *Aboriginal Heritage Act* recognised Aboriginal intangible heritage and introduced a system for recording intangible heritage on the Aboriginal Cultural Heritage Register. Intangible heritage includes the “knowledge or expression of Aboriginal tradition” which may include oral traditions, stories, rituals, social practices, craft, and environmental and ecological knowledge¹⁶. Some of this intangible heritage would be threatened by pest plants and animals, and potentially by other biosecurity risks. Victoria is leading the way with this focus on intangible heritage, so the effectiveness and practical implications of this approach are still evolving.
 - The Traditional Owner groups across the state each have different legal obligations and rights – often a reflection of their formal status under various federal and/or state legislation. This presents a very complex legal environment which can be challenging for land managers and others to navigate.
- It was acknowledged by those working within DELWP that Aboriginal self-determination is advancing quickly. Treaty conversations, truth telling and the recognition of Traditional Owner rights and roles in land management is evolving rapidly and driving policy changes. Similarly, the organisational capability of Traditional Owner corporations is increasing quickly, as is government support for this broader capacity building.

9.3.2 KEY FINDINGS

Table 9-3 Key findings

KEY FINDINGS AND QUALITATIVE DATA
<p>Finding A3.1: Biosecurity management is part of ‘healing and managing Country’ – the major driver of decision-making for the Traditional Owners interviewed. This wholistic view includes using traditional practices like fire as part of the options for healing Country (which could include managing biosecurity threats).</p>
<p>“Biosecurity is not just about economic development but about healing and managing Country.”</p>

¹⁶ Victorian Aboriginal Heritage Council (2021). Aboriginal Cultural Heritage Register – intangible heritage. URL: <https://www.aboriginalheritagecouncil.vic.gov.au/taking-care-culture-discussion-paper/aboriginal-cultural-heritage-register-intangible-heritage> (Accessed 5 May 2021)

Finding A3.2: The *Aboriginal Heritage Act* is a driver of decision-making and can be a strength and a barrier to cultural value protection and pest plant and animal management.

Finding A3.3: There are limitations and constraints within existing legislation that can present a barrier for Traditional Owners being engaged in biosecurity and legislation falls short of protecting all elements of cultural heritage (i.e. totem animals and intangible heritage).

9.4 BIOSECURITY UNDERSTANDING AND INTERESTS

Theme: an understanding of biosecurity from the individual (or organisation) vantage point and why biosecurity is important.

9.4.1 INSIGHTS FROM INTERVIEWS

This section is a collation of the issues and insights that were raised by the interviewees:

- Traditional Owner interest and understanding of biosecurity is part of a much broader ‘whole of Country’ perspective. For Aboriginal people and Traditional Owners, management of pest plants and animals is one part of a wholistic approach to healing Country. They do not see biosecurity issues separately from the many other influences on the health of Country, and their interest in biosecurity is more than just about protecting the biophysical elements of the land – it’s also about protecting the culture and spirit of Country.
- There is a clear understanding of the threat and impact of pest plants and animals to values important to Aboriginal people and Traditional Owners, with the protection of cultural heritage and indigenous flora and fauna commonly cited as the main reasons Traditional Owners are engaged in biosecurity.
- Soil disturbance (e.g. digging and erosion) by pest animals and the impact it has on culturally significant burial sites and mounds, was frequently identified as a concern by Traditional Owners. Rabbits and hard hooved animals, in particular, were mentioned because of their impact.
- Agricultural pastures and animals (hard hooved animals, e.g. sheep, horses and cattle) are considered a threat to cultural values by some, and it is a concern that extends across private and public land. Similarly, there are concerns about the ‘flow on’ effect of agricultural pastures and animals into public land reserves, with examples given of cattle encroaching on the Guttrum State Forest and horses in the Barmah National Park.
- Carp was identified as a specific issue for those working in the Aboriginal water role, with a key focus on eradicating carp populations at wetlands that are flooded to provide biodiversity and cultural values.
- Fire plays an important role both culturally and as a land management technique (e.g. for the suppression of weeds) for Traditional Owners. There is anecdotal evidence of cultural burns having facilitated the return of native grasses and reduced overall fire risk, however, there have been no ecological surveys to quantify the impact in the examples given.
- Interviewees with links to primary production had clear drivers for their interest in biosecurity that were the same as those for any farmer (e.g. for one interviewee who ran a beef cattle operation, biosecurity management was important because of its link to the continued successful and safe operation of their business and to ensure access to markets). It also includes an emerging interest in bush foods as a community enterprise, in which biosecurity is important from a socioeconomic perspective.
- Parks Victoria’s approach to biosecurity and the protection of cultural heritage is strongly influenced by risk management and compliance with the *Aboriginal Heritage Act 2006*. More recently, Parks Victoria have moved beyond just ensuring legislative compliance, to adopting an international best practice

approach to partnering with Traditional Owners to manage and protect the parks estate. This is reflected in their *Managing Country Together Framework*.

- A key driver for DELWP is the protection of all values on public land, which includes not only the ecological values but also cultural and spiritual values. Pest plants and animals are recognised as one of the key threatening processes impacting cultural heritage values.
- Some Country Plans articulate priorities for pest management, but there is considerable variation across the Traditional Owner groups.
- Pest plants and animals are generally a lower priority for Traditional Owner corporations and organisations; this is due to their very broad remit, responsibility for more immediate socio-economic concerns and limited opportunities to attract funding for pest plant and animal control.

9.4.2 KEY FINDINGS

Table 9-4: Key findings

KEY FINDINGS
<p>Finding A1.1: For Aboriginal people and Traditional Owners interviewed, management of pest plants and animals is one part of a wholistic approach to healing Country. They do not see biosecurity issues separately from the many other influences over the health of Country.</p>
<p>"Traditional Owners' world view is very different – biosecurity is a western concept."</p>
<p>Finding A1.2: The pest plant and animal threats that impact cultural values are not distinct from those threatening ecological values, e.g. rabbits, hard-hooved animals, carp. Amongst Traditional Owners interviewed, there is a clear understanding of the threats and impacts of pest plants and animals on cultural values.</p>
<p>"Destroying cultural sites is our big concern. Hard-hoofed animals do a lot of damage. Cultural mounds and burial grounds. Cultural Heritage Act – it's a big gap – protection from agricultural animals. We need some prosecution on this to get anywhere."</p> <p>"Management needs to be aware of protecting all elements of cultural heritage, even the intangible heritage (story lines, totem species)."</p>
<p>Finding A1.3: Traditional practices are often used to address weed and pest animal issues, as well as serving important cultural functions, e.g. the use of fire.</p>
<p>Finding A1.4: Biosecurity, especially management of pest plants and animals, is a concern for many Traditional Owner organisations, but interviewees did not rate it as a high priority, possibly because of more immediate concerns relating to the health and employment in their communities.</p>

9.5 CONCLUSIONS FROM INTERVIEWS WITH ABORIGINAL PEOPLE

In this section we have collated the findings for each of the three themes.

Table 9-5: Summary of findings

THEME	FINDINGS
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<p>Biosecurity understanding and interests – an understanding of biosecurity from the individual (or organisation) vantage point and why biosecurity is important.</p>	<p>A1.1 For the Aboriginal people and Traditional Owners interviewed, management of pest plants and animals is one part of a wholistic approach to healing Country. They do not see biosecurity issues separately from the many other influences over the health of Country.</p> <p>A1.2 The pest plant and animal threats that impact cultural values are not really distinct from those threatening ecological values, e.g. rabbits, hard-hooved animals, carp. Amongst Traditional Owners interviewed, there is a clear understanding of the threats and impacts of pest plants and animals on cultural values.</p> <p>A1.3 Traditional practices are often used to address weed and pest animal issues, as well as serving important cultural functions, e.g. the use of fire.</p> <p>A1.4 Biosecurity, especially management of pest plants and animals, is a concern for many Traditional Owner organisations, but interviewees did not rate it as a high priority, possibly because of more immediate concerns relating to the health and employment in their communities.</p>
<p>Relationships – factors that support and limit cooperation and trust between actors within the system.</p>	<p>A2.1 The quality of relationships is the major factor that affects trust between Aboriginal people interviewed and others involved in biosecurity. This trust building must occur at a person-to-person scale, as well as at an organisational level.</p> <p>A2.2 Historically, interactions with Traditional Owners have been largely focussed on compliance with cultural heritage protections. Parks Victoria and DELWP are moving beyond this to establishing genuine partnerships with Traditional Owners. This is driven by organisation wide commitments to Aboriginal self-determination. By contrast, Agricultural Victoria is not considered to be strong in its engagement of Traditional Owners.</p> <p>A2.3 From the perspective of the Traditional Owners interviewed, responding to biosecurity requires engagement of Elders to be part of the conversation and solutions.</p> <p>A2.4 The Traditional Owner organisations interviewed are interested in partnering in biosecurity management, which is reflected in the Country Plans, but organisational capacity is limited.</p>
<p>Decision-making – what shapes and influences (individual or organisational) decisions and actions regarding biosecurity.</p>	<p>A3.1 Biosecurity management is part of 'healing and managing Country' – the major driver of decision-making for the Traditional Owners interviewed. This wholistic view includes using traditional practices like fire as part of the options for healing Country (which could include managing biosecurity threats).</p> <p>A3.2 The <i>Aboriginal Heritage Act</i> is a driver of decision-making and can be a strength and a barrier to cultural value protection and pest plant and animal management.</p> <p>A3.3 There are limitations and constraints within existing legislation that can present a barrier for Traditional Owners being engaged in biosecurity and legislation falls short of protecting all elements of cultural heritage (i.e. totem animals and intangible heritage).</p>

10 Conclusions

In this section we have collated the findings for each of the seven themes that were investigated through the complete set of interviews (114 participants).

Table 10-1: Summary of findings

THEME	FINDINGS
Relationships – factors that support and limit co-operation and trust between actors within the system.	1.1 Regardless of history, the willingness to engage with government on biosecurity is very strong. This interest comes from those already highly engaged and also those that do not feel connected to government – all were keenly interested in improving relationships and working together.
	1.2 The strength and quality of relationships between the Victorian government and other participants in the system (government and non-government) varies widely. The relationship is generally strong between the State and Federal Governments, and with primary industries organisations (e.g. peak bodies). In the environment and natural resource sector, the predominant view is that, over recent times, engagement has declined and the opportunities to collaborate or participate in decision-making have been very limited.
	1.3 Relationships in the animal and plant health areas are the strongest due, at least in part, to history and to the clarity of respective roles and responsibilities in the biosecurity system.
	1.4 Interviewees from the environment and natural resource sector feel disconnected from government. They are unclear about the strategic priority government places on environment and natural resource related biosecurity issues.
	1.5 Historically, interactions with Traditional Owners have largely focussed on compliance with cultural heritage protections. Parks Victoria and DELWP are now establishing genuine partnerships with Traditional Owners, driven by commitments to Aboriginal self-determination. Agricultural Victoria is not considered to be strong in its engagement of Traditional Owners. Regardless, the Traditional Owner organisations interviewed are interested in partnering in biosecurity management (drawing on Country Plans) though organisational capacity is limited.
	1.6 From the perspective of the Traditional Owners and Aboriginal people interviewed, the quality of relationships is the major factor that affects trust between Aboriginal people and others involved in biosecurity. It is critical that Elders are part of the conversation and solutions to biosecurity issues.
Roles and responsibilities – the roles of industry, community and the government in the context of the biosecurity system.	2.1 The concept that responsibility for biosecurity should be shared is widely accepted, as is the recognition that government neither could, nor should, address biosecurity issues alone. However, there is some concern that government may not fully appreciate the extent to which some actors have already assumed biosecurity responsibilities. Some parties feel that there has been 'cost shifting' (from government to industry) and withdrawal of government services. This will affect their perspectives on discussions of shared responsibilities.
	2.2 Interviewees identified specific leadership roles for government in biosecurity. Those most strongly noted were regulation and compliance, community engagement and building partnerships, information provision, coordination in all areas, policy development, surveillance, monitoring for future risks and developing and retaining necessary expertise.
	2.3 Interviewees are open to a renewed focus on partnerships that do not necessarily have government sitting at the centre. Participants are enthusiastic to engage in the conversations about how to build true partnerships.
	2.4 In the natural resource management sector, organisations like Landcare feel that they have already taken on greater responsibility for biosecurity advice and support to

THEME	FINDINGS
	land managers. Some see this as Landcare having been left to provide this support alone, where previously they worked in partnership with government agencies. There is no desire to withdraw from this role but there is interest in returning to a partnership approach with organisations like Landcare networks and Catchment Management Authorities providing key connections into community.
Strengths of the current system – positive aspects of the current biosecurity system and areas to retain.	3.1 The Victorian government (particularly Agriculture Victoria), has very strong relationships and networks with the relevant Australian Government departments and with many agricultural industries. These relationships are mature, robust and based on a strong history of collaboration.
	3.2 The state has delivered some important examples of emergency planning (scenario planning for varroa mite) and preparedness in some areas, particularly those related to primary production.
	3.3 Victoria has demonstrated leadership and achievements in some extremely difficult areas – especially in livestock identification, most recently in electronic identification for sheep.
	3.4 Victoria's capability in emergency response is a particular strength. This is being demonstrated currently in the avian influenza outbreak but this is just another in a long succession of responses that stretch over decades.
	3.5 Victoria's technical capabilities in biosecurity are highly regarded and are viewed as among the best in the country.
Weaknesses of the current system – negative aspects of the current biosecurity system and areas to focus on for reform.	4.1 The government's policies suggest that prevention is the most cost-effective approach and therefore the highest priority. Interviewees, from across the sample, noted that actions often seem to be inconsistent with this.
	4.2 Many interviewees noted that Victoria's legislation has gone from reflecting leading thinking to now being among the weakest and least contemporary. It is a major barrier to being able to deliver a transparent and coordinated biosecurity approach.
	4.3 Some interviewees perceive that the state lacks an overall biosecurity strategy, and this means that government actions are (overly) prone to being influenced by the loudest voices or by lobbying from interest groups.
	4.4 Consistency across states is a significant issue for national businesses. Different biosecurity processes in each state and lack of coordination across borders, and at a national level, adds to costs for these businesses as they seek to meet biosecurity requirements.
	4.5 Some interviewees perceive that community and stakeholder engagement is tokenistic and not driven by a genuine desire to develop shared understandings, collaborate on decision-making and genuinely share responsibility, resources and decision-making. There is a perception that Agriculture Victoria engages intensively with some industry groups and peak bodies, with a belief that this constitutes broad community engagement.
	4.6 Many interviewees noted that action on biosecurity is widely under-resourced. The long-term nature of biosecurity management is a particular challenge for government's short-term funding cycles. Funding biosecurity as short-term projects leads to inconsistency and uncertainty regarding government's commitment to biosecurity.
	4.7 Interviewees noted that compliance and enforcement are among the key roles of government but the policy or strategic basis for the current approach is not clear. Participants are seeking both a more collaborative and balanced approach to the use of enforcement.
	4.8 Some interviewees raised concerns that in the current system, reporting a biosecurity incursion had serious negative consequences for the land manager and

THEME	FINDINGS
	<p>the use and operation of their property. This has the potential to prevent reporting and compromise the ability to detect new or emerging pests and disease.</p> <p>4.9 Interviewees from across different primary production sectors highlighted that backyard and lifestyle farmers are not well connected to 'industry' but they can be the source of significant risks for the whole system. Connecting with these people to help them to see that they have biosecurity responsibilities should be a priority. Some interviewees noted examples where this has already been done well including fruit industry in the Cobram area (see Queensland Fruit Fly case study) and apiarists in Canberra.</p> <p>4.10 Interviewees from across interest groups raised concerns about the low level of community awareness of the importance of biosecurity. They noted that it was not surprising that in most cases, awareness of a pest or disease was driven by direct experience, but this does not appear to be resulting in any increase in general awareness or concern about biosecurity.</p> <p>4.11 There is a perception among some interviewees that there is a lot of data collection going on but little sharing of that data with stakeholders – industries, community, environment and NRM bodies.</p>
Decision-making – what shapes and influences (individual or organisational) decisions and actions regarding biosecurity.	<p>5.1 Industry viability (maintaining and growing a product) and trade (access to markets and maintaining a competitive advantage) are key drivers of biosecurity action.</p> <p>5.2 Biosecurity management is part of 'healing and managing Country' – the major driver of decision-making for the Traditional Owners and Aboriginal people interviewed. This wholistic view includes using traditional practices like fire as part of the options for healing Country (which could include managing biosecurity threats).</p> <p>5.3 A direct risk, near miss or direct involvement in an emergency event were strong influences on decision-making for many interviewees, particularly those linked to primary production.</p> <p>5.4 A desire to protect the reputation of the industry (i.e. maintaining a clean green image, being a good steward, ensuring sustainable practices and production) was an important driver for some interviewees.</p> <p>5.5 Surveillance and early detection of a biosecurity risk was noted as a key influence (incentive), but this was tempered by concerns about the repercussions (for a business) that could come with a detection on your property.</p> <p>5.6 Legislative and regulatory obligations were key drivers for many interviewees (government and non-government), however some non-government participants noted that it was unclear why government chooses to act on weeds or pests in some places but not others (e.g. blackberry but not deer).</p> <p>5.7 There are limitations and constraints within existing legislation that can present a barrier for Traditional Owners being engaged in biosecurity and current legislation falls short of protecting all elements of cultural heritage (i.e. totem animals and intangible heritage).</p>
Biosecurity understanding and interests – an understanding of biosecurity from the individual (or organisation) vantage point and why biosecurity is important.	<p>6.1 Defining biosecurity is not a barrier to engaging stakeholders – those who have a direct stake understand its significance (for their business, industry and for the community and environment) and have a functional definition.</p> <p>6.2 For most participants in the system, their understandings of biosecurity are based on their interactions and direct experience with biosecurity issues, typically incursion or emergency responses.</p> <p>6.3 For interviewees from the primary production sector, their interest in biosecurity is driven by the direct impacts it can have on their business. They noted that this included pests and disease that affect production, protection of market access, and disease or pest free status for their industry or just for the individual business.</p>

THEME	FINDINGS
	6.4 Protection of the natural environment was a primary driver for those working in the environment and natural resource management sector. The natural environment was less of a driver for those working in primary production, though it was mentioned by some.
	6.5 For the Aboriginal people and Traditional Owners interviewed, management of pest plants and animals is one part of a holistic approach to healing Country. They do not see biosecurity issues separately from the many other influences over the health of Country. There is a clear understanding of the threats and impacts of pest plants and animals on cultural values, and traditional practices are often used to address weed and pest animal issues, as well as serving important cultural functions e.g. the use of fire.
	6.6 The link between biosecurity and human health was made by some participants, but this was mainly confined to those involved on the consumer side of food production or those involved in public health. Given that these interviews were conducted during the COVID-19 pandemic this could be considered a relatively low level of association.

Appendix 1: Interview guide



Understanding Victoria's Biosecurity System: Interview Guide

Agriculture Victoria
August 2020

1 Introduction

1.1 BACKGROUND

Strengthening Victoria's Biosecurity System Program (Extract from Information Brochure)

Agriculture is important to the Victorian economy, and rural and regional prosperity. Last year food and fibre exports contributed \$14.2 billion to the economy and provided 77,000 jobs. An effective biosecurity system ensures we can continue to build on the health, prosperity and way of life of all Victorians. However, pressure on our biosecurity system is increasing due to the increased movement of people and goods, changing community expectations, climate change, land use and industry practices.

The Strengthening Victoria's Biosecurity System (SVBS) Program was established as a result of the Victorian Government's significant 2018-19 State Budget investment to make sure that we can strengthen our states biosecurity system and help us be better prepare for the future. The four-year program will work with government, industry and community. Together we can ensure the continued strong performance of Victoria's biosecurity system to underpin jobs and economic growth across Victoria, support trade and market access and protect our public health and unique environment.

A vital component of this program is understanding industry, community and government views, knowledge and aspirations for Victoria's Biosecurity System. We are seeking stakeholders' views on:

- Their understanding and awareness of biosecurity;
- Their thoughts on how we can work together to continue to protect Victoria from biosecurity threats; and

- Their insights into current and future frameworks for biosecurity management in Victoria including what an ideal biosecurity system looks like.

The SVBS Program has commissioned RM Consulting Group to conduct a series of interviews to deepen our understanding of how the biosecurity system works.

The involvement of stakeholders can help us collectively learn and understand about how our biosecurity system can be improved. These interviews will help Agriculture Victoria build a bigger picture, provide new perspectives, allowing us to identify opportunities for strengthening Victoria's biosecurity system. These insights will help determine how industry, community and government can work together to meet future challenges.

1.2 PURPOSE

The purpose of conducting the semi-structured interviews is to develop a more in-depth understanding of how selected actors and/or organisations understand and contribute to biosecurity outcomes.

In particular, the interviews will seek to develop an understanding of;

- Biosecurity from the individual (or organisation) vantage point, their role in the system and why biosecurity is important to them
- The drivers (incentives, motivations) and benefits of participating in the biosecurity system
- What shapes and influences their (individual or organisational) decisions and actions regarding biosecurity
- Factors that promote or prevent co-operation and trust between actors within the biosecurity system.

The data and insights generated from these interviews will be an important input to inform future deliberations with community, industry and government in drafting a biosecurity direction statement in 2020-21.

1.3 TARGET AUDIENCE

Key informants across the biosecurity system (industry n=40, community n=30, and government n=30 – local, state and Federal) with senior roles across the system. Where possible, interviewees could have a variety of roles (i.e. farmer, member of a peak body/president of the Landcare group). Agriculture Victoria is conscious of the importance of including those with a strong role (or potential role) in biosecurity outside the usual stakeholder groups engaged by government.

1.4 APPROACH

The interviews will be completed to two stages; Tranche 1 (n=25) and Tranche 2 (n=75). Tranche 1 interviews will be representative of the overall sample and will involve all interviewers in the RMCG team. The aim of conducting this initial group of interviews is to test the process, identify opportunities for improvement, and test the data collection system and frame.

After the Tranche 1 interviews, a workshop will be convened with the RMCG interview team. This workshop is a critical step to adjust the interview approach to ensure they generate the information required to inform the workshop stage of the Vision project. The workshop will also be an opportunity to talk through the process to ensure there is a level of consistency in the data recording and an initial discussion on emerging themes. The lessons from this workshop will also be used to inform and shape the subsequent interviews.

1.5 COLLECTION NOTICE AND PRIVACY STATEMENT

Statement to be read at the start of interview

During this interview we will collect personal information including your name, email address, phone number, position title and the organisation for which you work. The personal information that we collect will be kept in accordance with the *Victorian Privacy and Data Protection Act 2014*.

To be able to draw upon the knowledge and information you provide, we would also like to take an audio recording of this conversation. The recordings will be used in the analysis for this project and stored by RM Consulting in accordance with the *Victorian Privacy and Data Protection Act 2014*. The information provided in this interview will be de-identified in the reports prepared for this project. Information will also be presented in an aggregated form which limits the chance for data to be identified with a specific individual or enterprise. If we would like to use an identifiable quote from this interview in the report, we will contact you directly to obtain your permission before publication.

How we will handle your information

Agriculture Victoria and the Department of Jobs, Precincts and Regions is committed to protecting personal information provided by you in accordance with the principles of the Victorian privacy laws.

Personal information that is collected by the Department will be used by, and disclosed to, Departmental employees or contractors whose duties require them to use it. Such employees and contractors are required to protect and handle your personal information in accordance with the Privacy and Data Protection Act 2014 (Vic) and any other applicable legislation regulating the collection, use, disclosure, storage and destruction of personal information.

To request access to your personal information, or for other concerns regarding the privacy of your personal information email us at SVBSprogram@agriculture.vic.gov.au. For the Department's full privacy statement visit www.agriculture.vic.gov.au/privacy

2 Interview guide

Table 2-1: Interview guide

CONSENT QUESTIONS	YES/NO
Collection notice and privacy statement has been discussed?	
Participant has given informed consent to be interviewed?	
Participant consents to the interview being recorded?	
Participant consents that de-identified excerpts from the interview can be used in publications or presentations relating to the study?	

THEME	PURPOSE
1. Introduction and framing	To develop an understanding of biosecurity from the individual (or organisation) vantage point, and how they view their role in the system
Potential questions: <ul style="list-style-type: none"> • Tell me what you do? • What does biosecurity mean to you? • In what ways do biosecurity matters come up for you? Are you directly involved? • How would you describe your (individual or organisation) role in biosecurity? • How would you describe your level of understanding of the biosecurity system? 	
2. Biosecurity interests	To develop an understanding of why biosecurity is important to them – the drivers and benefits of participating in the biosecurity system
Potential questions: <ul style="list-style-type: none"> • What are the main areas of biosecurity that interest you? • Why do you participate in biosecurity? What are the benefits? • What value do you see in effective biosecurity in Victoria? • How do biosecurity activities help to support your industry/sector? 	
3. Decision-making	To develop an understanding of what shapes and influences (individual or organisational) decisions and actions regarding biosecurity
Potential questions: <ul style="list-style-type: none"> • Why would you take action to ensure good biosecurity outcomes for your organisation/enterprise? • Who is responsible for this decision and what is it based on? • Who/what influences these decisions? • What resources can you draw on to act on address the biosecurity issues you have raised? (e.g. staff, money, information, equipment, policies, standard operating procedures, compliance checks) • Who do you seek to influence to ensure good biosecurity outcomes? 	

4. Relationships	To develop an understanding of factors that support and limit co-operation and trust between actors within the system
<p>Potential questions:</p> <ul style="list-style-type: none"> • Who do you interact with on biosecurity issues? • What are these relationships like (co-operative, trusting, collaborative)? • Where do you access your information and knowledge on biosecurity? / Who do you provide information and knowledge on biosecurity to? • Do you feel you have the opportunity to contribute to biosecurity decisions that impact on your property/organisation/sector? • How does this happen? • How would you like to contribute? 	
5. Strengths and weaknesses	Understand positive and negative aspects of the biosecurity system as it stands and areas to focus on through reform
<p>Potential questions:</p> <ul style="list-style-type: none"> • What are the strengths of the current arrangements for biosecurity? • Are there limitations, tensions or gaps in the current approach that you see? • Do you see any opportunities that can be built on? 	
6. Roles and responsibilities	Build a collective understanding of the roles of industry, community and the government in the context of the biosecurity system
<p>Potential questions:</p> <ul style="list-style-type: none"> • What can we do to work better, together? • What do you see as your ideal role in biosecurity? • What are your views on how responsibility for biosecurity should be shared between industry, community and government? • What role should government play in biosecurity? What is the role of regulation and compliance? 	
7. Closing	
<p>Would like to continue to receive information about this project?</p> <p>Is there anyone else that you think we should speak to as part of this project?</p>	

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1.0	Draft	30/11/2020	S. Annett J. Scally S. Drum	S. Annett	J. Longford	S. Annett	Agriculture Victoria
2.0	Final	18/01/2021	S. Annett J. Scally S. Drum	S. Annett	J. Belz	S. Annett	Agriculture Victoria
3.0	Revised Final	24/05/2021	S. Annett J. Scally S. Drum	S. Annett	J. Belz M. Sandford	S. Annett	Agriculture Victoria
4.0	Revised Final	27/05/2021	S. Annett J. Scally S. Drum	S. Annett	M. McIntosh	S. Annett	Agriculture Victoria
4.1	Revised Final	3/06/2021	S. Annett	S. Annett	n.a.	S. Annett	Agriculture Victoria