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BIOSECURITY COUNCIL OF WESTERN AUSTRALIA



Biosecurity Council Stakeholder Workshop

Report on workshop held 10 July 2015

This report was prepared by the Biosecurity Council of Western Australia.

The Biosecurity Council are grateful to the stakeholders that participated in the workshop.

October 2015

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1 Contents

Executive Summary	4
1 Introduction	6
2 The workshop	6
2.1 Purpose and outcomes	6
2.2 Stakeholders.....	6
2.3 Agenda	7
2.4 Evaluation.....	7
3 Findings	8
3.1 Biosecurity decision-making.....	8
3.2 Drivers and constraints	9
3.3 Industry / community / government position	10
4 Council conclusions	12
5 Next steps.....	16
Appendix 1. List of workshop invitees / participants	17
Appendix 2. Workshop agenda	19
Appendix 3. Workshop evaluation results.....	25

Executive Summary

The Biosecurity Council of Western Australia (the Council) held a stakeholder workshop to explore perspectives on risk-based decision making and biosecurity investment across industry, government and community. This report presents a summary and interpretation of the workshop discussion to enable a statement on 'where we are at' in terms of biosecurity decision-making and joint effort.

The workshop process identified clear differences in the current biosecurity priorities of industry, government and community:

- Industry priorities were focused on biosecurity activities that would preserve a profitable/sustainable industry.
- Government priorities were targeted toward prevention and early eradication, but also included ongoing actions for biodiversity protection and broader policy and support systems.
- Community priorities were for on-ground action targeting established pests.

There were also priorities that were common to all three sectors—collaboration, engagement, education and general awareness-raising.

For all three sectors, biosecurity investment decisions were influenced by the level of available resources, stakeholder concerns and 'priorities'. However, how priorities were identified was not clearly understood or articulated. The unclear prioritisation process was identified as an important factor preventing effective risk-based decision-making and investment. In order to maintain an effective biosecurity system, all three sectors believed research and innovation; industry/community awareness and engagement; partnerships/consultation/collaboration; and a strong strategic approach were necessary.

The workshop discussion and the information it generated enabled a picture of the current 'positions' of industry, government and community to be developed. It is suggested that the timing is right for genuine cooperation between the sectors. Furthermore, there is a shared understanding across the sectors that biosecurity investment and action needs to be targeted toward the priority areas. The challenge lays in identifying, developing and implementing overarching (or underpinning) principles, frameworks, processes, systems, policies and agreements to achieve this.

From their interpretation of the workshop discussion and outputs, combined with their background knowledge, experience and understanding, the Biosecurity Council have concluded that:

- There is reasonably widespread acceptance of biosecurity as a shared responsibility. However, this needs to be translated into coordinated and cooperative action to address the biosecurity priorities across the breadth of the invasion curve, with a clearer sense of direction than at present.

- Where government withdraws funding support or transfers responsibility to industry and community, it must also accept that it has also relinquished control in those areas.
- Industry is ready to 'step up' and take a greater leadership role, but there is a very strong expectation from industry and community that government will provide support, advice and engagement. How government intends to assist industry/community in this transition is unclear.
- Industry and community resources should be targeted toward the priority areas, and government guidance and support in this area will be critical. Funding should not be used to address low priorities if our objective is to maintain an effective biosecurity system.
- Recognised Biosecurity Groups appear to be forming to address single issues, such as wild dogs or cotton bush, but whether this is an effective use of an RBG is debatable. Having said that, a single, common issue may be the key to unite the group and get them started. As they mature they can then consider priority setting, risk-based decisions and a more strategic approach.
- State-wide, there are policy issues around RBGs that need to be addressed—for example, using government funds to target low priority organisms; the limit of matched government funding; compliance activities for RBG-targeted pests; and ongoing support systems.

The Council anticipate developing a position/advice on 'who does what, how they prioritise, who should pay (and why/how)'. This will include exploring the institutional arrangements for biosecurity across the invasion curve, as well as framing a Council position on prioritisation and risk-based decision making principles and process for future biosecurity investment.

This work will be underpinned by a 'status check' of the current biosecurity system (current investment in biosecurity, gaps and potential improvements) and the findings from the Councils' stakeholder engagement work.

1 Introduction

On 10 July 2015, the Biosecurity Council of Western Australia (the Council) held a stakeholder workshop to explore perspectives on risk-based decision making and biosecurity investment. The workshop was attended by 31 stakeholders from across industry, government and community and a range of sectors including agriculture, horticulture, environment, forestry and fisheries.

The purpose of this report is to summarise and interpret the workshop discussion in order to provide a clear statement on 'where we are at' in terms of biosecurity decision-making and joint effort. The report documents the workshop process and findings, followed by the Biosecurity Council's interpretations and conclusions. The high-level of participant contribution to the workshop was highlighted in the workshop evaluation responses, as was achievement of the anticipated workshop outcomes of improving shared understanding. As such, the Council are confident in the conclusions presented in this report.

2 The workshop

2.1 Purpose and outcomes

The purpose of the stakeholder workshop was to explore risk-based decision-making and investment in biosecurity in Western Australian from industry, government and community perspectives.

The key anticipated outcome was for new understanding on how industry, government and community sectors can cooperate in biosecurity decision-making and joint effort. To achieve this, participants were encouraged to contribute to:

- A shared understanding of how the 'generalised invasion curve' (Fig. 1) guides decision-making
- A shared understanding of the drivers and constraints for industry, community and government action on biosecurity
- An improved understanding of the process for risk-based decision-making and balancing effort across biosecurity threats and across sectors.

2.2 Stakeholders

Invitations were sent to 51 people from across 35 organisations/sectors. A total of 31 stakeholders participated in the workshop, plus the Biosecurity Council (x7) and scenario developers (x5). In addition, there were six facilitators. The list of invitees/participants is provided at Appendix 1.

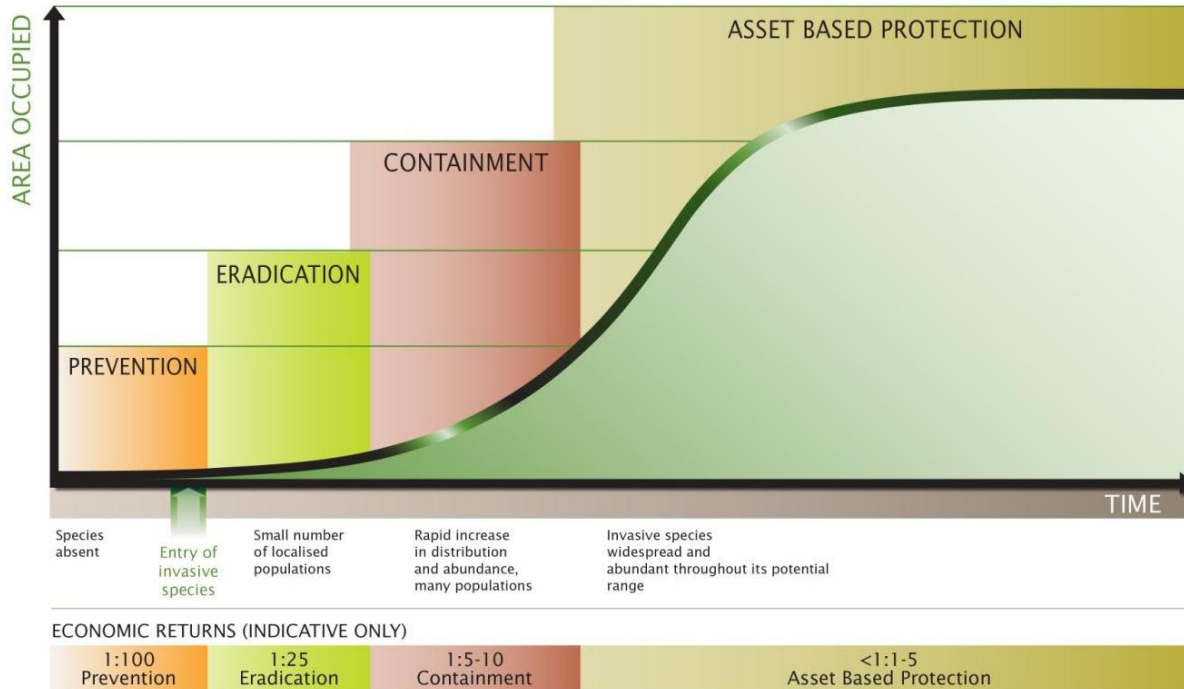


Figure 1. The generalised invasion curve (Source: Department of Environment and Primary Industries, Victoria).

2.3 Agenda

There were three sections to the stakeholder workshop:

- Introduction to the generalised invasion curve
- Review of resourcing: where and how resources are targeted; opportunities; and constraints
- Exploration of risk-based decision-making and investment.

Information on each session, including the key messages and workshop outputs, are provided in Appendix 2.

2.4 Evaluation

In the week following the workshop, participants were invited to complete an online questionnaire to evaluate the success of the workshop at achieving its anticipated outcomes. A total of 21 people (68%) responded (11 from industry and five each from government and community). The results are presented in Appendix 3.

In summary, the overall anticipated outcome of the workshop was a 'new understanding on how industry, government and community sectors can cooperate in biosecurity decision-making and joint effort'. Evaluation data support the achievement of this outcome and suggest a high level of participant interaction and contribution (see Table A3.1, Appendix 3).

3 Findings

3.1 Biosecurity decision-making

Biosecurity was acknowledged to be a complex issue to be tackled collaboratively. Clear cost-sharing agreements, articulated roles/responsibilities and actionable policies and procedures were seen as important underpinnings for biosecurity decision-making. The workshop identified clear differences in the current biosecurity priorities of industry, government and community (see also Fig. 2):

- Industry priorities were focused on biosecurity activities that would preserve a profitable/ sustainable industry. This included activities to increase public awareness and participation; and on implementing cost-sharing, collaboration and capacity-building.
- Government priorities were targeted toward the left-hand side of the invasion curve (e.g. prevention, emergency response) but government also commits significant but declining resources to biodiversity protection (right-hand side of the invasion curve). Developing clear policy and decision-making with overarching support systems for biosecurity across the curve was also identified as a priority, and targeted stakeholder engagement was seen as an integral part of all activities.
- Community priorities were for on-ground action targeting established pests (i.e. right-hand side of the curve), including activities to increase collaboration and community understanding.

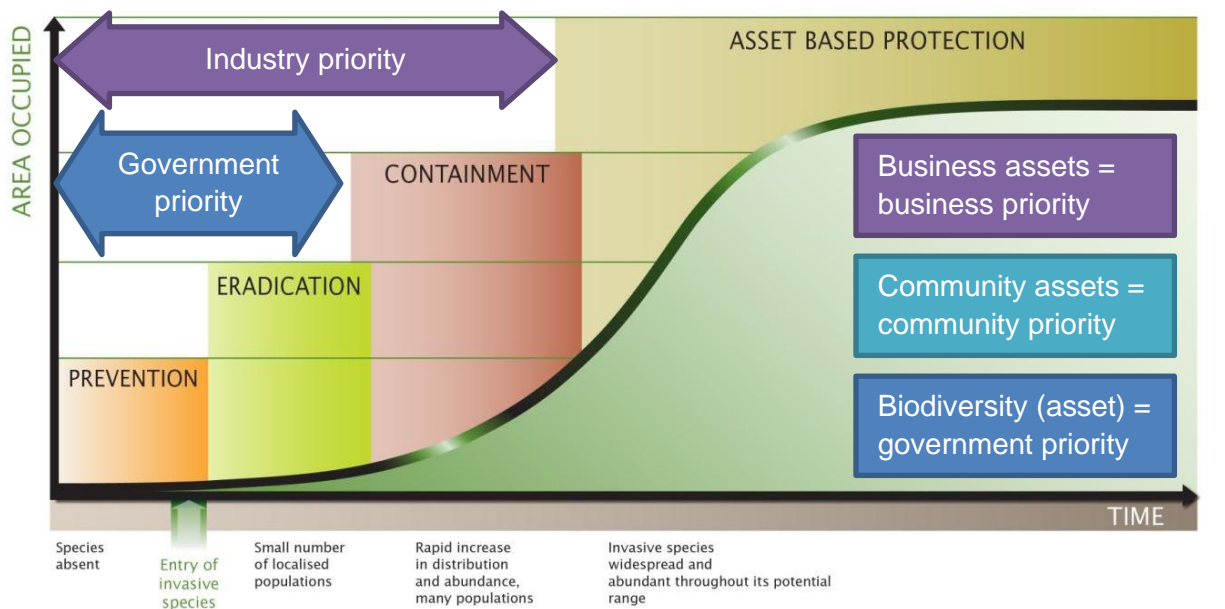


Figure 2. The generalised invasion curve highlighting industry, government and community priorities, as identified at the Biosecurity Council stakeholder workshop.

Collaboration and/or engagement were considered important by each of the three sectors, and ongoing education and general awareness-raising for the general community, with regard to biosecurity, was viewed as critical. It is interesting to note that these priorities are comparable to the 'roles and responsibilities' identified by stakeholders in 2014 (BCWA 2014, pp.13-15¹). The only difference was that government identified training/extension and compliance as a key government role/responsibility in the 2014 work.

For all three sectors, biosecurity investment decisions (i.e. biosecurity action) were influenced by the level of available resources; and all three sectors noted that funds were (or should be) directed toward higher priorities. Having said that, how the priorities were identified was not clearly understood or articulated, although the workshop discussion suggested a link between priorities and responsibilities—for example, if an area was perceived to be the responsibility of government, then that area was not a priority for the other sectors. This seems somewhat contradictory to the strong support for collaboration shown by all three sectors.

Stakeholder concerns were another factor influencing investment decisions/actions that was identified by all three sectors. This further increases the potential importance of stakeholder awareness/education of biosecurity risk, as this would i) help direct biosecurity investment toward the priorities; and ii) ensure stakeholders understand why funds are directed toward certain activities and not others.

3.2 Drivers and constraints

For all three sectors, lack of a clear prioritisation process—particularly for the 'higher level' assessments that are required in order to prioritise (i.e identifying who is responsible [e.g. the level of public or private benefits that may accrue; or the lead government agency] and determining the level of risk)—was preventing effective risk-based decision-making and investment. There were four key expectations, in terms of a good process: awareness, consistency, validity and transparency.

Several other issues were identified as constraining the management of biosecurity risks. These were:

- Limited financial resources (identified as a constraint for industry, government and community sectors).
- Inadequate industry/community awareness or understanding (identified as a constraint for industry, government and community sectors). This was seen to be influenced by various factors such as cultural diversity, apathy and insufficient engagement activities.
- Difficulties in securing government collaboration/support (identified as a constraint for industry).

¹ Biosecurity Council of WA. 2014. 'Biosecurity decision-making in Western Australia: roles and responsibilities. Results of stakeholder engagement'.

- Lack of capacity (identified as a constraint for government).
- Ineffective systems/processes (identified as a constraint for government).
- Inadequate community-group awareness of sources of assistance (identified as a constraint for community).

In order to move forward, all three sectors believed research and innovation; industry/community awareness and engagement in biosecurity; partnerships/consultation/collaboration; and a strong strategic approach (including planning and improved prioritisation) were key. The current legislation, particularly that relating to community/industry funding mechanisms, was also believed to be an important enabler. Furthermore, the mechanisms (Industry Funding Schemes, Recognised Biosecurity Groups [in pastoral zones and where single pests are a focus] and Landcare) were believed to be working well, and present opportunities to be capitalised upon.

3.3 Industry / community / government position

The following section summarises the workshop discussion and the information it generated to build a picture of the current 'positions' of industry, community and government.

Industry:

For industry, the driver for biosecurity is to ensure a profitable and sustainable industry. Industries generally accept their biosecurity responsibilities, and invest in biosecurity to safeguard at both the business and industry level. Industry appears willing to play a greater leadership role into the future; however, different industries are at different stages. For industry to progress there needs to be a clearer process to identify 'public' and 'private' good (and, therefore who is primarily responsible); and what the priorities are. Importantly, industry recognises their lack of technical expertise in these areas, so will require government assistance and support. However, priorities will also be influenced by industry needs/concerns. As such, processes to increase industry awareness, understanding and engagement in biosecurity will also need to be developed and implemented to facilitate success. Funding mechanisms are already in place for some industry sectors to raise funds to tackle industry-wide biosecurity priorities.

Community:

Post-border biosecurity is the priority for community biosecurity action/investment—particularly in relation to controlling invasive vertebrate pests and weeds that are detrimental to the environment/biodiversity and can also impact on industry. There appears to be a willingness within the community to take part in on-ground biosecurity activities (e.g. through volunteer groups). However, there needs to be effective leadership and coordination, and a greater awareness of the support that is available. It must be acknowledged that the community cannot address all the post-border issues, so prioritisation and support is important; however, priorities will be influenced by

community concerns. Similar to 'industry' (see above), processes to increase community awareness, understanding, support and engagement in biosecurity will need to be developed and implemented to facilitate success. Recognised Biosecurity Groups (RBGs) may be used to coordinate community-based biosecurity.

Government:

Reduced resourcing has led to the need for government to focus its resources on what it has identified as priority areas—prevention and emergency response; developing support systems/structures/processes and policy to facilitate biosecurity across the curve; and biodiversity protection. However, inconsistent approaches to prioritisation and lack of agreement on agency responsibilities are constraining progress, as is reduced capacity and inadequate systems/processes. Going forward, government see increased industry/community awareness and participation in biosecurity as vital, noting that the funding mechanisms and legislation are important enablers of this (although lack of an environmental biosecurity funding mechanism was seen as a constraint), and partnerships/collaboration to be key.

How can the sectors cooperate in decision-making and joint effort?

The timing seems to be right for genuine cooperation between industry, government and community. Industry and community appear willing and eager to take a greater leadership role; and government recognise that increased industry and community participation in biosecurity is essential. Furthermore, there is a shared understanding across the sectors that biosecurity investment and action needs to be targeted toward the priority areas.

The challenge lays in identifying, developing and implementing overarching (or underpinning) principles, frameworks, processes, systems, policies and agreements to achieve this. This includes areas such as identifying biosecurity roles/responsibilities; prioritisation; and rigorous risk analyses.

In addition to the above, five key areas were identified by the evaluation respondents as the next steps toward strengthening the WA biosecurity system:

- Increasing the biosecurity awareness of all citizens and visitors to the state
- Building commitment and collaboration (in engagement, planning and delivery), including community input at the 'strategic' end
- Increasing the focus on border biosecurity
- Facilitating the development of functional RBGs
- Developing clear policy around roles and responsibilities (including formal agreements for priority threats), the use of Industry Funding Schemes (IFSs) and RBGs, and how to determine priorities; and a State strategy that acknowledges the difficulties in maintaining WA's biosecurity.

4 Council conclusions

The stakeholder workshop provided a valuable avenue to explore risk-based decision-making and investment in biosecurity from industry, government and community perspectives, and to build new understanding on how the sectors can cooperate in biosecurity decision-making and joint effort. The conclusions provided in this report reflect the Biosecurity Council's own interpretation of the workshop discussion and outputs, combined with their background knowledge, experience and understanding.

Where are we at?

From a 'whole-of-system' perspective, there is reasonably widespread acceptance of biosecurity as a shared responsibility. However, this needs to be translated into coordinated and cooperative action to address the biosecurity priorities across the breadth of the invasion curve, with a clearer sense of direction than at present.

The resourcing position of government is clear—there are less resources, which has set in motion a strict process to target the limited resources toward activities that are core government business. Although joint effort in biosecurity has been gaining traction over the years, the current resourcing position of government has provided a strong incentive to settle conflict around biosecurity responsibilities and direction—with the key objective being to maintain a functioning and effective biosecurity system for Western Australia.

From this, there is an assumption that industry and/or community may 'pick up' biosecurity activities that government will no longer fund. Coupled with this is an expectation that industry/community will focus their resources on 'priorities'. Whether the areas government see as priorities for industry/community align with the areas industry/community see as their priorities is still to be revealed. Whatever the case, where government withdraws funding support or transfers responsibility to industry and community, it must also accept that it has also relinquished control in those areas.

Having said that, there is a very strong expectation from industry and community that government will provide support, advice and engagement—particularly in terms of strategic direction (such as policy, priority setting etc.), technical expertise (e.g. risk assessment, control options etc.) and supporting systems and processes. How government intends to assist industry/community in this transition is unclear.

In order to advance cooperative decision-making and joint effort, the overarching (or underpinning) principles, frameworks, policies and agreements need to be identified, developed and agreed upon. The growing industry and community leadership in biosecurity (or, at the least, the expectation of increased leadership and self-direction) necessitates a strong collaborative approach with government in order to construct these foundations.

Where is industry at?

Industry is ready to 'step up'; however, different industries are at different stages. Of particular importance is for industry resources to be targeted toward the priority areas, and government guidance and support in this area will be critical. The Council supports this in principle and, by implication, believes that funding should not be used to address low priorities if our objective is to maintain an effective biosecurity system. Within the horticulture sector, there is a perceived boundary between 'industry responsibility' (left-hand side of the invasion curve) and 'business/individual responsibility' (right-hand side of the curve), which provides a clear criterion for determining their industry priorities. Such delineations have not been articulated for other industries.

There is industry support for the reinstatement of the 'Guards' (e.g. HortGuard), or similar, to provide clear plans that cover the management and funding of responses to regional quarantine pests (i.e. pests that are found in other Australian states but are not widespread, or absent, from WA and are of potential economic threat to WA). As such, there is opportunity for government and industry collaboration to develop or update such plans. These should be industry-owned plans, with industry leading their development and taking responsibility if/when the plan is required to be put into action.

There are two legislated mechanisms that support the collection and use of industry funds for biosecurity activity in WA—Industry Funding Schemes (IFS), under the *Biosecurity and Agriculture Management Act 2007*; and Agricultural Produce Commission (APC) Committees, under the *Agricultural Produce Commission Act 1988*. The IFS provisions enable industries (e.g. agriculture, horticulture, apiculture, aquaculture, silviculture, viticulture) to establish biosecurity funding schemes. To date, these provisions have only been used by broad acre cropping and grazing industries. Various horticultural industries² have made use of the provisions under the APC Act in order to raise industry funds for biosecurity-related activity³. The mechanisms seem to be operating well. It is expected that the IFSs and APC Committees will be asked to assume more responsibility for administering programs. As such, prioritising the industry issues will be necessary to direct the limited industry funds to the most important areas. Furthermore, a strong understanding of the on-ground actions required to deliver the desired outcomes will ensure value for money and effective/appropriate programs.

Fishery industries are keen to be involved in the biosecurity dialogue, and feel that they have been neglected in the decision/strategy-making processes. However, this did not seem to be echoed by government who believed they have built and maintain a strong collaborative approach to biosecurity with industry. The disconnect appears to be related to the industry targeted by government—that is, there has been a deliberative focus by government on the risk creators (e.g. shipping) rather than the beneficiaries (e.g. fisheries). Although this may reflect the results of government prioritisation

² APC Act is applicable to horticultural industries and other agricultural industry, but excludes broad acre cropping and grazing.

³ Funds raised via the APC can be used for activity other than biosecurity.

process, it must be recognised that the fisheries are keen for more collaboration, communication and consultation with government, and that this can have very beneficial biosecurity outcomes.

Where is community at?

Community-based biosecurity action is evident primarily through the activities of volunteer groups that may receive funding (such as Landcare) or work alongside larger organisations. Additionally, the *Biosecurity and Agriculture Management Act 2007* enables community groups (for example) to become 'recognised'. These Recognised Biosecurity Groups (RBGs) are able to access funds from the Declared Pest Account, which includes rates collected from the community that are matched dollar-for-dollar by government, to undertake biosecurity activities.

The five pastoral RBGs have progressed rapidly over the past few months, assisted by leadership change and proactive engagement between the groups. These groups are setting their own priorities and programs. There is one RBG in the agricultural zone (i.e. south-west land division), which evolved from a former Declared Species Group, and others on their way, triggered by single species threats.

There is enthusiasm for RBG development in the south-west, but there is also concern about imposing the rate on landholders and local government fears cost-shifting. Such concerns should become clearer during the consultation that must be undertaken prior to implementing a rate. If the RBG mechanism, as it currently stands, is not going to work within the south-west, appropriate changes to the legislation can be explored during the review of the Act.

The discussion regarding RBG implementation in the south-west has raised questions about scale and boundaries—e.g. where is the boundary between 'community' and 'industry', or between agricultural land use and peri-urban? Furthermore, RBGs appear to be forming to address single issues, such as wild dogs or cotton bush, but whether this is an effective use of an RBG is debatable. Having said that, a single, common issue may be the key to unite the group and get them started. As they mature they can then consider priority setting, risk-based decisions and a more strategic approach.

From the Council's perspective, RBGs are important in facilitating community ownership and participation in biosecurity. However, the generous involvement of government in developing RBGs in the south-west should be time-bound (i.e. limited to the length of the current project funded through Royalties for Regions) and, during this period, a strong emphasis placed on capacity building and learning, including being open to different approaches, policy development and evaluation.

State-wide, there are policy issues around RBGs that need to be addressed:

- There is a need to be clear about 'benefit' and 'responsibility'. RBGs are established primarily to address landscape-scale biosecurity priorities of the community, and should not be used to primarily address issues affecting business profitability or productivity unless these are also of community concern. It is important for communities to identify the priority issues—funds should not be used for low priorities.
- There are potential issues around government matching funds to target low-priority organisms and how this aligns with current government policy. With the constraints on government funding, it is important the funds accessed by RBGs from the Declared Pest Account are only used for activities that are in the public interest since these are public funds.
- There is a limit to the amount of funding government can match. There is a risk of increasing numbers of RBGs applying for increasingly greater amounts of funding. It is important for government to identify the limits of the model and monitor implementation closely to ensure its longevity.
- Compliance was viewed as a big issue in the agricultural areas—if communities are going to invest community funds (i.e. rates) in programs targeting declared pests, then it is important that compliance work is undertaken as this would improve program effectiveness. There are opportunities for local government officers to be trained and undertake compliance activities under the Act.
- There is opportunity for NRM bodies to provide a support network for RBGs. It was noted that this is working well in the rangelands.

Where is government at?

The position and direction of government has been discussed elsewhere in this report. The Council acknowledge the activities undertaken by government to support cooperative risk-based decision-making and joint effort, such as the State Biosecurity Strategy, review of the declared species and support for RBGs. The Council is generally satisfied as to how government has considered/implemented previous Council advice. However, there are areas in which Council will continue to watch—biosecurity response preparedness; collaboration; current status and impact of declining resources; and the transition to the new phase in WA biosecurity of shared responsibility and resourcing.

5 Next steps

In terms of financial investment, there are two expectations for maintaining a bio-secure Western Australia:

- Industry, government and community investment
- Investment targeted toward the priorities, with priorities determined using risk-based decision making

The Council anticipate developing a position/advice on 'who does what, how they prioritise, who should pay (and why/how)'. This will include exploring the institutional arrangements for biosecurity across the invasion curve, as well as framing a Council position on prioritisation and risk-based decision making principles and process for future biosecurity investment.

This work will be underpinned by a 'status check' of the current biosecurity system (current investment in biosecurity, gaps and potential improvements) and the findings from the Councils' stakeholder engagement work.

Appendix 1. List of workshop invitees / participants

Government

Agency	No. invited	No. attended
Department of Agriculture and Food	7	6
Department of Fisheries	2	2
Department of Parks and Wildlife	3	1
Forest Products Commission	1	0
Local government	3	1

Industry

Sector	No. invited	No. attended
Agriculture		
Grains	2	2
Cattle	2	2
Sheep and Goats	2	1
Horticulture/floriculture		
Pome West	1	1
Bee keepers	1	1
Stone fruit	1	1
Vegetables	1	1
Nursery and Garden Industry WA	1	1
Citrus industry	1	0
Forestry		
Forest Industries Federation WA	3	1
Fisheries		
WA Fishing Industries Council	1	1
Aquaculture Council of WA	1	1
RecFishWest	1	1
Pearl Producers Association	1	1
Resources		
Iluka Resources	1	0

Community/environment

Organisation	No. invited	No. attended
World Wildlife Fund WA	1	0
Kimberley RBA	1	0
Carnarvon RBG	1	0
Goldfields/Nullabor RBA	1	1
Meekatharra RBA	1	0
Peel-Harvey BG	1	0
Lower South West BG	1	0
Bridgetown-Greenbushes BG	1	1
Leschenault BG	1	1
Northern Mallee DSG	1	0
Eastern Wheatbelt RBG	1	1
Ravensthorpe DSG	1	1
Central Wheatbelt DSG	1	0
Pilbara Regional BG	1	0
NRM Leaders	1	1
South Coast NRM	1	0

Others

	No. of participants
Biosecurity Council of WA	7
Presenters	2
Facilitator	1
Table facilitators	5
Scenario developers	5

Appendix 2. Workshop agenda

Introduction to the generalised invasion curve

Anticipated outcome: Participants have contributed to a shared understanding of how the 'generalised invasion curve' guides decision-making.

The first session presented a short video explaining the invasion curve and how it can be used to assist in decision-making⁴. As the invasion curve provides a basis on which biosecurity investment decisions can be made, it was important that all workshop participants understood the curve as this would influence their contributions to the rest of the workshop.

The key messages from the video were:

- Economic return on investment decreases from left to right along the curve. However, the 'unmeasurable' environmental and social benefits (e.g. species conservation) can far outweigh any economic benefit — particularly toward the right-hand side of the curve.
- The type of action taken should reflect the range and abundance of the invasive species (e.g. 'eradication' should not be the goal if the species is widespread and abundant).
- Surveillance activity is an integral activity across the curve.
- Biosecurity action is required across the curve if we are to maintain WA's biosecurity. This requires industry, government and community involvement.
- Government's efforts are more targeted toward the left-hand side of the curve; but also play a key role in biodiversity protection (i.e. right-hand side of the curve). Industry and community are best placed to protect particular assets (i.e. right-hand side of the curve). Nevertheless, cooperative efforts are critical.

Review of resourcing: where and how resources are targeted; opportunities; and constraints

Anticipated outcome: Participants have contributed to a shared understanding of the drivers and constraints for industry, community and government action on biosecurity.

The 'Review of resourcing' session began with an overview of the state governments' resourcing position, and how this influences government investment in biosecurity activities. This included information on where government resources are/will be targeted and why, as well as insights into how these decisions are made. As government resources decrease, industry and community leadership in biosecurity will become increasingly important. The presentation was followed by a case study of the Victorian wild dog experience, to highlight an example of industry/community-driven biosecurity.

⁴ The 'invasion curve animation' can be accessed from the [DAFWA YouTube channel](#)

Key points – Government’s resourcing position:

- Government investment in biosecurity will be much more targeted, with areas of public benefit being priority. The implications of this need to be discussed and addressed.
- Areas of importance to industry/community will need to be identified and actions driven by industry/community.
- Everyone needs to optimise their resources across the curve — appropriate roles/responsibilities must be recognised and accepted.

Key points – Victorian wild dog case study:

- Management of wild dogs has been contentious — community and industry leadership and participation is currently the focus (and into the future).
- Collaborative approach was implemented, including establishment of Wild Dog Advisory Committee, management zone work plans, wild dog action plan.
- The new approach appears to be having an impact — it has strengthened coordination, and there have been reduced incidents and increased participation in the program.

Following the presentations, workshop participants were divided into industry, community and government groups. This provided an opportunity for the sectors to develop their own ‘positions’ on biosecurity, given the implication that industry and community would need to play a greater leadership role into the future. The session highlighted the priorities, factors influencing decisions/actions, areas that are working well, major constraints and the enablers going forward for each sector (Table A2.1).

Exploration of risk-based decision-making and investment

Anticipated outcome: Participants have contributed to an improved understanding of the process for risk-based decision-making and balancing effort across biosecurity threats and across sectors.

This session enabled the workshop participants to apply the lessons learnt from the previous sessions to different biosecurity scenarios spanning the breadth of the invasion curve. There were five scenarios:

- Asian paddle crab incursion in the Peel Harvey Estuary
- Control of *Phytophthora cinnamomi* (dieback) in the Whicher Scarp
- A possible starling sighting near Munglinup
- Detection of Queensland fruit fly in Midland
- Increasing numbers of wild dogs on a pastoral lease in the southern rangelands.

The aims were to test decision-making in terms of determining the level of action appropriate for each scenario (as per the Invasion Curve), to understand the level of action each sector could commit to, and to identify gaps and potential solutions. The insights gained from the session are documented in Table A2.2.

Table A2.1. Review of resourcing: where and how resources are targeted; opportunities; and constraints

	Industry	Government	Community
Priorities	<p>Prevention (A, F), preparedness (H), surveillance (A, F), control (F), compliance (F)</p> <p>Enhanced profits (A)</p> <p>Accessing markets / maintaining the 'clean-green' profile (A)</p> <p>Food safety (A)</p> <p>Sustainability (A)</p> <p>Public awareness/ education/ reporting / participation (A, F H)</p> <p>Cost sharing, including community (A, H)</p> <p>Collaboration (F, H)</p> <p>Consistent/clear direction (F)</p> <p>Capacity / expertise (F, H)</p> <p>Own backyard (H)</p>	<p>Maintaining market access</p> <p>Risk-based policy and process</p> <p>Prevention, early detection and eradication of priority species</p> <p>Managing high risk sectors / pathways</p> <p>Targeted stakeholder engagement</p> <p>Biodiversity protection</p> <p>Managing responses to incursions</p> <p>Developing (collaboratively) support systems and structures</p>	<p>Establish RBGs in the south west to manage pests and weeds</p> <p>Increase community understanding about biosecurity / responsibilities</p> <p>On-ground action / incident response</p> <p>Find an effective balance of government-community resource allocation to biosecurity</p> <p>Collaborative action and data sharing</p> <p>Long-term sustainability</p> <p>Compliance</p>
Factors influencing decisions/ actions	<p>Funding models (A)</p> <p>Responsibilities (A, H)</p> <p>Level of risk (A, F)</p> <p>Food security/safety /external requirements (A, F)</p> <p>Commercial factors (A)</p> <p>Long-term sustainability (A)</p> <p>Cost-effectiveness (A)</p> <p>Community buy-in / stakeholder linkages (F, H)</p> <p>Biosecurity status (F)</p> <p>Level of information available to make decisions / past history (F)</p> <p>Level of resources (F, H)</p> <p>Awareness levels (H)</p> <p>Diversity of industry (H)</p>	<p>International requirements, national obligations, legislation</p> <p>Available resources / partnerships</p> <p>Priorities – level of risk, economic returns</p> <p>Changing environment</p> <p>Community concerns / industry needs</p>	<p>Protection of agriculture and environment</p> <p>Concerns, willingness, understanding and/or support of community</p> <p>Policies and procedures</p> <p>Resources / capacity</p> <p>Funding priorities</p>

	Industry	Government	Community
Areas that are working well	<p>Perceptions / image (e.g. clean and green) (A)</p> <p>Regulations (A, F, H)</p> <p>Industry/community awareness (A, H); industry acceptance of responsibility (A)</p> <p>Taking advantage of WAs geographic biosecurity advantage (A, F)</p> <p>Capability level re fish health (F)</p> <p>Having a common goal (F, H)</p> <p>Advancements made via collaborative research (F)</p> <p>Having biosecurity plans / agreed protocols (F)</p> <p>Industry-government communication (H)</p> <p>Pre/border biosecurity (H)</p> <p>Industry biosecurity mechanisms(H)</p>	<p>Working in partnerships</p> <p>Community engagement in aquatic biosecurity</p> <p>Mapping of pests</p> <p>The focus on prevention, early detection and eradication</p> <p>Technology / providing tools for stakeholders</p> <p>Integration of compliance, research and management functions</p> <p>Training and awareness-raising</p>	<p>Dedicate Exec Officers for RBGs</p> <p>Industry Funding Schemes</p> <p>On ground achievements</p> <p>National Landcare funding</p> <p>Community engagement process</p> <p>Matched government funding</p>
Major constraints	<p>Mechanisms for communication/ education/ engagement/ collaboration (A, F, H)</p> <p>Financial costs of compliance (A)</p> <p>Declining resources (A, F) – unsure of future RDC funding models (H)</p> <p>No clear, agreed process for identifying ‘public good’ (A, H) or determining the risk (H)</p> <p>Apathy / complacency (A)</p> <p>Limited government interaction / follow-up – poor collaboration on priorities, decision-making (F)</p> <p>Changing goalposts (F)</p> <p>Limited information to underpin decisions (F, H)</p> <p>Geography (F)</p> <p>Cultural diversity of the sector (H)</p>	<p>Environmental biosecurity funding mechanisms</p> <p>Community awareness of threats</p> <p>Decreasing resources / capacity</p> <p>No agreement on responsibilities</p> <p>Systems for knowledge management</p> <p>Surveillance mechanisms for early detection</p> <p>National/international forecasting</p> <p>Level of preparedness</p> <p>Inconsistent approaches to</p>	<p>Lack of support from LGAs, community</p> <p>Environment receiving less attention than agriculture</p> <p>Narrow scope (in terms of pests/weeds targeted) / there are too many potential areas to address</p> <p>Lack of funding</p> <p>Unaware of sources of assistance</p> <p>Changing goalposts</p> <p>No enforcement of regulations</p> <p>Lack of skills to manage incursion</p>

	Industry	Government	Community
		prioritising investment	
Enablers going forward	Outsourcing services (if more cost-effective) (A) Improved technologies (A) Better understanding of risk, to help prioritise investment (A) Industry support (A) Communication, consultation, collaboration (F, H) Strategic approach (F) Blue sky thinking (F) Compliance/health resources (F) Enhanced post-border biosecurity (H) WA representation at national level (H)	Legislation Timing Increasing awareness / commitment = opportunities (e.g. citizen science, partnerships. engagement) Industry investment via legislated mechanisms Innovative solutions Improved technologies Assessment and risk management	Identify and use support network (e.g. NRM groups, Invasive species CRC) Technology for surveillance Recognition of biosecurity groups Increasing recognition of individual responsibility Research and good planning Good community engagement process = increasing community participation /input; improved understanding /support from Shire Incursion (to prompt action) Clean and green reputation

A = agriculture, apiculture; F = fisheries; H = forestry, nurseries, horticulture

Table A2.2. Insights gained from ‘scenario session’ to explore risk-based decision-making and investment.

Asian Paddle Crabs	<i>P. cinnamomi</i> (dieback)	Starlings	Queensland fruit fly	Wild dogs
<ul style="list-style-type: none"> • Stakeholders engagement is essential — to develop protocols / and so they are aware of protocols (etc.) and kept up-to-date. • Experience within community may be an asset during response. • An ongoing commitment to education / awareness is required by all – industry, government and community. • Cost-sharing agreements between industry and government need to be developed. 	<ul style="list-style-type: none"> • Dieback is a very complex problem. • Community understanding is lacking – more work required here. • Collaboration is very important. • There is no lead agency. • Funding sources are needed. • Royalties from forest operations could be better allocated. • It has been done many times, but nothing changes. 	<ul style="list-style-type: none"> • LHS of curve = IFS; RHS of curve = RBG. • Leadership is essential in a rapid response • Technical expertise is essential in rapid response • Awareness of the incursion-related policies needs to be improved. • Need to be proactive – resources, technical expertise, funding. 	<ul style="list-style-type: none"> • There is no long-term funding vision / strategy — require better / pre-agreed cost-sharing and defined / pre-agreed roles/ responsibilities (there needs to be goodwill between industries). • Policy and procedures are important. • Community awareness is required. 	<ul style="list-style-type: none"> • Roles and responsibilities are not clear, and difficult to agree on. • There is a diversity of opinions. • Enforcing compliance is challenging, which makes response difficult. • The issue is overwhelming / a variable/movable problem. • Inconsistent applications of effort hamper effectiveness of response. • Collaboration is needed.

Appendix 3. Workshop evaluation results

In the week following the workshop, participants were invited to complete an online questionnaire to evaluate the success of the workshop at achieving its anticipated outcomes. A total of 21 people (68%) responded (11 from industry and five each from government and community).

Table A3.1. Quantitative survey responses

Question	Mode	Mean*
The Biosecurity Council's stakeholder workshop improved my understanding of how the 'generalised invasion curve' can guide decisions on shared effort to address biosecurity threats.	6	4.8
The Biosecurity Council's stakeholder workshop improved my understanding of where government will prioritise its biosecurity efforts	6	4.8
The Biosecurity Council's stakeholder workshop improved my understanding of how industry, government and community sectors can cooperate in biosecurity decision-making and joint effort.	5	4.5
I had sufficient opportunity to contribute my views, in relation to the drivers and constraints for my sectors' (i.e. industry, community or government) action on biosecurity	6	5.4
I had sufficient opportunity to contribute my views, in relation to how effort might be balanced across biosecurity threats.	6	5.0
I had sufficient opportunity to contribute my views, in relation to how effort might be balanced across sectors	6	5.0
The workshop enabled a good balance of views across industry, community and government sectors	6	5.0

*where 1 is strongly disagree and 7 is strongly agree

Based on qualitative evaluation responses, every session of the workshop was viewed as informative and/or useful by one or more of the respondents. The key reasons for this were because of the learning / understanding gained from participating in the workshop sessions. Furthermore, the networking opportunities / idea-sharing was also highlighted as an important aspect of the workshop.