NRM Regions Australia Submission
Future actions for the National Biosecurity Strategy
Priority Areas 3 - 6

Background

There is significant alignment between the Australian Government's needs and the regional Natural Resource Management sector's capabilities that can enhance biosecurity research, planning and management and increase community awareness, engagement and participation in environmental biosecurity.

NRM Regions Australia utilised its regional NRM 'infrastructure' to comment on the Australian Government's National Biosecurity Strategy and to develop Actions against Priority Areas 3 - 6 through a survey and online interactive workshop.

Responses to Priority Areas

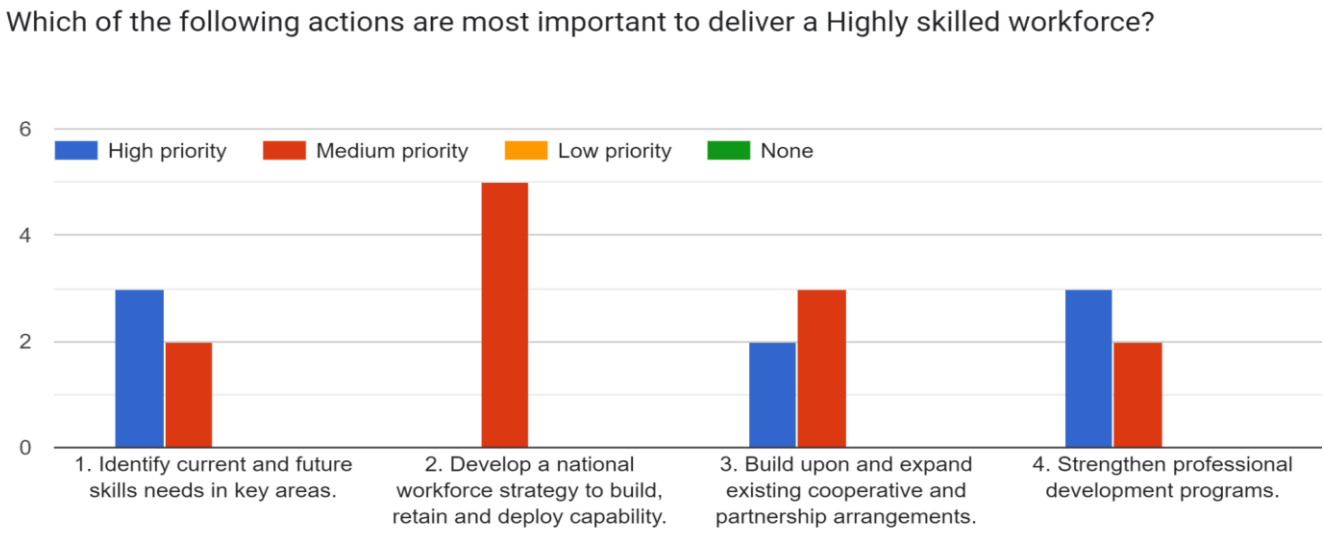
Priority Area 3: Highly skilled workforce

Goal: To develop and sustain a highly skilled workforce to ensure we have the right capability and capacity, in the right place, at the right time.

Which of these initial action areas would you prioritise to deliver a highly skilled workforce?

Please rank the below initial actions with [1] being your highest priority, up to a maximum of [4].

1. Identify current and future skills needs in key areas. 1
2. Develop a national workforce strategy to build, retain and deploy capability. 3
3. Build upon and expand existing cooperative and partnership arrangements.4
4. Strengthen professional development programs. 2



Please list up to 5 practical activities that would help us achieve a highly skilled workforce and the related initial actions.

1. Amend the Pest Control Industry Award to enable consistency in remuneration and conditions that supports retention of employees within the sector.
2. Develop and implement national training standards for items such as surveillance methods, new technologies, aerial marksmen, helicopter pilots to ensure capacity to respond to emergencies

3. Provide recurrent funding for entities addressing endemic biosecurity threats (Regional NRM organisations) to ensure long-term job security for trained biosecurity staff; and resource formalised roles for NRM staff to deliver general and active surveillance.
4. Train and resource local government authorities to meet their responsibilities and establish a robust compliance-based monitoring and evaluation system to ensure they are meeting their biosecurity obligations. Complement this with NRM based coordinator roles within catchment areas to assist with access to funding and information.
5. Develop a framework of approaches to ensure national consistency in training/knowledge, including incorporating community-focused biosecurity responsibilities into pest plant and animal training programs, annual conferences that focus on NRM-related biosecurity with to drive efficiency in work efforts and resources.

All Matters raised in consultation

1. Identify current and future skills needs in key areas.

- Better define and prioritise key skills areas, including defining the parameters of the "workforce"

2. Develop a national workforce strategy to build, retain and deploy capability.

- Amend the Pest Control Industry Award to enable consistency in remuneration and conditions that supports retention of employees within the sector.
- Develop and implement national training standards for items such as surveillance methods, new technologies, aerial marksmen, helicopter pilots to ensure capacity to respond to emergencies
- Longer term job security for trained biosecurity staff which are embedded within NRM bodies; short term contracts do not build long term capacity and retain highly skilled workforce with national capabilities

3. Build upon and expand existing cooperative and partnership arrangements.

- Formalise and resource roles for NRM staff under general and active surveillance
- Teach and resource local councils to meet their responsibilities and hold them accountable to biosecurity outcomes
- Normalise NRM biosecurity engagement from onground catchment scale to national scale

4. Strengthen professional development programs.

- Hold an annual conference focusing on NRM biosecurity risks and responses as they develop
- Build biosecurity responsibilities into pest plant and animal training programs
- Build Coordinator role within catchment areas that work closely with local governments to ensure each council area has access to funding for biosecurity as they work most closely in their areas as first contact for many landholders
- Consistency in training in pest weed and animal management and control at the national level to ensure it incorporates biosecurity aspects to bring about efficiency in work efforts and resources. Eg. combine broad scale deer culling with sampling for disease.

Please list existing strategies/activities that you are aware of that support delivery of a highly skilled workforce.

1. Identify current and future skills needs in key areas.

- Run standardised national programs to sharpen skills in identifying biosecurity risks, as well as specific species identification refitment. This engagement helps with bringing in innovative on-ground operators to share stories of success (or otherwise) in a national forum

- Training and better access to eDNA to reduce costs and increase capability plus a national database for results

2. **Develop a national workforce strategy to build, retain and deploy capability.**
   - Enable peer-to-peer learning to increase the uptake of best-practice methods using COPs

3. **Build upon and expand existing cooperative and partnership arrangements.**
   - Work with existing NRM regions to promote the National Biosecurity Strategy, to encourage full engagement of NRM staff/biosecurity operatives to increase their awareness of NRM assets under threat.

4. **Strengthen professional development programs.**
   - Expand opportunities for currently employed staff to participate in developing strategies (eg. at State level), contribute to case studies (eg. Aus Gov webinar series), and work in communities of practice (eg. NRM Regions Australia and local action groups)

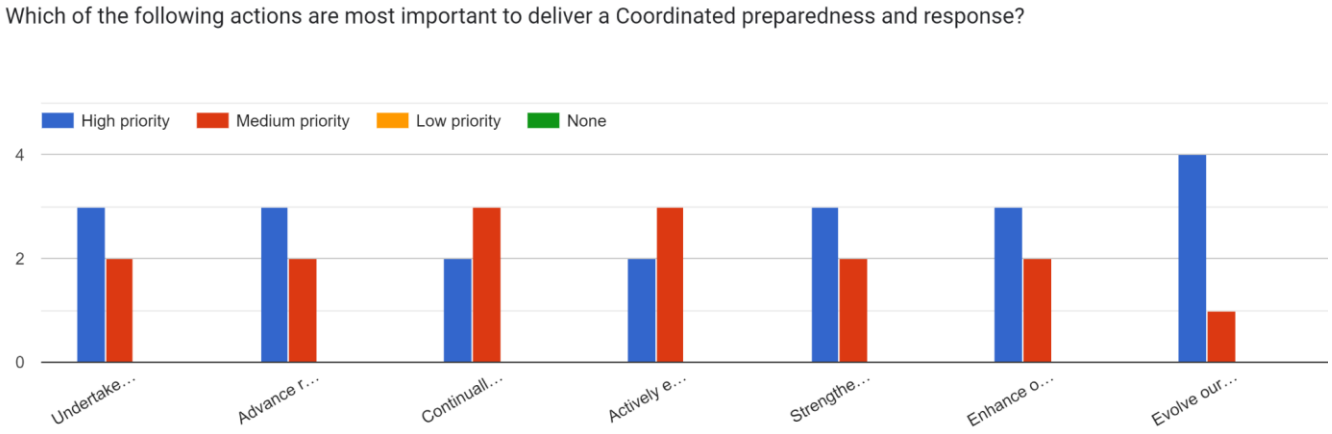
Priority area 4: Coordinated preparedness and response

Goal: We will boost our system's adaptability and its capacity to prevent, detect, manage, respond to and recover from outbreaks.

Which of these initial action areas would you prioritise to deliver coordinated preparedness and response?

Please rank the below initial actions with [1] being your highest priority, up to a maximum of [7].

1. Undertake and promote regular national preparedness exercises.4
2. Advance regionally based planning activities. 1
3. Continually review and update risk information to inform priorities. 7
4. Actively embed continuous learning.6
5. Strengthen traceability arrangements. 5
6. Enhance our national surveillance and early detection arrangements.3
7. Evolve our national information management frameworks. 2



Please list up to 5 practical activities that would help us achieve Coordinated preparedness and response and the related initial actions.

1. Embed the regional NRM network in emergency response planning and implementation to improve strategic responses, and better foresight consideration of how the transition to management might occur.
2. Use an asset-based approach based on biodiversity values to determine priority protection areas to better guide where surveillance and response actions are needed,
3. Use mobile phone data to trace the location of travellers to determine their risks of vectoring diseases, and to targeted messaging to enable behaviour change and risk minimisation.
4. Identify what provisions are needed to increase the use if citizen science for general surveillance and early detection, with a focus on training, expanded used of online reporting platforms, better use of AI to detect relevant species and symptoms of diseases etc.
5. Coordinate all surveillance and response actions through a single high profile federal platform/entity (with appropriate back-end data sharing agreements) to overcome impediments to community engagement caused by the need to navigate through disparate government agencies and networks.

All Matters raised in consultation

1. **Undertake and promote regular national preparedness exercises.**
   - Improve the deployment of National Heritage Trust (NHT) emergency response planning funding within each region, particularly focused on matters of national significance (as listed under EPBC Act). Review these plans across the national and regional perspectives to develop a future strategic program where NRM is embedded into and ready to support a response. This program to be reviewed annually
   - Emergency responses should be reviewed and in particular through the lens of finding 'better' responses to potentially reduce long-term biosecurity impacts eg. Varroa mite outbreak

2. **Advance regionally based planning activities.**
   - Use an asset-based approach to determine priority protection areas to better guide where surveillance and response actions are needed

3. **Continually review and update risk information to inform priorities.**
   - Consider analogous risk management frameworks such as those used for fire or other threats to inform actions

   - Consider risk from the perspective of the value of the NRM asset for incursions within jurisdictions (ie.the impact of redfin perch as a major risk to Mac Perch populations but emergency responses within jurisdictions are difficult to resource).

4. **Actively embed continuous learning.**
   - Hold a national biosecurity conference to align environmental, Traditional Ecological Knowledge and agricultural; Ensure NRM inclusion in existing agricultural and biosecurity conferences
   - Develop protocols for monitoring etc to be delivered within broader projects (ie. EMSA protocols). Link the EMSA protocols to biosecurity targets and incorporate red flags that alert biosecurity managers

5. **Strengthen traceability arrangements.**
   - Use mobile phone data to trace the location of travellers to determine their risks of vectoring diseases. Enable geospatial tracking information to enable risks from travellers to be better determined and for targeted messaging to be delivered.

6. **Enhance our national surveillance and early detection arrangements.**
   - Surveillance and early detection are areas where citizen science could play a key role but will require training and surveillance. eg. uploading pictures on a app or web-based portal working in conjunction with training AI to detect relevant species, symptoms of diseases

7. **Evolve our national information management frameworks**.
   - Compliance needs to be incorporated into preparedness
   - Develop a federal one stop shop for biosecurity - with species sightings/active response guidelines and contact details of responsible person/s or group/s. A major barrier in engagement is the inability of individuals (and some orgs) to navigate through disparate government agencies and networks. A lot of behind the scenes work on data sharing agreements required.

Please list existing strategies/activities that you are aware of that support delivery of coordinated preparedness and response.

1. **Undertake and promote regular national preparedness exercises.**
   - Support “Communities of Practice” from each NRM to deliver a regular presentations for their region

2. **Advance regionally based planning activities.**
   - Consider regional-level planning already completed for regional NRM plans to better inform responses
   - Better integration of planning and monitoring across different stakeholders (i.e. State Emergency Service (Tas) has developed a strategy; Tas Parks and Wildlife Service now includes Biosecurity).
   - Promote and advocate for, and facilitate the application of a standardised biosecurity risk approach for every Threatened Species team. Responsible agent to have an emergency response plan as listed in most recovery plans. Currently, these are lacking and unfunded

3. **Continually review and update risk information to inform priorities.**
   - Use best-practice planning such as from CEBRA or the Harry Butler Institute to undertake more quantitative risk analysis

4. **Actively embed continuous learning.**
   - To understand what training is most important, it is critical to survey target groups. This has been done by different organisations in the past. eg. in surveying biosecurity adoption in wilderness areas what are the barriers to adoption then use this info to inform targeted materials

5. **Strengthen traceability arrangements.**
   - Build the capacity of NLIS to incorporate all domestic livestock (cattle, sheep, pigs, deer, goats).

   - Develop traceability mechanisms for tourists and other travellers.

6. **Enhance our national surveillance and early detection arrangements.**
   - Nil

7. **Evolve our national information management frameworks**.
   - Nil

Priority area 5: Sustainable investment

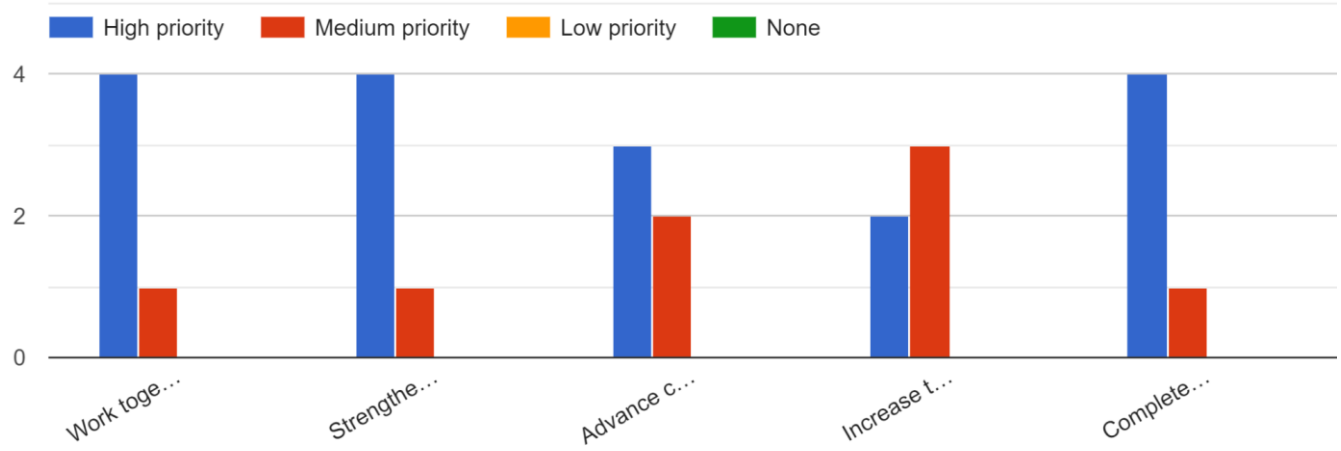
Goal: We will ensure funding and investment is sufficient, co-funded, transparent, targeted to our priorities and sustainable for the long term.

Which of these initial action areas would you prioritise to deliver sustainable investment?

Please rank the below initial actions with [1] being your highest priority, up to a maximum of [5]

1. Work together to identify funding needs and determine priorities. 1
2. Strengthen frameworks to agree and deliver priority investments.4
3. Advance co-funding and investment strategies with stakeholders 2
4. Increase the transparency of biosecurity funding. 5
5. Complete the development of a system performance and evaluation framework. 3

Which of the following actions are most important to deliver a Sustainable investment?



Please list up to 5 practical activities that would help us achieve sustainable investment and the related initial actions.

1. Establish a Biosecurity Future Fund (equivalent to the Future Drought Fund) that provides for recurrent funding of post-border biosecurity needs ranging from general surveillance and monitoring to management of endemic pests weeds and disease.

2. Ensure that environmental investment is equitably balanced against agricultural needs, based on an understanding of the natural capital and economic contribution of natural assets.

3. Better understand the financial implications of managing different risk-creators (tourists,national/international freight forwarders) and their failure to comply with appropriate biosecurity hygiene and apply a levy proportionate to those risks, and fines commensurate with the response needs. This could include a monetary contribution to visiting places of high conservation value to prepare and manage biosecurity incursions in these areas.
4. Strengthen support for local governments authorities to encourage co-design of projects funded both by state and federal funding with a co-contribution from local councils.

5. Establish regionally-based administrative groups (comprising of relevant stakeholders) to oversee the delivery of biosecurity funds (with an ongoing funding commitment).

All Matters raised in consultation

1. **Work together to identify funding needs and determine priorities.**
   - This could include making sure that between environmental and agricultural biosecurity that NRM have a 'fair' share. As agriculture is embedded within economic industries potentially it would have a greater co-contribution
   - Better understand the financial implications of managing risk-creators and apply a levy proportionate to those risks
   - Identify industries reliant on biosecurity management including Australian and international industry

2. **Strengthen frameworks to agree and deliver priority investments.**
   - A monetary contribution to visiting places of high conservation value could be explored to prepare and manage biosecurity incursions in these areas

3. **Advance co-funding and investment strategies with stakeholders**
   - Introduce a small biosecurity levy (separate from land and water levies) to specifically manage biosecurity risks.
   - Strengthen support for local governments this could be a co-design of projects funded both by state and federal funding and co-contribution from local councils
   - Stakeholders for those working in natural environment such as wilderness area tourism operations could pay a price to protecting natural values from biosecurity risks along with individual users
4. **Increase the transparency of biosecurity funding.**
   - Establish a regional groups of relevant stakeholders to administer a specific biosecurity fund (with an ongoing funding commitment).
5. **Complete the development of a system performance and evaluation framework.**
   - Nil

Please list existing strategies/activities that you are aware of that support delivery of sustainable investment.

1. **Work together to identify funding needs and determine priorities.**
   - Existing regional biosecurity plans with community driven and scientifically validated activities
2. **Strengthen frameworks to agree and deliver priority investments.**
   - Build upon existing formal and informal frameworks within the National NRM sector.
3. **Advance co-funding and investment strategies with stakeholders**
   - Complement existing co-funding arrangements between jurisdictional and federal governments, as well as impact investment and corporate activities. Examples include the Tasmania Weeds Action Fund that provides state funding to target eradication/control of priority weed species.

4. **Increase the transparency of biosecurity funding.**
   - Ensure that revenue from fines for people breaking biosecurity laws are used solely for better management of the system.

5. **Complete the development of a system performance and evaluation framework.**

- Consider elements of the Recognised Biosecurity Group funding mechanism in Western Australia for ideas around M&E framework. Alternatively the M&E framework for National Heritage Trust programs may provide a useful exemplar.

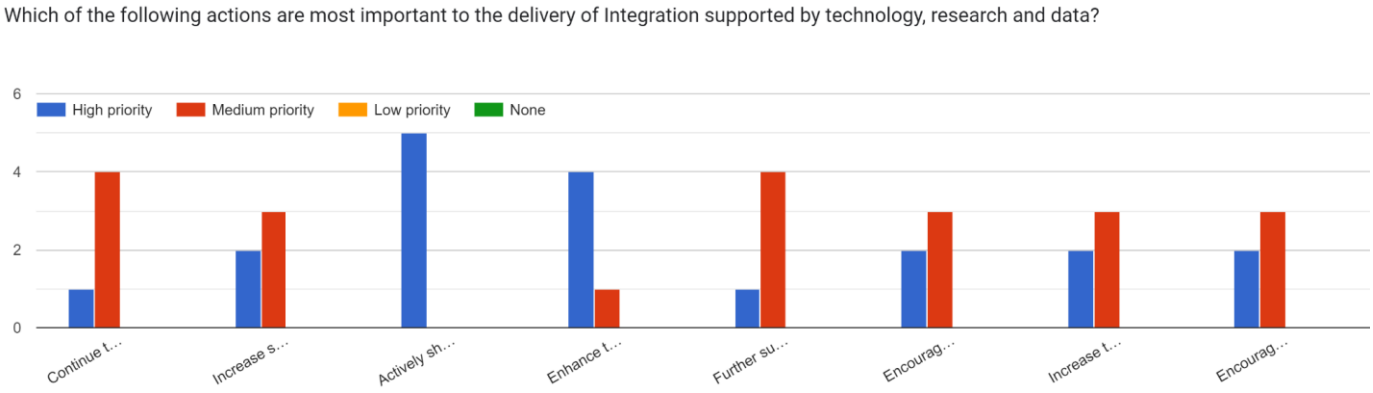
Priority area 6: Integration supported by technology, research and data

Goal: We will create a more connected, efficient and science-based system to facilitate more timely, informed and risk-based decisions.

Which of these initial action areas would you prioritise to deliver integration supported by technology, research and data?

Initial action areas:

1. Continue to invest in and roll out transformative technologies to digitise and automate processes. 8
2. Increase stakeholder coordination to prioritise, drive and deliver national research outcomes. 5
3. Actively share data and research widely 1
4. Enhance the accessibility and use of surveillance and interception data. 2
5. Further support innovations to build science and research capacity. 7
6. Encourage the uptake of existing and emerging technologies, systems, and processes. 4
7. Increase the use of citizen science, Indigenous knowledge and on the ground insights. 3
8. Encourage greater private sector investment in the development and delivery of biosecurity innovations. 6



Please list up to 5 practical activities that would help us achieve integration supported by technology, research and data and the related initial actions.

1. Better Artificial Intelligence combined with auto-scanning/updating platforms, feeding into a national database repository with ability to utilise associated apps to upload and extract data relevant to national, state and regional priorities (with support provided for NRMs to collect and share data).

2. National body to coordinate state and regional stakeholders in line with national priorities and which encourages research to be normalised as part of management programs.
3. National free journal to publish and access peer reviewed research for Australian Biosecurity
4. Ensuring that data is translated into “information” to help guide decision making for end-users.

5. Make R&D tax breaks more lucrative for biosecurity technology companies.

All Matters raised in consultation

1. Continue to invest in and roll out transformative technologies to digitise and automate processes.

- Better AI combined with auto-scanning/updating platforms, feeding into a national database repository with ability to utilise associated apps to upload and extract data relevant to national, state and regional priorities

2. **Increase stakeholder coordination to prioritise, drive and deliver national research outcomes.**
   - National body to coordinate state and regional stakeholders in line with national priorities and research
   - Normalise research as part of management programs

3. **Actively share data and research widely**
   - National free journal to publish and access peer reviewed research for Australian Biosecurity
   - Need to ensure we are taking all research into account. Specifically where it comes to 'wild dogs' - need to ensure all research about dingoes and their positive environmental role is being taken into account - not just research about how to most effectively cull.
   - Regarding the use of the word data: Data is not useful to most local governments and smaller organisations, they need access to information. If the data is shared to advance science that is fine, if it is shared for decision making it should be converted to easily digestible information.

4. **Enhance the accessibility and use of surveillance and interception data.**
   - Further explore the use of AI in pest ID

5. **Further support innovations to build science and research capacity.**
   - Fund an environmental biosecurity CRC to focus on developing new technology
   - Provide better capacity to NRM groups to deliver research in partnership as part of NHT programs etc
   - Harness gene barcoding technology to analyse insect samples - this could include active monitoring stations that then get coded to detect different species rather than individual taxonomy

6. **Encourage the uptake of existing and emerging technologies, systems, and processes.**
   - Support for NRM to collect and share data nationally. Too much is regional or state based
   - Survey the drivers and limiters to technology uptake in the community sector and develop engagement plans to overcome these.
   - National scale citizen science projects
   - R&D in gene drive, biocontrol to eliminate pest species. ....
7. **Increase the use of citizen science, Indigenous knowledge and on the ground insights.**
   - Create a national biosecurity hotline for the general public to contact an NRM region regarding biosecurity and include in every citizen science program to raise awareness - bee counting day, backyard birds, etc by including a what to watch out for in your area
   - Focus adaptive management strategies to account/prepare for range-extending species and those of highest concern that are utilising opportunities provided by climate change impacts
   - Along with Australian of the year awards run ‘Nature Warrior Awards’ with a national scoreboard style sharing of achievements - local, state and national levels to raise awareness and for knowledge sharing

8. **Encourage greater private sector investment in the development and delivery of biosecurity innovations.**
   - Make R&D tax breaks more lucrative for biosecurity tech companies

- Identify linkages for NRM to deliver private sector biosecurity outcomes/outputs outside of RBG capacity
- The Nature Repair Bill, Biodiversity Act (SA), Natural Capital Accounting, Biodiversity credits are all seeking to conserve and improve the natural environment. Investment may flow through ESG type investment, so how to include biosecurity in these frameworks?

Please list existing strategies/activities that you are aware of that support delivery of integration supported by technology, research and data.

1. **Continue to invest in and roll out transformative technologies to digitise and automate processes.**

   Expand the use of technologies like WeedScap, MyPestID, NarVis and look for innovative solutions from outside of the biosecurity sector.
2. **Increase stakeholder coordination to prioritise, drive and deliver national research outcomes.**

   Continue and expand a formal role for Regional NRM Groups to contribute the end-user needs for research outcome
3. **Actively share data and research widely**
   - Expand the use of Communities of Practice to enable information sharing such as the NRM Regions Australia Biosecurity Knowledge Hub
4. **Enhance the accessibility and use of surveillance and interception data.**
   - Expand the use of the WeedScan app and others
   - Expand the use of DNA barcoding - Fruit Fly ID Australia (fruitflyidentification.org.au) related to above looks like they are already doing this with fruit flies
5. **Further support innovations to build science and research capacity.**

   Nil
6. **Encourage the uptake of existing and emerging technologies, systems, and processes.**
   - Weed Scan app together with advice on plant species selection could be useful to stop spread of certain weeds, large proportion of our weeds are escaped ornamentals
7. **Increase the use of citizen science, Indigenous knowledge and on the ground insights.**
   - Add biosecurity warnings to home gardener plant apps based on location
   - Roll out new versions of online-based reporting tools
   - Climate watch trials are starting to do this - a great initiative
8. **Encourage greater private sector investment in the development and delivery of biosecurity innovations.**

   Nil

Feel free to identify any other factors which have not been considered in this survey that you consider will help to achieve the National Biosecurity Strategy's vision and purpose.

- There is significant alignment between the Australian Government's needs and the regional Natural Resource Management sector's capabilities that can enhance biosecurity research, planning and management and increase community awareness, engagement and participation in environmental biosecurity.

- NRM Regions Australia utilised its regional NRM 'infrastructure' to comment on the Australian Government's National Biosecurity Strategy and to develop Actions against Priority Areas 3 - 6 through a survey and online interactive workshop.

- This identified some initiatives that were beyond the initial focus areas detailed under the National Biosecurity Strategy. Key amongst these is the opportunity that the impending revision of jurisdictional legislation (SA, WA) has for alignment with the NBS and other federal policy and legislative instruments.