

Submission to the Department of Agriculture, Water and  
the Environment

# **ATSE SUBMISSION TO THE NATIONAL BIOSECURITY STRATEGY**

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The Australian Academy of Technology and Engineering is a Learned Academy of independent, non-political experts helping Australians understand and use technology to solve complex problems. Bringing together Australia's leading thinkers in applied science, technology and engineering, ATSE provides impartial, practical and evidence-based advice on how to achieve sustainable solutions and advance prosperity.

ATSE welcomes the opportunity to respond to the Department of Agriculture, Water and the Environment's consultation on the draft National Biosecurity Strategy. This submission endorses the Strategy priority areas, considers challenges in building a biosecurity workforce, and proposes the inclusion of different approaches such as One Health and Traditional Knowledge to develop a comprehensive understanding of biosecurity.

## Strategy priority areas

ATSE agrees with the six priority areas for development as identified by the Strategy: *shared biosecurity culture, highly skilled workforce, sustainable investment, stronger partnerships, coordinated preparedness and response, and integration supported by technology, research and data*. The implementation of this Strategy, including sufficient resourcing and cooperation between governments and industry, would support the maintenance of a strong biosecurity system.

ATSE agrees with the proposed actions and suggests further emphasis on the issues of container hygiene and diagnostics, as these represent currently unresolved challenges.

It is noted that the Strategy is supported by other national strategies such as the National Plant Biosecurity Strategy. Biosecurity is also a shared responsibility of the federal, state, and territory governments with integration required between the current Strategy and state-level strategies. Related strategies should be specified (or hyperlinked to the infographic) in the Strategy's appendix that outlines the biosecurity system architecture.

## Developing a strong biosecurity workforce

The priority area of establishing a highly skilled biosecurity workforce will require improved STEM literacy. ATSE is a vocal proponent of establishing a STEM-capable workforce, beginning with programs and interventions to encourage the development of STEM curiosity and skills in young people (Australian Academy of Technology and Engineering, 2022).

Challenges to be addressed include the development of a localised biosecurity workforce so that states and territories have enough trained workers to draw on; and ensuring different parts of the community (beyond biosecurity professionals) are informed and educated to engage in forward alert systems. At a state level, mock incursion exercises can identify weaknesses in the biosecurity system and contribute to training. The development of a national biosecurity workforce strategy, as committed to as part of this priority, will need to consider these aspects.

### **Utilising a One Health approach**

A One Health approach considers the links between the health of humans, animals, plants, and the environment (Australian Centre for International Agricultural Research, 2020). A One Health approach recognises that optimal human population health goes hand in hand with the health of agriculture and ecosystems. One Health requires a transdisciplinary approach to understand all elements of the system.

One Health is suited to understanding threats to biosecurity and their implications across the ecosystem. This approach should be explicitly utilised as part of the Strategy. A One Health approach could be used for systems such as a database that would securely hold large amounts of multidisciplinary and cross-sector data that could be easily accessed by researchers, government departments or industry. We suggest that an additional action to reflect a One Health approach be added under the priority of *integration supported by technology, research and data*.

### **Drawing on Traditional Knowledge**

The Strategy includes the important role of Indigenous Rangers in detecting threats to biosecurity and implementing interventions. There is also acknowledgement of the need to engage with Indigenous communities to ensure their interests are considered, including mitigating impacts to culturally significant sites.

The intention of partnership with Indigenous communities could be strengthened by explicitly committing to seek and draw upon Traditional Knowledge, particularly in environmental management. The Strategy could consider engagement of Māori in New Zealand as a good practice example (Kuru et al., 2021). Actively engaging with Traditional Knowledge could be added as an action under the priority of *shared biosecurity culture*.

## References

- Australian Academy of Technology and Engineering. (2022). *A budget for a technology powered, human driven future*.  
<https://www.aced.edu.au/downloads/Engineer%20Shortages%20and%20Projections%20Dec%202021.pdf>
- Australian Centre for International Agricultural Research. (2020). *One Health*.
- Kuru, R., Marsh, A., & Ganley, B. (2021). Elevating and Recognising Knowledge of Indigenous Peoples to Improve Forest Biosecurity. *Frontiers in Forests and Global Change*, 4.  
<https://doi.org/10.3389/ffgc.2021.719106>