How the National Biosecurity RD&E Strategies Work Together:
A Guide for Researchers & Funders

This document brings together Australia's four national biosecurity research, development and extension (RD&E) strategies to help researchers focus on key priorities and funders to invest strategically.

The strategies highlight national priority areas for investment in RD&E to help manage biosecurity risks and challenges.

You can use this advice to:

- understand how the national RD&E strategies work together
- show how your project contributes to the strategies and priority areas (researchers)
- work with partners to align projects to national priorities (researchers)
- align your program to the priorities and strategies (e.g. include priorities in your grant criteria) (funding bodies, program design).

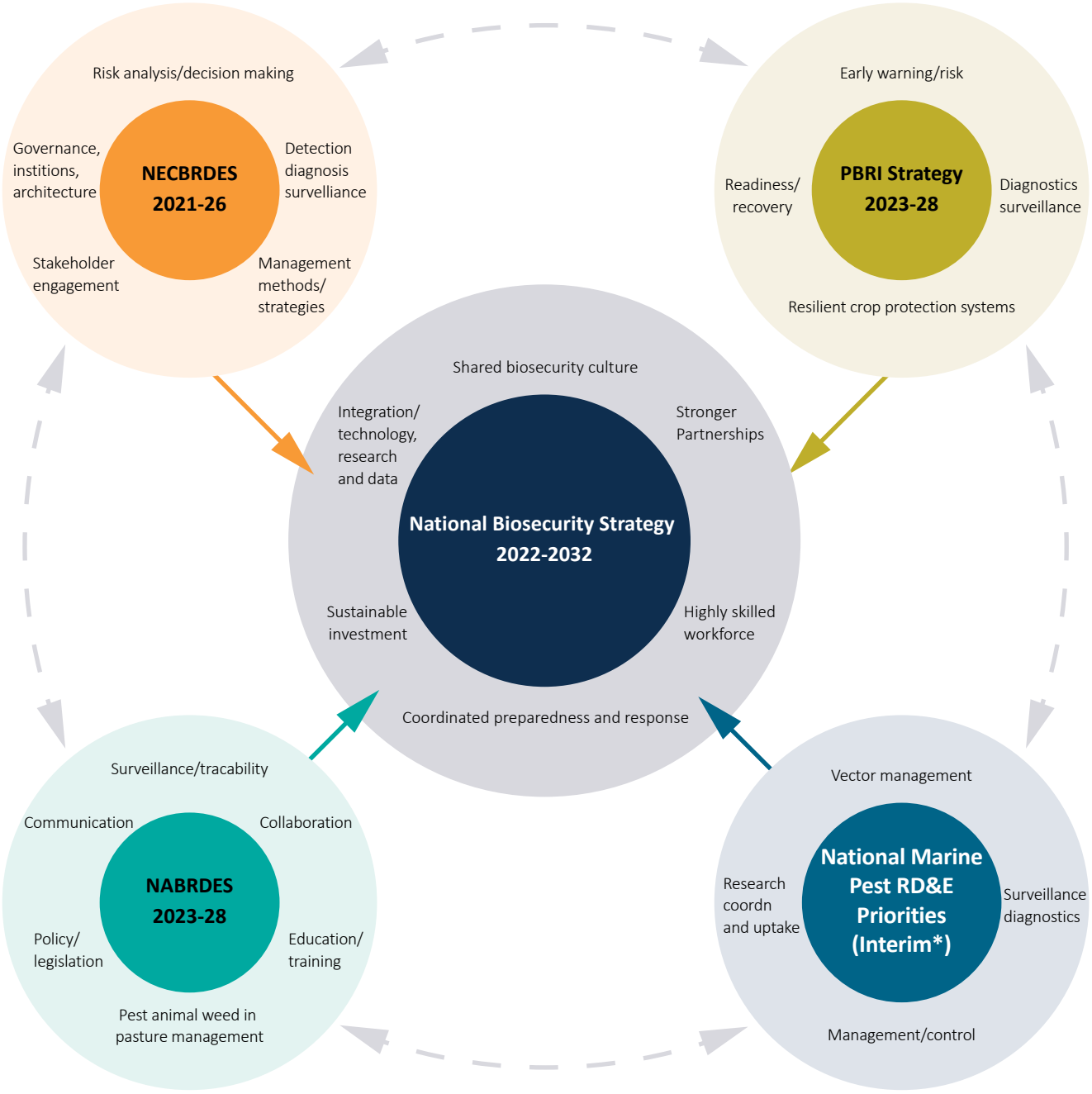
National Biosecurity RD&E Strategies

- Animal Biosecurity RD&E Strategy (NABRDES) 2023–2028
- Environmental and Community Biosecurity RD&E Strategy 2021–2026
- Marine Pest Research and Development Priorities 2013–2023
- Plant Biosecurity Research Initiative (PBRI) Strategy 2023–2028

These strategies align with the National Biosecurity Strategy 2022–2032 and were shaped through input from industry, NGOs, governments and community groups.

Each of the biosecurity RD&E strategies are aligned to the strategy through shared priority areas. Figure 1 demonstrates where this alignment occurs across the RD&E strategies and shows the five broad priority areas that all the strategies focus on.

Figure 1 Alignment of biosecurity strategies and priorities



Note: The marine strategy is under review

The 5 priority areas are:

1. **Risk Assessment and Preparedness** – Early warnings, decision tools
2. **Surveillance, Diagnostics, Detection** – Finding, diagnosing, and tracking pests/diseases
3. **Management and Response** – Controlling and recovering from outbreaks
4. **Collaboration and Knowledge Sharing** – Training, communication, and engagement
5. **Governance and Policy** – Improving rules, systems, and decision-making

Cross-sector approach

Working across sectors has many benefits, including improved:

- use of knowledge and funding
- focus of national efforts through coordination
- co-investment and collaboration
- shared responsibility of keeping Australia safe from biosecurity threats.

Growing biosecurity challenges

As described in the *National Biosecurity Strategy 2022–2032* and RD&E strategies, managing biosecurity risks is becoming more complicated as we face compounding challenges. RD&E is key to preventing and responding to risks.

These challenges include:

Changing or increasing risks

Climate change, trade, and global events increase risks, affecting farms, industries, nature, and communities.

Biodiversity decline

Pests and diseases are a major cause of biodiversity decline.

People power

There are not enough skilled people across the country to meet the growing need to manage risks.

Investing in biosecurity

Land and aquatic manager needs

Land and aquatic managers need support, guidance and practical tools to handle risks.

Advances in technology

Tools like artificial intelligence, sensors and data platforms help manage pests and diseases better.

Economic growth and stability

Strong biosecurity helps farmers succeed, protects food supply and keeps trade open. It also protects nature and cultural heritage.

Case studies

These case studies provide examples of research projects contributing to the strategies and priorities.

Case study 1 Xylella Preparedness

Xylella is a major global plant disease. It affects over 700 plant species. If it enters Australia, it could cost the grape and wine industry $7.9 billion over 50 years.

A national action plan, diagnostics, and vector ID research are already underway, funded by the department, Hort Innovation and Wine Australia. More work on management tools is planned.

Strategies addressed

- National Biosecurity Strategy 2022–2032
- Plant Biosecurity Research Initiative (PBRI) Strategy 2023–2028

Priorities addressed

- Risk assessment and preparedness
- Surveillance, diagnostics and detection

Case study 2 Pheromone Traps for northern Pacific seastar

The Northern Pacific seastar (NPS) is an established marine pest that is listed on the Australian Priority Marine Pest List. This pest threatens native marine species and fisheries. Scientists are isolating pheromones to trap it – a first in marine biosecurity.

Strategies addressed

- Environmental and Community Biosecurity RD&E Strategy (NECBRDES) 2021-2026
- Marine Pest Research and Development Priorities 2013–2023
- National Biosecurity Strategy 2022–2032

Priorities addressed

- Surveillance, diagnostics and detection
- Management and response

Case study 3 Biosecurity Alerts System – Atlas of Living Australia

The Atlas of Living Australia (ALA) now sends real-time alerts on invasive species reports to agencies through the Biosecurity Alerts Service. Over 1,200 alerts have been issued since 2020, covering more than 1,800 species such as the Asian shore crab and Red imported fire ants, supporting early intervention efforts.

Strategies addressed

- Environmental and Community Biosecurity RD&E Strategy (NECBRDES) 2021–2026
- Marine Pest Research and Development Priorities 2013–2023
- National Biosecurity Strategy 2022–2032
- Plant Biosecurity Research Initiative (PBRI) Strategy 2023–2028
- Animal Biosecurity RD&E Strategy (NABRDES) 2023–2028

Priorities addressed

- Surveillance, diagnostics and detection

Case study 4 Behavioural Insights for On-Farm Biosecurity

AgriFutures conducted a study Farm-level adoption of biosecurity management – behavioural analysis. The report looked at why biosecurity practices vary across farms. Key factors include trust, sector norms, clarity of messaging, skills, technology access and personal wellbeing. The report offers a framework for improving uptake of biosecurity practices.

Strategies addressed

- Environmental and Community Biosecurity RD&E Strategy (NECBRDES) 2021–2026
- Plant Biosecurity Research Initiative (PBRI) Strategy 2023–2028
- Animal Biosecurity RD&E Strategy (NABRDES) 2023–2028
- National Biosecurity Strategy 2022–2032

Priorities addressed

- Risk Assessment and preparedness
- Collaboration and knowledge sharing
- Governance and policy

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