



Biosecurity @ BHI

Box Hill Institute



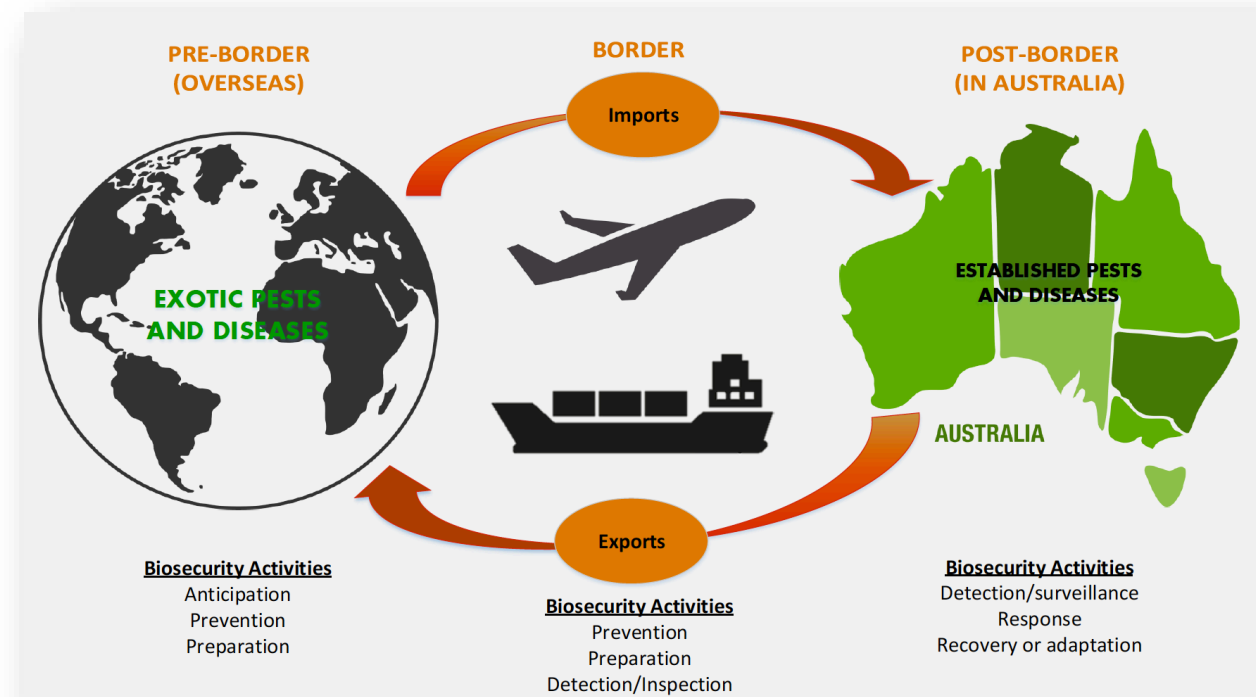
What is Biosecurity?

- ✓ What is the biosecurity continuum?
- ✓ Pre-border
- ✓ Border
- ✓ Post-border

Biosecurity Continuum

The Biosecurity Continuum covers: Pre-border, Border, and Post-border

- **Biosecurity activities pre-border** (or offshore):
 - Reduce the risks posed by introductions from other countries
- **Biosecurity activities at the border**
 - Stop pests from entering a particular region
- **Biosecurity activities post-border** (or onshore or within a region):
 - aim of finding and eradicating or managing risk organisms that have crossed the border and established in the region



Risk Management at Borders

Protection through Exclusion, Eradication & Control

Imports

- Vessels
- Passengers
- Mail
- Air
- Sea

Pre-Border

Identify and monitor exotic pest threats
Managing quarantine risk offshore
Undertake offshore R&D where pests are endemic

Border

Implementing effective quarantine for people machinery plants and goods
Establishing trapping and surveillance networks for pests that may bypass checkpoints

Post-Border

Minimising risk of regional and property entry and establishment
Preparing for timely detection, minimize spread and rapid response to emergency pests.

Pre-border

- Involvement in international biosecurity initiatives
- Monitoring of international hazards
- Contribute to international research
- Reporting of on-board suspected infectious disease or death prior to arrival

The screenshot shows the 'ANIMALS' section of the European Commission website. The main heading is 'Animal Disease Notification System (ADNS)'. Below it, there is a 'What is ADNS?' section explaining that ADNS is a notification system designed to register and document the evolution of important infectious animal diseases. A sidebar on the left contains navigation links for 'ANIMAL DISEASES', 'Control Measures', 'Surveillance', 'EU Financial Contribution', 'Notification System', 'Emergency Team', 'Traceability of Animals', and 'Reference Laboratories'. A 'Share' button and 'RELATED LINKS' section are also visible.

The infographic is titled '6TH STRATEGIC PLAN 2016-2020' and is from the 'OIE WORLD ORGANISATION FOR ANIMAL HEALTH'. It outlines four main strategic areas:

- Reinforcing trust through TRANSPARENCY and communication:** Focuses on spreading scientific and technical knowledge, practicing technical veterinary expertise, and improving governance.
- Improving animal health RISK and welfare by appropriate MANAGEMENT:** Focuses on developing science-based standards, incorporating social and environmental sciences, and taking into account new technologies.
- Supporting and strengthening VETERINARY SERVICES at the front lines of public health:** Focuses on addressing human-animal health emergencies, enhancing global governance, and improving capacities of veterinary services.
- Excellence:** Focuses on quality, objectivity, knowledge transfer, and new technologies.
- Engagement:** Focuses on expert groups, reference centres, specialist commissions, and diversity and selection.
- Management:** Focuses on roles and responsibilities, regional adaptations, financial resources, and partnerships.

This is a fact sheet from the Australian Government Department of Health regarding the Biosecurity Act 2015. It provides instructions on how to report an illness or death on board an international vessel or aircraft. Key points include:

- Reporting ill travellers or deaths:** Passengers showing symptoms of infectious disease or a death on board must be reported to a Biosecurity Officer.
- Why report ill travellers or death on board?** Specific health risks are posed by international travellers arriving in Australia, and an outbreak could spread to other parts of the world.
- What will happen if we report ill travellers or deaths on board?** A Biosecurity Officer may board the vessel to assess the situation and request additional information.
- Consequences of non-reporting:** Delays may occur if illnesses or deaths are not reported to Biosecurity Officers before arrival in Australia.

Pre-border Activities

Offshore biosecurity activities are focused on:

- Minimising the likelihood of exotic pests reaching our border and entering Australia, while facilitating the movement of people and goods across the border

Offshore activities are primarily the responsibility of the **Australian Government**



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Biosecurity skills program aims to build capacity in East Africa and Australia

A plant biosecurity skills program will help East African farmers and policymakers address regional plant pest and disease issues and facilitate intra-regional trade.



Border control

- Long-term trends of the number of passengers and amount of cargo arriving at our borders are increasing
- Increasingly complex quarantine
- Point of entry surveillance increasingly complex

Daily flights 2000s



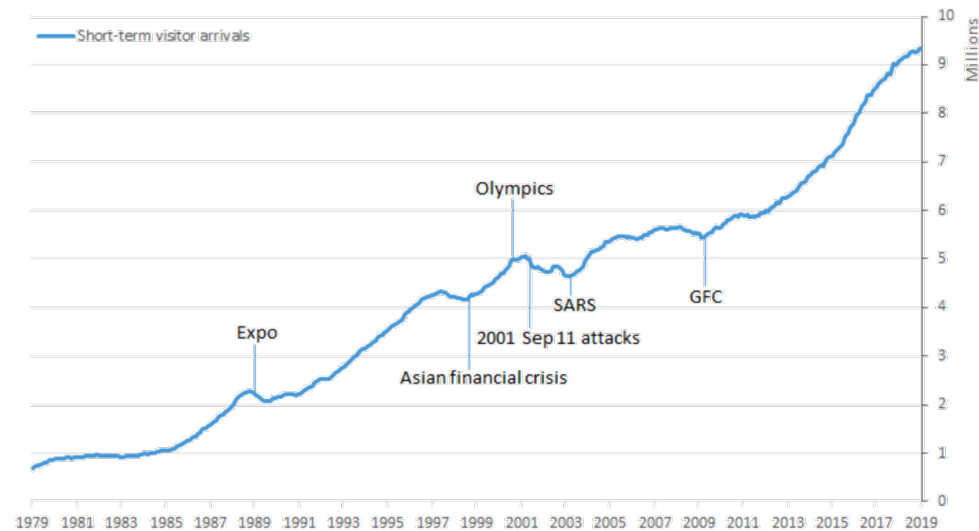
Long term trends for international travelers and goods arriving by ship are increasing



Border control

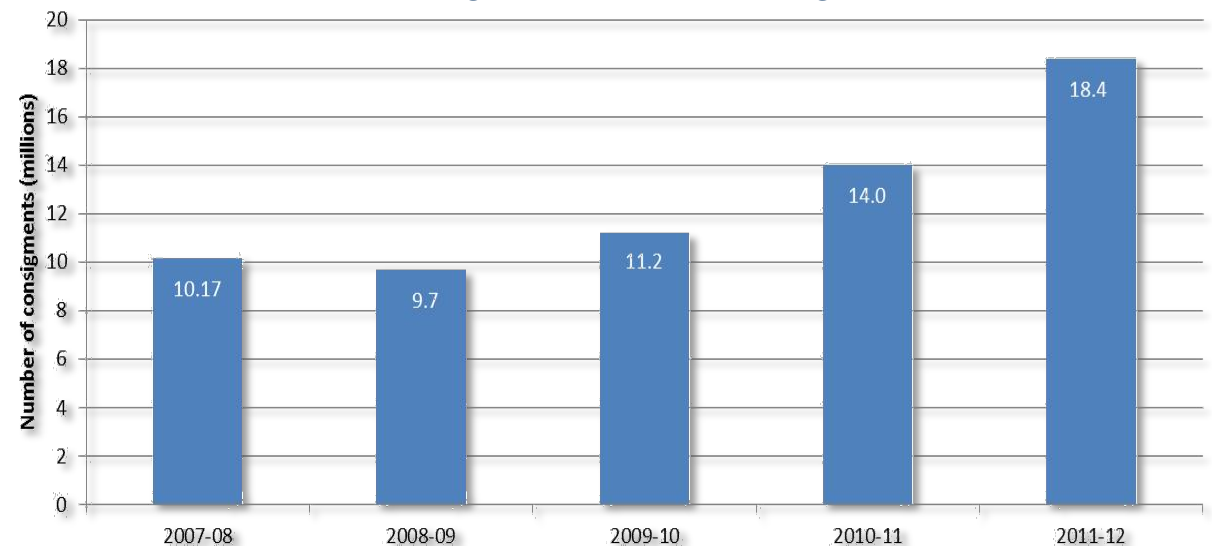
- Long-term trends of the number of passengers and amount of cargo arriving at our borders are increasing
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1.1 Short-term visitor arrivals, Australia — June 1979 to June 2019 — year ending



Source ABS

Goods arriving – annual consignments



Border: Quarantine Treatments

Border control is usually overseen by national trade, agricultural or environmental agencies that provide inspection and oversight of the five different incoming sources of people and goods:

- Aircraft
- Cargo
- Mail
- Passengers and crew
- Sea vessels

International goods are screened on arrival for biosecurity threats



Border: Spotting Pests

Training border inspectors to spot pests

- Entomologists and plant pathologists provide risk mitigation advice and technical training to:
 - DAWE officers and external industry representatives who play a key role in the biosecurity continuum each year
- **Technical experts provided expertise:**
 - on the design of the new post-entry quarantine facility being in Victoria (PEQ - Mickleham)
 - new diagnostic systems using next-generation DNA sequencing
 - on using GPS and Google maps to plot potential mosquito breeding sites

Biosecurity sniffer dogs are used at all international ports of entry and in many other biosecurity risk points.



Watch our biosecurity dogs in action:
<https://www.youtube.com/watch?v=WTKHAmazrdM&t=10s>

Border: Quarantine Treatments

The Department of Agriculture prescribes many treatments and the treatment required will depend on:

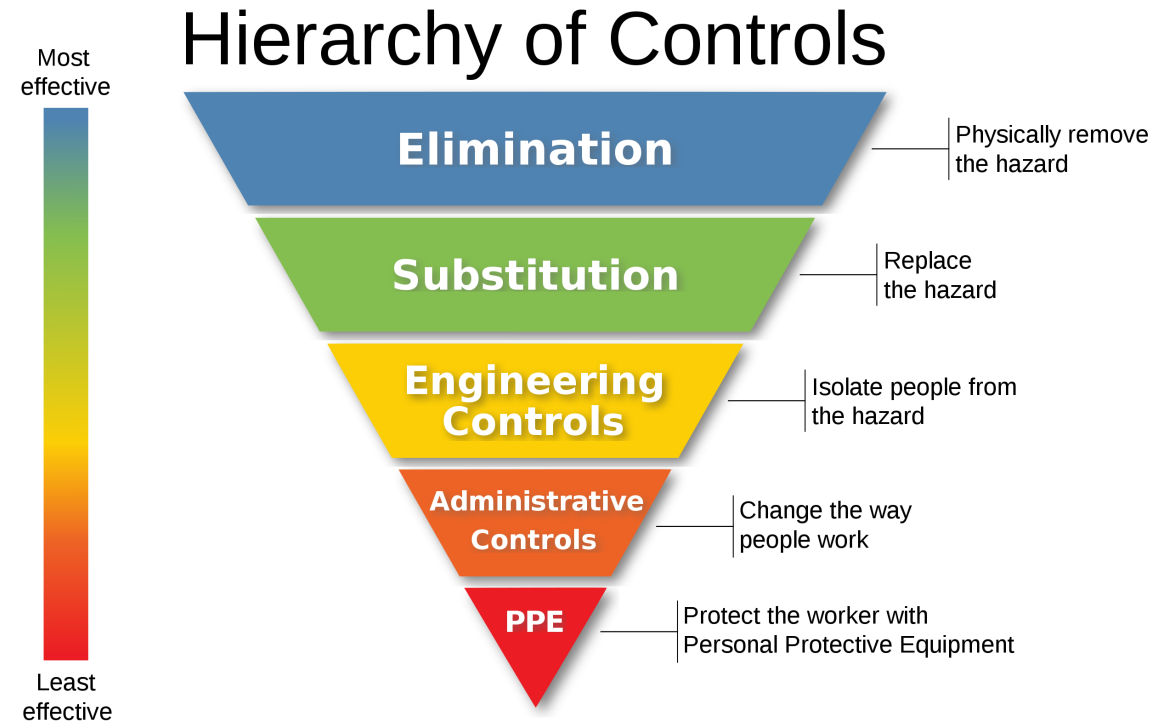
- ✓ **The nature of the item subject to quarantine**
 - ✓ **Its end-use and the type of quarantine risk**
-
- Washing and cleaning
 - Methyl bromide fumigation
 - Heat
 - Autoclaving
 - Gamma irradiation (Gamma rays have an extremely short wavelength causing breakdown of DNA and RNA)
 - Incineration
 - Export (Importer may choose to have the items exported to another country within 30 days)



Post Border - Type of Action

Once a biosecurity breach has occurred and a pest or disease has entered the country, government must decide whether to:

- Eradicate the pest
- Manage the pest
- Suppress or contain the pest
- Undertake surveillance
- Do nothing



Post Border: We need to work together!



Biosecurity Matters aims to educate the community on:

- what biosecurity is
- why it matters
- what the public's role is in maintaining Australia's biosecurity system

Public biosecurity awareness materials

[Biosecurity Matters - Department of Agriculture](#)



[Don't be a Jeff - YouTube](#)

Post-Border

- Multi-government approach - The Intergovernmental Agreement on Biosecurity to strengthen the collaborative approach between the Commonwealth of Australia and state and territory governments
- Emergency preparedness
- Surveillance – early detection for effective response
- Regional controls & response plans
- Farm biosecurity practice

Biosecurity Continuum Example: Plant Biosecurity

Pre-Border

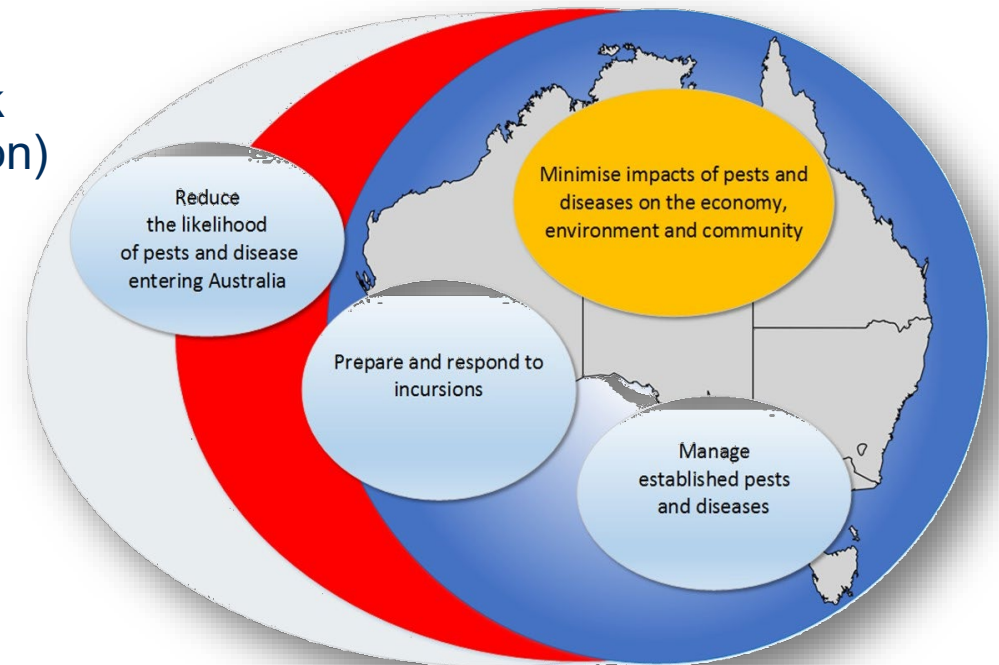
(Primary responsibility – Department of Agriculture)

- Risk analysis and import approvals (including import risk analysis and policy, risk management and communication)
- Export market access negotiations
- Offshore assessment, audit and verification
- International standards development
- Capacity building in overseas countries
- Gathering global pest intelligence



At the border

(Primary responsibility – Dep Agriculture)



Biosecurity Continuum Example: Plant Biosecurity

At the Border

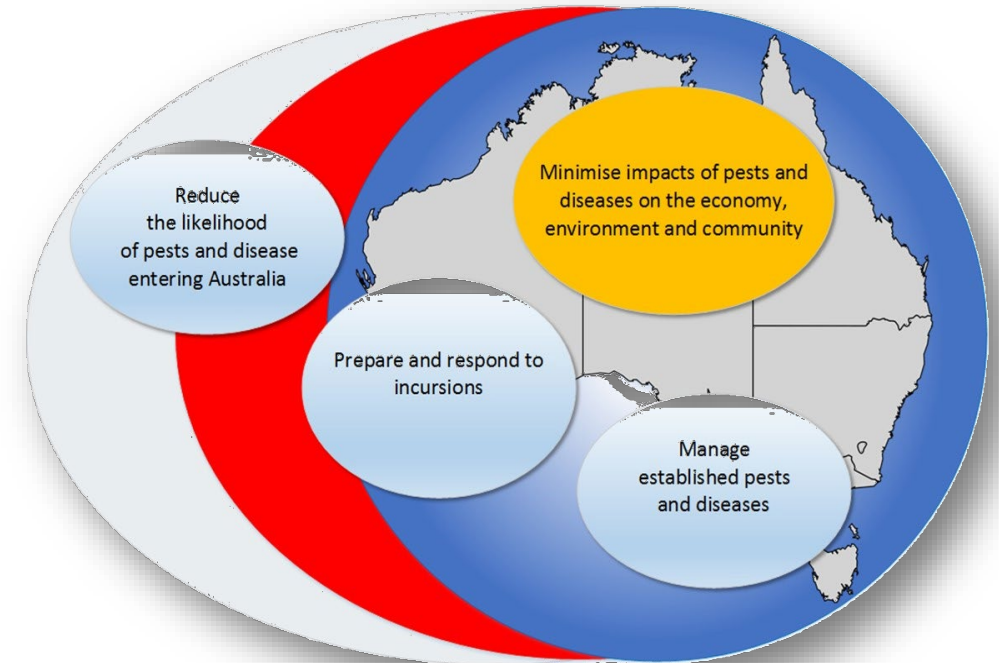
(Primary responsibility – Department of Agriculture)

- Implement of risk management system
- Policy implementation
- Education and awareness
- Inspection and monitoring
- Enforcement and compliance



Post-Border

(Primary responsibility – DAWE, PHA, Plant Industries and Producers)



Biosecurity Continuum Example: Plant Biosecurity

Post-Border

(Primary responsibility – DAWE, PHA, Plant Industries and Producers)

- Emergency preparedness
- Practice/simulations
- Education and awareness
- Monitoring and surveillance
- National coordination and response to pest/disease incursions
- Domestic quarantine
- Pest/disease management

