

The definition of biosecurity and whose responsibility is it to deal with pest plants and animals

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What is biosecurity?

Biosecurity is about protecting Australia's people, animals, plants, and environment from pests and diseases. It includes trying to prevent new pests and diseases from arriving in the country and helping to control outbreaks when they do occur. While a variety of systems, checks and balances are in place to ensure biosecurity and minimise the biosecurity risks in the country, preventing pest, disease and weed incursions in the first place, remains a national priority¹.

Why should we be concerned about biosecurity?

Australia is known for its biodiversity and large number of endemic species; for example, 87% of Australia's 316 terrestrial mammal species are endemic as well as 93% of all Australian reptiles and 94% of amphibians².

Protecting our threatened species against introduced invasive species has become an urgent priority over the years. According to The National Biosecurity Strategy, released on 8th February 2024, \$390 Billion worth of damage has been caused by invasive species over the past two years³.

What is an invasive species?

An invasive species is a plant, animal or an organism that is not native to specific environment, economy or human health. Invasive species affect native species by spreading aggressively and outcompeting or disrupting native species. They consume resources the native species rely on, spread diseases and alter habitat.

Introduction of invasive species to the country

Australia has a long history of non-native species introductions, which includes over 27,000 plant species and 650 vertebrate species⁴ many of which have established wild populations across mainland Australia and become problems. These pest animals and plants were introduced to the island in many ways. Animals were brought to the island by early European settlers for hunting, food, to control other native species, transport and physical labour⁵. These pest animals cause various problems in the environment including threatening the biodiversity through predation, competing with native species, transmitting diseases, degrading habitat by grazing and trampling on land, disrupting existing eco systems and affecting agriculture and livestock.



Red Fox is considered as a pest

¹ Protect your animals and plants from pests and diseases - DAFF

² Woinarski, J. C. Z., Burbidge, A. A. and Harrison, P. L. (2015) 'Ongoing unravelling of a continental fauna: Decline and extinction of Australian mammals since European settlement' Proceedings of the National Academy of Sciences - PNAS, 112(15), pp. 4531-4540

³ Feature Article on Protection of Native Species: Overview of Legislation and wants around protecting vulnerable to threatened species - Shweta Karthik - HOPE researcher Qld

⁴ Whisson, D & Rendall, A & Gibson, M. (2020). History of Australian plant and vertebrate pests: introductions and impacts. Victorian Naturalist. 137. 162-169. cited in Review of Pest Animals and Plants in Australia by Lizzie Pennington, Hope Researcher

⁵ Animals brought for these purposes include pigs, horses, deer, European rabbit, cane toad, foxes, rats and mice, goats, camels

Pest plants were also introduced to the country for food and for aesthetic purposes. Pest plants are a larger category, with almost 3,000 non-native species establishing populations in the wild ⁶. Pest plants negatively affect the native plants by competing with native plants for space, nutrients, moisture and sunlight. In addition, they alter hydrological cycles, transform eco systems and fire regimes.



European Hare an animal introduced by European Settlers now considered as a pest

The laws and authorities that regulate biosecurity in Australia

Biosecurity Act 2015(hereinafter BSA)

The Biosecurity Act 2015 is one of the main pieces of legislation that address the issues relating to biosecurity in Australia. The Biosecurity Act 2015 (the Biosecurity Act) explains how to manage biosecurity threats to plants, animals and human health in Australia and its external territories.

The Biosecurity Act can be considered as a comprehensively drafted legislation. It addresses a wide range of areas including regulation and monitoring of goods brought to the Australian territory by means of air crafts and ships⁷ for biosecurity risks, monitoring persons entering the country on board air crafts or vessels⁸, regulation of aircrafts and ships entering the territory⁹, ship sanitation and ballast water¹⁰ management¹¹, and enforcement of the aforementioned laws through monitoring, investigation and injunctions¹²

The BSA emphasises shared responsibility. Many biosecurity management functions are administered by the Commonwealth, but state and territory governments, industry and business sector and the community also have a significant role to play. The intention of the Act is for all stakeholders to work together and to ensure Australia will have an efficient and sustainable biosecurity system in the future.

Environmental Protection and Biodiversity Conservation Act (EPBC Act) 1999

The main purpose of the act is to protect identified environment and cultural areas by assessing environment impacts of projects and decide whether to approve them and control how plants and animals including specimens and products move in and out of Australia. The act puts in place a streamlined environmental assessment and approvals process and establishes an integrated regime for biodiversity conservation and the management of important protected areas¹³.



African Lovegrass is considered as a pest plant. It can spread rapidly and cause dense infestation.

⁶ Dodd et al. 2015. Cited in Review of Pest Animals and Plants in Australia by Lizzie Pennington, Hope Researcher

⁷ Chapter 3 Biosecurity Act of 2015

⁸ Section 196,196A,

⁹ Section 191 Biosecurity Act 2015

¹⁰Ballast water is water taken on board a ship to provide stability and improve manoeuvrability during a voyage

¹¹ Chapter 5 Biosecurity Act 2015

¹² Chapter 9 Ibid

¹³ https://auspost.com.au/content/dam/auspost_corp/media/documents/epbc-overview.pdf

Threat Abatement Plans under EPBC Act

Threat abatement plans is a system introduced and put in place through this act for the purpose of ensuring biosecurity within the Australian territory.

It plans and establishes a national framework to guide and coordinate Australian response to key threatening processes¹⁴. According to the act any member in the community can nominate a key threatening process¹⁵ and it would be evaluated by a scientific committee¹⁶ and once the nominated key threatening process is evaluated and if the committee considers it necessary a threat abatement plan will be prepared. Ideas of community members will be obtained on the plan before it is put in place¹⁷. The scientific committee will also be consulted prior to setting up a threat abatement plan¹⁸. Once the plan is in place it will be implemented by the government agencies and the minister is under the obligation to publicize the threat abatement plan once it is set up¹⁹.

Biosecurity Strategy (NBS) 2022

The Biosecurity Strategy was endorsed by all government ministers and publicly released on 9th August 2022. Its purpose is to provide a strategic roadmap to guide the evolution of Australia's biosecurity system to face the increasingly complex biosecurity risks facing Australia²⁰.

Several strengths can be seen in the strategy as follows:

- Responsibility of biosecurity of the country is not placed on one party. It is a shared responsibility of all stakeholders²¹.
- Inclusivity of indigenous knowledge incorporating indigenous knowledge and practices²².
- Clear governance framework, the strategy establishes a National Biosecurity Committee and clear accountability mechanisms and ensures strategy objectives are implemented effectively and consistently statewide.

However, several weaknesses can also be identified in the strategy.

- Lack of funding commitment or clear financial roadmap in the strategy. It is noted that technological advancement and community engagement programs cannot be implemented without proper financing²³
- Limited detail on community engagement. The strategy lacks specific plans or mechanisms for public engagement.
- Over reliance on voluntary measures. The strategy places a significant emphasis on voluntary and shared responsibility. However, this system may not be sufficient to address high risk behaviour or ensure consistent adherence to biosecurity protocols.

¹⁴ Key threatening process

A key threatening process is defined under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) as a process that threatens or may threaten the survival, abundance, or evolutionary development of a native species or ecological community. These processes can include actions that adversely affect two or more listed threatened species or ecological communities.

¹⁵ Section 191 of the EPBC Act 1999

¹⁶ Section 183-189 of Ibid

¹⁷ Section 275 Ibid

¹⁸ Section 274 Ibid

¹⁹ Section 278 Ibid

²⁰ National Biosecurity Strategy Implementation Plan 2022-2032

²¹ Section 2.1 Biosecurity Strategy 2022

²² Section 5.4 Biosecurity Strategy 2022

²³ Section 7.2 Biosecurity Strategy 2022

It is to be noted that the strategy has very correctly identified and stresses that the biosecurity is a shared responsibility and that success requires collaboration with a broad range of stakeholders to develop, implement and monitor action plans put forward by the strategy.

Who has the responsibility to deal with pest plants and animals?

As already mentioned, the responsibility to ensure the biosecurity of the commonwealth and deal with pest plant and animals is shared between several stakeholders. The responsibility is shared between the commonwealth, state and territory governments, industrial and business sector and the community.

Responsibility of the Commonwealth in relation to biosecurity in Australia

The responsibility of the Commonwealth is mainly to draft laws and regulations to create an overall regulatory mechanism to ensure biosecurity and monitor implementation of the said laws and regulations.

The implementation and enforcement of the laws is done through several key government authorities.

- **Department of Health**

The Department of Health in Australia is responsible for administering parts of the Biosecurity Act 2015 in relation to human health. This includes setting policy for other agencies to carry out at Australia's international border. The department works with other agencies to reduce the risk of harmful human diseases entering and leaving Australia²⁴.

- **Department of Agriculture, Fisheries and Forestry (DAFF)**

The Department of Agriculture, Fisheries and Forestry administers a range of Australian Government legislation to manage our biosecurity system, and regulate exports and imports certification. As a government regulator, the department monitors compliance with import and export legislation. Where required, the department will take action to address non-compliance and enforce laws where this is required. The department also acts and collaborates with other stakeholders to implement the National Biosecurity Strategy.²⁵

Integrated Pest Management (IPM)

Integrated Pest Management (IPM) is a multifaceted approach that prioritises biological and cultural methods for managing pests in commercial agriculture, using chemicals only as a final option. This is a method followed by the Department of Agriculture, Fisheries and Forestry during its production process and promotes the method to other private agricultural producers²⁶

Rather than relying solely on chemical pesticides, IPM uses various strategies and practices to keep pest numbers at manageable levels. The approach starts with monitoring and identifying pests accurately to determine if and when intervention is necessary. Then, the least harmful methods are employed to control the pest issue, prioritising prevention and long-term solutions whenever possible.

- **Department of Climate Change, Energy, Environment and Water (DCCEEW)**

DCCEEW acts to prevent and respond to the arrival and spread of harmful pests and diseases that disrupt the unique natural environment of Australia.

²⁴ [Our role in biosecurity | Australian Government Department of Health, Disability and Ageing](#)

²⁵ [Home - DAFF](#)

²⁶ [Integrated pest and disease management \(IPDM\) - DAFF](#)

Other Responsibilities of the Commonwealth

Apart from the above the commonwealth also provides necessary finances for research and development in relation to biosecurity, to increase community engagement, education and awareness of biosecurity risks.

Education of the community is considered as an important responsibility by the Commonwealth and for that purpose the Biosecurity Act Interactive tool has been set up for the community to get themselves educated on the Biosecurity Act.

The approach of the Commonwealth to compliance assumes that most people will comply, or try to comply, with their obligations. Raising awareness regarding biosecurity risks and the relevant existing and new law and policy in the community is essential to optimise this approach.

Responsibility of the state and territorial governments in relation to biosecurity in Australia

The Biosecurity Act 2015 provides necessary power for each state or territory to deal with invasive or pest plants and animals. Main function of each local government is to manage invasive plants and animals in their local government area. Each state can have its own legislation in relation to biosecurity within its territory and enforce the same. States and territories are given the authority to monitor and enforce the laws under the Biosecurity Act 2015 or any act in relation to biosecurity that has been put in place by the specific territory or the state²⁷.

Each local government is required to have in place a biosecurity plan for invasive biosecurity matter within its local government area. Territorial Governments can have their own biosecurity laws²⁸ and can issue biosecurity orders such as emergency orders and movement control orders and issuing fines and initiating prosecutions or injunctions.

Another important function of Local governments is to promote compliance with the law by increasing awareness of invasive species.

Responsibility of the Industry/business sector in relation of biosecurity in Australia

Industry and business sector must ensure that they comply with the Commonwealth and territorial laws and policies when conducting business. If the business is connected to international travel or import of goods to the country it is essential that all the rules and regulations are followed and approvals obtained. The business should be conducted in accordance with the laws even if it means that the profit from the business becomes less due to following the various processes and approvals. There should be an understanding that in the long run following the rules and regulations will make the business sustainable, benefit the community and the country as a whole.

Responsibility of the community in relation of biosecurity in Australia

The community shoulders a major part of the responsibility in ensuring the biosecurity of Australia. Despite all the laws put in place by the Commonwealth and the state or territorial governments unless the community at large complies with the laws it is not possible to ensure biosecurity within the territory. As already mentioned, the Biosecurity act relies highly on voluntary compliance. Once the biosecurity has been breached by bringing a non-native or invasive plant, animal or an organism to the country and released into the environment the damage caused cannot be quantified and any punishment given to the wrongdoer may not be sufficient as the effects of the breach may be long term or irreversible. Hence, it is very important that the community is in clear understanding of the situation with regard to biosecurity of each state and the country as a whole.

²⁷ Sections 8,172, 268, 547, 549, 486, 642 etc of the Biosecurity Act 2015

²⁸ Biosecurity Act 2014 of Queensland and Biosecurity Act of 2025 of South Australia

Members of the community must follow the rules and regulations imposed by the commonwealth and state or territorial governments. It is essential that the members of the community understand the importance of educating themselves on pest animals and plants. Clear understanding of the impact of pest plants and animals on the environment helps the community to understand the impact of their day-to-day decisions.

The community has the responsibility to;

- eat what is bought to eat and not plant it. Seeds of fruits and vegetables bought for consumption should not be used to plant and regrow trees;
- with regard to pet animals ensuring all domestic animals are properly trained and not to let them go astray, keep them properly vaccinated and follow responsible breeding practices;
- following the rules and regulations during foreign travel with regard to bringing into the country animals, plants, food or any other material that may contain living organisms;
- as already mentioned above, the community members can nominate key threatening processes. In order to do that the community members should be aware of their environment and be aware of any changes that occurs that may be cause for concern.

Conclusion

It is clear from the above study that ensuring the biosecurity of Australia requires a clear understanding of the relevant principles by all parties concerned and that it is indeed a shared responsibility between the Commonwealth, state and territorial governments, industry and business sector and individuals in the community.

Reference Articles

1. Critique of the National Biosecurity Strategy (2022)
2. Woinarski, J. C. Z., Burbidge, A. A. and Harrison, P. L. (2015) 'Ongoing unravelling of a continental fauna: Decline and extinction of Australian mammals since European settlement' Proceedings of the National Academy of Sciences - PNAS, 112(15), pp. 4531-4540
3. Review of Pest Animals and Plants in Australia by Lizzie Pennington, Hope Researcher
4. Feature Article on Protection of Native Species: Overview of Legislation and wants around protecting vulnerable to threatened species - Shweta Karthik - HOPE researcher Qld
5. Whisson, D & Rendall, A & Gibson, M. (2020). History of Australian plant and vertebrate pests: introductions and impacts. Victorian Naturalist. 137. 162-169. cited in Review of Pest Animals and Plants in Australia by Lizzie Pennington, Hope Researcher

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1. [The Biosecurity Act 2015 - DAFF](#)
2. [Integrated pest and disease management \(IPDM\) - DAFF](#)
3. [Biosecurity strategy pf 2022 purpose - Search](#)
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9. https://auspost.com.au/content/dam/auspost_corp/media/documents/epbc-overview.pdf