National Surveillance and Diagnostics Framework

National Biosecurity Committee

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Contents

Introduction

The Intergovernmental Agreement on Biosecurity (IGAB) was established to enhance Australia's biosecurity system and strengthen the collaborative approach between the Commonwealth, state and territory governments (jurisdictions) to address Australia's broad range of biosecurity issues. The agreement recognises that biosecurity is a shared responsibility and sets out the principles that underpin the national biosecurity system.

Effective surveillance and diagnostic services are pivotal to the successful operation of the national biosecurity system. However, much of the surveillance and diagnostic activity currently undertaken by governments is fragmented. Decision making on where and when resources are allocated is being applied differently across activities and across jurisdictions.

The National Surveillance and Diagnostics Framework (the framework) has been developed by the IGAB Schedule 4 working group to provide an integrated approach to the funding and management of these activities.

The aim is to ensure that surveillance and diagnostics are supported by risk based decision making to help prioritise the allocation of government resources and investment to areas of greatest return, and to maximise the use of existing capability and infrastructure.

Background

Surveillance and diagnostic activities support the national biosecurity system by:

- enabling new incursions of exotic and emerging pests and diseases to be detected
- providing evidence of the absence of a pest or disease for ongoing market access
- monitoring changes in the distribution of pests and diseases, to allow associated risks to be identified and managed
- monitoring changes in other surveillance risks such as changes in the disease status of overseas countries, climate related changes and changes in trade patterns.

A coordinated and cohesive approach to surveillance helps with early detection and ensures actions to manage the impact of surveillance risks are appropriate and timely, thus minimising potential costs.

Under the IGAB, governments have committed to developing a national surveillance and diagnostic system that builds on current arrangements and seeks to ensure that all affected parties are involved, bear their share of costs and benefit from these activities. This would require:

- strategies to ensure early detection and monitoring of pest/disease status to protect the economy and the environment from the impact of pest or disease incursions, and support the maintenance and development of international markets for Australian animals, plants and their genetic material, and food and fibre products
- efficient use of diagnostic capability and infrastructure to minimise unnecessary duplication of effort across jurisdictions

- surveillance plans that are coordinated across jurisdictions for the early detection of national priority pests and diseases, and efficient use of national capacity
- sharing of data, tracing information and intelligence
- development and maintenance of sufficient baseline capacity, including technical capacity and expertise, to carry out surveillance and diagnostic activities
- responsive legislation that enables and supports surveillance and diagnostic activities
- communication and engagement activities that engage a range of stakeholders and increase the participation of public and private stakeholders in pest and disease investigation and reporting
- investment plans that target priority activities and reflect partnerships between Australian governments, industry, landholders and the community
- management arrangements that provide accountability for the implementation and oversight of the national surveillance and diagnostic system, and assure trading partners of the reliability of Australia's pest and disease status.

This framework is an important step in establishing a national approach across the biosecurity continuum. It will also provide strategic direction for state and sectoral based surveillance and diagnostic plans.

Its success, however, will largely depend on recognition and acceptance that biosecurity management is a shared responsibility across industry and the community, and not just the remit of governments.

Key Definitions

Baseline capacity: The level of resources we require to meet our normal commitments (NBC, endorsed in July 2011).

Beneficiaries: Those individuals, organisations, industry groups etc. that benefit from risk mitigation measures in response to a biosecurity measure or activity (IGAB).

Diagnostics: The process of detection and identification of a pest, disease or disease causing agent.

Disease: Means the presence of a pathogenic agent in a host and/or the clinical manifestation of infection that has had an impact (i.e. significant negative consequences) or poses a likely threat of an impact. It includes micro-organisms, disease agents, infectious agents and parasites (IGAB).

Normal commitments: The functions and capabilities we should all be able to carry out to meet national obligations (NBC, endorsed in July 2011).

Pest: Any species, strain or biotype of the Kingdoms Animalia (excluding human beings), Plantae, Fungi, Monera or Protist that has had an impact (i.e. significant negative consequence) or poses a likely threat of having an impact (IGAB).

Public good: Means the community receives significant benefit regardless of whether that benefit is in the form of an economic benefit, a non-economic benefit, an environmental benefit, or an intangible benefit (IGAB).

Risk creators: Those individuals, organisations, industry groups etc. that create risks that may result in a disease or pest entering, emerging, establishing or spreading in Australia; and the disease or pest causing harm to the environment, or economic or community activities. It does not include governments undertaking biosecurity activities as part of their regulatory responsibilities (IGAB).

Sector: For the purposes of this document, sector means a defined area of biosecurity activity. There are currently five biosecurity sectors: animal health (terrestrial and aquatic), introduced marine pests, plant health, vertebrate pests and the weeds sector.

Sectoral committees: Committees established under the National Biosecurity Committee to develop national biosecurity policies, strategies, plans or procedures relating to the biosecurity sectors. There are currently five sectoral committees: Animal Health Committee, Marine Pest Sectoral Committee, Plant Health Committee Australian Weeds Committee, and the Vertebrate Pest Committee.

Surveillance: Activities to investigate the presence or prevalence of a pest or disease in a given plant or animal population and its environment (IGAB). This includes: general surveillance, targeted surveillance, active surveillance, passive surveillance and sentinel surveillance.

Surveillance risks: Any things that can adversely impact on the ability to carry out adequate surveillance.

Verification: Ensure the accuracy, correctness, or truth of the information, including taxonomic determination.

The Framework

Policy Principles

The framework is built around the following principles.

1) *NATIONAL STRATEGIES* for each sector that guide medium and long-term planning for national surveillance and diagnostics, identify priorities for investment and promote the harmonisation of jurisdictional approaches.
2) *Sectoral strategies* that inform the development and implementation of *NATIONAL AND JURISDICTIONAL BUSINESS PLANS* for surveillance and diagnostics within that sector.
3) Decisions on national surveillance and diagnostics policies and priorities are based on *RISK MANAGEMENT PRINCIPLES.*
4) *CROSS-UTILISATION OF FACILITIES AND RESOURCES* in and across biosecurity sectors that generate efficiencies in both diagnostics and field surveillance.
5) *HARMONISED INFORMATION SYSTEMS* that support the collection, analysis and sharing of data and intelligence.
6) National processes that support the development and maintenance of *BASELINE CAPACITY* for surveillance and diagnostics programs.
7) *LEGISLATION* across all jurisdictions that supports the consistent implementation of national surveillance programs.
8) *COMMUNICATION PLANS* for national surveillance programs that use a range of strategies and media to achieve communication objectives, and engage a range of stakeholders.
9) *STAKEHOLDER ENGAGEMENT PLANS* for operational surveillance that promote the collection of reports of pest or disease occurrence.
10) *INVESTMENT PLANS* that recognise the roles of risk creators, beneficiaries and governments in funding surveillance and diagnostics.
11) *GOVERNANCE/MANAGEMENT STRUCTURES* for surveillance and diagnostics in each sector that include, unless impractical, all stakeholders from industry including beneficiaries and risk creators.

These are outlined in more detail at Annex A.

Roles and responsibilities

The IGAB recognises that biosecurity is a shared responsibility that is borne by Australian Governments, industry and other relevant parties. This framework sets out roles for jurisdictions, sectoral committees, industry – government bodies and the community in implementing surveillance for national priority surveillance risks.

Under this framework, sectoral committees will have the lead role in developing national surveillance strategies and auditable action plans for their sector in consultation with the jurisdictions, industry and other relevant parties.

The Commonwealth, states and territories will participate in the development of the sectoral strategies and plans by the sectoral committees and implement their parts of the national strategies and plans.

Industry and other relevant parties will contribute to the development of sectoral surveillance and diagnostics strategies and plans which will be coordinated through sectoral committees or government-industry partnerships (i.e. Animal Health Australia and Plant Health Australia).

The National Biosecurity Committee will have a lead role in overseeing the work of the sectoral committees, agreeing their work plans and reporting on the activities of the sectoral committees to the Primary Industries Standing Committee.

Annex A

Objective	Framework Principles	How will we achieve our goals
National Strategies/Plans *Surveillance and diagnostic strategies to ensure early detection and monitoring of pest/disease status to protect the economy and the environment from their impacts, and support the maintenance and development of international markets for Australian animals, plants and their genetic material, and food and fibre products*	*NATIONAL STRATEGIES* for each sector guide medium term planning for national surveillance and diagnostics, and identifies priorities for investment. Sectoral strategies inform the development and implementation of *NATIONAL BUSINESS PLANS* for surveillance and diagnostics within that sector. Decisions on national surveillance and diagnostics policies and priorities shall be based on *RISK MANAGEMENT PRINCIPLES* *Additional considerations - National business plans* • Incorporate risk-management methodologies noting that there will be additional risks to surveillance other than those related to specific pests and diseases. • Target pest and disease risks that are deemed to be nationally significant and at the early stages of the invasion curve to ensure greatest return on investment ('pests' to include invasive plants, as well as pests of plant and animal industries). • Provide for other pests and diseases that are not nationally significant to be included through passive surveillance, individual jurisdictional surveillance activities and/or industry surveillance activities (at local, regional and national levels, as appropriate).	Sectoral committees will work with industries and other stakeholders, including environmental groups, to: • develop and revise national strategies and business plans • develop agreed national surveillance guidelines and diagnostic protocols • determine priorities for investment within that sector. National surveillance strategies will: • include clearly documented objectives • extend surveillance to areas not currently covered where appropriate • incorporate risk management principles that will underpin the development of surveillance objectives and the identification of surveillance priorities (includes pathways analysis, evidence-based risk assessment, targeted surveillance etc). National business plans will: • provide a pathway for translating the strategies into action • include clearly documented objectives • promote a range of surveillance methods (i.e. surveys, general surveillance; crowd sourcing and citizen science) • include agreed national surveillance guidelines and protocols for priority pests and diseases where they exist. Jurisdiction business plans will: • align with sector specific national business plans • ensure that the surveillance and business plans are integrated across sectors • promote the availability of surveillance and diagnostic protocols and infrastructure that facilitates data and information sharing • identify key performance indicators to ensure that agreed performance measures are met. Strategies and plans at all levels are implemented according to priority activities and available resources and reviewed regularly to maintain relevance and focus.

Objective	Framework Principles	How will we achieve our goals
Diagnostics *Efficient development and use of diagnostic capability and infrastructure to minimise unnecessary duplication of effort across jurisdictions;*	*CROSS-UTILISATION OF FACILITIES AND RESOURCES* in and across biosecurity sectors generate efficiencies in both diagnostics and field surveillance. *Additional considerations - Diagnostics* • Diagnostic capability is flexible and can be quickly expanded to respond to new and emerging issues	Agreed national diagnostic strategies and business plans for each sector will include clearly documented objectives. Diagnostic facilities will meet relevant international, national and other standards, and be NATA accredited where appropriate. Jurisdictions agree to share laboratory capability when required to: • avoid duplication of laboratory capability • allow laboratories to handle the increased demand for diagnostic services in the event of an outbreak or other significant pest or disease event • allow laboratories to develop specialised testing services that they provide nationally • access specific tests that are only available in some jurisdictions. Each sector will have a laboratory network that will form the national capability for that sector. These sectoral laboratory networks will be linked where appropriate in a virtual National Diagnostic Laboratory Network. Sectoral committees will identify existing laboratory capability including any underpinning capacity and expertise such as reference collections and taxonomy skills that could be shared across jurisdictions/sectors as required.
Information management *Sharing of data and intelligence*	*HARMONISED INFORMATION SYSTEMS* support the collection, analysis and sharing of data and intelligence.	A national information governance agreement for the sharing of surveillance and diagnostics data will identify what information will be shared at a national level, how it will be shared and when it will be shared. National minimum data and meta-data standards will be developed to support the collection and analysis of national surveillance data. Mechanisms will be put in place to facilitate the transfer of nominated and aggregated data between the Commonwealth and jurisdictions. Intelligence gathered through tracing, sharing and consolidation of surveillance data, science and research findings is available to inform decision making at a national level, in particular decisions regarding emergency responses to new or emerging surveillance risks. Information systems will capture industry surveillance and community reporting (including email and social media) and be used to inform decision making.

Objective	Framework Principles	How will we achieve our goals
Personnel *Sufficient baseline capacity, including technical capacity and expertise, for surveillance and diagnostic activities*	National processes support the development and maintenance of *BASELINE CAPACITY* for surveillance and diagnostics programs.	Jurisdictions will: • have processes in place to identify gaps and duplication in capacity • have processes in place to engage with stakeholders to ensure adequate numbers of appropriately trained staff or access to those personnel in the event of an emergency • revisit recruitment policies to accurately reflect the skill sets and appropriate attributes to carry out surveillance work • establish processes to access the expertise needed to engage in adequate surveillance within the state or territory Sectoral committees will assist jurisdictions address identified priority surveillance risks and provide technical capacity and expertise.
Legislation and Policy *Responsive legislation that enables and supports surveillance and diagnostic activities*	*LEGISLATION and POLICY* across all jurisdictions supports the consistent implementation of national surveillance programs. *Additional considerations* • Commonwealth and state legislation provides officers with appropriate powers to carry out actions as part of national programs. • Legislation manages the risk of the need to share intelligence and capability between jurisdictions for improved management of pests and diseases and other surveillance risks.	Jurisdictions will work together to harmonise biosecurity legislation, regulations, policies and approaches where this is appropriate and practicable.

Objective	Framework Principles	How will we achieve our goals
Communication & Engagement *Communication and engagement activities that engage a range of stakeholders and increase the participation of public and private stakeholders in pest and disease investigation and reporting*	*COMMUNICATION PLANS* for national surveillance programs use a range of strategies and media to achieve communication objectives, and engage a range of stakeholders. *STAKEHOLDER ENGAGEMENT PLANS* for operational surveillance and diagnostics promote the collection of reports of pest or disease occurrence.	Sectoral committees / jurisdictions will use the National Engagement and Communication Framework[1] as a base to form effective engagement strategies by • identifying the objectives and messaging relevant to the stage of engagement • the level of engagement required • how the target stakeholders prefer to engage/receive information and when. Communication approaches involving the same industries across different jurisdictions will be coordinated and targeted at achieving national goals and objectives where appropriate. Decision making structures for surveillance and diagnostics in each biosecurity sector will include, unless impractical, relevant industry stakeholders (including beneficiaries and risk creators) and environmental and community groups as appropriate. Communication tools and products will be shared to minimise set-up and training costs.
Funding *Investment plans that target priority activities and reflect partnerships between Australian governments, industry, landholders and the community*	*INVESTMENT PLANS* recognise the roles of risk creators, beneficiaries and governments in funding surveillance and diagnostics. *Additional considerations* • Risk creators and beneficiaries contribute to national activities in proportion to the risks they create and / or the benefits that they gain. • Governments invest where there is a market failure, a public benefit from a nationally coordinated approach, or where government investment leverages the benefits of investments by others. • All investors in the national activities participate in the decision making process.	Sectoral committees, jurisdictions, industry, landholders and other relevant stakeholders (including environmental stakeholders) will work together to develop investment plans to guide their investments in surveillance and diagnostics. The investment plans will be consistent with the principles underpinning the National Biosecurity and Decision Making Framework. Investment plans for surveillance and diagnosis of nationally significant pests and diseases will form part of national strategies for each sector. The levels of investment required of stakeholders (governments, industry etc.) in sectoral surveillance and diagnostics activities will be in accordance with national investment principles and will be specified in the sectoral plans. Each sector will fund activities at a national or jurisdictional level using existing

[1] http://www.daff.gov.au/__data/assets/pdf_file/0007/2292415/NEC_Framework_Final.pdf

Objective	Framework Principles	How will we achieve our goals
	• Investment decisions are evidence based, address agreed national priorities and target the greatest surveillance risks. • Investment decisions recognise all contributions (including in kind contributions) by investors in national surveillance and diagnostic programs. • National biosecurity RD&E priorities and surveillance and diagnostic priorities are aligned.	funding mechanisms and frameworks where these exist. Expenditure on surveillance and diagnostics for national priority surveillance risks carried out under an agreed national plan must be auditable. Investments in surveillance and diagnostics will be made across the biosecurity continuum as appropriate to target national priorities based on the principles of risk-return and sound science. Investment in technology (e.g. citizen science, remote diagnostics) will create opportunities for stakeholder engagement and the consolidation of diagnostic capacity.
Management *Management arrangements that provide accountability for the implementation and oversight of the national surveillance and diagnostic system, and assure trading partners of the reliability of Australia's pest and disease status.*	*GOVERNANCE/MANAGEMENT STRUCTURES* for surveillance and diagnostics in each sector include, unless impractical, all stakeholders from industry including beneficiaries and risk creators. *Additional considerations* • Decision making processes are transparent and robust.	National strategies and business plans will clearly specify the roles and responsibilities of governments, industry and other stakeholders. Sectoral committees or government industry partnerships (e.g. AHA and PHA) - as determined by sector arrangements - will: • have overall responsibility for implementing and managing national strategies and business plans • document and publicise strategies and business plans to ensure transparency of process • report to the National Biosecurity Committee which will oversee implementation and management of all strategies across the national surveillance and diagnostic system. Sectoral committees or government-industry partnerships will establish stakeholder consultative processes to ensure appropriate consultation with industry and other relevant groups where these processes do not currently exist.