Australian Government
Department of Agriculture

Understanding Plant Health Surveillance

A vital part of the phytosanitary and biosecurity systems protecting NPPO's from plant pests and diseases

Chris Dale, Assistant Director
Plant Health Surveillance and Diagnostics Program

IPPC Global Surveillance and PFA Symposium, Japan 2019

What is Plant Health Surveillance?

ISPM 5 Glossary of Phytosanitary Terms;

- **Surveillance -** An **official** process which collects and records data on **pest** presence or absence by **survey**, **monitoring** or other procedures [CEPM, 1996; revised CPM, 2015]

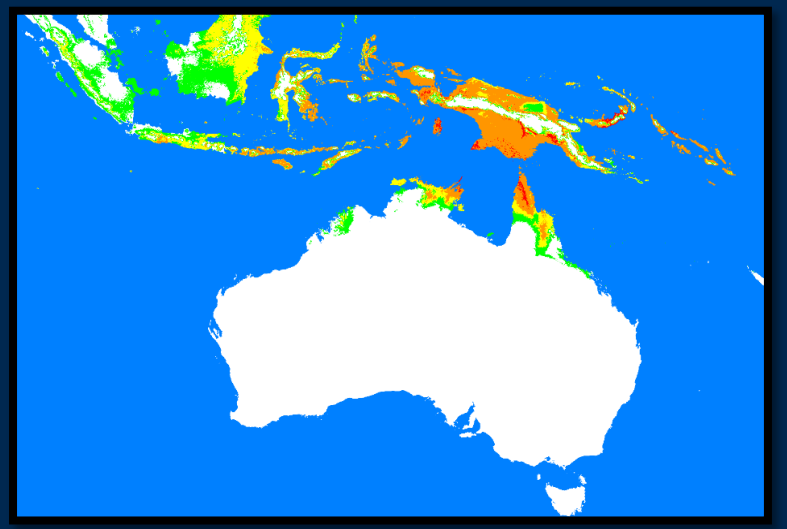
National Surveillance Requirements

- Surveillance is one of the core activities of national plant protection organizations (NPPOs)
- It provides NPPOs with a technical basis for many phytosanitary measures including;
    - Determining national and regional phytosanitary and biosecurity risks
    - Supporting claims of pest absence
    - Developing pest lists to justify phytosanitary measures and inform pest risk analyses
    - Informing eradication and control measures
    - Meeting International reporting requirements (ISPM 17 pest reporting)

(Source – ISPM 6 , 2018)

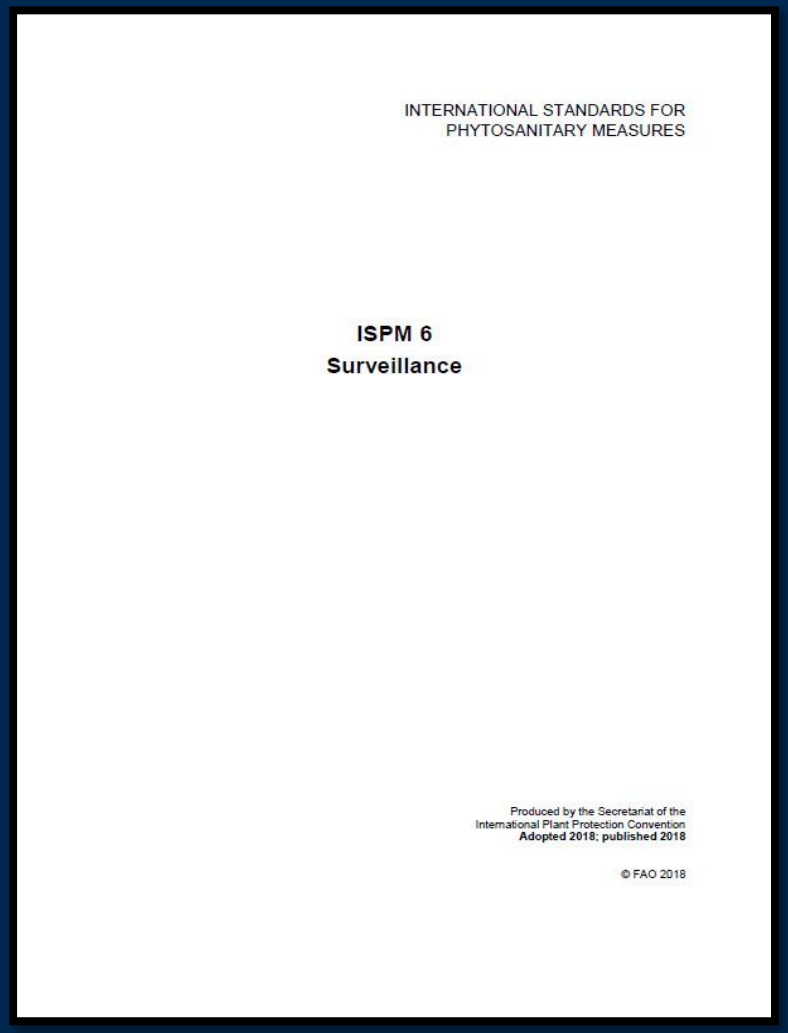
International Surveillance Requirements

- Surveillance is essential in plant protection
- Article IV of the IPPC prescribes general provisions for the organizational arrangements for national plant protection and specifically states that the responsibilities of an official national plant protection organization shall include "the surveillance of growing plants, including both areas under cultivation (*inter alia* fields, plantations, nurseries, gardens, greenhouses and laboratories) and wild flora, and of plants and plant products in storage or in transportation, particularly with the object of reporting the occurrence, outbreak and spread of pests, and of controlling those pests, including the reporting referred to under Article VIII paragraph 1(a)"
- According to the same article the "designation, maintenance and surveillance of pest free areas and areas of low pest prevalence" are a responsibility of NPPOs. In addition, Article VII.2(j) specifies that "contracting parties shall, to the best of their ability, conduct surveillance for pests and develop and maintain adequate information on pest status"



(Source – ISPM 6 , 2018)

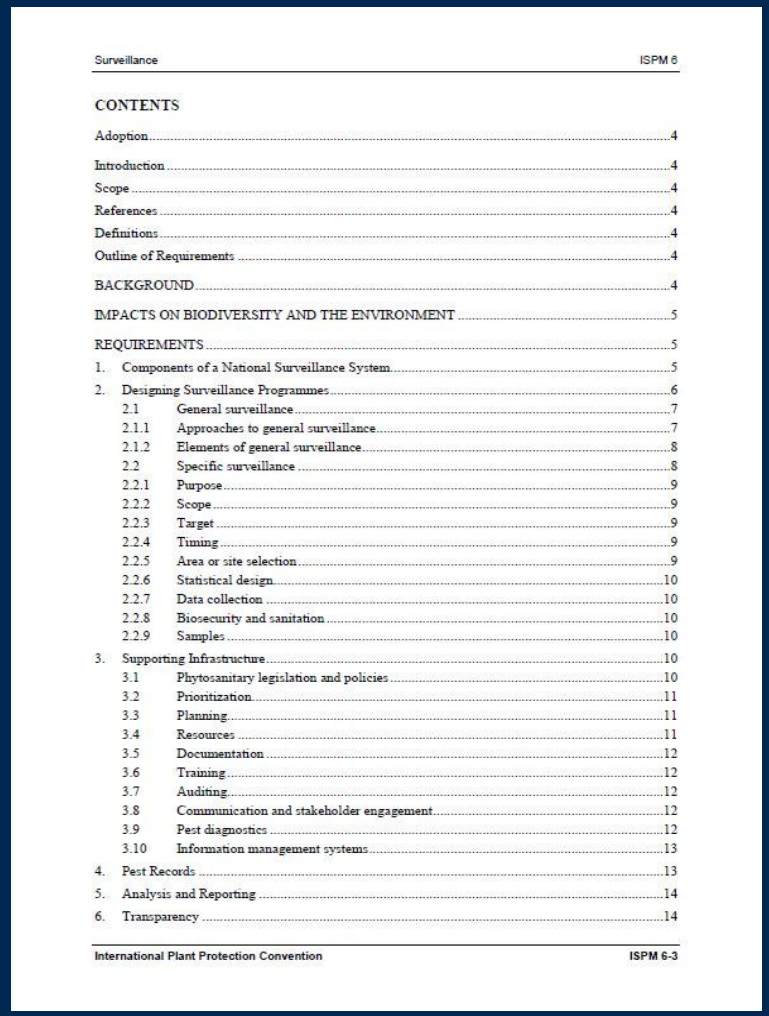
IPPC Surveillance Standard – ISPM6 (Surveillance)



INTERNATIONAL STANDARDS FOR
PHYTOSANITARY MEASURES

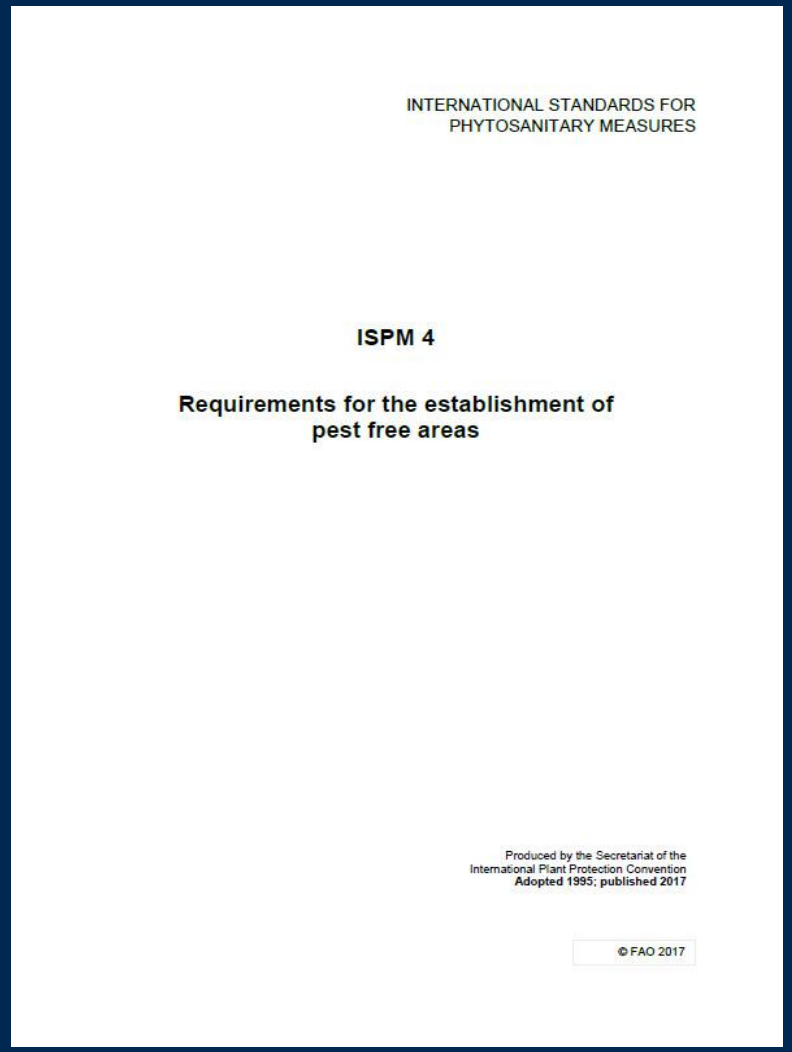
ISPM 6
Surveillance

Produced by the Secretariat of the
International Plant Protection Convention
Adopted 2018; published 2018



CONTENTS

IPPC PFA Standard – ISPM4 (Pest Free Areas)

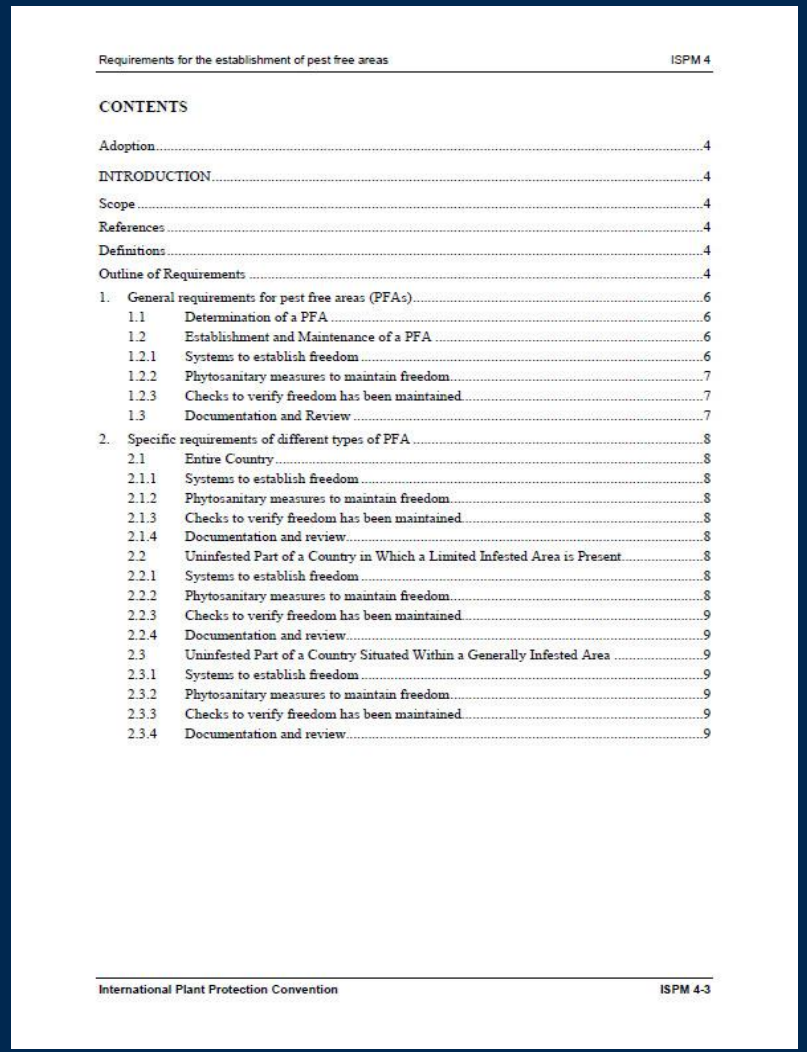


INTERNATIONAL STANDARDS FOR
PHYTOSANITARY MEASURES

ISPM 4

Requirements for the establishment of pest free areas

Produced by the Secretariat of the
International Plant Protection Convention
Adopted 1995; published 2017



CONTENTS

IPPC Pest Status Standard – ISPM8 (Pest Status)

INTERNATIONAL STANDARDS FOR
PHYTOSANITARY MEASURES

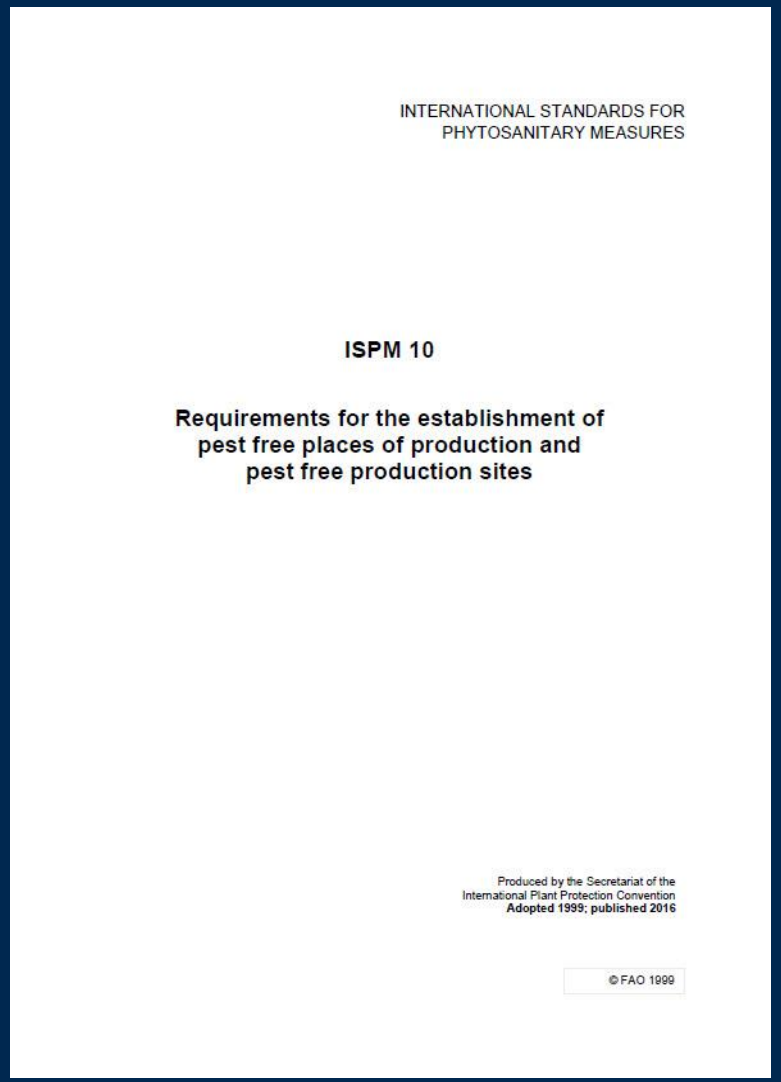
ISPM 8

Determination of pest status in an area

Produced by the Secretariat of the
International Plant Protection Convention
Adopted 1998; published 2017

CONTENTS

IPPC Pest Free Places Standard – ISPM10 (Pest Free Production)

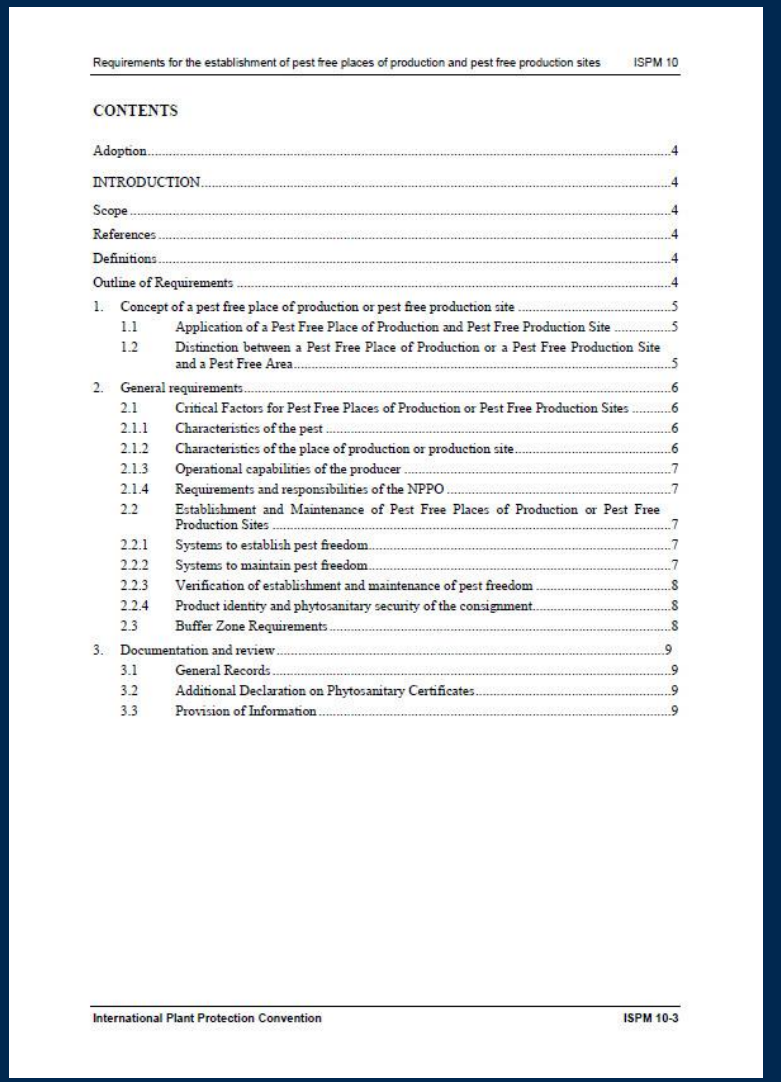


INTERNATIONAL STANDARDS FOR
PHYTOSANITARY MEASURES

ISPM 10

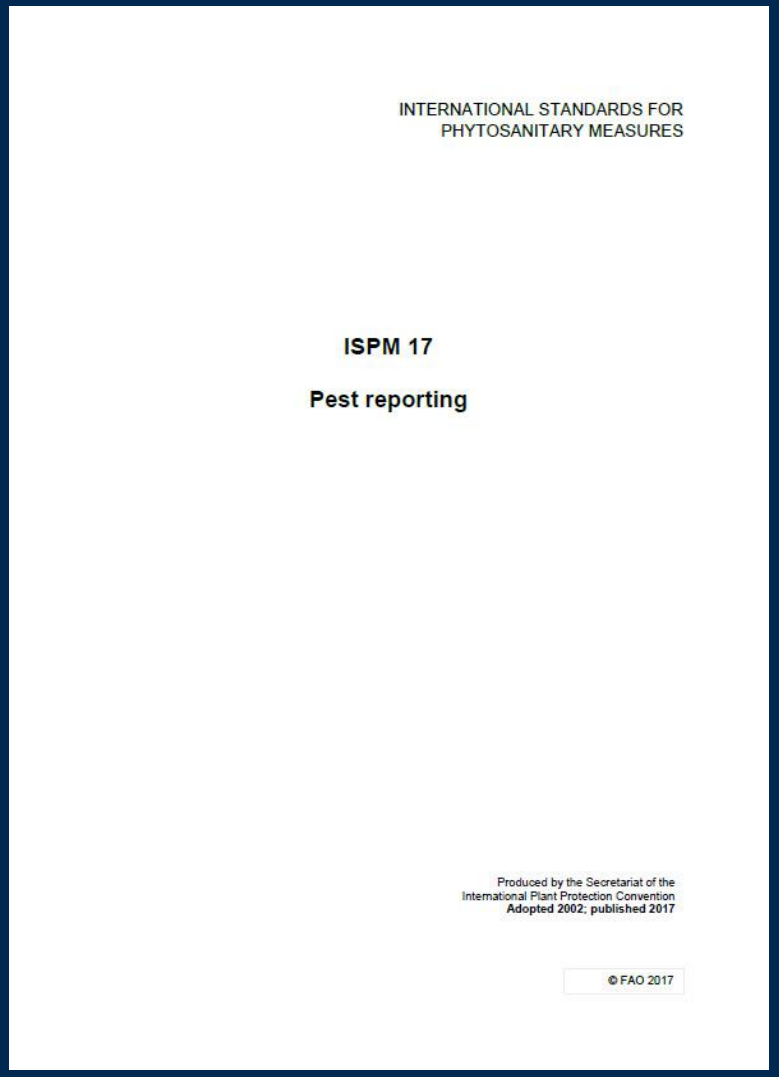
Requirements for the establishment of pest free places of production and pest free production sites

Produced by the Secretariat of the
International Plant Protection Convention
Adopted 1999; published 2016



CONTENTS

IPPC Reporting Standard – ISPM17 (Pest Reporting)

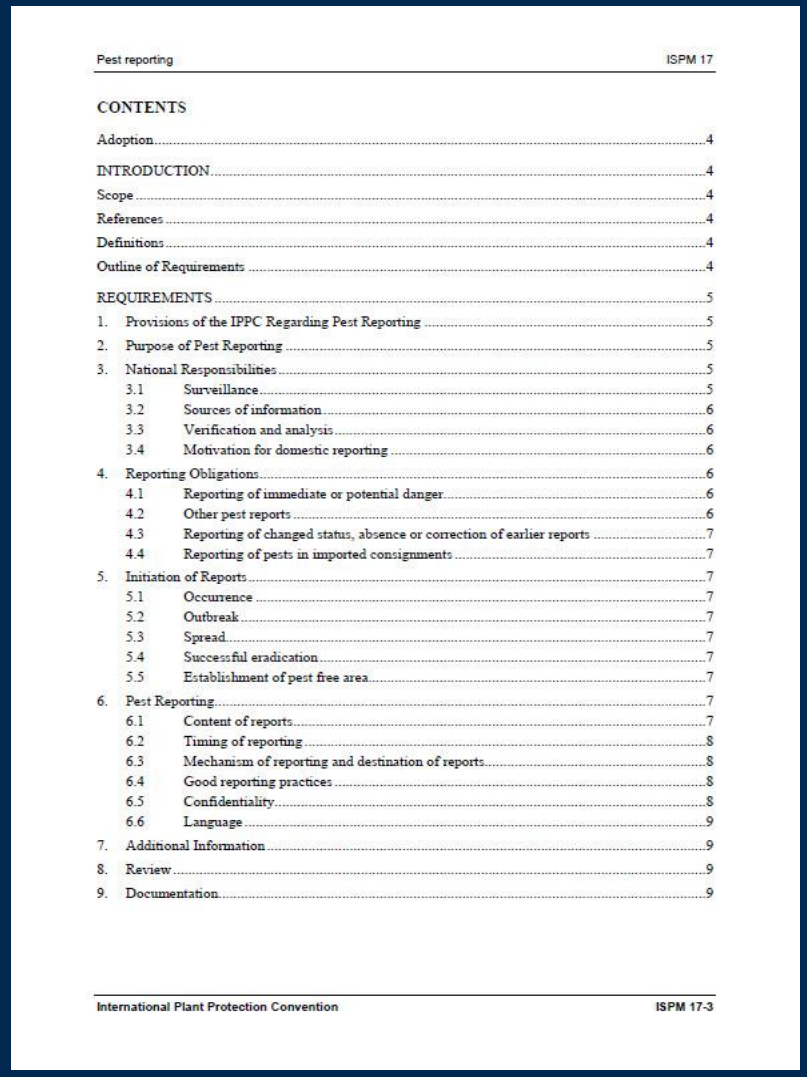


INTERNATIONAL STANDARDS FOR
PHYTOSANITARY MEASURES

ISPM 17

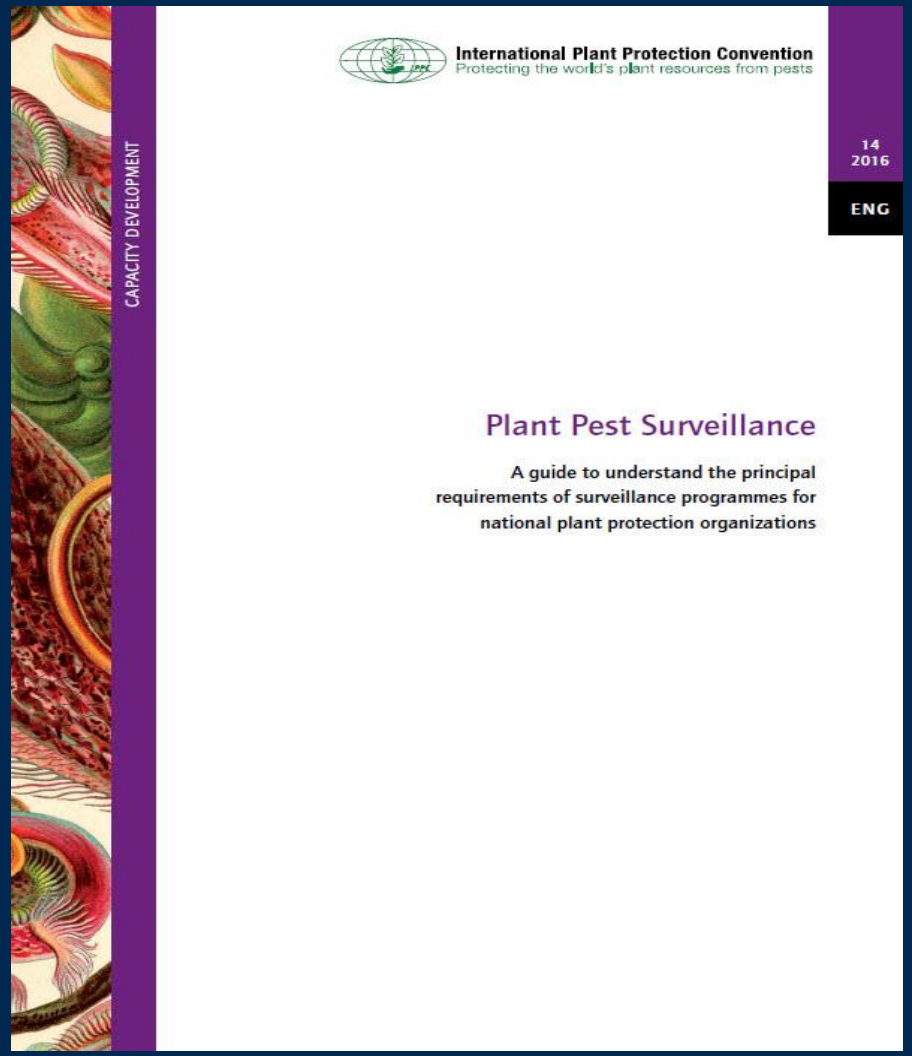
Pest reporting

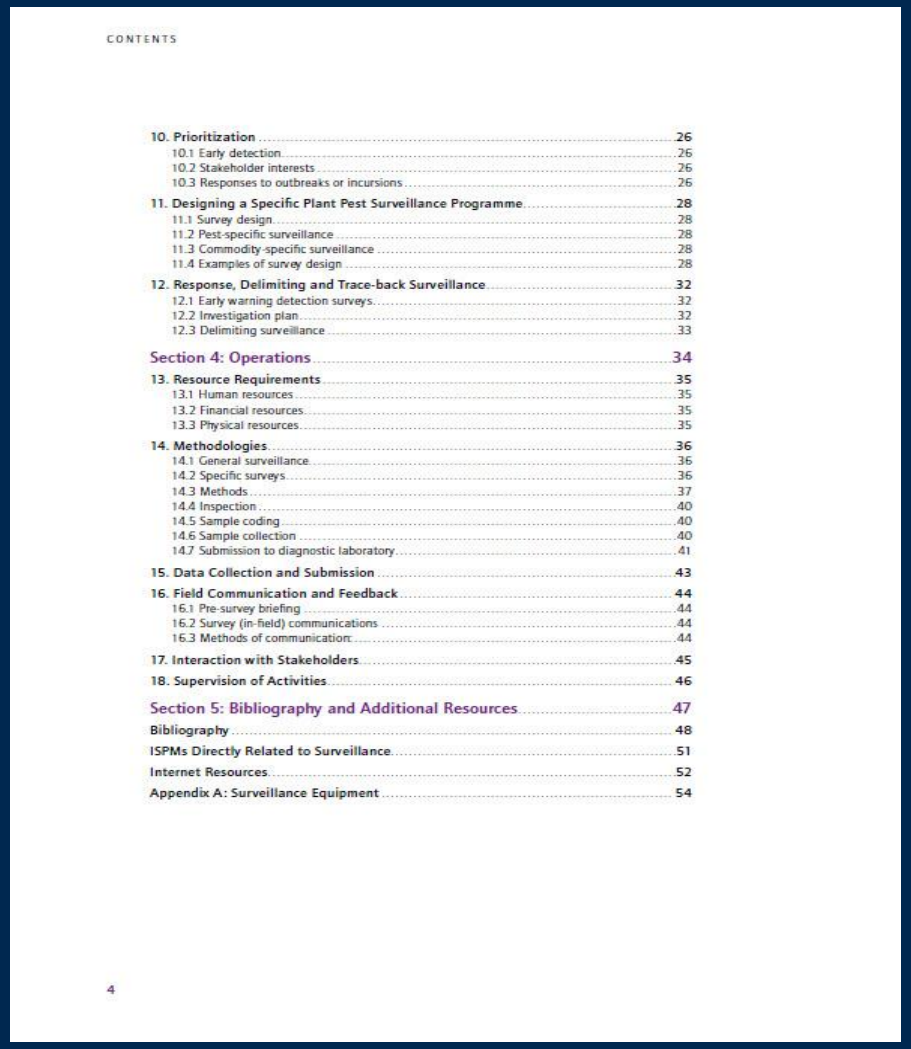
Produced by the Secretariat of the
International Plant Protection Convention
Adopted 2002; published 2017



CONTENTS

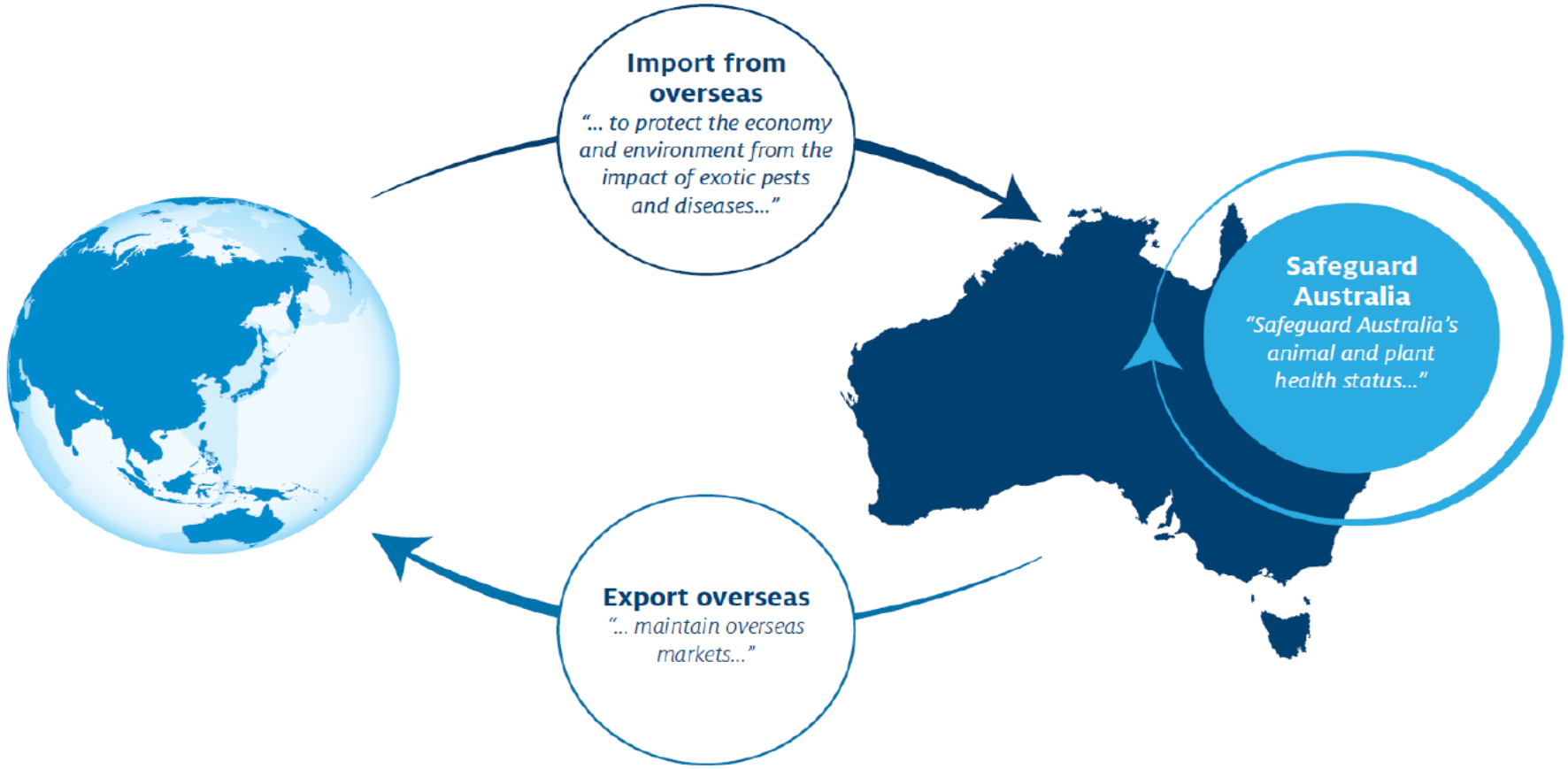
IPPC Plant Pest Surveillance Guide (NPPO Implementation)





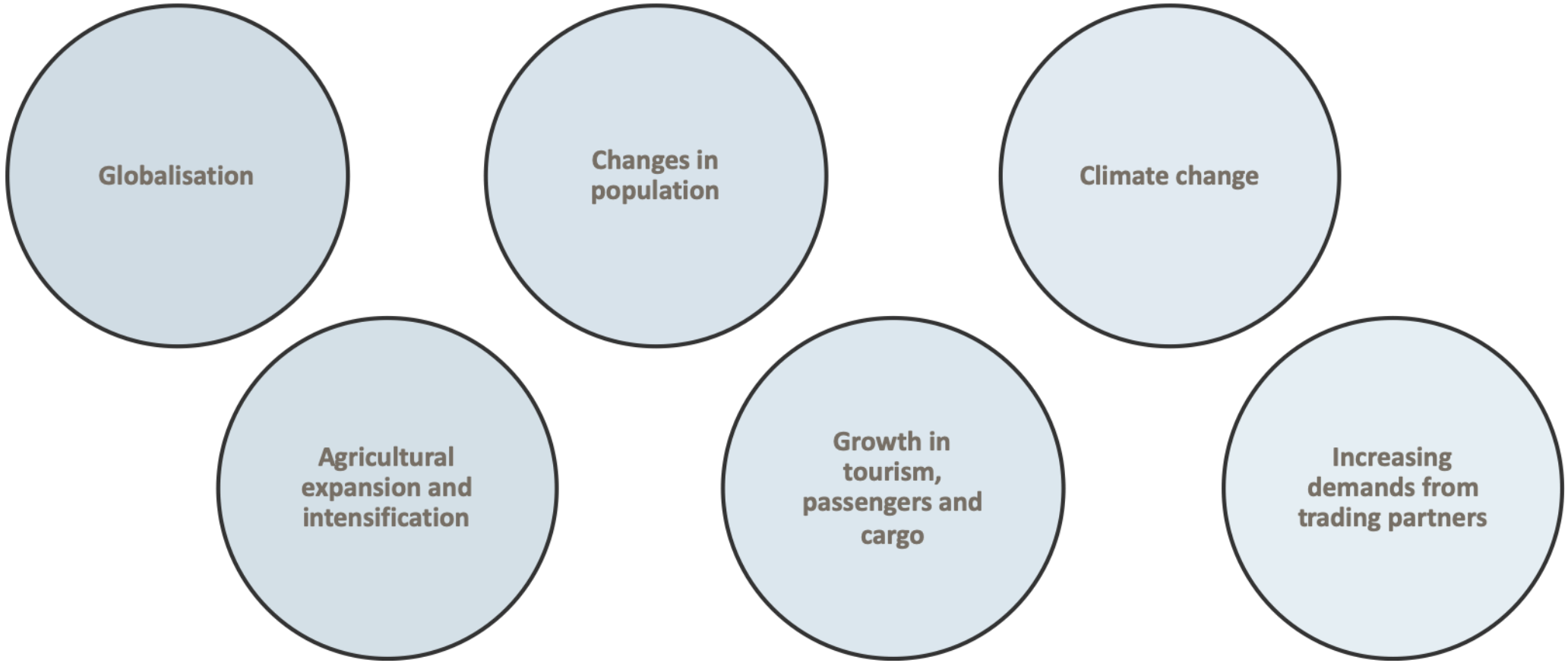
CONTENTS

The Australian NPPO Plant Biosecurity Surveillance System (case study)



Why is plant health surveillance important?

Growing phytosanitary and biosecurity threats and challenges domestically, regionally and globally



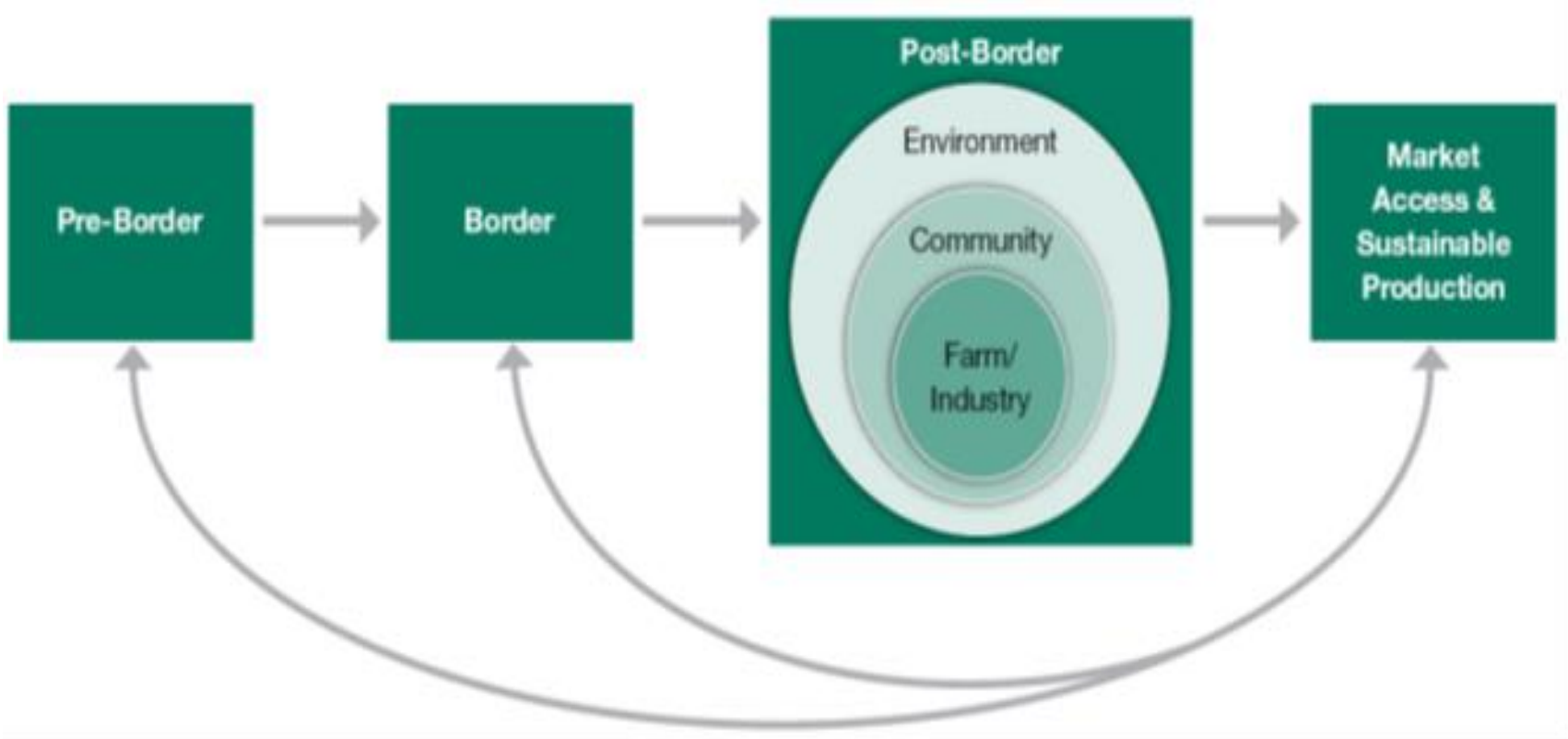
Plant Health Surveillance is essential for NPPO phytosanitary and biosecurity risk management

Risk management and phytosanitary measures

Surveillance supports phytosanitary and biosecurity risk management across the continuum

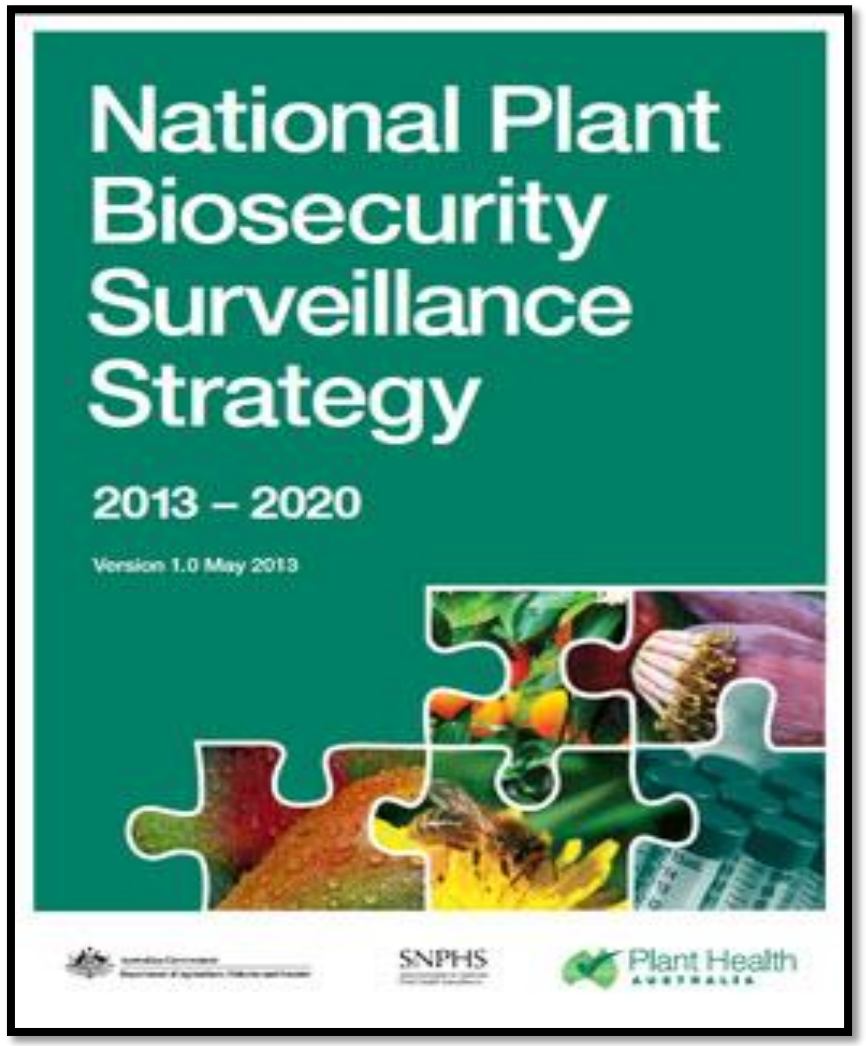
- The plant biosecurity system is a continuum that integrates biosecurity and phytosanitary activities at the pre-border, border and post-border levels

- Surveillance programs may be conducted across the three layers of the phytosanitary and biosecurity continuum



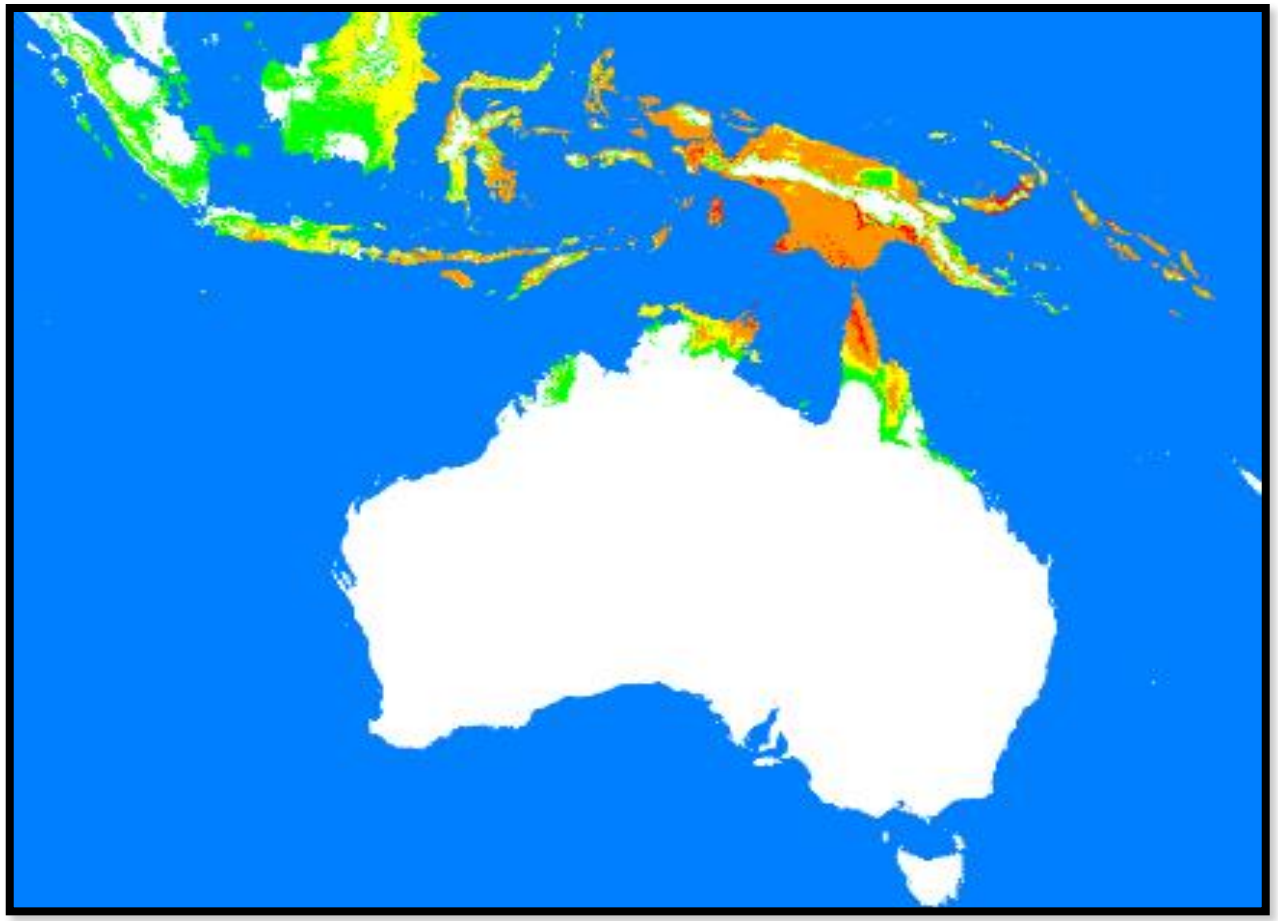
National Plant Pest Surveillance Systems

- A national surveillance system is an integral part of a country's plant health strategy and should contribute to the facilitation of trade.
- A national surveillance system should comprise surveillance programs and the infrastructure and governance to implement them;
  - NPPO Programs (Pre-border, Border, Post-Border)
  - Pest Specific Programs (fruit flies, BMSB, AGM)
  - Commodity Specific Programs (forestry, citrus, grain)
  - Trade and Market Access Specific Programs (PFA, delimiting)



Pre-Border (Early Warning) Surveillance Programs

- Identifies regional and international plant pest risks for both regulated and non-regulated (natural) pathways
- Can be delivered through specific and/or general surveillance programs
- Assists in the early detection, preparedness and management of exotic plant pests
- Relies on close working relationships, formal agreements and shared regional biosecurity goals between NPPO's

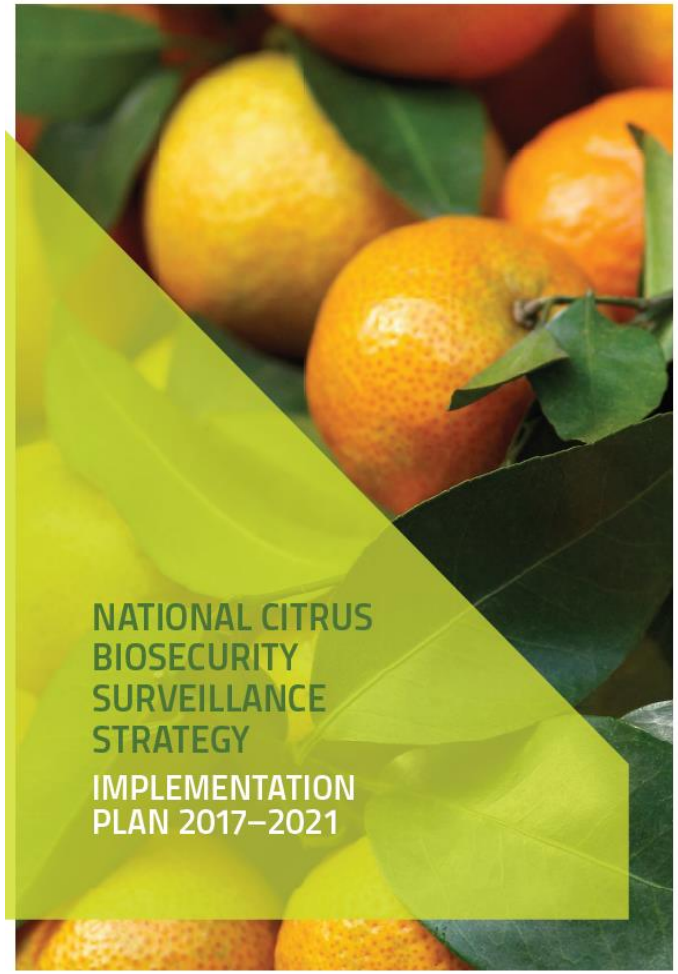


Border (Early Detection) Surveillance Programs

- Provides robust biosecurity surveillance extending beyond the border (including isolated and remote areas of the country)
- Monitors international port areas and post entry quarantine locations in partnership with industry and the community to detect exotic plant pests
- Enhances responsiveness to traditional quarantine controls (targeted surveillance)
- Conducts surveillance in remote and isolated areas to monitor for natural pathway incursions of exotic pests
- Includes targeted trapping and general surveillance activities

Post-Border (Detection, Monitoring and Delimiting) Surveillance Programs

- Post-border surveillance programs for exotic and endemic plant pests are carried out by governments, industries and the wider community.
- Early detection surveillance programs detect new pest incursions before they become widely established, increasing the chance of successful eradication or containment responses
- Market access surveillance programs provide surveillance records to demonstrate and validate the absence (i.e. evidence of absence) of a pest from the country, state or region, to support access to international and domestic markets
- Delimiting surveys provide information on the distribution and spread of pests for use in response management activities or to confirm the successful eradication of the pest



(Source – Plant Health Australia, http://www.planthealthaustralia.com.au/biosecurity/surveillance/surveillance-programs/)

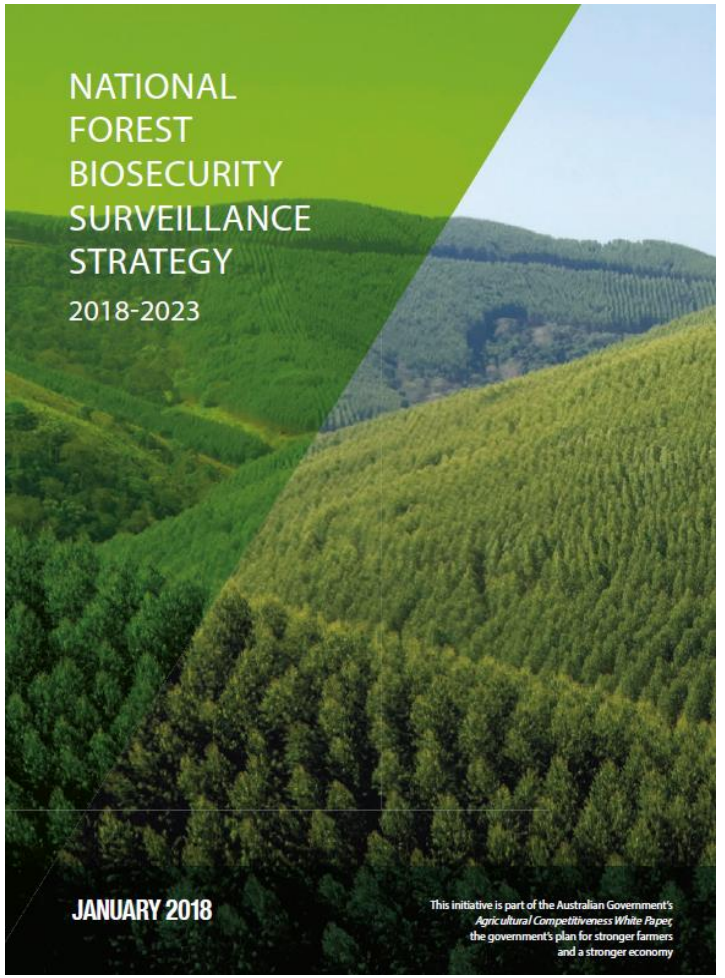
Post-Border (Pest Management) Surveillance Programs

- Improved pest management of established pests requires regular inspections to determine population levels to improve management decisions

- Australia uses a mix of targeted and general surveillance programs and general surveillance programs raise awareness about specific pests with growers and the wider community, and rely on these stakeholders to look for and report the pests during their day-to-day activities

- Most post-border targeted surveillance is undertaken by state and territory governments. Several national programs are also supported by the Australian Government, and some industries undertake targeted surveillance for pests of concern

(Source – Plant Health Australia, http://www.planthealthaustralia.com.au/biosecurity/surveillance/surveillance-programs/)

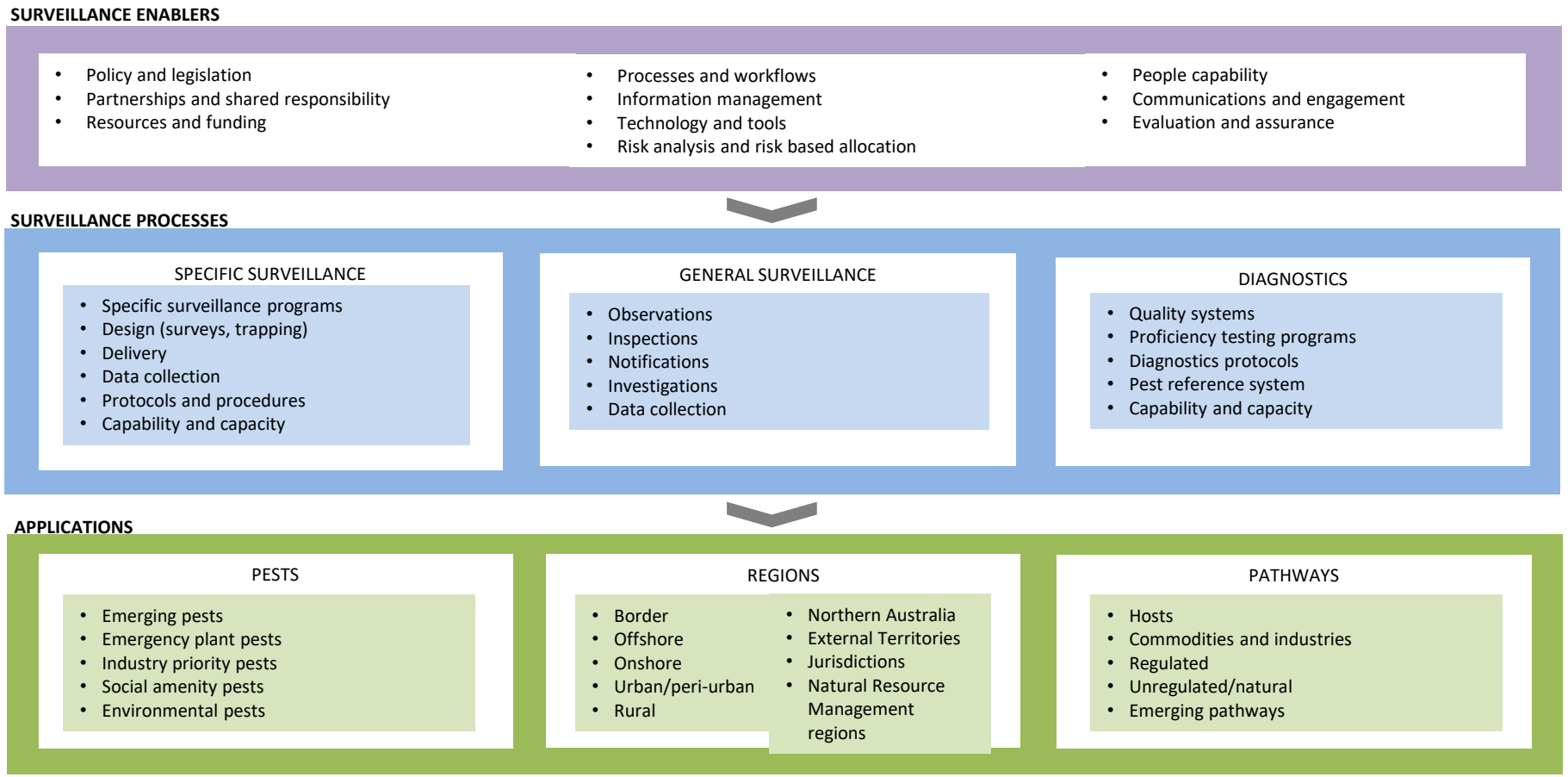


AUSTRALIAN NATIONAL PLANT BIOSECURITY SURVEILLANCE SYSTEM FRAMEWORK

Plant biosecurity is a set of activities and measures that protect the economy, environment and community from the negative impacts of plant pests by reducing the likelihood of a pest entering the country or region and as such, support an overall system that increases confidence that the pest will be reported, accurately diagnosed and controlled rapidly.[1]

National plant biosecurity surveillance system objectives:

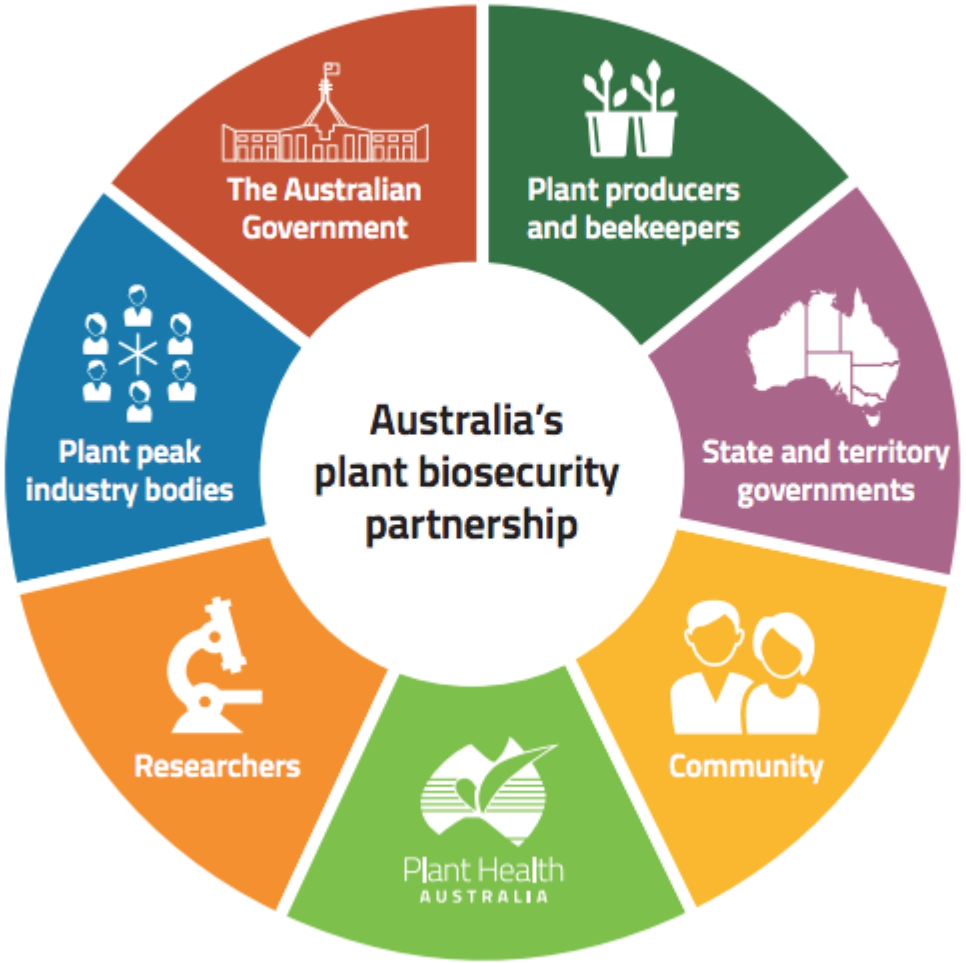
1. **Early warning** to detect plant pests at high-risk pathways
2. **Early detection** to reveal the presence of plant pests
3. **Pest status** to demonstrate absence/area freedom of plant pests to support market access
4. **Delimiting** to determine the physical extent of plant pests to inform emergency responses and management
5. **Monitoring** established pests for ongoing management arrangements



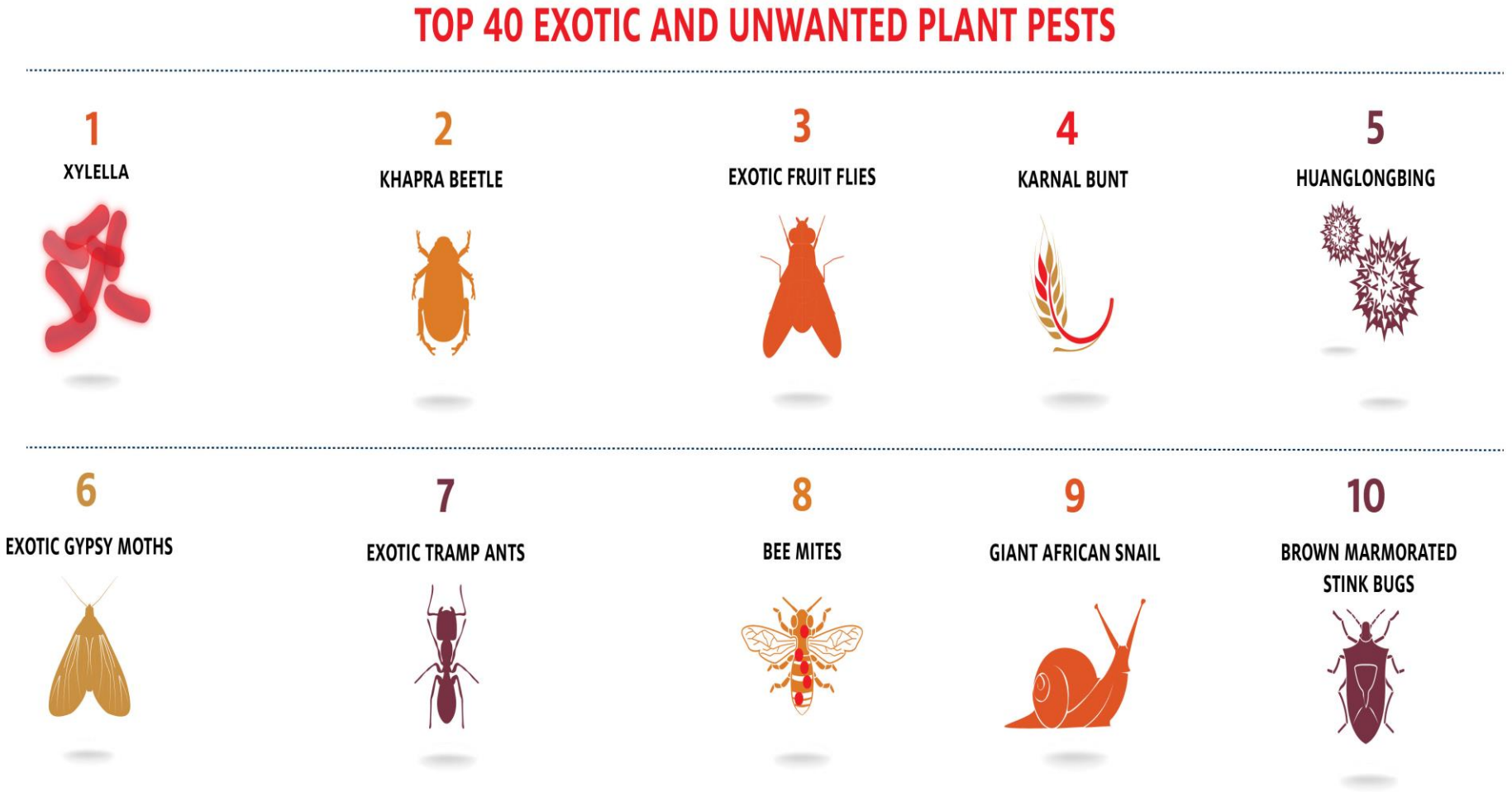
[1]Source: National Plant Biosecurity Strategy (PHA 2010) and National Plant Biosecurity Surveillance Strategy 2013-2020 (PHA 2012) (endorsed by government, associate and industry members)

Plant Health Surveillance Stakeholder Partnerships

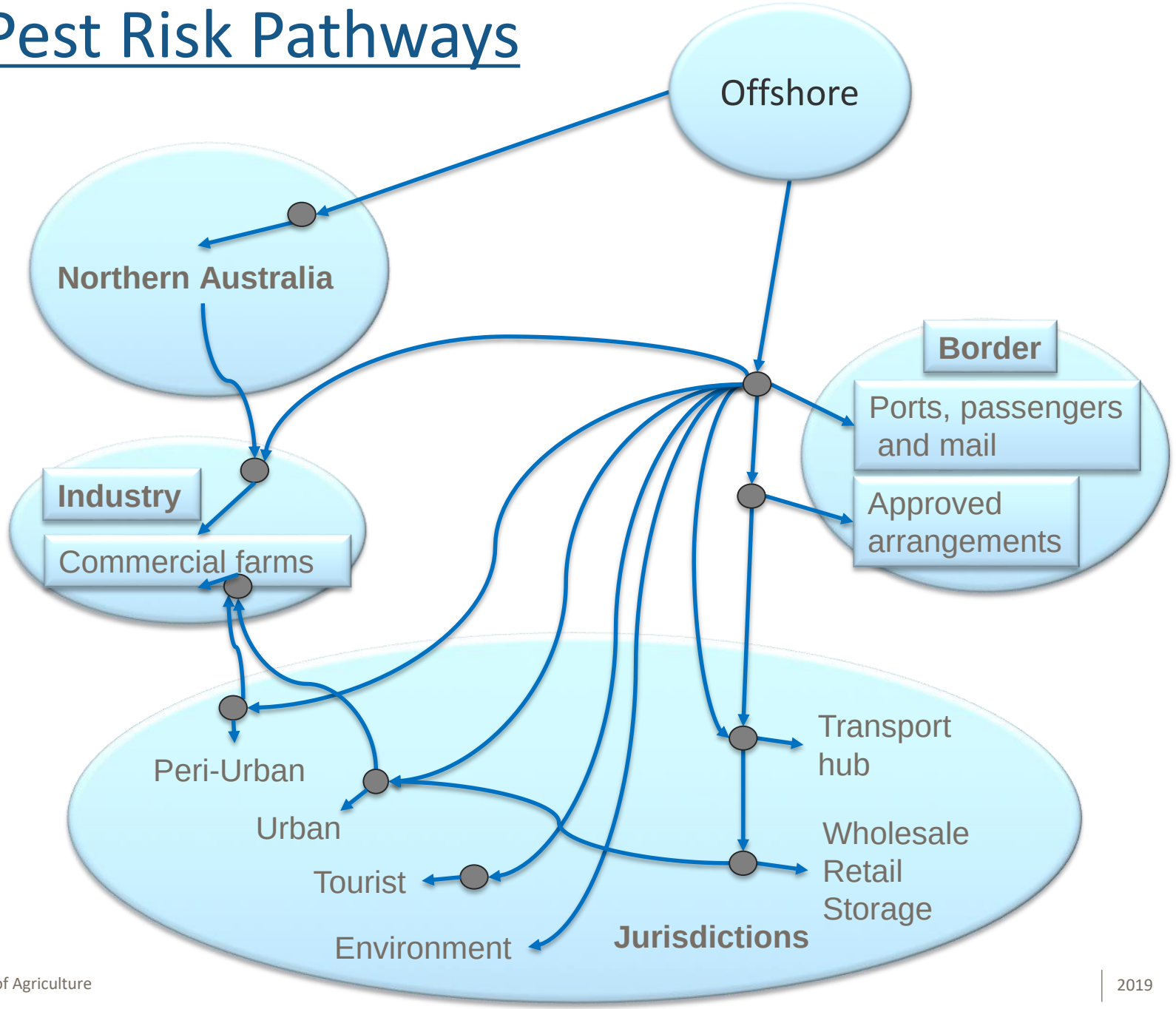
Key players in the plant biosecurity partnership that protects Australia from plant pests



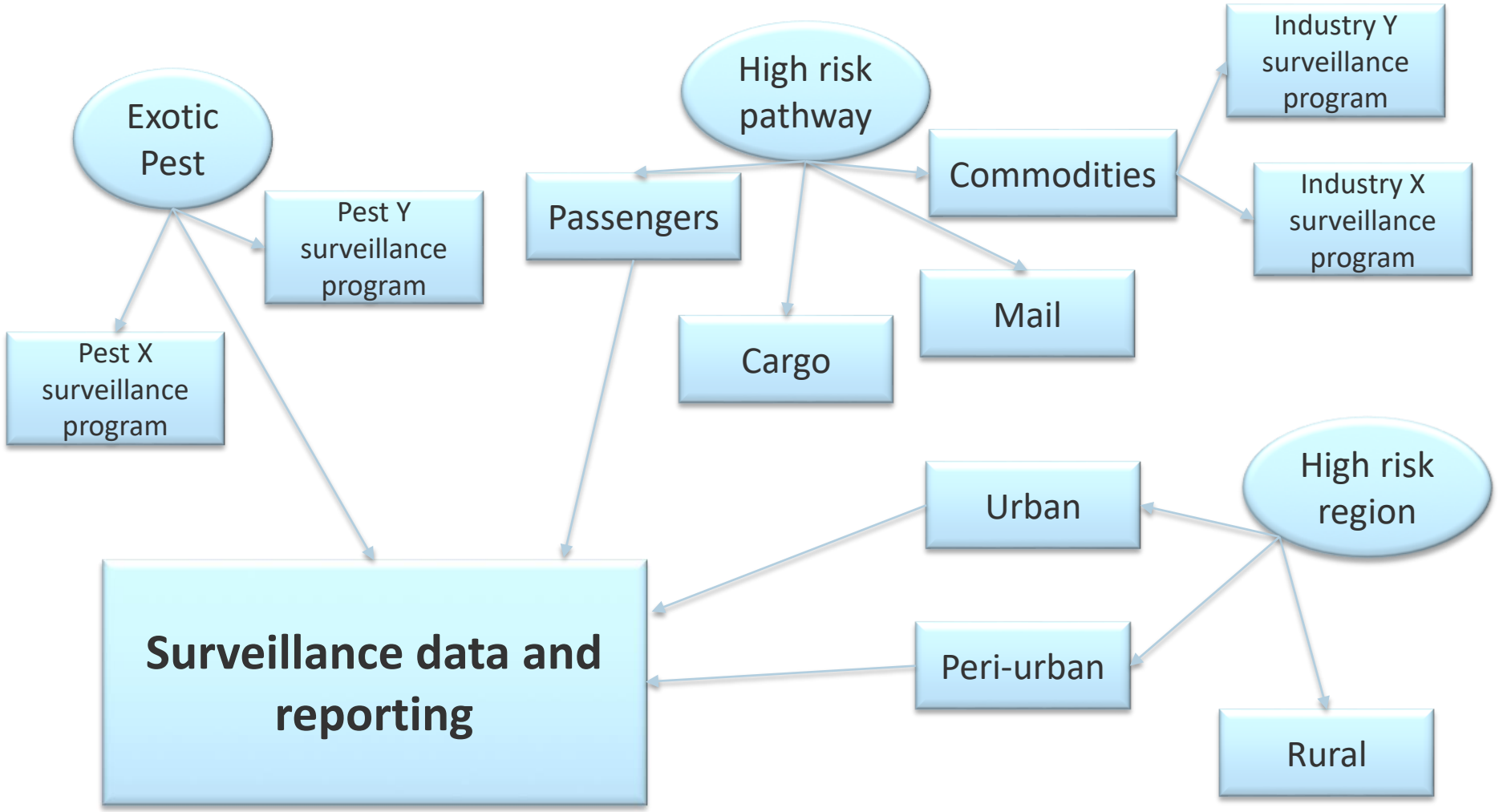
Priority Pest Targets for the Australian Plant Health Surveillance System



Priority Pest Risk Pathways

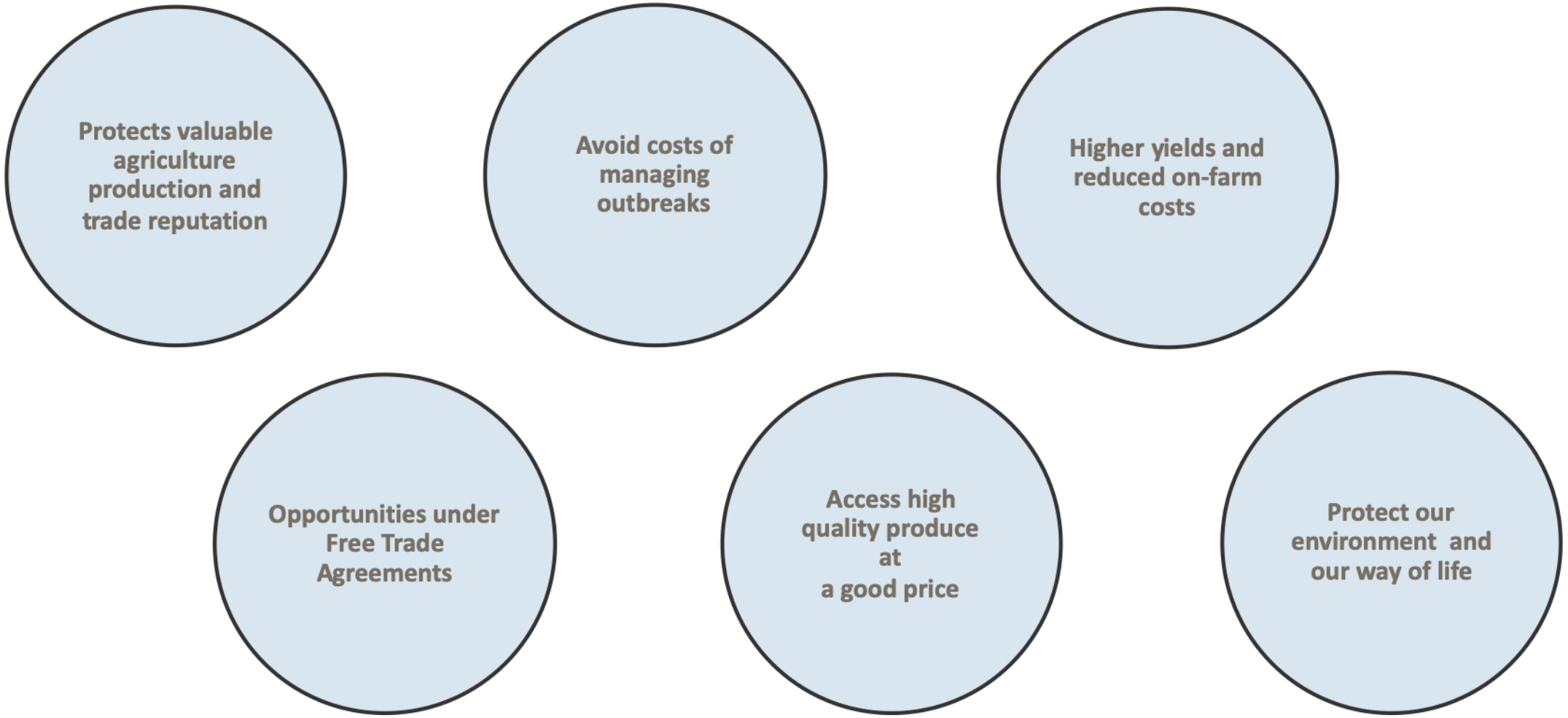


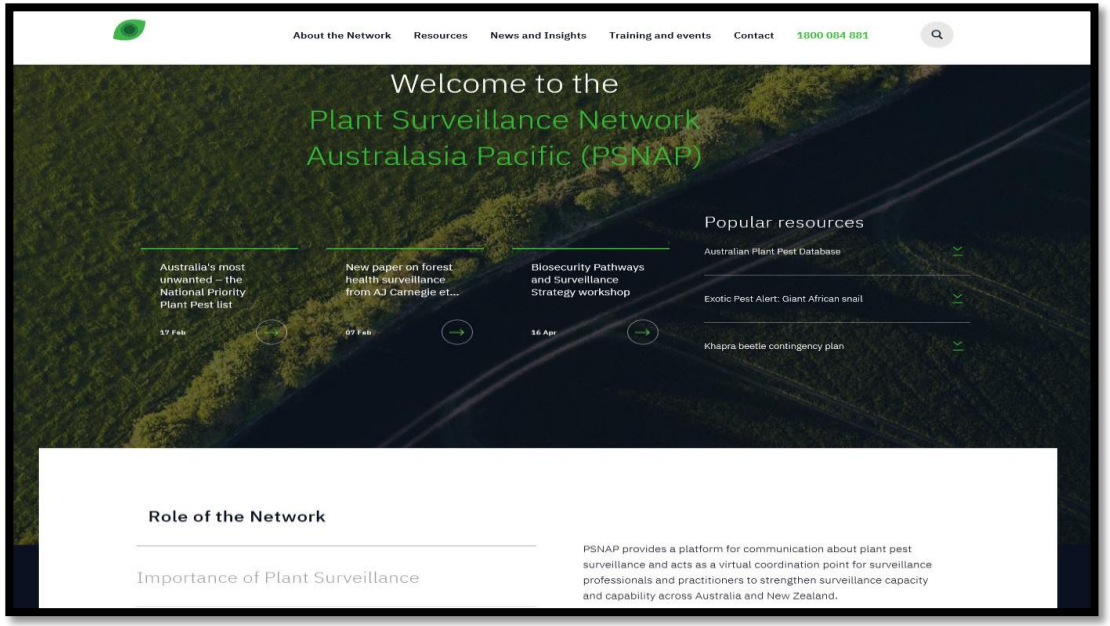
Integration into the National Plant Phytosanitary and Biosecurity System



What are the Benefits of Plant Health Surveillance?

Protecting our economy, environment and communities





Useful Plant Health Surveillance Links and Resources

IPPC Phytosanitary Resources Page

https://www.ippc.int/en/publications/

STDF Surveillance Information Management Systems (SIMS) Project

https://www.standardsfacility.org/PG-432

Australian Plant Health Surveillance Network

http://plantsurveillancenetwork.net.au/

Australia's Top 40 Exotic and Unwanted

http://www.agriculture.gov.au/pests-diseases-weeds/plant

Biosecurity Matters (Australian NPPO)

http://www.agriculture.gov.au/biosecurity/biosecurity-matters

National Plant Biosecurity Status Report

www. planthealthaustralia.com.au/npbsr