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Management of biosecurity risks associated with timber packaging and dunnage

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Interim Inspector-General of Biosecurity

Department of Agriculture and Water Resources

Postal address GPO Box 858 Canberra ACT 2601
Switchboard +61 2 6272 3933
Email inspgenbiosecurity@agriculture.gov.au
Web igb.gov.au/Pages/default.aspx

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Summary

Background

s1. The Australian Government's biosecurity system aims to minimise the risk of entry and establishment of exotic diseases, pests and weeds that could cause significant harm to the Australian economy and the environment.

s2. The management of biosecurity across the continuum is a shared responsibility of the Australian Department of Agriculture and Water Resources, and state and territory governments. The Australian Government has regulatory responsibility for pre-border and border activities and is also active in the post-border management of any biosecurity issues identified in imported goods. State and territory governments are primarily responsible for post-border activities such as surveillance and responses to any incursions.

s3. As part of his annual work plan, the Interim Inspector-General of Biosecurity (IIGB) examined the effectiveness of the department's biosecurity controls for timber packaging and timber dunnage (loose wood or matting used to keep cargo secure).

s4. Packaging and dunnage are used to ensure that goods being transported arrive intact and undamaged. They may consist of a variety of materials, including paper, cardboard, timber, metal and/or plastic; these surround and separate items being transported. Timber is one of the most common materials used due to its relatively low cost, flexibility, ease of use and wide availability.

s5. A range of pests and diseases of biosecurity concern may be present in timber products, depending on their source and how they were processed and stored. Timber packaging is often used only once, so it is usually of the lowest value and quality practicable. Packaging may be constructed from timber that is unsuitable for other uses because of pre-existing pest or pathogen damage. The likelihood of a biosecurity risk being present in individual pieces of processed and treated timber packaging is relatively low. However, the large volume of timber packaging arriving in Australia means that even low likelihood events may occur at an unacceptable frequency.

s6. Timber packaging is present in a significant proportion of cargo arriving by various pathways. The Bureau of Infrastructure, Transport and Regional Economics estimates that containerised cargo volumes will increase by 5 per cent annually over the next 20 years (BITRE 2014a). The amount of accompanying timber packaging arriving in Australia can also be expected to increase significantly.

s7. The department implements measures to minimise biosecurity risks under the *Quarantine Act 1908* and subordinate legislation, including the Quarantine Proclamation 1998. The act will be replaced in June 2016 by the *Biosecurity Act 2015*.

s8. Biosecurity pests of relevance to timber packaging include insects, nematodes and fungi.

s9. The department manages biosecurity risks associated with timber packaging through:

- science-based import risk analysis to underpin import policies
- contributing to the development and review of international standards for timber packaging

- border controls for imports
- surveillance of arriving cargo
- co-regulation of import pathways, in association with industry.

s10. Timber packaging has been shown to be a route for the introduction of harmful pests into Australia. In 2014 timber pallets were identified as the pathway for multiple entries into Australia of three exotic insect pests and one nematode species.

Purpose

s11. The purpose of this audit is to inform the Australian Government Minister for Agriculture and Water Resources about the effectiveness of the department's current biosecurity controls for managing risks associated with timber packaging and dunnage arriving in Australia. Surveillance and inspection of mail and passenger baggage are outside the scope of this audit.

Key findings

s12. The department relies on documentation as a risk mitigation measure for managing timber packaging, especially for the containerised sea cargo pathway. For other arrival pathways including cargo in ships' holds, the department relies on surveillance and inspection to identify any pests or diseases of biosecurity concern associated with timber packaging and dunnage.

s13. In the process of clearing imports at the border, the department collects and records a range of data about each consignment. These data are of critical importance in assessing the effectiveness of biosecurity controls used for a particular entry pathway. It is important that the department derives maximum value from such records (and captures this information in the most cost-effective manner), to continually improve its management of biosecurity risks.

Packing declarations

s14. Packing declarations are mandatory for containerised sea cargo. Depending on information provided in the packing declaration, other documents may be required. Additional documents may include treatment certificates or 'hard frozen' declarations. A hard frozen declaration provides evidence that a consignment has been held at −18 °C or lower continuously for at least seven days. These low temperatures are considered sufficient to prevent the survival of pests or diseases of biosecurity concern.

s15. During fieldwork, regional department staff expressed concern to the IIGB about the reliability and usefulness of packing declarations, particularly regarding:

- use of standardised templates completed to a point where only a final signature and date are required
- attestation by a person with limited English knowledge, of a document written only in English
- attestation by a person with limited or no first-hand knowledge of the packing processes and materials and the biosecurity risk associated with different packing materials used.

s16. The concerns raised with the IIGB are similar to those identified by an external report into the effectiveness of the department's cargo clearance documentary requirements (Tanner James 2010).

s17. To facilitate trade, the department allows the use of annual packing declarations for cargo that is shipped regularly between a single exporter and an Australian importer. This reduces paperwork associated with preparing separate packing declarations for every consignment. The IIGB noted that some importers who have multiple suppliers for commodities often have several separate annual packing declarations to cover different commodity types and suppliers. Such importers may inadvertently provide an incorrect declaration if they have multiple annual packing declarations from the same supplier.

s18. The use of annual packing declarations is prone to error because it assumes a consistent, unchanging packing process. If that process is not followed and materials different to those declared in the annual declaration are used (possibly because the usual materials

have been exhausted), importers who are unaware of any changes may present an annual packing declaration that does not reflect the packing material used in a given consignment.

s19. The only packing declarations that the department requires assessments for are those accompanying imported containerised sea cargo. Packing declarations of most containerised sea cargo consignments are assessed by a customs broker accredited under the department's Non-commodity for Containerised Cargo Clearance (NCCC) scheme. For most containerised sea cargo, this will be the only assessment of the packing declaration. These assessments may be audited by the department.

s20. Audit rates for accredited brokers commence at 1 per cent of all consignments and may increase to 5 per cent, depending on a broker's compliance history.

s21. The department no longer routinely assesses packing declarations unless the consignment is subject to audit or an accredited broker has flagged the consignment as being of concern. Consequently, details of the packaging used and any treatments applied are not recorded, and biosecurity officers inspecting goods are not informed about the status of any timber packaging they observe during an inspection.

International Standard for Phytosanitary Measure no. 15 (ISPM 15)

s22. The ISPM 15 standard is the most common method used to manage biosecurity risks associated with timber packaging. During fieldwork, the IIGB observed that all ISPM 15-stamped timber packaging appeared to carry authentic stamps. Most non-ISPM 15-stamped timber was clearly of domestic origin. For example, it was branded with an Australian company logo.

s23. Based on fieldwork and discussions with industry and biosecurity staff, the IIGB observed that:

- The incidence of bark-related risks has decreased following the inclusion of bark standards in ISPM 15.
- ISPM 15-stamped timber may be cut to size during preparation of packing materials, occasionally resulting in the stamp being destroyed or removed unintentionally from some pieces of timber.
- The ISPM 15 standards state that an integrated unit (for example, pallet or crate) requires only one stamp for the unit to be considered compliant, but this does not apply to temporary assemblies. The IIGB observed examples of timber packaging where some pieces of a temporary assembly lacked ISPM 15 stamps.
- Treatments available under the ISPM 15 standard are of limited, short-term effectiveness. All approved treatments should kill pests or diseases present on the timber at the time of treatment, but they will not prevent reinfestation or reinfection post treatment.

Surveillance and verification activity

s24. The major review *One Biosecurity: A working partnership* (Beale et al, 2008) considered surveillance as a biosecurity risk mitigation measure, and described surveillance as being either active or passive. Active surveillance was defined as 'deliberate, coordinated

searching, diagnosis and reporting of pests and diseases'. Passive surveillance was defined as reporting observations made during normal day to day activity, where the observation was not the consequence of deliberate, coordinated searching.

s25. The department undertakes surveillance and verification of timber packaging in imported cargo. Surveillance activity is accepted as an important biosecurity risk management measure. However, in various departmental documents and work instructions, it appears that that the term 'surveillance' can be used to describe somewhat different types of activity. For example the work instruction *Inspecting timber packaging and dunnage* uses the term surveillance in four different ways within the document. Within the document, surveillance is defined as 'General observation and monitoring of exposed timber surfaces immediately after discharge at the wharf'. Surveillance is then used later in the document in the context of air freight and containerised sea freight which is inconsistent with the definition associated with a wharf inspection. The document also applies the terms ongoing and routine to surveillance within the document but does not provide any guidance about what these mean, in the context of inspection of timber packaging and dunnage.

s26. Following the department's response to the detection of a significant number of infested pallets in 2014, an internal review of timber packaging regulation was undertaken. The review identified six points where management processes had not achieved the required level of risk control.

Containerised cargo

s27. Risk management of containerised cargo relies on an assessment of packing declarations to ensure that any timber packaging risks are addressed. These documents are usually assessed by a customs broker accredited under the NCCC scheme. To ensure that the NCCC scheme continues to provide the expected risk management outcomes, the department conducts random audits of these assessments. Such audits examine only the document assessment process. They do not verify that documents accurately describe the packing material used in each container.

s28. For full container load (FCL) consignments of cargo, the department undertakes a random verification inspection to ensure documents accurately describe the packaging in a consignment. Verification occurs under the Cargo Compliance Verification (CCV) programme. This involves a full unpack inspection of a small number of FCL consignments not normally inspected by the department. Inspectors compare information presented in the documents used for border clearance with the cargo and its packaging.

s29. The CCV programme is supported by appropriate work instructions and is based on statistically valid methodology. The detailed process and sample selection method are a reliable means for assessing biosecurity risks of the FCL pathway.

s30. The CCV programme is the most comprehensive assurance process undertaken by the department because it encompasses all potential risks of a consignment, including commodity and packaging risks and accuracy of documents. However, the CCV programme covers only FCL cargo. An extension of the CCV programme to other cargo pathways would provide an improved basis for risk management decisions for those pathways.

Break bulk cargo

s31. Break bulk cargo are goods transported without use of a shipping container. Break bulk cargo is usually transported as individual pieces and such cargo is often large and heavy. Biosecurity risks associated with timber packaging on the break bulk cargo pathway are managed solely through inspection activities. A packing declaration is not required for break bulk cargo at the time of clearance. Instead, each stevedore gives the department a list of all break bulk cargo being unloaded at a particular location. The department then inspects the cargo before its removal from the wharf. However, inspections are not always possible because owners or agents can move cargo once it is unloaded without notifying the department. Most wharves charge extra fees for cargo that remains on-site for more than 72 hours. As a result, most cargo is removed from the wharf well within this period. The department may not have the opportunity to inspect cargo that is unloaded and removed soon after unloading or unloaded just before or during weekends or public holidays.

Wharves

s32. All non-commodity biosecurity risks on a wharf are managed by surveillance. The only exception to this approach is a current trial of verification inspections for 100% of vessel dunnage and the routine inspection of break bulk cargo. The only work instruction in the department's Instructional Material Library for this activity is *Wharf & vessel surveillance,* published in 2006. The instruction refers to surveillance activity as patrolling the wharf environs to identify any issues of quarantine concern, but does not detail how this activity should be done. The document focuses primarily on managing risks associated with vessels while they are in port.

Air freight

s33. Biosecurity risks associated with timber packaging on the air freight pathway are managed solely through surveillance activities. The normal process of surveillance is for a biosecurity officer who is otherwise present at a particular location to undertake surveillance before or after their other planned inspection activities. Where a biosecurity officer is working permanently at a location, they would usually undertake surveillance when not engaged in other duties. This implies that active surveillance often occurs only once a day at locations where biosecurity officers are stationed permanently or visit daily. Locations not requiring regular, frequent visits by biosecurity officers are not subject to the same level of surveillance, even though they may store and handle volumes of cargo similar to other locations. These infrequently visited sites generally handle cargo which does not require inspection to address biosecurity risks.

s34. The department records air freight surveillance activity on a SharePoint portal, which all air freight staff can access. The portal records the number of surveillance visits, time spent on surveillance, type of surveillance and any interceptions of biosecurity risk material that occur. The IIGB examined national data recorded for a three-month period and found that local surveillance activity is not proportionate to the amount of air cargo arriving at each port.

Surveillance across arrival pathways

s35. In addition to the pathway-specific approaches to surveillance described in s25 to s32, surveillance should be an ongoing part of general biosecurity activities. During fieldwork, the IIGB had the impression that officers undertaking planned activities (for example, inspections) at quarantine approved premises (QAPs) understood that they should undertake passive surveillance whenever possible.

s36. Surveillance is an important part of biosecurity risk management that is frequently referenced in import requirements, work instructions and by department officers. However, the methods used for surveillance range from well-documented, high-quality and statistically valid processes (in the case of CCV) through to undocumented and unrecorded processes and activities. It was noted that the work instruction *General inspection of imported sea cargo*, issued in 2011, refers to the development of a surveillance work instruction which is yet to be finalised. For surveillance to be of maximum value to the department, officers should record the number of items checked as accurately as is practical, approximate time spent on surveillance and any issues that are identified. At present, this information is not available for all surveillance activities.

Quarantine approved premises

s37. All QAPs must meet specific requirements for items that are subject to quarantine, including packaging materials. The four categories subject to quarantine are:

- imported items
- products made from imported items
- by-products and waste from imported items
- items that have been in contact with or contaminated by imported items.

s38. Items subject to quarantine must be kept isolated from items that are not subject to quarantine. If isolation is not maintained, items not otherwise subject to quarantine will have to be quarantined. For timber packaging, isolation is usually achieved by placing packaging subject to quarantine at least one pallet width away from items that are not subject to quarantine. During visits to several QAPs, the IIGB noted that pallet width isolation is not always maintained as required in the various QAP class criteria.

s39. During fieldwork, the IIGB noted that the air freight industry generally has a high turnout rate. The turnout rate is the time it takes for cargo to arrive at the premises and then be sent onwards to the owner. Typical turnout rates are less than 24 hours and may be as short as 8 hours. This limits the opportunities for biosecurity officers to carry out surveillance on consignments not otherwise requiring inspection.

s40. Class 1.1 and class 1.3 QAPs are required to maintain a detailed record of all timber packaging issues they identify in sea freight, using a quarantine risk material record form. However, the department is not notified about such issues because these QAPs are accredited to address such issues on the department's behalf. At present, the department does not use these records to develop risk profiles for timber packaging use.

Industry communication and education

s41. Industries in the import supply and logistics chain are critical partners in effectively managing national biosecurity risks. The department has produced a range of communication and education materials to encourage awareness and knowledge among industry personnel.

s42. The department's engagement with industry participants is primarily through the '*See. Secure. Report.'* campaign. The campaign targets biosecurity issues that might be encountered in commercial importations and is not designed to address issues associated with the passenger and mail import pathways.

s43. Both industry and department staff consider that education of industry personnel is a worthwhile activity. The IIGB noted that there was general agreement that people who are responsible for processing imported materials should be provided with high-quality training and an awareness of any biosecurity risks associated with these materials. Existing education and training activities appear to effectively engage industry personnel who are in direct contact with biosecurity officers. However, these current activities appeared to be of less value to individuals and companies involved in processes that follow the formal clearance of goods, for example, importers who do not operate QAPs and who use brokers to manage their imports to final delivery.

Staff communications

s44. Biosecurity staff have adequate knowledge to undertake their roles. However, they do not always appear to understand why specific operational policies exist and have changed over time. One biosecurity officer questioned why the department now allows some bark to be present on timber packaging. This policy change was misinterpreted as the department's response to lobbying by a large local importer with a history of failing to meet requirements for bark-free imports. This misunderstanding illustrates the need to inform operational officers about the reasons for policy changes. This will also help them respond to questions from the department's clients.

Conclusion

s45. Timber packaging is used in a large proportion of cargo imported into Australia. A wide range of pests and diseases of biosecurity concern may be present in this timber, representing a significant biosecurity risk.

s46. Timber packaging is a known pathway for the introduction of harmful pests, including Asian longhorn beetle. In 2014 the department identified timber pallets as the cause of multiple entries of three insect pests and one species of nematode. The department mounted a major response, which appears to have been successful. The follow-up internal review of governance processes in 2015 showed that lapses in implementation of departmental policy, effective data recording and analysis contributed to the entry of the infested pallets.

s47. In common with many countries, Australia relies on the international ISPM 15 standards to mitigate risks associated with timber packaging. The use of this standard has reduced the number of incidents related to timber packaging but it is generally accepted that the ISPM 15 standard does not prevent reinfestation by certain types of organism such as dry wood termites.

s48. The use of packing declarations in mitigating risks associated with timber packaging appears to be of limited value. Surveillance is recognised as an important part of risk management but, apart from CCV activities, much surveillance appears to be an impromptu, ad hoc, activity that is unrecorded and the results unreported. It would be beneficial to implement a simple, cost-effective reporting process to allow more effective management of biosecurity risks.

s49. The department appears to be satisfactorily managing biosecurity risks associated with imported timber packaging. However, it should consider the recommendations in this report, which are aimed at improving existing controls.

Recommendations

The full department response to the recommendations is at Appendix A.

Recommendation 1

paragraph 3.20	The department should review the process for initial approval and ongoing acceptance of annual packing declarations, including consideration of: a) developing a mandatory compliance history for individual packers, b) the feasibility of withdrawing or cancelling an annual declaration if required, c) varying approval periods, to reflect compliance history. **Department's response: Agreed**

Recommendation 2

paragraph 3.25	The department should record information about timber packaging in AIMS, for those consignments subject to document assessment by a department officer. This information would assist in identifying undeclared or incorrectly-declared timber packaging during inspections. **Department's response: Agreed**

Recommendation 3

paragraph 3.48	The department should address each of the issues identified in the timber packaging case study undertaken by the Plant Biosecurity Division in 2015. **Department's response: Agreed**

Recommendation 4

paragraph 3.56	The department should consider expanding the Cargo Compliance Verification programme beyond full container loads to include additional arrival pathways. **Department's response: Agreed**

Recommendation 5

paragraph 3.71	The department should develop an over-arching surveillance policy that explains how surveillance fits into routine biosecurity activities, the priority

	to be given to surveillance when planning day-to-day activities and appropriate record-keeping requirements. This policy should link existing surveillance-related documents for all worksites and ensure relevant instructional material is provided at all worksites. **Department's response: Agreed**

Recommendation 6

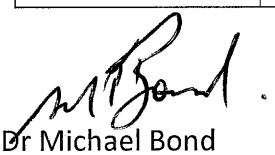
paragraph 3.80	As part of its strategy to improve data capture and assessment of pathway performance, the department should consider using information from 'quarantine risk material records' to improve risk profiles. **Department's response: Agreed**

Recommendation 7

paragraph 3.86	The department should consider making biosecurity awareness and training material for industry easier to find on its website and investigate opportunities for extending the range and media used to deliver the content. **Department's response: Agreed**

Recommendation 8

paragraph 3.91	The department should review its internal communications policy to ensure biosecurity officers receive feedback about surveillance, audit outcomes and explanations for any policy changes. **Department's response: Agreed**



Dr Michael Bond
Interim Inspector-General of Biosecurity

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1 Background

Timber packaging and dunnage

1.1 Timber packaging and dunnage are used for air and sea freight transport in domestic and international trade. Packaging is designed to move and/or protect cargo and includes crates, cartons and pallets. Dunnage is used to brace cargo and prevent movement within a three-dimensional space such as a ship's hold.

1.2 Within the international transport industry various shipping methods are used. These are summarised in Table 1.

Table 1: Shipping methods

Shipping method	Description
Full container load (FCL)	A single consignment shipped in a container,
Less than container load (LCL)	A container where multiple consignments are amalgamated and shipped in a single container. There may be multiple suppliers and recipients
Break bulk cargo	General cargo (often large heavy items) that is not shipped inside a container
Air freight or air cargo	Cargo shipped on an aircraft, often in specially-designed lightweight containers
Bulk cargo	Cargo loaded directly into a vessel's hold using cranes, pipes or conveyors (for example, grain, petroleum)

1.3 The amount and type of packaging will depend on the method of shipping and the size and weight of the goods being transported. A small, light item may require nothing more than a normal retail carton to enable safe shipping. By contrast, large or heavy items often require substantial additional material to ensure they do not shift and damaged during transport or cause damage to the transport ship or vehicle. Dunnage can be used to make more efficient use of available space, enabling goods to be stacked during transport.

1.4 Packaging may comprise a variety of materials, including paper, cardboard, timber, metal or plastic. Until recently, timber was the common choice for packaging due to its availability, low cost, wide range of sizes and ease of cutting to fit required dimensions. Importers can now choose alternative materials that are cheaper, lighter, stronger, can be cleaned easily and have less environmental impact. Although timber use has decreased, it is still commonly used in packaging.

1.5 Packaging is often used in the form of cases, crates, pallets, bearers, beams, skids, load boards, drums or blocks. In considering biosecurity risks of a consignment, the focus is often on the actual commodity (for example, furniture) and less on the packing material (for example, wooden crates). This means that packaging may not be clearly described as part of the commercial documentation for a consignment. For the buyer and seller, the need to describe packaging is often secondary to the requirement to describe the goods being transported and the terms of trade between the two parties. Consequently, it is often difficult for the department or its assessors to identify biosecurity risks that may be associated with the packaging of an individual consignment.

1.6 Packaging can be considered as either single or multiple use. Single-use packaging is usually cut to size to hold a single consignment in a particular three-dimensional space. The most common form of timber packaging is the shipping pallet, which can be re-used and is available in standard sizes, but can also be customised.

1.7 A benefit of timber pallets is that they are manufactured from multiple pieces of timber, enabling repair when individual timber components are damaged or deteriorate. This extends the lifecycle of individual pallets and is cheaper than constructing complete new pallets. Timber pallets at the end of their useful life can be processed into wood chips or used as feedstock in bioreactors. This is in contrast to other types of pallets (for example, metal and plastic), which are difficult to repair or recycle economically.

Biosecurity risks of timber packaging

1.8 Wood, whether sourced from living or dead trees, may harbour a variety of pests and diseases. In an unregulated situation, timber packaging is often made from raw wood that has not undergone sufficient processing or treatment to remove or kill pests. Such untreated wood could be a pathway for the introduction and spread of biosecurity pests and diseases.

1.9 Biosecurity pests associated with timber packaging include:

- insects
  - termites
  - beetles
  - borers
  - moths and butterflies
  - wasps
  - ants
- nematodes (often carried by an insect host, but can be carried in untreated wood)
- fungi
  - stain fungi
  - rots.

1.10 Timber packaging is a known pathway for the introduction of harmful pests and diseases. The Asian longhorn beetle was introduced into the United States between 1996 and 1998 through infested timber packaging. The beetle was discovered in New York in 1996 and in Chicago in 1998. It was subsequently found in adjoining US states and in Canada in 2002, 2003, 2008 and 2011. These may have represented new incursions or incursions by existing US populations. The beetle was declared as eradicated from Chicago in 2008, but the pest has not been eradicated from other infested US locations. Between 1996 and 2013, Asian longhorn beetle control and eradication cost US$628 million (USDA 2015).

1.11 Asian longhorn beetle has also been found in several member states of the European Union. In 2012 populations were well established in Austria and Italy, and eradication campaigns underway in France, Germany, the Netherlands, Switzerland and the United Kingdom. The beetle was also found in Belgium, but was eradicated. In November 2014 the European Union allocated €5.7 million to emergency measures for plant pests, including Asian longhorn beetle.

1.12 In 2013 the European Union implemented a new decision requiring member states to undertake a heightened level of surveillance of timber packaging used with selected commodities shipped from China. This was in response to detection of several high-risk organisms, including Asian longhorn beetle, in the timber packaging used with these commodities. From February 2013 such commodities were subject to inspection of 90 per cent of consignments. Following analysis of initial data in early 2015, the inspection rate was reduced to 15 per cent.

1.13 In 2014 the European Union recorded 258 interceptions of high-risk organisms on various objects, mostly timber packaging. High-risk organisms associated with timber packaging represented approximately 10 per cent of all high-risk organism interceptions in the EU in 2014 (Europhyt 2015).

Interceptions of biosecurity pests on timber packaging in Australia

1.14 Australia has regulated entry of timber at the border for many decades. Until the 1970s, Australia relied primarily on physical inspection to identify pests and diseases on timber and timber packaging. Since then, the specific risk management methods for timber packaging have been reviewed periodically. The most recent major changes were the implementation of bark tolerance levels and dielectric heating as a consequence of revisions to the ISPM 15 standard.

1.15 The department's *Technical justification for wood packaging material to be bark free* (Biosecurity Australia 2006) lists more than 5 500 separate insect interceptions on timber packaging between 1975 and 2003. This reflects the level of risk that existed before the implementation of ISPM 15 in Australia in 2004.

1.16 In 2014 the department initiated tracing of timber pallets infested with Asian longhorn beetle, mulberry longhorn beetle and Japanese pine sawyer beetle. The affected timber pallets, imported from China between September 2013 and May 2014, were traced to premises in Sydney, Brisbane, Melbourne, Adelaide and Perth.

1.17 All consignments containing the affected pallets had accompanying declarations stating that the pallets met the ISPM 15 requirements; however, the ISPM 15 stamp used on the pallets did not meet the international standard. While the stamp used was not compliant with ISPM 15, the relevant overseas National Plant Protection Organisation indicated that the treatment applied prior to stamping was ISPM 15 compliant.

1.18 Asian longhorn, mulberry longhorn and Japanese pine sawyer beetles are serious pests of timber. If they established in Australia, they would significantly affect our forestry and horticulture industries. The Japanese pine sawyer beetle is a vector of pine wilt nematode, which is also of significant biosecurity concern.

1.19 Following the events in 2013-14, the department undertook a review of the governance processes applied to timber packaging regulation in Australia. This review was completed in early 2015, and aimed to identify how departmental business processes may have contributed to the entry of these high risk pests into Australia.

1.20 The review identified several issues with the implementation of timber packaging policies and associated lapses in reporting non-compliant timber packaging to relevant National Plant Protection Organisations (NPPO).

1.21 Some of the specific issues noted in the review included;

- A lack of clear roles and responsibilities for ensuring that new biosecurity policy advice was effectively integrated into existing operational practices. Several areas of the department contributed to the production of operational instructional material, but no single area was responsible for ensuring its effective implementation. This lead to operational procedures no longer being adequate to address the biosecurity risks identified.
- A lack of effective performance monitoring and consequential inaccurate or inaccessible reporting data meant that the department was unable to measure risk management outcomes of current policies. This also contributed to the department being unable to reliably identify and report all non-compliance incidents to National Plant Protection Organisations, as required under the ISPM standard.
- Good quality, integrated information management practices were not available, resulting in relevant international intelligence not being captured. The absence of good information management practices meant that changes in biosecurity risks were not being identified and reassessed.

International Standards for Phytosanitary Measures no.15 (ISPM 15)

1.22 In 1999 work commenced on the development of an ISPM standard for timber packaging. *ISPM 15—Regulation of wood packaging materials in international trade* was published in 2002. It was updated in 2006 and 2009 to include revised requirements that reflected ongoing research into risks associated with timber packaging.

1.23 The scope of ISPM 15 describes

> phytosanitary measures that reduce the risk of introduction and spread of quarantine pests associated with the movement in international trade of wood packaging material made from raw wood …The phytosanitary measures described in this standard are not intended to provide ongoing protection from contaminating pests or other organisms. (FAO 2013)

1.24 The ISPM 15 standard states that timber packaging is often re-used, repaired or re-manufactured, making it difficult or impossible to determine the origin of a piece of timber packaging material. To address this issue, the standard describes internationally acceptable measures that countries can apply to wood packaging material to significantly reduce the risk of introduction and spread of most quarantine pests associated with this material.

1.25 ISPM 15 primarily focuses on pests that pose a risk to living trees. Pests that infest dried and/or dead timber (for example, termites) are not addressed by ISPM 15. Infestation or infection by dry wood pests and diseases may occur once ISPM 15 treated timber has dried during normal use.

1.26 ISPM 15 has two main components. The first is a list of treatments that, when applied to raw timber, are sufficient to reduce any phytosanitary risk to an acceptable level. The second describes an international stamp that national plant protection organisations and industry can use to show that the timber has been treated according to the standard. The international stamp must be applied to treated timber in a way that ensures it cannot be removed. This permits a national plant protection organisations or user to determine that the timber has been treated, even if its history is unknown.

1.27 Before inclusion of the bark tolerance limit in ISPM 15 (2009), significant differences existed between acceptable timber packaging under ISPM 15 and Australian import

requirements. Australian requirements had a zero tolerance for bark, whereas bark was not a factor in the acceptability of timber prepared to the ISPM 15 standard. ISPM 15-treated timber often had bark present, which under domestic legislation required treatment on arrival in Australia. As part of the development of the ISPM 15 (2009) standard, Australia contributed scientific data demonstrating that the presence of bark was often associated with the presence of insects on ISPM 15-treated packing materials. But the data also demonstrated that small pieces of bark did not significantly change the risk of infestation after ISPM 15 treatment. Allowing bark, but limiting its acceptable size, means that packaging can meet the appropriate level of protection, with minimal impact on users of timber packaging materials. The inclusion of a tolerance limit for bark contamination on ISPM 15-treated timber has measurably increased the rate of timber packaging that meets Australia's import requirements.

Regulation of timber packaging in cargo imported into Australia

1.28 The 1996 Nairn review recommended that:

> ... as a matter of urgency, procedures for the identification of the presence and type of timber dunnage and packing associated with imports be uniformly implemented across all ports of entry, and that the required quarantine inspection be undertaken (Nairn et al. 1996, p. 156).

1.29 The use of surveillance as a biosecurity management measure is based on work undertaken by the department between 1997 and 1999 in response to the Nairn review recommendation. During this period the department undertook random inspections of packaging used for cargo. The programme focused on the air cargo, break bulk and LCL pathways; the FCL pathway already required declarations about the use of timber packaging.

1.30 An internal report on the outcomes of the surveillance programme was presented to the AQIS Industry Cargo Consultative Committee in September 1999. This report also included proposed future procedures to address the risks identified during the surveillance programme.

1.31 The surveillance found that 4.15 per cent of imported cargo that was inspected had issues of biosecurity concern, including bark, insects and various types of contamination such as soil, seed, plant or animal material. The most common problem identified was the presence of bark in 3.65 per cent of consignments inspected.

1.32 Analysis of the surveillance data showed large differences in the frequency of biosecurity issues for different arrival pathways. The air cargo pathway was found to have significantly fewer occurrences of biosecurity concern associated with packaging. By contrast, LCL cargo had more frequent occurrences of issues associated with packaging materials. Detection rates for each pathway and risk type are summarised in Table .

Table 2 Frequency of biosecurity issues on arrival pathways, by percentage

Biosecurity issue	Arrival pathway			
	Air cargo (%)	Less than a container load (LCL) (%)	Break bulk (%)	All pathways (%)
Bark	1.63	5.54	5.95	3.65
Borers	0.06	0.32	0.24	0.21

Biosecurity issue	Arrival pathway			
	Air cargo (%)	Less than a container load (LCL) (%)	Break bulk (%)	All pathways (%)
Insects (not borers)	0.01	0.04	0.24	0.04
Other	0.04	0.11	0.96	0.1
Seeds	< 0.01	0.01	0.64	0.1
Snails	nil	< 0.01	0.08	< 0.01
Soil	0.01	0.12	5.55	0.12
Straw	nil	< 0.01	nil	< 0.01

Source: Department of Agriculture and Water Resources, Canberra

1.33 The key findings presented in the report to the AQIS Industry Cargo Consultative Committee included:

- most insects associated with wooden packaging and dunnage were exotic
- most insects detected included adults, presenting a high risk of cross-contamination
- most interceptions were from Asia
- air cargo posed a lower risk than LCL or break bulk cargo
- the number of detections fell during the survey period.

1.34 Based on the surveillance data and key findings, the report recommended several risk management procedures/strategies to address non-commodity (packaging) issues. These recommendations still form the basis for the department's management of timber packaging:

- For air cargo and break bulk cargo, surveillance was the preferred risk management measure because air cargo was a relatively low-risk pathway and break bulk cargo was usually concentrated in a limited number of locations, which facilitated surveillance. The report proposed that this activity continue, using existing resources.
- For LCL cargo, recommendations were extensive and resulted in significant changes in import procedures for packaging materials. These included
    - extending the broker accreditation scheme to include LCL cargo
    - developing depot compliance agreements for LCL cargo.
- The extension of the broker accreditation scheme was implemented in 2000. Under this scheme, all imports of LCL cargo required a packing declaration attesting to the use of timber in the packaging. The recommended changes to depot compliance agreements are reflected in the current requirements for quarantine approved premises (QAPs) that are permitted to accept LCL cargo.

Current Australian requirements for timber packaging and dunnage

1.35 The department regulates all solid timber packaging and dunnage, excluding products made from processed timber materials. However, where solid timber is mixed with processed materials (for example, plywood pallet top with solid timber beams), the item is considered to be solid timber.

1.36 The department has published requirements for timber packaging used in these import pathways:

- containerised sea freight
- air freight
- break bulk cargo
- ships' holds.

1.37 No specific timber packaging requirements apply for the international mail and bulk cargo import pathways. Any timber packaging (such as presentation boxes) used with international mail is inspected and the risk assessed, consistent with standard timber commodity requirements. The nature of bulk imports (such as grain or mineral ores handled via conveyor systems) obviates the use of timber packaging in this pathway.

Containerised sea freight

1.38 Containerised sea freight entering Australia must be accompanied by a declaration by the exporter (supplier) stating whether timber packaging is present. If it is present, a further declaration is required indicating whether the timber is ISPM 15-compliant and certified or has been treated in another manner acceptable to the department. Where these conditions are not met, the timber packaging and the associated goods must be treated in Australia before delivery to the importer. Alternatively timber packaging may be removed from the consignment and either re-exported from Australia or destroyed. Re-export or destruction may include the imported goods where timber packaging has led to cross contamination.

1.39 Two exceptions to the general requirement for providing timber packing declarations for containerised cargo are:

- International Organisation for Standardisation tank containers (ISO tanks) used for carrying bulk liquids
- 'hard frozen' refrigerated containers, where the goods have been subject to −18 °C or lower continuously for at least seven days; these low temperatures are considered sufficient to prevent survival of any organisms of biosecurity concern.

1.40 The department operates the Non-commodity for Containerised Cargo Clearance scheme for assessment of non-commodity risks, including those for timber packaging. The scheme permits suitably trained and accredited industry personnel to assess timber packaging documents and self-direct their consignments for treatment or removal of packaging as required. If the packaging is assessed as meeting non-commodity requirements and the commodity itself is not of biosecurity concern, the imported cargo is released.

1.41 The number of full import declarations for containerised sea freight consignments arriving in Australia increased from 1 399 319 in the year ended 30 June 2010 to 1 520 147 in the year ended 30 June 2014 (Table).

Table 3 Full import declarations for containerised sea freight, by number

Freight type	2010–11	2011–12	2012–13	2013–14	2014–Mar 2015
FCL	954 015	994 966	1 020 984	1 043 076	792 932
FCX	84 440	85 443	85 661	99 292	75 050
LCL	360 864	368 506	369 924	377 779	279 730
Total	1 399 319	1 448 915	1 476 569	1 520 147	1 147 712

Note: **FCL** Full container load. **FCX** Full container multiple house bills. **LCL** Less than a container load.
Source: Department of Agriculture and Water Resources, Canberra

Air freight

1.42 For air freight imports, the department has no formal requirement to present documents for timber packaging. The department manages biosecurity risks of timber packaging used in air freight through ongoing surveillance of air freight facilities. Any risks identified during surveillance are addressed on a case by case basis. Timber packaging is not used as much for air freight as it is for containerised cargo because timber is heavy and unit weight charges for air cargo are much higher than containerised cargo.

1.43 The number of full import declarations for air freight consignments arriving in Australia has remained relatively constant over the past four years to 2013–14, peaking at 3 594 424 in 2011–12 and falling to 3 479 180 in 2012–13 (Table). These results exclude consignments valued at less than A$1 000 because most of these are high volume parcel services, where the use of timber is less likely.

Table 4 Full import declarations for air freight, numbers

Category	2010–11	2011–12	2012–13	2013–14	2014–Mar 2015
Declarations	3 532 570	3 594 424	3 479 180	3 582 795	2 779 396

Source: Department of Agriculture and Water Resources, Canberra

Break bulk cargo

1.44 Imported break bulk cargo does not require formal documentation for timber packaging. All break bulk cargo is off-loaded at a wharf, where the goods are subject to inspection by biosecurity officers. Any risks identified during surveillance are addressed on a case by case basis.

1.45 The largest number of full import declarations for break bulk cargo arriving in Australia has remained relatively constant over the past five years to 2013–14, peaking at 163 332 in 2010–11 and falling slightly to 156 772 in 2013–14 (Table).

Table 5 Full import declarations for break bulk sea freight, numbers

Category	2010–11	2011–12	2012–13	2013–14	2014–Mar 2015
Declarations	163 332	155 746	161 975	156 772	103 524

Source: Department of Agriculture and Water Resources, Canberra

Ships' holds

1.46 Timber dunnage is used in vessel holds to protect against cargo damage and uncontrolled movement during rough seas. The dimensions of this type of packaging reflect the greater

weight of the cargo carried in a vessel hold. Timber dunnage includes support blocks, wedges, bridges and bracing.

1.47 Dunnage in a vessel hold may vary greatly in size from a few centimetres to many metres in length, depending on the dimensions of the cargo. The cross-sectional size of such dunnage may be quite large. The department imposes a practical upper limit, prohibiting the import of timber greater than 20 centimetres in its smallest dimension.

1.48 The need to vary the size of dunnage pieces presents some practical issues for users of vessel dunnage because it is possible to unintentionally deface or remove ISPM 15 treatment stamps when cutting dunnage to size.

1.49 Timber packaging used on a vessel is not considered cargo and is therefore not reported into the Integrated Cargo System (ICS). As a result, the department is unable to target this material through the normal profiling process in the ICS. Instead, timber packaging originating on a vessel is regulated by a requirement in the *Customs Act 1901* that prevents removal of material from a vessel without permission. Any timber packaging used on the vessel and off-loaded is subject to this requirement and the department provides direction to the vessel via the Australian Border Force. Therefore timber packaging is subject to quarantine control and is either consigned for destruction as quarantine waste or reloaded onto the vessel before departure.

Audit objective and scope

1.50 This audit aimed to examine how effectively the department manages biosecurity risks associated with the importation of timber packaging and dunnage into Australia. The IIGB placed particular emphasis on:

- import requirements—adequacy of import requirements, including treatments applied to timber packaging and the application of the ISPM 15 standards, in managing biosecurity risks
- certifications and declarations—adequacy of accompanying documents in addressing biosecurity risks
- border activity—assessment of verification inspection procedures
- port (wharf) surveillance—dunnage storage and disposal
- potential for establishing approved import pathways and for using accredited industry stakeholders
- identification of any practicable improvements to import procedures and/or documents for timber packaging to mitigate biosecurity risks
- timber packaging arriving at the border as part of a consignment reported on a full import declaration, as unaccompanied personal effects or as dunnage used in ships' holds or decks.

1.51 The audit did not include:

- consideration of the biosecurity import risk analysis in relation to timber packaging and dunnage
- use of packaging or dunnage that is not solid timber, including airbags, plastic, manufactured wood (plywood, chipboard, medium-density fibreboard), paper and bamboo
- international trade aspects (for example, allocation of tariffs) unrelated to biosecurity

- commercial considerations
- timber packaging imported as accompanied baggage, mail, on small private vessels (for example, yachts) or reported in the Self-Assessed Clearance database
- the scientific basis of the ISPM 15 standard.

Audit methodology

1.52 The IIGB undertook audit fieldwork in two regions:

- Adelaide (South West)
- Melbourne (South East).

1.53 The methodology of this review included:

- an entry meeting with stakeholders to enable the IIGB to
  - communicate the audit objectives and scope
  - outline responsibilities
  - identify risks related to the audit and any appropriate mitigation strategies
  - obtain initial background information on the use of timber packaging and dunnage
  - provide an opportunity for all parties to discuss and seek points of clarification from the IIGB about the proposed audit process
- a desktop audit of relevant department data and documentation (such as standard operating procedures, work instructions, communications material, import requirements) and inspection and verification procedures relevant to timber packaging and dunnage
- fieldwork to observe and verify the department's procedures and operations; fieldwork included consultation with relevant industry personnel
- exit interviews with stakeholders to
  - provide an overview of initial audit findings
  - provide an opportunity for stakeholders to correct any misunderstandings and give feedback on the audit process
  - outline the process of release and response to the discussion paper and draft report

The audit team

Auditors Jonathan Muller and Greg Healy assisted the IIGB in this audit. Naveen Bhatia assisted with editing the draft report.

2 Management of biosecurity risks

Import requirements

2.1 At the time of fieldwork import requirements for timber packaging and dunnage are listed in the department's Import Conditions (ICON) database. In 2015, the ICON database was replaced by the BICON system. BICON contains the same information as ICON, but provides improved search functionality and information presentation.

2.2 Given the difficulty of verifying the phytosanitary status of timber used for timber packaging, current import requirements assume that all timber packaging may harbour a biosecurity pest or disease. It must therefore be treated in a manner sufficient to remove any biosecurity risk present.

2.3 The department's pre and post-import requirements to address biosecurity risks associated with timber packaging include:

- use of ISPM 15-compliant timber
- use of timber packaging that has been treated by an approved service provider, using an approved method before being shipped to Australia
- treatment of the timber packaging on arrival into Australia if found infested or non-compliant with ISPM No 15 standard
- 100 per cent inspection of the timber packaging to determine if any pest or disease is present
- either destruction or re-export of the packaging following removal from the imported consignment.

2.4 ISPM 15-compliant timber packaging must:

- carry a stamp meeting the requirements of the ISPM 15 standards
- declare the ISPM 15 status on a packing declaration
- not contain bark that exceeds the ISPM 15 bark tolerance.

2.5 Timber packaging that is treated offshore must:

- be accompanied by a treatment certificate or a phytosanitary certificate describing the treatment applied; the certificate must conform to the department's *Minimum Documentary and Import Declaration Requirements Policy* (Department of Agriculture 2015a).
- not contain bark that exceeds the ISPM 15 bark tolerance
- have undergone one of the acceptable offshore treatments—fumigation with methyl bromide, sulphuryl fluoride or ethylene oxide, heat treatment, gamma irradiation or the application of a permanent timber preservative; any treatments using methyl bromide, sulphuryl fluoride or heat treatment must occur within 21 days of the goods being exported to Australia.

2.6 Any timber packaging that is not compliant with the ISPM 15 standards or has not been treated offshore may be treated on arrival, inspected or removed from the consignment for destruction. Permitted onshore treatments are methyl bromide or ethylene oxide fumigation, heat treatment or gamma irradiation.

2.7 If bark is present at levels above the ISPM 15 tolerance, timber packaging will be subject to additional onshore treatment even if already treated or certified to the ISPM 15 standards (Figure 1). The common treatments for timber packaging, including ISPM 15

treatments, are not sufficient to address the range of biosecurity risks associated with the presence of bark above the tolerance included in the ISPM 15 standard.

Figure 1 Timber pallet with bark contamination exceeding ISPM 15 tolerance

Source: Interim Inspector-General of Biosecurity

Compliance agreements

2.8 Section 66B of the *Quarantine Act 1908* provides for the use of compliance agreements for certain quarantine activities governed by the Act. The Department of Agriculture and Water Resources has formalised various co-regulatory arrangements (in consultation with industry) through the establishment of compliance agreements.

2.9 Under these arrangements, brokers undertake training and assessment to gain accreditation to assess documents and process entries (import declarations) using automatic entry processing. These activities fall under the Non-commodity for Containerised Cargo Clearance (NCCC) scheme.

2.10 The NCCC scheme focuses on the clearance of non-commodity concerns for containerised sea freight through:

- assessment of non-commodity concerns for FCL, FCX and LCL sea freight consignments
- assessment of unpack location postcodes for FCL and FCX sea freight consignments
- reporting to the department on non-commodity concerns related to these consignments

- direction of these consignments to a quarantine approved premises for further departmental intervention if required.

2.11 The department's Compliance Assessment and Management Services group manages the operational aspects of the NCCC scheme. The scheme benefits the department by reducing the volume of documentary assessments performed by department staff at regional offices. This allows the department to redirect staff to strategically target 'higher risk' imported goods and better manage quarantine operations.

2.12 The assessment of import documents for non-commodity (timber packaging and dunnage) risk can be undertaken either by a biosecurity officer or by an accredited broker. Accredited brokers must be employed by a company that is a signatory to the NCCC scheme.

2.13 To ensure compliance with the scheme, the department conducts random audits of entries assessed by the accredited broker. Where a broker is found to be non-compliant, they incur a 'non-conformity' against the brokerage, which increases their rate of random audit referrals to the department for a set period. At the end of that period, providing the brokerage has not incurred any further major or critical non-conformities, the random audit rate returns to the previous level.

Border clearance of timber packaging

2.14 All incoming cargo must comply with the import requirements for timber packaging. However, the department uses various processes to ensure compliance with import requirements depending on the type of cargo. The department's approach to ensuring compliance for each arrival pathway is explained in the *Non-commodity Information Requirements Policy* (Department of Agriculture 2015b), which is published on the department's website. This policy forms part of the department's Non-commodity for Containerised Cargo Clearance scheme. Under this scheme, accredited brokers can assess a consignment for compliance with timber packaging import requirements.

2.15 The *Non-commodity Information Requirements Policy* stipulates the process for ensuring that timber packaging import requirements are met; these are summarised in Table .

Table 6 Timber packaging import requirements

Mode of import	Import requirements
Containerised sea freight	Document assessment, including packing declaration. Exceptions to the requirement to present a packing declaration: • refrigerated containers held at less than −18 °C continuously for seven days • ISO tanks for liquids • personal effects.
Airfreight	Surveillance of arriving cargo is used to manage risk.
Break bulk cargo	Surveillance of arriving cargo is used to manage risk.

Source: Department of Agriculture and Water Resources, Canberra

2.16 Timber used in ships' holds is not included in the *Non-commodity Information Requirements Policy*. This timber is used to stabilise cargo and prevent movement during a voyage. Removal of timber dunnage from vessels is regulated by the *Customs Act 1901,* which requires permission for non-cargo material (for example, dunnage or rubbish) to be

off-loaded. Where timber dunnage is to be off-loaded from the vessel, the Australian Border Force seeks approval for its removal from the department.

Information required for assessment of non-commodity concerns

2.17 Documents that refer to packaging are not required for all consignments, but they must be provided to the department on request. For containerised sea freight, documents must be presented for every consignment. For other pathways (air freight, break bulk, ships' holds), the department may request documents if timber packaging has been found and there is doubt about its treatment status.

2.18 All sea freight consignments require a timber statement to be provided on the packing declaration, unless the goods are shipped in an ISO tank; goods in an ISO tank do not require a timber statement.

A packing declaration includes the timber statement in the form of a question. The question reads "Has timber packaging/dunnage been used in consignments covered by this document?" If the timber statement is not provided or remains unanswered, the cargo may be inspected to verify whether timber packaging has been used. Where timber packaging has not been used, the consignment is of no further biosecurity concern in relation to packing materials. However, if timber is declared, one or more of the following statements or certifications will be required:

- ISPM 15 statement — if timber is declared and is treated under ISPM 15 the packing declaration must include the statement "All timber packaging/dunnage used in the consignment has been treated and stamped in compliance with ISPM 15".
- Treatment certificate — where timber is declared and has not been treated according to ISPM 15, a treatment, phytosanitary or government treatment certificate is required. This must include details and duration/dosage of the treatment and date of treatment.

2.19 Where the timber packaging has been used in a refrigerated container at a temperature of -18°C or less, a hard frozen statement may be provided as an alternative to a standard treatment certificate. The hard frozen statement reads "The goods packed in the container(s) listed on this document, have been continuously maintained at -18°C (0°F) or below for a continuous period of at least seven days." If a hard frozen statement is not presented, a biosecurity officer may examine other commercial documentation and make a determination that the goods have been subject to a temperature of -18°C for seven continuous days.

2.20 For imports where a timber packing declaration is not mandatory, a biosecurity officer may ask the importers or their agent to present an ISPM 15 statement or treatment certificate to demonstrate that the timber packaging has been treated in a manner sufficient to mitigate any biosecurity risk.

Surveillance

2.21 For arrival pathways other than containerised sea freight, biosecurity risks associated with timber packaging are managed by surveillance of imported cargo on arrival. Arrival locations include wharves, airports and quarantine approved premises.

2.22 Surveillance of timber packaging follows the requirements described in the work instruction *Inspecting timber packaging and dunnage*. A biosecurity officer undertaking surveillance checks whether timber packaging is present. When present, the officer is responsible for verifying that that the timber meets relevant import requirements. If import requirements have not been met, the officer may order the consignment into quarantine for further action, including presentation of additional documents, treatment or destruction of the risk materials.

Quarantine approved premises

2.23 The department approves quarantine approved premises (QAPs) as places where post-entry quarantine requirements may be carried out on a wide range of plants, animals and plant and animal products. Under the approval process, QAPs manage any timber packaging found in association with cargo.

2.24 A QAP may be approved under one or more classes of approval. Most QAP classes only permit the QAP to accept cargo that is correctly certified. Only class 1 QAPs may accept cargo where the packaging is not certified or is incorrectly certified. For arrival pathways where certification is not required (for example, air freight or break bulk), QAPs are responsible for identifying any timber packaging that does not meet import requirements.

2.25 QAPs are required to have an accredited person to conduct or directly supervise all activities involving physical contact or handling of goods subject to quarantine. This role includes requirements for timber packaging and dunnage. During fieldwork, the IIGB was informed that accredited persons working in class 1 QAPs were required to attend an in-person training presented by the department and persons working at other QAP classes could receive training through an online course with a two year re-accreditation requirement for online courses. The IIGB understands that face to face training is no longer provided by the department and all accredited persons now undertake only online training.

2.26 All accredited persons have an obligation to ensure that any goods subject to quarantine are being handled in accordance with import requirements. Accredited personnel working at class 1.1 and class 1.3 QAPs have additional specific obligations for timber packaging and dunnage. At these QAPs, an accredited person must inspect imported timber packaging for the presence of live insects, insect damage or bark. If live insects or insect damage are found, the department must be notified so that an inspection can be undertaken by a biosecurity officer. If bark beyond the accepted tolerance is identified, it may be removed under the supervision of the accredited person without requiring the attendance of a biosecurity officer.

2.27 If a QAP identifies timber packaging that either does not meet import requirements or is contaminated with biosecurity risk materials, the QAP must contain the risk and inform the department so that appropriate action can be taken. If active insect infestation is not present, any non-compliant timber packaging is usually disposed of in the QAP's quarantine waste bin (Figure 2).

2.28 Class 1 QAPs have additional obligations for the handling of timber packaging. They are accredited to manage timber packaging which is uncertified, has unacceptable timber packing documentation or is known to contain timber packaging with biosecurity risk material present (for example, insects or diseased material). Any timber packaging that does not meet import requirements may be stored in a clearly defined area or storage

facility for a maximum of 14 days. Within this period, the timber must be treated, re-exported or disposed of by a department-approved method.

Figure 2 Quarantine waste bin containing discarded timber packaging

Source: Interim Inspector-General of Biosecurity

3 Observations and findings

Packing declarations

3.1 The department relies primarily on documentation/certification as a risk mitigation measure for managing timber packaging, especially for the containerised sea cargo pathway. Packing declarations are mandatory for all containerised cargo except bulk liquids and refrigerated containers held at less than −18 °C for continuous seven days or more. Packing declarations or equivalent information may be requested for cargo on other pathways, but this rarely occurs.

3.2 Packing declarations accepted by the department may be in either of two forms. The first covers a single consignment and is for single use only. The second is an annual packing declaration that may cover multiple consignments in a 12-month period. The use of an annual packing declaration is limited because it applies only to goods sent by a single nominated exporter (packer) to a single named importer. If various combinations of suppliers and importers are involved, a new annual packing declaration is required to cover each variation.

3.3 During fieldwork, department officers indicated that the primary benefit of packing declarations was that packing issues were probably given some consideration during the preparation of a consignment. In reality, importers wish to avoid administrative problems and delays as much as possible. The level of practical compliance would vary, depending on the likelihood of discovery and the consequences if non-compliance is found. Department officers believe that the likelihood of discovering incorrectly declared packing materials is generally low and the consequences are minimal for offshore packers who incorrectly declare packaging.

3.4 Where packing materials are incorrectly declared, it is the importer of the cargo who must resolve the issue and bear additional costs such as treatment. Where an overseas packer has failed to use compliant packing materials, an importer often has few options to effectively reduce the likelihood of recurrence. The IIGB was informed that the only practical way for smaller importers to avoid a recurrence is to avoid using the offending packer for subsequent consignments. This may not always be possible because the packer is often chosen by the supplier. The only importers who can control packaging used are those who can influence their overseas shipper's decisions.

3.5 During fieldwork, the IIGB noted efforts by Australian importers to ensure that exporters comply with Australian import requirements for non-commodity concerns:

- One of the companies signed a vendor supply agreement with an exporter that included packaging requirements and a full charge-back of costs (by the importer) if packaging was not compliant with the Australian import requirements for non-commodity.
- For imports that are intra-company, extra costs incurred are borne by the parent company. If timber packaging in an imported consignment is treated on arrival in Australia, the cost of treatment is likely to be much higher than having it treated overseas. This provides an incentive to the parent company to ensure non-commodity concerns are addressed before shipment to Australia.

3.6 Although these efforts by importers are aimed at saving time and costs, they also help mitigate the biosecurity risks that non-compliant timber packaging pose.

Reliability of packing declarations

3.7 During fieldwork, regional staff expressed concern to the IIGB about the reliability of packing declarations, particularly regarding:

- use of standardised templates completed to a point where only a signature and date are required
- attestation by a person with limited English language capability, of a document written only in English
- attestation by a person with limited or no knowledge of the packing processes and materials used.

3.8 In 2010 the department commissioned an external review (Tanner James 2010) to examine the effectiveness of its cargo clearance documents. The review identified the following issues with packing declarations:

- declarations are not issued by the people who pack the containers
- multiple parties involved in the packing process reduces the likelihood of an accurate description of the packaging and container
- legal recourse is difficult, in the event of an incorrect or false declaration
- difficulties in verifying that a declaration is an accurate description of the packaging and container.

3.9 To help the industry provide accurate details of the packing process and materials used, the department provides packing declaration templates on its website. The IIGB noted that the packing declarations accompanying cargo are often exact copies of these templates, with text from the template copied onto an exporter/packer company letterhead. This provides a convenient way for the exporter/packer to sign the declaration stating that Australia's import requirements for timber packaging and dunnage have been met.

3.10 Template packing declarations enable overseas suppliers or receiving importers/brokers to produce declarations that are completed to a point requiring only a final signature and date. During fieldwork, the IIGB noted that importers or customs brokers usually provide the packing declaration to an exporter with instructions on completing the form, based on the materials used during packing of the cargo. Completion of the template by the overseas supplier generally occurs in larger organisations, where consignment packing methods and materials are standardised.

3.11 The use of packing declaration templates raises questions on the ability of an overseas supplier to correctly attest to the packaging used. The declaration is provided in English only, raising doubt as to whether people with limited English language skills understand what is being declared.

3.12 It appears that packing declarations are often signed by people with no direct knowledge of the packing used in individual consignments. The IIGB was provided with an example of this situation by an importer. Before the goods arrived in Australia, the importer's quality assurance process had identified inaccuracies in the packing declaration. The importer asked the supplier for a new declaration. This situation demonstrates that the person completing the packing declaration may be unaware of the packing process or materials used in a given consignment.

3.13 In this example, the overseas supplier had completed the packing declaration based on their normal process for packing tiles for Australia. It appears that, when supplies of the

plastic corners normally used ran out, bamboo was used as a replacement. Bamboo is a prohibited material, but the original packing declaration did not include the bamboo packaging. This demonstrates a gap in knowledge of the person signing the packing declaration.

Annual packing declarations

3.14 Annual packing declarations are permitted by the department to facilitate trade where cargo is regularly shipped by a single exporter (supplier) to an Australian importer. These declarations are intended to minimise the paperwork where individual consignments use a consistent packing process and materials.

3.15 The IIGB was informed that many importing companies use multiple annual packing declarations covering various suppliers. These may include multiple annual declarations from the same supplier to cover different commodity types that have differing packing requirements. This relies on the importer and their broker using the correct packing declaration for each commodity being shipped, potentially leading to the presentation of declarations containing incorrect information.

3.16 Annual packing declarations are examples where the department relies on a consistent, unchanging scenario for the management of packaging materials. By allowing a single document to attest to the biosecurity status of packing material for a 12-month period, the department assumes that the supplier of an annual packing declaration will maintain a standardised process for packing cargo for a specific importer or destination. If the packing of a consignment deviates from the standardised process, a new consignment-specific packing declaration should replace the annual packing declaration for that consignment. If the supplier does not identify the deviation in process to the importer through a consignment-specific declaration, the annual packing declaration will be presented in error.

3.17 An annual packing declaration should be prepared by the person or organisation responsible for packing cargo overseas. The completed packing declaration is not acceptable for clearing imported goods until it has been formally reviewed and approved by the department. However, the review of an annual packing declaration is limited to ensuring that the document complies with the department's *Minimum Documentary and Import Declaration Requirements Policy* (Department of Agriculture 2015a). The review does not consider other factors, such as compliance history of the packer, when deciding whether to approve an annual packing declaration.

3.18 Once the department approves an annual packing declaration, it is valid for a period of 12 months commencing from the date it was signed by the supplier. This means that the annual packing declaration will continue to be acceptable for consignments shipped during the period of approval, even if the declaration is found to be inaccurate on one or more occasions. The department does not have a policy or process to rescind previously-approved annual packing declarations. Importers are not obligated to present the original version of a packing declaration during clearance of a consignment. Even if the department takes possession of the original document copies are likely to be in circulation with the exporting organisation, and may continue to be used for clearance purposes. People accredited under the NCCC scheme who usually assesses a packing declaration cannot verify that an annual packing declaration continues to be acceptable, unless the department informs them that the document is no longer acceptable.

3.19 If a packing issue is identified for a consignment, an ICS supplier profile is created to target the offshore packer for the next five consignments. When this profile is matched, the consignment is directed for inspection by a biosecurity officer to verify that all packaging is acceptable.

Recommendation 1

3.20 The department should review the process for initial approval and ongoing acceptance of annual packing declarations, including consideration of:
a) developing a mandatory compliance history for individual packers,
b) the feasibility of withdrawing or cancelling an annual declaration if required,
c) varying approval periods, to reflect compliance history.

Assessment of packing declarations

3.21 Until 2012–13 the department assessed packing declarations as part of the normal process for clearing goods subject to quarantine. Since 2013 the department has stopped routinely assessing packing declarations for consignments already assessed by an accredited person under the NCCC scheme.

3.22 During fieldwork, the IIGB noted that:

- Packing declarations are only required to be assessed for containerised sea cargo (FCL and LCL).
- Packing declarations for most containerised sea cargo consignments are assessed by people accredited under the NCCC scheme.
- A biosecurity officer will only assess the packing declaration if
  - the accredited broker identifies an issue with the packing declaration and refers it to the department for further assessment
  - a consignment is selected for document verification under the audit requirements of the NCCC scheme.
- Timber packing details are no longer recorded in the Department of Agriculture Import Management System (AIMS) because the packing declaration is not assessed by a biosecurity officer in the normal course of events.
- Accredited persons do not have access to the AIMS system, so timber packaging data is not recorded in AIMS. Since biosecurity officers in the field rely on AIMS directions for physical inspections of imported cargo, they are no longer fully informed about the packaging they encounter during an inspection. An officer who finds timber packaging during an inspection does not know whether that timber packaging has been declared or treated unless they can identify ISPM 15 stamps on the timber during the inspection.

3.23 From the timber packaging data provided to the IIGB, it was noted that:

- The frequency with which the department records the details of timber packaging in AIMS has fallen from 22 per cent in 2010–11 to 11 per cent in 2014–15. This limits the ability of biosecurity staff to identify whether timber packaging found during inspection was declared and what risk management processes have been applied.
- Since 2013 the department's rate of assessment of packing declarations has dropped from approximately 20 per cent of containerised cargo to 1 per cent.

This reflects the policy change from assessing all cargo subject to quarantine, to assessing only cargo that is subject to audit under the NCCC scheme.

- Since 2013 the number of non-conformities identified under the NCCC scheme has decreased. For example, in one region, the rate of non-conformity identified fell from one in a fortnight to none in a recent six-month period.

3.24 From the observations and analyses of available data, the IIGB concluded that:

- It is unlikely that the use of timber packaging has changed significantly between 2010–11 and 2014–15.
- Given that import requirements for timber packaging did not change significantly between 2010–11 and 2014–15, the 50 per cent fall in the rate of recording of timber used in imported consignments over this period can be attributed to the change in the department's assessment procedures.
- Before 2013 the department's assessment of packing declarations as part of the commodity document assessment provided an increased level of assurance that accredited brokers were correctly assessing packing declarations.
- Since the department no longer records information about assessment of packing declarations, department staff undertaking inspections in the field cannot determine whether the timber has been treated except where they can identify ISPM 15 stamps. It is unlikely that an officer who sights ISPM 15-compliant timber packaging could verify whether the timber packaging was correctly declared. This gap in current controls means that biosecurity officers might release cargo with timber packaging that has been incorrectly declared.

Recommendation 2

3.25 The department should record information about timber packaging in AIMS, for those consignments subject to document assessment by a department officer. This information would assist in identifying undeclared or incorrectly-declared timber packaging during inspection.

Usefulness of packing declarations

3.26 Properly prepared packing declarations can help department staff identify non-commodity concerns. However, the 2010 Tanner James review raised several issues about declarations that remain unresolved.

3.27 The use of annual packing declarations continues to pose a biosecurity risk because they do not provide the same level of confidence as a consignment-specific packing declaration. Current requirements for annual packing declarations may result in incorrect declarations being made if and when variations to the originally planned packing process/materials occur.

3.28 The IIGB noted that the department, through expansion of the Import Clearance Effectiveness programme into the current Cargo Compliance Verification programme, has largely addressed the issue of accurately verifying the packaging used in a container.

3.29 The current policy of not requiring packing declarations to be reviewed when documents are presented for commodity assessment remains a concern. The previous policy of assessing packing declarations as part of commodity clearance identified broker non-conformities regularly. Many of these non-conformities were identified in consignments

not flagged for audit under the NCCC scheme. It would appear that this change in policy has led to a situation where fewer non-conformities are being identified and as a consequence, the level of assurance of broker assessments has declined.

ISPM 15 standard

3.30 The ISPM 15 standards aim to implement phytosanitary measures that reduce the risk of introducing and spreading quarantine pests associated with the movement in international trade of packaging material made from raw (untreated) wood. Timber packaging material covered by the standards include dunnage but excludes wood packaging made from processed wood (for example, plywood).

3.31 During fieldwork and discussions with industry and department staff, the IIGB noted that:

- The incidence of bark-related issues has decreased following the inclusion of bark standards in ISPM 15.
- ISPM 15-stamped timber may be cut to size during preparation of packing materials (particularly for ships' holds), resulting in the stamp being defaced or unintentionally removed from some pieces of timber.
- The ISPM 15 standard stipulates that an integrated unit (for example, pallet or box) requires at least one stamp for the unit to be considered compliant (Figure 3); it is preferred that there be one stamp on opposite sides of the unit. In contrast, temporary assemblies must be stamped on all separate parts. The IIGB observed instances of timber packaging where not all pieces of a temporary assembly showed ISPM 15 stamps.
- Treatments stipulated under the ISPM 15 standards are not intended to provide ongoing protection from contaminating pests or other organisms. All treatments should kill insects present on the timber at the time of treatment but will not prevent reinfestation or reinfection post treatment.

Figure 3 Wooden crates with ISPM 15 stamps correctly applied to each crate

Source: Interim Inspector-General of Biosecurity

3.32 Timber is generally supplied to packers ISPM 15 stamped and in standard dimensions that allow for efficient handling during processing, storage and transport. Because different types of cargo require different packing configurations, timber packaging is often cut or worked to meet the specific needs for a particular cargo. The ISPM15 standard states "…dunnage may not be cut to final length until loading of a conveyance takes place" and that care is required to ensure complaint ISPM15 stamps are retained on the cut material. Stamps may be cut through, obscured or removed; this can occur when smaller pieces of timber are cut to fit a particular space between items of cargo. For an ISPM 15 stamp to be acceptable it must be complete, visible and legible (Figure 4 and Figure 5). If the stamp is cut in half (Figure 6), otherwise defaced or covered by another piece of timber nailed over it (Figure 7), it becomes unacceptable under the ISPM 15 standards.

3.33 During fieldwork, the IIGB noted that the issues associated with lost, damaged or obscured ISPM 15 stamps is being addressed by some suppliers, who proactively supply ISPM 15-stamped timber with a continuous series of stamps to ensure that at least one stamp is undamaged and visible (Figure 8).

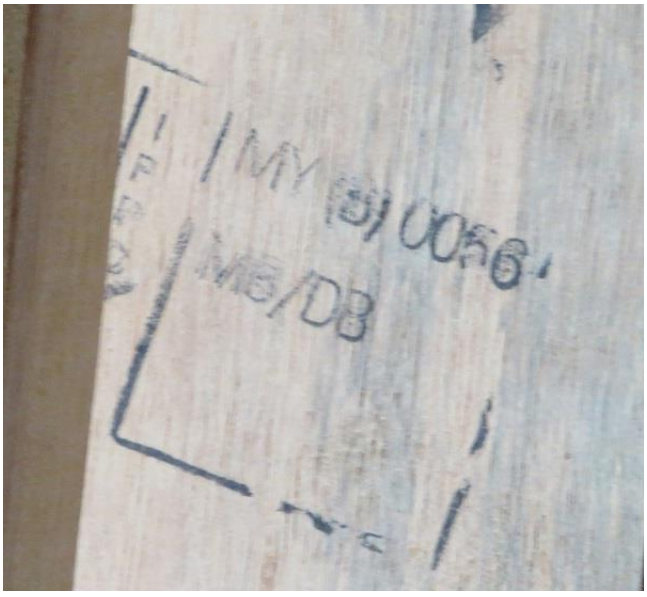
Figure 4 Acceptable ISPM 15 stamp—complete and legible

Source: Interim Inspector-General of Biosecurity

Figure 5 Unacceptable ISPM 15 stamp—incomplete and illegible through poor printing

Source: Interim Inspector-General of Biosecurity

Figure 6 Unacceptable ISPM 15 stamp—incomplete as a result of timber cut



Source: Interim Inspector-General of Biosecurity

Figure 7 Unacceptable ISPM15 stamp—obscured by timber nailed over it

Source: Interim Inspector-General of Biosecurity

Figure 8 Acceptable ISPM 15 stamp—continuous and legible

Source: Interim Inspector-General of Biosecurity

3.34 During fieldwork, the IIGB observed several imported pallets carrying ISPM 15 stamps. However, the separate timber pieces used to protect the goods (tiles) were not ISPM 15 stamped. It appears that the consignments were incorrectly declared as ISPM 15 compliant.

3.35 The ISPM 15 standard is used to mitigate biosecurity risks associated with timber packaging; it is generally accepted that the implementation of ISPM 15 has resulted in a significant reduction in those risks. However, complete reliance on the ISPM 15 stamp as a long-term assurance mechanism is questionable. The approved treatments included in the standard are effective at time of treatment, but they do not provide ongoing, long-term protection. The longer a piece of ISPM 15 timber packaging remains in use, the greater the likelihood of it being exposed to reinfestation by pests or diseases.

3.36 Huge volumes of goods and accompanying timber packaging are moved internationally, increasing the likelihood of ISPM 15-stamped materials being reinfested and then used to pack consignments for Australia. Such situations could include:

- cross-contamination by infested materials stored adjacent to the ISPM 15 compliant wood packaging.
- reuse of ISPM 15 compliant packaging when exporting goods; for example, during fieldwork, the IIGB observed one freight shipper who accepted previously used ISPM 15 timber packaging material from outside sources because of difficulties

sourcing sufficient packaging material. It is possible that overseas packers may also do this. These materials are of unknown history and therefore a potential biosecurity risk.

3.37 The general acceptance of ISPM 15-stamped timber does pose some biosecurity risk. However, this risk is mitigated because much imported timber packaging does not lend itself to extended long-term use. Factors that mitigate the risk include:

- Materials cut to size are less likely to be useful for future packaging due to size and shape variations between each consignment and the need to ensure that any gaps or spaces are minimised.
- Non-standard sized pallets are not useful for Australian end users because they will not fit local pallet racking. Therefore, imported pallets are often destroyed after a consignment is unpacked.
- Timber packaging is usually of the lowest acceptable standard of timber to meet a specific requirement. Timber packaging often breaks during normal use and is discarded. During fieldwork, the IIGB saw many examples of broken timber packaging that was disposed of at the earliest opportunity. An importer told the IIGB that pallets used for heavy materials may have to be discarded after two or three uses. This roughly equates to the lifecycle of a pallet in the shipping pathway from overseas supplier to importer then onward to an Australian retailer or end user.

Inspection of timber packaging and dunnage

3.38 The department relies on physical inspection to identify both incorrectly declared timber packaging materials and any timber packaging that poses a biosecurity risk. The extent to which packaging materials are inspected will depend on a several factors, including biosecurity risks associated with the cargo and compliance history (such as supplier profiles and cargo type).

3.39 The cargo type (for example, FCL, LCL, break bulk or airfreight) also determines the ability of an officer to inspect the packaging. Cargo presented for inspection inside a shipping container is difficult to inspect beyond the area near the container doors. By contrast, break bulk cargo is generally easier to inspect because the cargo is immediately visible on all sides, subject only to limitations imposed by the structure of the cargo itself (for example, large complex machinery or equipment).

3.40 Physical inspection of cargo can usually determine whether timber packaging is present. If timber is present, inspection cannot confirm whether a treatment has been applied because most treatments do not leave any observable signature. The exceptions are timber carrying an ISPM 15 stamp or timber that has been subject to a permanent preservative treatment, both of which can be directly observed by an inspector.

3.41 Where the goods being imported are of biosecurity concern and subject to inspection as part of the import requirements, it is normal for any associated packaging material to be inspected at the same time. However, the thoroughness of the inspection is usually limited by accessibility of the material to be inspected (Figure 9).

Figure 9 Full container load, demonstrating limited access for inspection of timber packaging

Source: Interim Inspector-General of Biosecurity

3.42 The department does not usually inspect goods that are not of biosecurity concern. It relies on the accuracy of the packing declaration for containerised sea cargo and on surveillance for other arrival pathways. The only sighting of any packaging will be by the person or organisation that takes receipt of the cargo and unpacks it. As a result, the department depends on importers to identify any incorrectly declared timber packaging materials and timber packaging that pose a biosecurity risk.

3.43 Simple visual inspection of cargo and packaging is usually inadequate for detecting the presence of nematodes. Fungal infection is only observable when present at high levels. Insect infestation may be identified by naked eye inspection, but many infestations may be overlooked if evidence (frass, entry/exit holes) is not apparent on exterior surfaces. Active infestations by insects which have not yet exited the timber surface are almost impossible to detect.

Surveillance and verification activity

3.44 The department undertakes surveillance and verification activities, as a risk management strategy and as a mechanism to ensure that existing processes continue to provide appropriate levels of protection against biosecurity risks.

3.45 The major review *One Biosecurity: A working partnership* (Beale et al, 2008) considered surveillance as a biosecurity risk mitigation measure, and described surveillance as being either active or passive. Active surveillance was defined as ‘deliberate, coordinated searching, diagnosis and reporting of pests and diseases’. Passive surveillance was defined as reporting observations made during normal day to day activity, where the observation was not the consequence of deliberate, coordinated searching.

3.46 Surveillance is an important risk management strategy that is frequently referenced in import requirements, work instructions and by department officers. The department recognises surveillance as an important part of risk management. However, the methods used range from well-documented, high-quality and statistically valid processes in the case of CCV audits through to undocumented and unrecorded processes and activities.

3.47 The IIGB notes that the review of governance processes applied to timber packaging regulation in Australia has recognised that problems with the implementation of policy, including surveillance, and the recording and analysis of data contributed to the 2013-14 discovery of multiple consignments infested with timber pests. The rigor of the review undertaken is commendable and the department should address the identified issues as a priority. During fieldwork the IIGB identified many of the same issues.

Recommendation 3

3.48 The department should address each of the issues identified in the timber packaging case study undertaken by the Biosecurity Plant Division in 2015.

Containerised cargo

3.49 Risk management of containerised cargo (in FCLs and LCLs) primarily relies on the assessment of packing declarations to ensure that any timber packaging risks are addressed. Assessment of this document is generally carried out by customs brokers accredited under the NCCC scheme. Where the document is assessed as meeting import requirements, the cargo is not held at the border and is not subject to further document review or physical inspection by the department.

The department conducts random audits of these assessments to ensure that the NCCC scheme continues to provide expected risk management outcomes. During an audit, a biosecurity officer verifies that the broker's assessment was correct under conditions set out in NCCC compliance documents. This process provides assurance that third-party document assessment meets the department's risk management requirements. However, the department does not conduct a physical inspection as part of this process unless an issue is identified during the document audit. This means that the department cannot verify that the document accurately describes packing used in a container.

3.50 The department's verification of broker document assessment activities is described in the work instruction, *Entry processing—conducting a Broker Accreditation Scheme (BAS) audit*. The work instruction refers to the NCCC compliance documents as the basis of determining whether the correct outcome has been decided by the customs broker. The work instruction describes how to report non-compliance. It does not describe how to select consignments for audit because this is done automatically by the ICS system.

3.51 FCL cargo is subject to a further level of assurance through the department's Cargo Compliance Verification programme. The programme aims to identify emerging biosecurity risks and provide assurance that cargo clearance documents accurately describe the contents and packaging of a container. The programme selects a random sample of entries from the Integrated Cargo System (ICS. The sample is drawn from all entries in the ICS that are not otherwise intended to be inspected by the department. Physical inspection is the department's most stringent form of risk management and is used for biosecurity risks when other processes are not appropriate. The department will not inspect imported cargo where the risk is lower or can be reliably managed using other

processes. Selection of cargo for inspection under CCV allows the department to verify that other risk mitigation processes in use continue to meet expectations.

3.52 Implementation of the CCV programme is supported by work instructions for document assessment and inspection of consignments. Biosecurity officers involved in the CCV programme have access to information about their duties in relation to a consignment selected under the CCV programme. Information about programme functions and consignment selection rate are published on the department's website.

3.53 The CCV programme is based on a statistical model and enables the department to identify the frequency and type of biosecurity risks associated with specific goods. The programme analyses the number of FCL consignments imported and inspected and the number and type of issues identified in a given period. Issues include both biosecurity and non-biosecurity risks. An example of the latter is a packing declaration where no timber was declared, but where the consignment included timber packaging that was ISPM 15 compliant. Because the timber packaging meets import requirements, it is not a biosecurity risk and the goods can be released. However, it is important for the department to be able to quantify how often documents fail to accurately describe cargo and packaging.

3.54 The CCV programme is an important assurance process, encompassing all aspects of a consignment, including commodity risk, packaging risk and document accuracy. The limitation to the CCV programme is that it covers only FCL cargo. An extension of the CCV programme to other cargo pathways would provide an improved basis for risk management decisions for those pathways.

3.55 An expansion of the CCV program to include other arrival pathways would provide an opportunity to revalidate the data collected between 1997 and 1999 as a consequence of the Nairn review. These data informs the current timber packaging risk assessment and associated policies but is now over 15 years old. A revalidation of the underlying patterns of timber packaging use would be valuable given the continuing advances in packaging technologies.

Recommendation 4

3.56 The department should consider expanding the Cargo Compliance Verification programme beyond full container loads to include additional arrival pathways.

Break bulk cargo

3.57 Biosecurity risks associated with timber packaging on the break bulk cargo pathway are usually managed by physical inspection. A packing declaration is not required for break bulk cargo at the time of clearance. Instead, the stevedore supplies the department with a list of all break bulk cargo being unloaded at a particular location. The department then inspects the cargo before its removal from the wharf. The IIGB noted that the ability of the department to undertake inspections is limited because, once unloaded, break bulk cargo that is not a biosecurity risk may be moved without the department being notified. Most wharves limit the period that cargo can remain on-site without incurring additional costs to a maximum of 72 hours; most cargo is removed from the wharf within this period. As a result, the department may not have the opportunity to inspect cargo that is removed soon after off-loading or off-loaded just before or during weekends or public holidays.

3.58 Work instructions relevant to surveillance of break bulk cargo include:

- *Surveillance of new motor vehicles imported as break bulk cargo*
- *Inspecting timber packaging and dunnage*.

The new vehicle surveillance work instruction deals only with that commodity and assumes that a pre-arranged inspection process is in place. The *Inspecting timber packaging and dunnage* work instruction informs officers how to inspect timber packaging found in a break bulk consignment but does not provide any guidance about how the consignment should be initially selected for surveillance. . The work instruction *General inspection of imported sea cargo* refers to a surveillance of sea cargo work instruction that the department is developing. The inspection work instruction, published in 2011, mentions the department's intention to develop a surveillance work instruction for sea cargo that would presumably include break bulk cargo.

Wharves

3.59 In addition to being the primary location for the surveillance of break bulk cargo, the wharf environment also requires surveillance for biosecurity risks. Because sea cargo is often larger or heavier than air cargo, the use of timber to support and protect cargo is more common (Figure 9). As a result, timber of both domestic and overseas origin is often temporarily stored at wharves. The domestic timber materials usually belong to stevedoring companies and are used for supporting and protecting cargo after unloading. Timber of overseas origin may take the form of vessel dunnage off-loaded for disposal or timber broken off or detached from imported cargo during handling.

Figure 9 Break bulk cargo—steel beams stacked on timber dunnage at a wharf

Source: Interim Inspector-General of Biosecurity

3.60 The greatest volume of overseas timber on a wharf is generally vessel dunnage that is off-loaded for disposal. The department is trialling the feasibility of managing vessel dunnage through documentation assessment and verification inspection by biosecurity officers, rather than requiring mandatory treatment to address biosecurity risks. The IIGB considers this a positive initiative.

3.61 With the exception of verification inspections undertaken as part of the departments' vessel dunnage trial and planned inspections of break bulk cargo, all non-commodity biosecurity risks on a wharf are managed by physical surveillance. The only work instruction for this activity is *Wharf & vessel surveillance*. This work instruction, published in 2006, refers to surveillance activity as patrolling the wharf environs to identify any issues of quarantine concern. The document focuses on managing risks associated with a vessel while it is in port and does not provide any detailed guidance on undertaking generic wharf surveillance.

Air freight

3.62 Biosecurity risks associated with timber packaging on the air freight pathway are managed solely through surveillance activities. The normal process of surveillance is for a biosecurity officer who is otherwise present at an airport or airfreight depot to undertake surveillance whenever the opportunity arises. If a biosecurity officer is permanently located at a freight depot, they usually undertake surveillance as part of their routine duties. This implies that active surveillance often occurs only once a day at locations where biosecurity officers are stationed permanently or visit daily. Locations not requiring regular, frequent visits by biosecurity officers are not subject to the same level of surveillance even though they may store and handle volumes of cargo similar to other locations. These infrequently visited sites generally handle cargo which does not require inspection to address biosecurity risks

3.63 Surveillance of air cargo is supported by the department's work instruction *Air cargo surveillance*. This instructs biosecurity officers on surveillance within airport precincts and at quarantine approved premises. Both airports and QAPs offer opportunities to see imported air cargo and carry out surveillance. Surveillance of air cargo also targets risks in addition to those associated with timber packaging, such as dirt, or plant material.

3.64 The air cargo surveillance work instruction suggests that each industry premises be visited once or twice a month and that airside surveillance occur two to three times per week. The work instruction also describes how surveillance activities and findings should be recorded.

3.65 The department records air freight surveillance activity on a SharePoint portal accessible to relevant staff. The portal records the amount and type of surveillance undertaken and interception of biosecurity risk materials. An examination of national data covering a three-month period suggests that surveillance activity does not align with the amount of air cargo arriving in each port. For example, Adelaide recorded 8.5 hours of surveillance, compared to 4.5 hours in Sydney, while Sydney is responsible for 52 percent of Australian air freight imports and Adelaide only 2 percent (Table 7). The overall hours of surveillance undertaken nationally during these three months also appeared to be relatively small, with a total of only 28.5 hours of surveillance recorded nationally—an average of less than 10 hours a month. It is unlikely that this level of surveillance would be sufficient to allow department officers to visit each industry premises once a month, as recommended in the air cargo surveillance work instruction.

Table 7: Air cargo surveillance for May-July 2015

Airport	% of FY2015 national air cargo volume passing through airport	CTO (hrs)	QAP (hrs)	General (hrs)	TOTAL (hrs)
SYDNEY	52.19	1	1.5	2	4.5
MELBOURNE	25.50	0.5	0.5	2.5	3.5
BRISBANE (incl. GOLD COAST)	11.61	3.5	0	0	3.5
PERTH	8.36	0	0	0	0
ADELAIDE	2.05	3.5	1	4	8.5
CAIRNS	0.22	0	3	1.5	4.5
DARWIN	0.06	0	0	4	4
TOTAL	99.99	8.5	6	14	28.5

Source: Department of Agriculture and Water Resources, Canberra and BITRE 2015

Surveillance across different arrival pathways

3.66 In managing biosecurity risks associated with imports, biosecurity officers undertake surveillance and monitoring activities. The department's *National Biosecurity Surveillance Strategy* broadly covers surveillance of imported cargo and the import operations work environment. However, the strategy does not explain or define surveillance activity that is dictated by specific import requirements, nor reference operational work instructions that address timber packaging risks.

3.67 The department undertakes surveillance on most import pathways, but the approach taken to surveillance differs across pathways. The department has not articulated a clear vision for a systematic, structured surveillance activity, with outcomes recorded in a simple, cost-effective manner. A more rigorous process, with relevant data collected, would enhance management of risks and assist policy and operational functions.

3.68 In addition to the pathway-specific approaches, surveillance should be a fundamental part of all biosecurity field activities. During fieldwork, the IIGB noted that officers undertaking planned activities (for example, inspections) at quarantine approved premises understood that they were expected to do surveillance whenever the opportunity presented, such as while waiting for goods to be presented for inspection or when inspections finish earlier than planned. During fieldwork, the IIGB noted that most officers did undertake such surveillance, but it appeared to often be done on an opportunistic basis. By contrast, an officer based permanently at a depot explained that he walked through a QAP at least once a week and did a 'mini audit' once a month.

3.69 It appears that surveillance is usually an ad hoc activity for most staff at regional offices and officers do not follow a defined surveillance methodology. The IIGB noted that unplanned surveillance was more frequent in locations where biosecurity officers are permanently based or attend locations on a regular basis. This suggests that surveillance increases where staff are familiar with a location and with the type of goods imported at these locations.

3.70 For surveillance to be of maximum value to the department, records must include not only details of any problems found but also the approximate number of items checked and the time spent. Surveillance is not covered by a single over-arching departmental policy, but is generally undertaken as an adjunct to other activities, such as air cargo inspection, wharf

surveillance and CCV audits. Consequently, the quality of surveillance varies significantly across worksites and import pathways. Where surveillance is the prime activity (for example, CCV), the quality of the activity is excellent. However, in situations where surveillance is only one aspect of work being undertaken, the quality can be far more variable.

Recommendation 5

3.71 The department should develop an over-arching surveillance policy that explains how surveillance fits into routine biosecurity activities, the priority to be given to surveillance when planning day-to-day activities and appropriate record-keeping requirements. This policy should link existing surveillance-related documents for all worksites and ensure relevant instructional material is provided at all worksites.

Quarantine approved premises

3.72 All QAPs must meet specific requirements for items subject to quarantine, including packaging materials. The four categories of item subject to quarantine are:

- imported items
- products made from imported items
- by-products and waste from imported items
- items that have been in contact with or contaminated by imported items.

3.73 Items subject to quarantine must be isolated from other items. A failure to maintain isolation will result in items not otherwise subject to quarantine becoming subject to quarantine (Figure 10). Isolation may be achieved through physical separation or physical barriers, with the specific arrangements dependent on the type of risk associated with the item subject to quarantine. For timber packaging, isolation is usually achieved by separating items that are subject to quarantine one pallet width or greater from items not subject to quarantine.

3.74 During fieldwork at QAPs, the IIGB observed that isolation is not always maintained to QAP registration requirements. Two isolation failures were observed during fieldwork.

3.75 The first example of a failure to correctly isolate timber packaging was observed at a QAP where timber awaiting treatment was stored adjacent to other timber material (Figure 10). The imported timber was correctly stored inside the defined quarantine area marked with a yellow line, but this area was also being used for long-term storage of other items that were not imported. It would appear that this QAP did not store timber for treatment on a regular basis and therefore used this area for storing other materials.

Figure 10 Example of separation failure—imported timber packaging stored adjacent to domestic timber products

Source: Interim Inspector-General of Biosecurity

3.76 The second example of a failure to correctly isolate timber packaging was observed at an air freight QAP, where domestic pallets were regularly used to allow non-standard sized cargo to be stored in Australian standard pallet racks. As a result, these domestic-origin pallets come into contact with imported consignments, potentially transmitting infestation. Another risk is that the domestic pallets may (intentionally or unintentionally) leave the QAP as part of a consignment. It is unlikely that these domestic pallets would receive treatment before leaving the QAP unless disposed of in a quarantine waste bin.

3.77 While visiting the air freight QAP, the IIGB noted that the air freight industry has a high turnout rate. The turnout rate is the time it takes for cargo to arrive on the premises and then be sent onwards to the owner. Typical turnout rates are less than 24 hours but may be as short as 8 hours. This provides biosecurity officers with limited opportunities to carry out surveillance on consignments not otherwise requiring inspection.

3.78 The IIGB noted that class 1.1 and class 1.3 QAPs must maintain a quarantine risk material record to detail all timber packaging issues they identify in sea freight. The record sheet includes all consignment details, identifies packing and other issues, the accredited person who identified and rectified each issue. In most cases the department does not receive this information because QAPs in classes 1.1. and 1.3 are authorised to address these issues on the department's behalf. During audits of these QAPs, a biosecurity officer may audit record sheets, but the department does not use the recorded data to review existing non-commodity risk profiles.

3.79 The IIGB believes that as class 1.1 and class 1.3 QAPs are located in all biosecurity regions and handle a variety of cargo, the department could use the data recorded on quarantine risk material records as a surveillance tool to monitor biosecurity risk sources. It is important that the department captures and derives maximum benefit from such records, to continually improve its management of biosecurity risks.

Recommendation 6

3.80 As part of its strategy to improve data capture and assessment of pathway performance, the department should consider using information from 'quarantine risk material records' to improve risk profiles.

Industry communication and awareness

3.81 The import and logistics industry is a critical partner in effectively managing biosecurity risks. The department has produced communication and education materials as part of the '*See. Secure. Report*.' campaign to raise awareness among industry personnel. The campaign addresses biosecurity issues associated with commercial importations. Campaign material includes a PowerPoint presentation and pamphlets and posters. The material is general, so it is usually inappropriate for education or training in specialised commodity areas.

3.82 Department and industry representatives told the IIGB that the education and awareness of industry personnel is an essential part of managing biosecurity risks. It appears that most personnel who come into direct contact with biosecurity officers are conscious of potential biosecurity risks; these personnel include stevedores, terminal operators and employees at quarantine approved premises and customs brokerages. Much of the training material produced by the department is targeted at meeting the needs of people who directly handle goods that are subject to quarantine. Key training available includes the '*See. Secure. Report.'* campaign and accredited person training (quarantine approved premises staff, empty container scheme, NCCC scheme, external container scheme).

3.83 For individuals and companies that do not have direct contact with biosecurity officers or the opportunity to engage with the '*See. Secure. Report.'* campaign, relevant information is provided on the department's website. The primary location for this information is the high risk cargo pests page, however this page is difficult to find using either the departmental website or a search engine. This page contains a link to the '*See. Secure. Report.'* brochure but the link is labelled as "*Be Biosecurity Aware!"* and the '*See. Secure. Report.'* campaign is not mentioned by name within the body of the page.

3.84 As an example of the benefits of good training and information was provided when the IIGB visited a company with warehouses throughout Australia. Until recently, this company experienced frequent incidents related to detection of bark or insects on timber packaging. Understanding of biosecurity issues within the company was limited before these events, but during this period warehouse staff developed some biosecurity knowledge through interaction with biosecurity officers. The company worked with the department to build biosecurity awareness among all staff, including the purchasing and finance sections. This expanded training led to a marked decrease in post-import detections of bark and insects. The company's warehouse supervisor commented that his ability to manage biosecurity issues had improved. For example, office staff now understood that managing biosecurity issues could involve some delays in unpacking goods.

3.85 The department must continue to provide information and training to industry participants, especially those who rarely have direct contact with biosecurity officers. Recognising resource constraints, the IIGB suggests the department consider alternative, innovative methods for providing industry personnel with relevant information and training. The department could publish more material online and use a broader range of

media. For example, the department could provide short videos on relevant biosecurity topics on its YouTube channel. This type of material was considered to be more engaging and easily embedded, especially when presented by industry personnel. Presenters could include industry workers describing their experiences of looking for exotic pests and diseases and discussing real-world scenarios that industry viewers could relate to. This would provide further recognition of industry organisations implementing good biosecurity practices.

Recommendation 7

3.86 The department should consider making biosecurity awareness and training material for industry easier to find on its website and investigate opportunities for extending the range and media used to deliver the content.

Staff communication and awareness

3.87 Biosecurity officers play a pivotal role in managing biosecurity risks associated with imported cargo. To be effective, these officers need to maintain a range of skills and knowledge, including relevant department policies. As the department's primary point of contact with clients and the public, regional officers must have access to current information on operational procedures and policies; this is provided through various channels, including BICON (replacing ICON), mylink intranet messages and operational notifications through managers and supervisors. The IIGB observed that most biosecurity officers showed a high level of knowledge about the practical application of operational policies and import requirements for timber packaging.

3.88 While biosecurity staff have adequate knowledge to undertake their roles, it appears that they do not always understand why specific operational policies exist or have changed. For example, a question was raised with the IIGB as to why the department now allows some bark to be present on timber packaging. The policy was misinterpreted as the department's response to lobbying by an importer with a history of failing to meet requirements for bark-free consignments. Operational officers should be notified about the reasons for relevant policy changes so they can respond to questions from clients.

3.89 Document assessment officers also commented that feedback on profile requests and non-conformity reports was not always available, particularly where a request or report did not lead to a change new or modified profile being created. Based on surveillance and audit activities in the regions, staff generate various reports on supplier profiles, the Australian Fumigation Accreditation Scheme, treatment failures, insect and disease reports and NCCC non-conformities. Reports are usually forwarded to Canberra by a regional coordinator for review and possible action.

3.90 Based on the comments received, the IIGB believes that background to policy should be provided where ever possible, and that profile and non-conformity reports should require specific feedback to officers when the request or report is unable to be progressed to specific action. For example it would benefit officers to know that a report has contributed to general risk assessment or intelligence gathering, even though specific action has not been taken in this instance.

Recommendation 8

3.91 The department should review its internal communications policy to ensure biosecurity officers receive feedback about surveillance, audit outcomes and reasons for policy changes.

Appendix A: Agency response

Figure A1 Department response

Australian Government
Department of Agriculture and Water Resources

SECRETARY

Ref: EC16-000133

Dr Michael Bond
Interim Inspector-General of Biosecurity
Department of Agriculture and Water Resources
GPO Box 858
Canberra ACT 2601

Dear Dr Bond

Thank you for your letter of 26 February 2016 regarding your draft audit report, *Management of biosecurity risks associated with timber packaging and dunnage*, and for the opportunity to provide comment.

The department agrees with the recommendations in the draft report. I am also pleased to note that work towards addressing the recommendations has commenced or in some instances been completed.

Specific comments in response to the recommendations are provided at Annex A. There are no matters referenced in your report that are considered prejudicial to the public interest and therefore should not be made publically available.

If you require any further clarification on our comments, please contact Ms Caroline Martin, A/g Assistant Secretary Pathway Compliance on 02 6272 4567 or by email to Caroline.Martin@agriculture.gov.au.

Yours sincerely

Daryl Quinlivan

4 ~~March~~ April 2016

T +61 2 6272 3933
F +61 2 6272 5161
18 Marcus Clarke Street
Canberra City ACT 2601
GPO Box 858
Canberra ACT 2601
agriculture.gov.au
ABN 24 113 085 695

ANNEX A

Department of Agriculture and Water Resources responses to draft recommendations

Recommendation 1

The department should review the process for initial approval and ongoing acceptance of annual packing declarations, including consideration of:
a) developing a mandatory compliance history for individual packers,
b) the feasibility of withdrawing or cancelling an annual declaration if required,
c) varying approval periods, to reflect compliance history.

Response:

Agreed. The department will review the process of approving, accepting and acting on the compliance history of annual packing declarations. This review will be completed by 31 October 2016.

Recommendation 2

The department should record information about timber packaging in AIMS, for those consignments subject to document assessment by a department officer. This information would assist in identifying undeclared or incorrectly-declared timber packaging during inspections.

Response:

Agreed. The department currently records information in AIMS about the outcomes of Non Commodity document assessment carried out by Assessment Services. Non Commodity risks that are assessed by accredited brokers under the Non Commodity for Containerised Cargo Clearance Scheme (NCCC) are audited through Cargo Compliance Verification (CCV) inspections. The department is considering IT change that will enable information about timber packaging to be available via targeted concern types that will be entered by the accredited broker. This change is currently being scoped as part of the Automated Entry Processing (AEP) reform project which will commence in July 2016.

Recommendation 3

The department should address each of the issues identified in the timber packaging case study undertaken by the Plant Biosecurity Division in 2015.

Response:

Agreed. The Plant Division undertook a review of governance processes applied to timber packaging following the detection in May 2014 of larvae of the Asian Longhorn

beetle, the brown mulberry longhorn beetle and the Japanese Sawyer beetle. The review recognised that problems with implementation of the timber packaging policy contributed to the failure and included: a lack of clearly defined roles and responsibilities for the operational policy; a lack of clearly defined processes for performance monitoring leading to performance data inaccuracies; training and instructional material not being fit-for-purpose; international intelligence was inadequately assessed due to a lack of clear responsibility to monitor and analyse it.

The department is undertaking the following activities that will address these issues:

- A service delivery integration agreement is being developed that provides a framework for interactions between Service Delivery Operations and the Program areas within the department. This agreement will clarify roles, responsibilities and accountabilities in the delivery of services; a clear understanding of the activities, information and products required to deliver services; and clarify policy settings, priorities, service expectations and requirements for delivery and improvement activities.
- The Compliance Division is developing an Incident Enhancement project that will capture incident information within AIMS entries. This project will be implemented by 31 August 2016.
- The Assessment Services Group and the Plant Division have initiated performance monitoring activities for a number of commodities and timber packaging has been included as a verification target.
- The Plant Division has established a unit to collect, manage and interrogate international intelligence to inform risk management.
- Instructional material for the inspection of timber packaging and dunnage has been reviewed to ensure that it is fit-for-purpose.

Recommendation 4

The department should consider expanding the Cargo Compliance Verification programme beyond full container loads to include additional arrival pathways.

Response:

Agreed. The department has recognised the benefits of the Cargo Compliance Verification (CCV) programme and has been expanding it to other cargo pathways. This recommendation is considered completed.

Recommendation 5

The department should develop an over-arching surveillance policy that explains how surveillance fits into routine biosecurity activities, the priority to be given to surveillance when planning day-today activities and appropriate record-keeping requirements. This policy should link existing surveillance-related documents for all worksites and ensure relevant instructional material is provided at all worksites.

Response:

Agreed. The government has committed $200 million in the Agricultural Competitiveness White Paper for improving biosecurity surveillance and analysis to better target critical biosecurity risks, including in northern Australia. As part of this measure, the department will develop a comprehensive approach to biosecurity surveillance activities. The surveillance program will identify priority pests and diseases to guide investment, design and implement surveillance methods and technologies for priority pests, diseases or regions, and enhance structures and networks to support surveillance effort.

Key activities include:

- Identification of priority pests, diseases and regions to guide investment in surveillance activities.
- Designing, developing, implementing and promoting appropriate surveillance methods and technologies for priority pests, diseases and or regions. This work will address gaps and build on successful existing programs.
- Intelligence consolidation and analysis. This will include development of intelligence distillation tools and providing intelligence assessments to policy and decision makers.
- Development of an Enterprise Surveillance System (ESS) to manage the department's surveillance data at an enterprise level. There will be training associated with this activity, and engagement of consultants required.
- Development of the International Biosecurity Intelligence System to provide real time intelligence on emerging pests and diseases.
- Engagement of an independent consultant to facilitate an administrative design process involving the Commonwealth government, state and territory governments and industry representatives in order to develop the surveillance program.
- Procurement of Laboratory Information Management System software, software licences, and contractors to configure and integrate new software.

Recommendation 6

As part of its strategy to improve data capture and assessment of pathway performance, the department should consider using information from 'quarantine risk material records' to improve risk profiles.

Response:

Agreed. The department recognises that the information in the quarantine risk material records may enhance risk profiles. Pulling information from a range of different sources, such as quarantine risk material records will rely on the ability for processes to be automated in departmental systems. The department has already identified this information gap and has commissioned a project with the Centre of Excellence in Biosecurity Risk Analysis (CEBRA) on improving operational imports data capture, mining and curation. The one year CEBRA project will commence in July 2016. We regard this recommendation as completed.

Recommendation 7

The department should consider making biosecurity awareness and training material for industry easier to find on its website and investigate opportunities for extending the range and media used to deliver the content.

Response:

Agreed. The department is in the process of amending the online Customs Brokers Toolkit. The website will be amended accordingly.

Recommendation 8

The department should review its internal communications policy to ensure biosecurity officers receive feedback about surveillance, audit outcomes and explanations for any policy changes.

Response:

Agreed. The department is developing a revised communications approach. This will be finalised by 30 June and implemented by December 2016.

Glossary

Term	Definition
CCV	Cargo Compliance Verification
Commodity	Materials referred to as goods in section 5 of the *Quarantine Act 1908*
dunnage	Material used to support or stabilise a consignment during transport; it is not attached to or part of the consignment; examples include used tyres, drums, gluts and skids
frass	The fine powdery refuse produced by the activity of boring insects in wood
hard frozen	Items that been stored continuously at −18 °C or lower for at least seven days
ICON	Import Conditions database, managed by the Department of Agriculture and Water Resources
ICS	Integrated Cargo System, managed by Australian Boarder Force
ISO tank	Steel cylindrical containers mounted in a rigid steel framework used to carry bulk liquids or chemicals (also called tank containers and tanktainers)
ISPM 15	International Standard for Phytosanitary Measure no. 15
Non-commodity	Any article, such as wooded packaging, created to protect an imported commodity during transit and delivery
NCCC	Non-commodity for Containerised Container Clearance scheme, managed by the Department of Agriculture and Water Resources
QAP	Quarantine approved premises
timber packaging	All solid timber or articles made from timber and used to support, secure or protect a consignment and that are attached to the consignment; packaging material made entirely from reconstituted wood or plywood/veneer does not have to be declared as timber packaging or dunnage because it is not considered a biosecurity risk

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