Chapter 12

Strengthening Australia's biosecurity

12.1 There is little doubt that the introduction of exotic weeds, pests or infectious diseases into Australia poses a considerable threat to the health of its plant and animal life and, ultimately, its economy. Through careful management, Australia's biosecurity regime seeks to minimise the risk of these weeds, pests and diseases entering or gaining a foothold in the region.

12.2 Although the Treaty does not set down specific standards on environmental protection and conservation, it does require PNG and Australia to use their best endeavours to prevent the introduction of fauna or flora that could harm indigenous plant and animal life and to control noxious species.1 In this chapter, the committee examines the operation of Australia's quarantine and biosecurity regime in the Torres Strait.

Australia's quarantine and biosecurity arrangements

12.3 A recent comprehensive review found that, although Australia has in place sound and effective quarantine and biosecurity arrangements, the system is not perfect. Further, the Executive Director of the Biosecurity Services Group, Rona Mellor, told a conference in March 2010 that Australia's biosecurity status was 'the responsibility of all Australians'. She said:

Each member of the community has a role to play—before the border, at the border and within Australia—to prevent, prepare for, detect and mitigate biosecurity risks, and respond to, manage and recover from biosecurity incidents should they occur.2

12.4 This statement is relevant to the Torres Strait which, as detailed in the previous chapter, presents a number of challenges for biosecurity. In the following section, the committee considers the pre-border, border and post-border measures being taken by Australia to manage the biosecurity risks emanating from the region.

Pre-border measures

12.5 It is in Australia's interest that diseases, pests and noxious weeds should be contained at their place of origin or eliminated before they find their way south of PNG and across the Torres Strait. Thus, Australia's first line of defence against the introduction of invasive species is off-shore at the source of the problem. This involves dealing with the threat wherever it is present in PNG or Indonesia and

1 Article 14.
educating people so that they do not carry something into the Torres Strait that poses a threat to plant or animal life in the region.

**Intelligence**

12.6 It is critical for Australia's quarantine agencies to have a good understanding of the potential biosecurity threats that exist in PNG and Indonesia. For example, a 2008 report that reviewed Australian Quarantine and Inspection Service's (AQIS) surveillance program found that one of the largest unknowns was 'the SWF and host density in the south-western PNG, especially in and around the treaty villages and hence the probability or risk of a SWF incursion into the Torres Strait'. It recognised the difficulty of quantifying the risk without the necessary data or information and stated that it was 'imperative that AQIS gain a greater understanding of the risks posed by SWF in southern coastal PNG'. The report recommended that 'some SWF monitoring be implemented in southern coastal PNG, including SWF trapping and systematic myiasis monitoring of local livestock in the Treaty villages'.

12.7 With regard to this important area of off-shore monitoring and surveillance, DAFF informed the committee that it conducts animal and plant health survey activities in PNG to manage pre-border quarantine risks in the Torres Strait. The Office of the Chief Veterinary Officer (OCVO) and the Office of the Chief Plant Protection Officer (OCPPO) co-ordinate collaborative activities with the PNG Government so that the biosecurity agencies have a better idea of threats and how to respond promptly should an incident occur. For example, the surveillance activities in PNG that OCPPO coordinates jointly with PNG's National Agricultural Quarantine and Inspection Agency (NAQIA) provide 'invaluable intelligence on these countries' animal health status, thereby forewarning Australia of new or emerging threats in our northern region'. DAFF explained further:

> Early warning enables timely implementation of risk mitigation measures where appropriate, and greatly improves the success of subsequent control and eradication programs. In addition, the strong support gained from the neighbouring countries through these activities strengthens relationships and facilitates the exchange of pest and disease information between these countries and with Australia.

12.8 Avian influenza (AI) provides a case study of the type of monitoring that Australia undertakes. As noted in the previous chapter, the movement of nomadic waterfowl between northern Australia and PNG provides a potential route for the introduction of AI and other disease agents into Australia. The Northern Connections project, which studied the movement of birds between Australia and its northern

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neighbours, involved satellite tracking of birds in PNG and DNA sampling of birds on both sides of the Torres Strait. According to Animal Health Australia, wild-bird surveillance and laboratory programs, which enhance Australia's diagnostic and surveillance capacity for detecting AI, would continue in 2009. Dr Carroll also cited DAFF's investment of 'quite a lot of resource' in helping PNG control and eradicate an outbreak of a very virulent form of Newcastle disease that occurred at the top of the country.

12.9 Any type of monitoring or surveillance activity in PNG or Indonesia intended to identify potential threats to Australia's northern area requires the cooperation of the relevant country. For example, DAFF noted that access to Indonesia for surveillance activities can be erratic due to political turbulence. Based on previous inquiries, the committee appreciates the importance of the Australian Government and research institutions maintaining close links through joint endeavours and people-to-people contacts as a means of overcoming political difficulties that could otherwise disrupt worthwhile projects. The committee recognises and supports the work of people such as the Chief Veterinary Officer and the Chief Plant Protection Officer that helps to build these necessary institutional networks.

**Containing threat**

12.10 Understanding and identifying a biosecurity risk off-shore is only the first step to minimising its potential to cause harm in Australia. The next stage is to contain or eradicate the threat. Indeed, as noted by Dr Carroll, the more diseases there are in Australia's northern neighbours and 'the less they are controlled the more pressure is put on diseases to jump across and then island-hop or even move directly to the mainland'.

**Off-shore capacity building—PNG side**

12.11 The capacity or political willingness of Australia's nearest neighbours to contribute to activities designed to contain or eliminate biosecurity threats affects the success of Australia's quarantine programs. For example, DAFF noted that PNG's

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8 *Committee Hansard*, 17 December 2009, p. 64.

9 *Submission 13*, p. 9.

10 See in particular, Standing Committee on Foreign Affairs, Defence and Trade, *Australia's public diplomacy: building our image*, August 2007, Chapter 7.

quarantine service, NAQIA, has major capacity constraints delivering its core functions in animal health and quarantine. Most notably, PNG has a critical shortage of qualified personnel, especially veterinarians, as well as poor infrastructure. Dr Carroll similarly noted that the resources for capacity building in these areas are always stretched in PNG.

12.12 DAFF's relationships with NAQIA and PNG's Ministry of Agriculture and the quarantine service in Indonesia are intended to build capacity. Mr Paul Morris, DAFF, noted that in addition to the animal and plant health surveillance conducted in PNG, the department also:

…engages in collaborative activities with the PNG government with the objective of enhancing its capacity to monitor and manage existing and emerging quarantine risks of potential impact to PNG and Australian territories, including the Torres Strait.

12.13 DAFF outlined the work that the OCPPO and OCVO undertake with NAQIA and Indonesia's MOA (Directorate General of Horticulture) to strengthen regional biosecurity and quarantine capacity and reduce the risk of pest and disease incursions into Australia. The surveillance and biosecurity capacity-building activities undertaken in those countries include animal disease surveys, public awareness programs and training. Their aim is to enhance PNG's capacity to monitor and manage existing and emerging quarantine risks to PNG and Australian territories, including the Torres Strait. According to DAFF, collaboration between Australia and PNG is supported by both departmental and AusAID funding.

AusAID

12.14 AusAID provides funding for DAFF for a range of activities in both PNG and Indonesia. For example, Dr Carroll explained:

We are trying to investigate various things with AusAID, particularly under the Strongim Gavman Program, to try to get veterinarians over there and to train locals through universities here. It is a long and difficult process.

12.15 OCPPO manages the AusAID Papua New Guinea Australian Quarantine Twinning Scheme (PAQTS). This scheme commenced in March 2007 and was to
continue to 30 June 2010. Its objective was to strengthen regional biosecurity and quarantine capacity and assist NAQIA to address some of its capacity constraints. Funding for the period was $1.5 million. Some of PAQTS activities included:

- addressing PNG's need for more veterinarians through veterinary case development;
- training in plant and animal pest and disease surveillance; and
- implementing a surveillance and control program in the Eastern Highlands of PNG in response to a new pathogenic form of the honeybee mite, Varroa Jacobsoni. The pest was identified in an AQIS survey of PNG and Indonesian Papua in July 2008.18

12.16 The Queensland Government is also developing projects to improve biosecurity capability in PNG to reduce the risk to Torres Strait.19

Research institutes

12.17 Research institutes provide important linkages and networks that assist in gaining a better understanding and early knowledge of emerging and continuing threats to Australia's biosecurity as well as in building capacity off-shore. Professor John Mackenzie noted in particular the importance of developing informal person-to-person linkages with colleagues overseas, perhaps through joint research programmes. He suggested that important early knowledge may be gained:

…through better international linkages at the person-to-person level, particularly through common research interests but also through increased capacity building and training in regional laboratories to better detect, diagnose and respond to new, potential threats.20

12.18 In his view, if Australia were 'much more proactive through AusAID, the Australian Centre for International Agricultural Research (ACIAR), and other aid-funding mechanisms', they could 'help provide a basis for building these different networks and other linkages which are going to be so important…in the future'.21 This observation reinforces similar observations by the committee in previous reports about

18 DAFF, Submission 13, pp. 10–11.
20 Professor John Mackenzie, Professor of Tropical Infectious Diseases, Curtin University of Technology, Perth, 'Emerging viral diseases: what are the threats and how should we respond?', Safeguarding Australia 2007–2008, Public Lectures, Australian Academy of Science, 4 September 2007.
21 Professor John Mackenzie, Professor of Tropical Infectious Diseases, Curtin University of Technology, Perth, 'Emerging viral diseases: what are the threats and how should we respond?', Safeguarding Australia 2007–2008, Public Lectures, Australian Academy of Science, 4 September 2007. ACIAR is a statutory authority that operates as part of the Australian Government's development cooperation programs. ACIAR's website, http://aciar.gov.au/
the value in strengthening people-to-people links with PNG and assisting it build local capacity across a range of sectors.\textsuperscript{22}

\textbf{Committee view}

12.19 One of the dominant themes to emerge from this inquiry so far is that in many cases, when dealing with problems facing the Torres Strait, PNG must be involved as a cooperative and active partner. Furthermore, while cooperation and collaboration with PNG is important in meeting challenges, PNG is often constrained in making a contribution by its lack of resources. Thus, in areas such as biosecurity, one of Australia's key priorities is to promote greater awareness of threats and garner PNG's support to help control or eradicate them. Australia must also help PNG build capacity so that it can effectively work with Australia in combating threats to the region.

12.20 The committee's recommendations in chapter 10 designed to encourage greater involvement of PNG villagers in local conservation activities are also relevant to strengthening biosecurity in the region.

\textit{Education and awareness}

12.21 Another precaution against the spread of unwanted pests or disease is to use education to discourage people from bringing prohibited goods into the Torres Strait. The Treaty recognises Australia's and PNG's right to apply such immigration, customs, health and quarantine measures, temporary or otherwise, as they consider necessary to meet problems that may arise.

In particular each Party may apply measures to limit or prevent free movement, or the carriage of goods, plants or animals in the course thereof, in the case of an outbreak or spread of an epidemic, epizootic or epiphytotic in or in the vicinity of the Protected Zone.\textsuperscript{23}

12.22 Both countries, however, are required by Article 16 to apply these procedures 'in such a way as not to prevent or hinder free movement or the performance of traditional activities by traditional inhabitants'. The Treaty stipulates that 'otherwise, normal customs and quarantine safeguards apply in the Torres Strait'.\textsuperscript{24}

\textit{Quarantine zones and prohibited items}

12.23 In this regard, Australia has imposed restrictions on the movement of goods and animals deemed to be a threat to Australia's biosecurity. Certain animals, plants and products are not allowed to be brought into the quarantine zones. Mr Chapman, DAFF, noted that the structure of the Torres Strait Protected Zone and the quarantine

\textsuperscript{22} Foreign Affairs, Defence and Trade References Committee, \textit{Economic Challenges facing Papua New Guinea and the island states of the southwest Pacific}, November 2009, chapter 6.

\textsuperscript{23} Article 16(c).

\textsuperscript{24} See also Australian Customs and Border Protection Service, \textit{Submission 14}, p. 6.
zones provides a series of filters designed to prevent the southward movement of any problem items. The following illustration shows the quarantine zones that operate in the Torres Strait.25

**Figure 12.1: Quarantine zones in the Torres Strait**

12.24 Traditional inhabitants are allowed to trade fish, crab, clean feathers (no skin), pandanus mats, baskets and skirts, carved wood, shells, beads, processed sago and coconut without the husk.26 Mr Murphy explained to a House of Representatives committee:


Fresh meat cannot be brought across but seafood can. There are magpie geese that fly back and forth between the swamps of Saibai and the mainland of New Guinea. If you shoot one in Saibai you are allowed to eat it but if you shoot it over there you are not allowed to bring it across to eat in the islands.  

12.25 To comply with these regulations, traditional visitors from PNG need to be fully aware of them. Mr Chapman noted that over a number of years, there has been 'a very strong community education program dealing with quarantine matters in the Torres Strait'. As part of this important education program, AQIS publishes pamphlets that explain clearly Australia's quarantine laws and provide illustrations of items that are not permitted into Australia without proper clearance.  

**Figure 12.2: Quarantine poster—products that cannot be moved around the Torres Strait**

(Images courtesy of Department of Agriculture, Fisheries and Forestry)

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27 House of Representatives, Standing Committee on Aboriginal and Torres Strait Islander Affairs, Reference: Community stores in remote Aboriginal and Torres Strait Islander communities, *Committee Hansard*, 5 February 2009, p. 7.

Treaty awareness visits

12.26 Quarantine officers in the Torres Strait also participate regularly in Treaty awareness visits to PNG Treaty villages that are designed, *inter alia*, to promote understanding of, and compliance with, Australian quarantine requirements. Mr Young informed the committee that these visits, which have been running since the 1980s, were bilateral, multi-agency delegations, coordinated by DFAT.\(^\text{29}\) Representatives from DIAC, AQIS, TSRA, AFP, QPS, AFMA, DoHA, DEWHA, DAFF, Queensland Health, ADF, and their PNG counterparts may accompany the Australian and PNG Liaison Officers on these visits.\(^\text{30}\)

12.27 This outreach program to communities on both sides of the border is intended to make sure that the requirements, obligations and responsibilities of people under the Treaty are well understood.\(^\text{31}\) Mr Young explained that, because quarantine and customs regulations change over time, part of the Treaty awareness visits is to talk about the requirements that visitors to Australia need to satisfy.\(^\text{32}\)

12.28 The delegations seek to visit all Treaty communities annually to convey information about the Treaty provisions, receive enquiries on technical Treaty matters, and resolve issues arising from the Treaty.\(^\text{33}\) Mr Young noted, however, that while the intention was to visit each village once a year, visits were 'fairly sporadic rather than regular' due to remoteness, coupled with unsurveyed waters, dangerous seas, reefs and so forth'.\(^\text{34}\) He explained that it could take two or three years, for instance, to get back to a community.\(^\text{35}\) The *Guidelines for Traditional Visitors*, which inform PNG villagers about prohibited items, are distributed among the villagers.

12.29 According to Mr Chapman, the education programs have helped to achieve a high degree of awareness on both sides of the border, which has led to 'very high levels of compliance'. He also drew attention to the valuable contribution that quarantine officers, who are local people on the islands, make to securing the integrity of the border. In his view, they are respected members of these small communities who understand the importance of quarantine measures, 'so there are very high levels of awareness'.\(^\text{36}\)
At the border—enforcement

12.30 If pre-border measures fail to contain a biosecurity threat, the next line of defence is at the border crossing where Australia enforces its quarantine regulations. According to Mr Morris, DAFF dedicates significant resources to the identification and management of quarantine risks in and to the Torres Strait region.

12.31 DAFF runs a program called the Northern Australia Quarantine Strategy (NAQS) which is based primarily in Darwin and Cairns. A component of this program operates from a base on Thursday Island with seven staff and at least one person based permanently on each of the inhabited outer islands.\(^{37}\) They are permanent employees, with all but one locally engaged which, according to Mr Chapman, is 'a key issue for the success of our operations up there'.\(^{38}\) The department's 2008–09 Annual Report stated that AQIS has five officers stationed permanently on the three most northerly islands—Boigu, Saibai and Dauan—and around 20 officers on the remaining 12 islands. One of their key tasks is to clear passengers and cargo boarding boats and aircraft travelling south.\(^{39}\)

Vessel checks

12.32 Quarantine officials inspect every vessel that arrives at one of the designated entry points and the goods carried by people disembarking. Even traditional visitors have their goods checked by quarantine officers before bringing them ashore. They are required to 'arrive at designated entry points, within specified entry times and present themselves for clearance' by Immigration and AQIS officers.\(^{40}\) Signs are located at the designated entry points on Boigu and Saibai that clearly illustrate items that cannot be brought ashore.

12.33 The entry checks are intended to ensure that items likely to carry unwanted pests and diseases are free of them.\(^{41}\) Similarly, people leaving one of the outer islands to go to Thursday Island are inspected to ensure they do not bring with them material not permitted to be carried between the zones.\(^{42}\)

12.34 The freedom of movement of traditional inhabitants creates some difficulties for quarantine officials. As noted in previous chapters, traditional inhabitants do not always land at the designated entry point nor arrive during set business hours. Mr

\(^{37}\) Committee Hansard, 17 December 2009, pp. 50–1

\(^{38}\) Committee Hansard, 17 December 2009, pp. 50–51 and Mr Paul Morris, Committee Hansard, 17 December 2009, p. 49.

\(^{39}\) Department of Agriculture, Fisheries and Forestry, Annual Report 2008–09, 'Managing pest and disease', 1.4.

\(^{40}\) Department of Immigration and Citizenship, Submission 16, p. 7.

\(^{41}\) Mr Chapman, Committee Hansard, 17 December 2009, p. 62.

\(^{42}\) Mr Chapman, Committee Hansard, 17 December 2009, p. 52.
Chapman noted that while AQIS officers work a normal day, the arrival of traditional inhabitants is 'sporadic and uncertain' with no estimated time of arrival for the boats provided. He explained that with unexpected arrivals one of two things occurs:

…either the people arrive and say, ‘We are here,’ or people in the local community will say that a boat has just arrived. The small community and the high level of understanding of our requirements mean that invariably happens. But in most cases, especially on the islands that are closer to PNG, people know when the boat is going to come across each day. There are always going to be exceptions to that, but patterns of behaviour and high levels of understanding mean that, as far as I am aware, there are very few instances where a boat would arrive without our officers being aware of it.43

12.35 Mr Chapman also reported that immigration and border protection personnel have a good and close working relationship—that, even though each agency is pursuing its own responsibilities, they look out for each other and provide support when necessary.44 He explained:

So while Immigration would carry out their functions when a traditional vessel turns up, our officer will be there and will have a look at any artefacts they might be carrying to make sure they do not have pests in them and they will make sure that they are not carrying with them goods which cannot move either from PNG into the Torres Strait protected zone or from the Torres Strait protected zone into the special quarantine zone.45

12.36 Mr Allen, DIAC, noted similarly that their monitoring officers do some sharing of responsibilities with AQIS officers in the region.46 Indeed, the Guidelines for Traditional Visitors advise that should AQIS officers not be present, 'the Immigration MMOs can check you and your dinghy for quarantine purposes'.

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44 Committee Hansard, 17 December 2009, p. 51.
46 Mr Stephen Allen, Committee Hansard, 17 December 2009, p. 18.
While Australian officials were relatively confident that the screening process for visiting PNG nationals worked well, evidence from local leaders conveyed a different picture about the effectiveness of immigration and quarantine checks at the border on the islands close to PNG. At the community meeting on Saibai, local leaders
told the committee of the 'influx of people coming over from PNG, sometime under cover of darkness and hard to detect'. They wanted more local enforcement on the ground and asked 'why not treat this border like other international borders'.

Mr Ned David, Director, Magani Lagaugal, Registered Native Title Body Corporate stated that many people could speak about PNG people walking 'in and out of the Torres Strait any time they like'. He informed the committee that he had visited Saibai many times and had seen no one policing arrivals. In his experience:

People are quite free to come across and sell anything. So if we are interested in ensuring that this treaty is working as it should then these sorts of things should be reviewed and some real changes made.

12.38 In the chapter on law and order, the committee considered the undetected entry and unauthorised visits of PNG nationals. It found that there was a definite difference in perceptions about the effectiveness of Australia's border screening process in the Torres Strait. The same difference is apparent when it comes to quarantine checks—some traditional leaders clearly believe that PNG visitors can come ashore anytime unnoticed by authorities and remain on islands in the Torres Strait. On the other hand, government officials expressed faith in the effectiveness of the quarantine regime.

**Illegal fishing**

12.39 Illegal fishers or poachers in the Torres Strait pose a significant biosecurity threat because they successfully breach the border crossing without undergoing any checks and are determined to avoid detection. As noted in the previous chapter, illegal fishing goes beyond the activities of traditional inhabitants from PNG carrying out illegal or unauthorised activities in the Torres Strait region. Vessels, some from Indonesia, also enter the strait to fish on a more commercial scale.

12.40 According to DAFF, the Australian Government has set about establishing a strong deterrence regime against illegal foreign fishing in Australia's northern waters. It has two main prongs: addressing the illegal fishing problem at source, through education and awareness-raising; and direct enforcement, through vessel detection, apprehension, and the prosecution of illegal fishers. The committee has considered the education programs and now looks at the detection and apprehension of suspicious vessels.

12.41 Animal Health Australia noted that since 2006, the Australian Government had placed a high priority on quarantine surveillance associated with illegal foreign

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47 Information conveyed to committee during meeting on Saibai, 23 March 2010.
48 Committee Hansard, 24 March 2010, p. 34.
49 Committee Hansard, 24 March 2010, p. 34.
50 DAFF, Submission 13, p. 19.
fishing activity.\textsuperscript{51} Evidence suggests that these deterrent activities have 'made a significant impact on the level of that activity'.\textsuperscript{52} Customs' 2008–09 Annual Report confirmed the trend:

The deterrent effect of enforcement efforts over the last two years has seen
a reduction in illegal fishing activity in Australia's northern waters to the
point where large concentrations of vessels sit just beyond the Australian
Exclusive Economic Zone boundary, undertaking frequent shallow
incursions into Australian waters.\textsuperscript{53}

12.42 While the decrease in the number of foreign fishing boats in the Torres Strait region reduces the biosecurity threat, the observation that 'large concentrations of vessels' sit just beyond Australia's boundaries underlines the importance of Australia maintaining a high level of vigilance.

12.43 As noted in chapter 9, Australia's maritime surveillance activities are not confined to illegal fishers; they are used to detect and deter people engaged in a range of activities, including people smuggling and drug or gun running. These matters and the deterrence regime for organised crime are discussed later in greater detail when considering the work of the Australian Customs and Border Protection Service.

\textbf{Summary}

12.44 The committee notes the potential harm that could result from any weakness or breakdown in quarantine processes at the border in the Torres Strait. Australian border protection agencies have a multi-pronged approach to prevent the introduction of harmful weeds, pests or diseases. These include surveillance and monitoring activities in PNG and Indonesia; programs to build capacity on the PNG side so that it can better manage biosecurity threats; education programs to raise awareness of the importance of observing quarantine regulations; and screening processes at the border to stop the importation of any weeds, pests or diseases.

\textbf{Post-border activities}

12.45 Despite pre-border and border efforts to prevent the entry of noxious weeds, pests or disease, incursions do occur. Should such an incident happen in the Torres Strait, a prompt and effective response is required.

\textbf{Surveillance}

12.46 The post-border biosecurity risks in the Torres Strait are exacerbated by the remoteness of the region, lack of extensive infrastructure and difficulties putting in

\textsuperscript{52} Australian Customs Service, \textit{Annual Report 2006–07}, Australian Government, p. 121.
place sophisticated quarantine treatments. Both in the Torres Strait and in the Cape York region, there are very low population densities, which mean that if something harmful does gain a foothold, it has the opportunity to develop and multiply before being identified. Also some pests, such as papaya fruit fly, are hard to detect, especially during the early stages of their development, and may not be discovered at border inspection. \textsuperscript{54} They increase in numbers rapidly and can disperse quickly over large distances. \textsuperscript{55}

12.47 As noted in the previous chapter, pest infestations can result in substantial losses in production, restrict market access and damage the environment. \textsuperscript{56} Moreover, destroying an infestation of harmful exotic pests can be expensive. For example, the eradication costs dealing with the 1995 outbreak of papaya fruit fly in Queensland was estimated to be 'roughly AU$43 million'. \textsuperscript{57} Thus, timely detection remains the best protection against damaging incursions.

12.48 While DAFF staff on Thursday Island look after border management matters, scientific staff in either Darwin or Cairns undertake specific survey work in the Torres Strait for particular pests or diseases in conjunction with the operational border-management staff in the Torres Strait. \textsuperscript{58} For example, DAFF has quite extensive insect trapping regimes on the islands closest to PNG to identify the prevalence of insect pests. Mr Chapman informed the committee that 'potential risks are well recognised and there are quite extensive surveillance activities, border management activities and community education activities which are all designed to minimise that risk'. \textsuperscript{59} For example, in 2009, surveillance relating to AI included 'sample collection and testing of more than 1,000 migratory waders and waterfowl across northern Australia and domestic poultry in the Torres Strait'. \textsuperscript{60} The Northern Australian Quarantine Strategy (NAQS) division continues to undertake limited monitoring for transmission of JE in the Torres Strait and mainland Australia.

\begin{thebibliography}{99}
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\bibitem{56} Tom Kompas and Nhu Che, 'A Practical Optimal Surveillance Measure: The Case of Papaya Fruit Fly in Australia', Australian Centre for Biosecurity and Environmental Economics, Canberra, 2009, p. 7.
\bibitem{57} Tom Kompas and Nhu Che, 'A Practical Optimal Surveillance Measure: The Case of Papaya Fruit Fly in Australia', Australian Centre for Biosecurity and Environmental Economics, Canberra, 2009, p. 23.
\bibitem{58} Mr Chapman,\textit{ Committee Hansard}, 17 December 2009, pp. 50–51.
\bibitem{59} \textit{Committee Hansard}, 17 December 2009, p. 63.
\bibitem{60} Animal Health in Australia, \textit{Animal Health in Australia 2009}, Canberra, 2010, Australia, p. 62.
\end{thebibliography}
12.49 Surveillance for SWF and fruit fly provides an example of Australia's early-warning approach to identifying incursions. Sentinel animals/herds and extensive and targeted adult trapping are used as key detection tools. One of the duties of AQIS officers on the northern-most islands in the Torres Strait includes clearing fruit fly and SWF traps and spraying any detected fruit flies. With regard to the sentinel herd, Mr Chapman explained that usually it consists of about three pigs that are tested every week to determine if anything is happening to the animal population and whether any infestations are moving southwards. Referring to SWF, Animal Health Australia provided advice that:

Although long and intensive monitoring has confirmed that there is not a major risk (except for the possibility of an infested animal being illegally transported from countries to Australia’s north), vigilance needs to be maintained.

12.50 This observation applies to all surveillance activity in the northern part of Australia.

**Working with Queensland quarantine**

12.51 The Biosecurity Queensland group of the Queensland Department of Primary Industry and Fisheries (QDPIF) administers animal biosecurity in the Queensland tropics. It conducts surveillance activities for exotic pests and diseases across tropical north Queensland, which includes Cape York Peninsula, the Torres Strait and the Gulf of Carpentaria. It also conducts targeted surveillance for high-risk pests and diseases through seasonal surveys at specific locations through Cape York.

12.52 Research institutions contribute to this surveillance activity. Ms Morris, MTSRF, explained that they are doing better monitoring and assisting Biosecurity Queensland with this type of activity in the Torres Strait. She noted:

It is very expensive to put researchers in the field so if researchers are there they do collect data for other players, with the joined up government happening there. That is excellent.

12.53 The Queensland Government also works with NAQS on surveillance and response programs in the Torres Strait and investigates unusual pest disease events. According to DAFF, the Queensland Department of Employment, Economic Development and Innovation (DEEDI) and AQIS are maintaining a watching brief on

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61 Australian Veterinary Emergency Plan (AUSVETPLAN), 'Disease strategy: Screw-worm fly (Version 3.0)', Canberra, 2007, p. 45.
63 Australian Veterinary Emergency Plan (AUSVETPLAN), 'Disease strategy: Screw-worm fly (Version 3.0)', Canberra, 2007, p. 18.
64 Committee Hansard, 25 March 2010, p. 40.
detected outbreaks of the Mango Leaf Gall Midge, Red Banded Mango Caterpillar, Vegetable Leafminer and Spider Mite. The activities complement those of other programs, such as border security and quarantine barrier activities undertaken by AQIS. Queensland Health continues to work closely with AQIS in relation to the risks of JE in the region.\(^66\)

12.54 In its submission, the Queensland Government strongly supported a more collaborative approach to national biosecurity issues, as recommended in the Beale Report, including activities in the Torres Strait.\(^67\) In this regard, it welcomed the Australian Government’s re-establishment of the NAQS Steering Committee with representation from relevant agencies.\(^68\)

12.55 Australia also has an Emergency Plant Pest Response Deed that was established in 2006. It underpins national decision making regarding emergency plant pest responses in Australia. The Australian Government and Queensland biosecurity authorities join forces to coordinate response actions for such an emergency in the Torres Strait area through to the north of Cape York.

**Public awareness and community engagement**

12.56 Whether the threat comes from the introduction of a weed, pest or disease through human activity or through natural migration, local knowledge and engagement is vital to identifying and containing unwanted incursions.

12.57 In addition to its education programs designed to stop people bringing prohibited goods or products into Australia, AQIS also engages with local communities in the Torres Strait to inform them about post-border biosecurity measures. Animal Health Australia noted that a significant proportion of NAQS activities associated with quarantine risks were undertaken in collaboration with Indigenous communities. It cited their involvement in brokering access for NAQS survey teams to Indigenous land, sampling feral animals, pest trapping and coastal patrol activities.\(^69\)

12.58 The Queensland Government also conducts education and awareness-raising activities with producers and landholders to encourage them to report unusual pest or disease findings.\(^70\) For example, Biosecurity Queensland uses its expertise to educate and provide training to government and non-government personnel in areas such as

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\(^67\) The committee referred to this report in paragraph 11.1.


the management and minimisation of zoonotic disease, emergency pest and disease incident management, decontamination, movement controls, sample collection, and identification and reporting of suspect animal pests or diseases.71

12.59 While education is important, it does not necessarily mean people act on the information.72 One study noted that public awareness campaigns on SWF resulted in an initial increase in submissions of larvae of SWF, which declined over time, 'suggesting that community members become complacent unless the awareness is continually raised'.73 This observation relates back to the observation by Animal Health Australia about the need for constant vigilance (paragraph 12.49–12.50). Ms Morris reinforced this message, stating that Australia needs to 'be increasingly alert in that region' which requires 'more monitoring, more awareness of what is moving and how and more education' in the communities about biosecurity'.74

12.60 The committee has highlighted the important role of community management plans in conservation. These plans also recognise the threat that incursions of exotic weeds, feral animals and disease organisms pose to the health of native plant and animal populations. Thus, local community participation in these management plans is also of benefit to biosecurity in the Torres Strait and could provide another means of strengthening the capacity on the PNG side to manage biosecurity threats. The committee's recommendations regarding government support for the community management plans and for involving PNG villagers in their development and implementation also apply to biosecurity.

Minimising the risk of infestation in local communities

12.61 An area where awareness raising and education appear to have fallen down is in regard to the restrictions placed on the farming activities of local communities in the Torres Strait. The TSIRC informed the committee that environmental laws and regulatory bodies are preventing local inhabitants from sourcing their own food locally. It indicated that communities were not able to farm pigs, chickens and so forth: that they were being deprived of 'the right to stay alive and to create economic wealth'.75


72 See Fiona Sinclair, ‘Pest and Vector Control: Badu, Torres Strait Australia’, Journal of Rural and Tropical Public Health, vol. 5, Centre for Public Health and Tropical Medicine, James Cook University, p. 65.

73 Veronica Boero Rodriguez and Bo Raphael, Review of the Old World Screw Worm Fly trapping program conducted by AQIS in the Torres Strait, Bureau of Rural Sciences, July 2008, p. 23.

74 Committee Hansard, 25 March 2010, p. 42.

75 TSIRC, Submission 9, p. 4.
Dr Carroll did not think there were any complete prohibitions on the holding of animals but that certain practices were encouraged in the Torres Strait. He explained that people have to comply with quarantine requirements when moving from one zone to another; and that a product 'not allowed to move into the mainland is not allowed to move around Torres Strait either'. He did note, however:

One of the risks can be if there are susceptible species on the island. Particularly for pests that can move naturally and island hop even having a species there can create a quarantine risk. If you were to establish a large pig herd on an island they could act as a spot where diseases such as classical swine fever if it were to get into Papua New Guinea...could move across and infest. That is why we pay particular attention to what is held on the islands because they can pose a quarantine risk by posing a susceptible population that could become infected.

In light of the concerns raised by the TSIRC about certain farming restrictions in the region, the committee suggests that DAFF should look closely at the information and education programs it delivers in the Torres Strait.

Committee view

There is little doubt that early knowledge and detection of the presence of biosecurity threats is crucial to eradicating or minimising their damaging effects. Building capacity in local communities to detect and contain the spread of such pests or diseases should be an important component in Australia's quarantine regime. In this regard, the committee recognises the valuable work of committed Indigenous quarantine officers who have the knowledge and training required to effectively police the movement of people and goods across the border, and to engage in public education on quarantine restrictions. It also notes the potential that the community management plans have for strengthening the local contribution to biosecurity. In this regard, the committee refers to recommendations in chapter 10 which place a heavy emphasis on involving local communities in research projects. These recommendations apply with equal force to strengthening the capacity of local communities to detect and prevent the spread of unwanted weeds, pests or diseases in their localities.

Recommendation 17

The committee recommends that the Australian Government assist Torres Strait Islanders to assume a central role in biosecurity-relevant studies, including research into management of indigenous flora and fauna, and surveying and monitoring threats to their localities, such as illegal fishing or the introduction of harmful weeds or pests.
Climate change and biosecurity

12.66 In the previous chapter, the committee noted the challenges that changes in climate in the Torres Strait present for Australia's biosecurity—for example, the possible increase in the incidence and distribution of infectious diseases already in Australia and the spread of diseases not currently present. Vector-borne diseases, such as dengue, are of concern because changes in climate are predicted to increase the range of the vector Aedes aegypti. A second vector, Aedes albopictus now occurs in the Torres Strait. The CSIRO is undertaking significant biosecurity research associated with the risk from mosquitoes as vectors of human diseases.

12.67 The committee has already highlighted the need for greater understanding of changes in habitats and the life cycle of insects and animals due to variations in climate and their likely effects on the environment. Changes in climate could have serious implications for Australia's biosecurity in the Torres Strait region and, ultimately, for Australia as a whole. This potential underlines the importance of having a sound understanding of what is happening and is likely to happen in the Torres Strait because of climate change. The committee discusses such matters in greater detail and makes recommendations about dealing with the effects of climate change in chapter 14.

Pollution from vessels

12.68 The Torres Strait qualifies as an international strait under Chapter III of the 1982 United Nations Convention on the Law of the Sea (UNCLOS). The international route passes just to the north of Thursday Island and then turns northeast through what is called the Great North East Channel. During the 2008–09 financial year, 1,332 ships made 3,281 voyages through the Prince of Wales channel.

12.69 With its shallow water, many reefs, shoals and bars strewn across the area, the Torres Strait poses significant challenges for large vessels travelling through the region. The strong tidal streams and currents and, at times, poor visibility due to flash squalls and storms make navigation even more hazardous. As such, the sea route through the strait presents a significant biosecurity risk from ships damaged during transit or from vessels discharging harmful substances.

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79 Department of Infrastructure, Transport, Regional Development and Local Government, answer to question on notice, 17 December 2009, no. 1.

12.70 Since Australia has sovereignty over the islands in the vicinity of the sea route, it has specific obligations and is responsible for the safety and control of ships using the route. Under Article 13 of the Treaty, Australia and PNG are 'to take legislative and other measures necessary to protect and preserve the marine environment in and in the vicinity of the Protected Zone'. They are to include measures for the prevention and control of pollution or other damage to the marine environment from the release of harmful substances from land-based sources, rivers, through the atmosphere, or by dumping at sea; and from vessels or installations and devices used in exploring and exploiting the seabed and subsoil.

12.71 In 2003, Australia and PNG lodged a proposal with the International Maritime Organization (IMO) to designate the Torres Strait as a Particularly Sensitive Sea Area (PSSA). This initiative was intended as a means to protect the area's vulnerability from damage caused by international shipping and to increase marine safety.\(^81\) In 2005, the IMO designated the Torres Strait as PSSA.\(^82\)

12.72 As another protective measure, Australia and PNG also proposed an extension of the existing Great Barrier Reef compulsory pilotage system to the Torres Strait.\(^83\) In their submission to the Marine Environment Protection Committee, they spelt out the potential damage that could result from an oil spill in this fragile area:

In Torres Strait there is an extremely high rate of water movement due to currents, tidal streams and surface winds. In the event of an oil or chemical spill, this would result in the rapid movement of oil or chemical plumes, possibly to even more remote areas. Logistical problems associated with moving response personnel and equipment to remote areas and the fact that much of Torres Strait is unsurveyed may cause considerable difficulties in mounting an on-water response to an oil or chemical spill.

The extremely high cultural, social and economic significance of marine resources to the people of Torres Strait could lead, in the event of an oil or chemical spill, to a total failure of their subsistence fisheries and abandonment of affected islands, or a completely imported diet, until the marine ecosystem re-established itself.\(^84\)

\(^81\) The IMO defines a PSSA as an area that 'needs special protection through action by IMO because of its significance for recognized ecological, socio-economic, or scientific attributes where such attributes may be vulnerable to damage by international shipping activities'. IMO A 24/Res.982, 6 February 2006.
\(^82\) IMO, Resolution MEPC 53/24/Add.2, adopted 22 July 2005.
\(^83\) Marine Environment Protection Committee, 49th session Agenda item 8, 'Identification and Protection of Special Areas and Particularly Sensitive Sea Areas- Extension of Existing Great Barrier Reef PSSA to include the Torres Strait Region, Submitted by Australia and Papua New Guinea, MEPC 49/8, 10 April 2003.
\(^84\) Marine Environment Protection Committee, 49th session Agenda item 8, Submitted by Australia and Papua New Guinea, MEPC 49/8, 10 April 2003. The IMO approved the extension of the Great Barrier Reef PSSA to the Torres Strait, p. 15.
12.73 In 2004, Australia submitted a waterway safety assessment and waterway risk assessment to the IMO's Sub-committee on Safety and Navigation. The risk assessment found that 'compulsory pilotage would significantly improve navigational safety of transiting ships throughout the Torres Strait'. It stated:

...compulsory pilotage reduces the risk of groundings by 45% and collisions by 57%. In specific areas such as the Prince of Wales Channel,
mandatory pilotage would reduce the risk of groundings by 54% and collisions by 67%.\textsuperscript{85}

12.74 Some countries and international shipping organisations argued that this measure requiring a pilot would contravene Article 42 of UNCLOS in relation to international straits. Their main concern was the restraint that compulsory pilotage may place on the right of transit passage through the straits. For example, before the General Assembly in 2007, Singapore disagreed with Australia's actions: it was of the view that Australia had no authority under the convention to legislate a regime of compulsory pilotage on ships passing through the straits.\textsuperscript{86} It believed that:

The requirement to take a pilot on board, which Australia will enforce using its criminal laws, seriously undermines the right of transit passage, which all States enjoy under the Convention.\textsuperscript{87}

12.75 Concerned that other coastal states may 'use any new entitlement to interfere with freedom of navigation within their EEZ for less benign motives', the International Chamber of Shipping was disappointed that Australia had chosen to introduce compulsory pilotage in the Torres Strait.\textsuperscript{88} In his March 2008 report, the UN Secretary-General noted the concerns expressed, including in the General Assembly, regarding the introduction of compulsory pilotage in the Torres Strait. He explained that 'views differ on whether the compulsory pilotage scheme is in conformity with UNCLOS'.\textsuperscript{89}

12.76 In December 2008, the Australian representative informed the General Assembly that of the 3,000 vessels or so that transited the Strait each year, only 35 per cent carried a pilot in 2003 which, since the introduction of system of pilotage, had increased to 100 per cent. He reiterated Australia's belief in the need for the system and of its consistency with international law.\textsuperscript{90}

12.77 The committee notes that the Australian Government's 2010 Budget Papers indicated that AMSA's operating environment would be influenced by a number of

\textsuperscript{85} Sub-Committee on Safety of Navigation, 50th session, Agenda item 3, Routeing of Ships, Ship Reporting and Related Matters–Results of a safety of navigation assessment conducted for the Torres Strait, submitted by Australia, NAV 50/INF.2, 2 April 2004.


\textsuperscript{87} United Nations, General Assembly, A/62/PV.65, 10 December 2007, p. 22.


\textsuperscript{89} United Nations General Assembly, Report of the Secretary-General, 'Oceans and the law of the Sea', A/63/63, 10 March 2008.

\textsuperscript{90} United Nations General Assembly, GAO/10793, 4 December 2008.
external factors, including 'progressing pilotage issues associated with the Torres Strait and Great Barrier Reef, and implementation of under keel clearance management arrangements in the Torres Strait'.

**Mining and drilling**

12.78 It should also be noted that a ten-year prohibition on mining and drilling in the TSPZ was agreed under Article 15 of the Treaty in 1985, and has been extended on a number of occasions by an exchange of letters between the Australian and PNG governments. In February 2008, Australia and PNG agreed to extend the moratorium indefinitely.

12.79 The TSRA supported this move 'as a positive and significant outcome in the battle to preserve the delicate marine environment in the Torres Strait and consequently, the way of life of its traditional seafaring people'. The committee notes, however, that traditional owners or inhabitants had 'no prior and informed consent in terms of negotiating for the tenure' of the more recent extension of the Torres Strait mining moratorium. During the committee's open forum on Thursday Island, Mr Stephen, chair of the registered native title body for Stephen Island, stated his belief 'that traditional owners and traditional inhabitants should have a say in the review in terms of the tenure of this moratorium'. The committee draws DFAT's attention to this situation.

**Conclusion**

12.80 There is no doubt that all government agencies associated with protecting Australia from unwanted incursions of weeds, pests or diseases are active on a number of fronts to prevent such incursions. Nonetheless, the potential harm that could flow from breaches of, or lapses in, enforcing quarantine regulations or failure to detect and control the presence of an exotic weed or pest could be serious. The committee made a number of recommendations primarily aimed at increasing the involvement of local communities in protecting their environment from invasive weeds, pests and diseases and strengthening their capacity to prevent or contain their spread. The committee also stressed the need to take account of what is happening on the other side of the border and through Australia's aid program to work toward achieving greater cooperation and collaboration in tackling biosecurity threats to the region. The overriding message was

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93 Committee Hansard, 24 March 2010, p. 36.
the need for all working and living in the region to remain vigilant before, at or behind
the border to ensure that harmful weeds, pests or diseases do not gain a foothold in the
region.