

## **Quarantine preparedness**

### **Introduction**

- 4.1 An important aspect of the quarantine function is preparedness for potential quarantine ‘incidents’. This chapter considers how Australia monitors the areas most at risk of pest and disease incursions and prepares for major incursions. Being prepared involves the ability to identify exotic pests and diseases outbreaks in Australia if and when they occur; and having procedures, strategies and the resources to respond to such outbreaks. For particular risks it is also possible to undertake pre-emptive research.

### **Northern Australia Quarantine Strategy**

#### **Introduction**

- 4.2 NAQS was established in 1989 following a major review by Professor David Lindsay which identified Northern Australia as being highly susceptible to pest and disease incursions. This risk is due to:

- the area's proximity to countries with a different pest and disease status to that of Australia;
- treaty arrangements with Papua New Guinea (PNG) which allow movement between PNG and Australia through the Torres Strait;
- increasing numbers of visiting international cruising yachts and increased tourism;
- the numbers of suspected illegal entry vessels and illegal fishing vessels that are intercepted and brought to shore;
- low population density and isolated terrain with populations feral animals;
- recent examples of exotic pests thought to have been introduced by wind currents.<sup>1</sup>

4.3 AFFA advised the Committee that NAQS which operates between Cairns and Broome:

... works by identifying and evaluating quarantine risks facing northern Australia and providing early detection advice and warning of new pests and diseases through a targeted program of monitoring, surveillance and public awareness. Its work encompasses pre-border, border and post border activities.<sup>2</sup>

4.4 QEAC reviewed NAQS in 1998 and found it had been 'effective in detecting and responding to major incursions over the previous five years.' Recommendations aimed at improving NAQS administration were also made by QEAC. In June 2001, the Auditor-General found that there had been 'solid progress in all the recommendations accepted by AFFA.'<sup>3</sup>

## Liaison with State programs

4.5 The submission from Queensland's Department of Primary Industries (DPI) drew the Committee's attention to joint surveillance and response programs mounted by NAQS and the DPI's Northwatch program.<sup>4</sup> DPI told the Committee that Northwatch delivered its services in Cape York and the Torres Strait and provided the state with the capacity to respond to the detection of pests and diseases. Whereas NAQS was responsible for

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1 Auditor-General, *Audit Report No. 47 2000-01*, p. 102; AFFA, *Submission No. 14*, p. 128.

2 AFFA, *Submission No. 14*, p. 128.

3 Auditor-General, *Audit Report No. 47 2000-01*, p. 102

4 Qld DPI, *Submission No. 32*, pp. 396-7.

monitoring pigs for Japanese encephalitis (with Northwatch support), DPI was responsible for papaya fruit fly:

Each year we expect that papaya fruit fly will be detected under the NAQS or Commonwealth program on islands in the northern Torres Strait. We undertake the response to those detections and collaboratively with the Commonwealth, Queensland and other states have an agreed and shared funded program in the Torres Strait ... to suppress the populations to prevent their establishment and put further pressure on re-entry into horticultural production areas of Queensland.<sup>5</sup>

- 4.6 The Committee pursued the issue of whether there was unproductive duplication of resources. DPI responded that both state and Commonwealth organisations had worked hard to ensure responsibilities ‘dovetail to form a synergy to produce a good outcome.’ Essentially NAQS operated a monitoring and surveillance program—the early detection of pests and diseases—and Northwatch delivered the response obligation. However, it was necessary for Northwatch personnel to be familiar with the local terrain and territory so they had become involved with surveillance. That surveillance was either done jointly, or separately in areas where NAQS did not operate. The aim was ‘to maximise the two roles collectively to provide the best outcome nationally.’<sup>6</sup>
- 4.7 Northwatch also operated an information and liaison centre at Coen which when required operated as an inspection centre for road traffic travelling south from Cape York. North-bound traffic was provided with AQIS, DPI and environmental information. The Coen centre was co-funded by AQIS.<sup>7</sup>

## The Committee’s inquiry

- 4.8 During the inquiry the Committee inspected NAQS operations in Cairns and the Torres Strait. The Committee was briefed on the various activities undertaken by the program and was able to meet those involved.
- 4.9 The NAQS issues discussed with the Committee included:
- the animal and plant pests and diseases which have the potential to invade Australia;

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5 Mr Kevin Dunn, *Transcript, 29 July 2002*, p. 135.

6 Mr Kevin Dunn, *Transcript, 29 July 2002*, p. 135.

7 Mr Kevin Dunn, *Transcript, 29 July 2002*, p. 135.

- the program of visits to PNG and Indonesia to assist those countries in monitoring animal and plant pests and diseases;
  - the monitoring program within Australia;
  - the use of sentinel herds to detect various human and animal diseases;
  - the trapping program for disease carrying mosquitoes and insect pests;
  - the public awareness program; and
  - the challenges posed by the movement of people throughout the Torres Strait for traditional activities under the treaty with PNG.
- 4.10 AFFA provided the Committee with the NAQS survey program and target species list.<sup>8</sup>
- 4.11 The Committee's inspection visits were the subject of an article in the House of Representatives publication *About the House*.<sup>9</sup> The text of the article can be found in Appendix E.
- 4.12 As with all its inspections, the Committee was impressed with the professionalism, dedication, and enthusiasm of the personnel it met.<sup>10</sup> The Committee was told during a briefing that off-duty quarantine officers at a social function in Darwin had noticed an unusual plant pathology. This resulted in the early identification of an exotic disease incursion into Australia. The example confirms the comments the Committee has received that quarantine officers are always engaged in defending Australia's quarantine border.
- 4.13 The Committee was told that NAQS in its dealings with local communities was keen that it was not seen as an enforcement agency, preferring a cooperative rather than coercion strategy in quarantine matters.<sup>11</sup>
- 4.14 The Committee also notes with approval the involvement of local people in the management of quarantine in the Torres Strait.<sup>12</sup> The people of the

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8 Exhibit No. 13, AFFA, *NAQS target lists and 2002/03 survey program*.

9 House of Representatives, *NAQS: on the quarantine frontline*, in *About the House* September/October 2002.

10 For example, the Committee understands that the NAQS botanist, Dr Barbara Waterhouse has provided many thousands of specimens including Siam weed to the Queensland herbarium. Siam weed is potentially devastating weed which currently infests East Timor—a small outbreak in Tully north Queensland is being eradicated.

11 For example, NAQS preferred to approach isolated communities in the area independently of Customs or police operations.

12 For example, Mr Shane Ahboo is the NAQS Operational coordinator on Thursday Island, and Mr Ron Enosa, Chairman Saibai Island Council, and Ms Hilda Mosby of Yorke Island are the quarantine officers for their respective island communities.

Torres Strait have wholeheartedly embraced the quarantine message as essential for the preservation of their culture and livelihood.

## Pest and disease incursions in Australia

### Performance measures

- 4.15 One measure of the effectiveness of the quarantine function is the number of pests and diseases which become established in Australia. Indeed one of AFFA's current performance measures is the rate of incursions attributable to biosecurity policy.<sup>13</sup>
- 4.16 The Auditor-General found that there had been a marked increase in reported incursions to 1999–2000 but noted that the trend could have been due to a variety of factors such as:
- less effective quarantine arrangements;
  - improved surveillance by State and Territory agencies;
  - increasing amounts of quarantine risk material arriving at the border; and/or
  - breaches in quarantine occurring some years previously.<sup>14</sup>
- 4.17 AFFA's annual report for 2000–01, reporting against the then indicator of 'zero increase in the rate of exotic pest/disease establishments attributable to breaches of quarantine', provided details of 10 pest and disease incursions.<sup>15</sup> An additional 2 exotic insects were listed for that year in an exhibit provided by AFFA.<sup>16</sup> (The 12 new 'establishments' compares to 21 and 26 for 1998–99 and 1999–2000 reported in *Audit Report No. 47, 2000–01*.)
- 4.18 AFFA told the Committee that it considered 'there is really no detectable change in the rate of incursions ... over the last 20 years to 25 years.' The data was very 'lumpy' with some years having 10–15 incidents classified as incursions, whereas other years there were only 2 or 3.

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13 AFFA, *Portfolio Budget Statements 2002–03, Budget Related Paper No. 1.1*, p. 55.

14 Auditor-General, *Audit Report No. 47 2000–01*, pp. 52–3.

15 AFFA, *Annual Report 2000–01*, pp. 179–80.

16 Exhibit No. 6, AFFA, *New plant pest and diseases recorded within Australia since 1996*.

- 4.19 Sometimes first time detections were misleading. AFFA cited an example where a fungus was first detected in July 1999, but which was believed to have been in Australia for between 20 to 30 years. As well, in late 1999, 4 new exotic thrips insects had been collected in the Northern Territory by a visiting thrips expert—while they appeared on the list for 1999, the insects could have been present for up to 150 years.<sup>17</sup>
- 4.20 For the 2001–02 year, AFFA's performance measure became 'incursions attributable to biosecurity policy.' Unlike its previous annual report, AFFA's *Annual Report 2001–02* provided no information against this performance measure.<sup>18</sup>
- 4.21 Material on AFFA's internet site, however, provides a list of new plant pest and diseases recorded in Australia since 1996, which shows there were 10 new recordings for 2001–02. The list is qualified with the information that:
- detection is 'very dependent on surveillance activity';
  - pests might have been in Australia for some time before detection; and
  - it is 'practically impossible to determine the entry pathway for specific exotic pests', and 5 pests were likely to have arrived on wind currents.
- 4.22 AFFA's final caveat on its list is:
- In the absence of a baseline for comparison, it would be inappropriate to use this list to measure the effectiveness of quarantine measures.<sup>19</sup>
- 4.23 The Committee agrees with AFFA that determining the mode of entry of a new plant pest or disease is extremely difficult, especially considering that fungal spores and small insects can be carried great distances on wind currents. It is likely that few incursions could be directly attributable to lapses in biosecurity policy. Including information of new pests and diseases in the annual report as a measure of performance could therefore be misleading. It is also misleading to have the performance measure in the first place because it implies the measure is valid. The error is compounded if no information subsequently appears in the annual report!
- 4.24 The Committee is reminded of its recommendation when it reviewed the accrual budget documentation that 'agency performance measures identified in the portfolio budget statements must always be accompanied by a comparative standard.' The Committee notes that all performance

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17 Dr William Roberts, *Transcript*, 16 July 2002, p. 24.

18 AFFA, *Annual Report 2001–02*, pp. 94, 104.

19 AFFA, Website document, *New plant pest and diseases recorded within Australia since 1996*.

measures should be reported against in the annual report. Accordingly, the Committee expects AFFA to report against all of its performance measures in its annual report.

## Monitoring for plant and animal pests and diseases

4.25 A major problem faced by plant and animal health officers is the myriad of potential pests and diseases. For example, CSIRO told the Committee that for citrus alone there were some '600 significant pests—that is not pathogens; this is just insect pests—known worldwide.'<sup>20</sup> Consequently, AFFA targets the pests and diseases most likely to affect Australia.

## Monitoring under the Northern Australia Quarantine Strategy program

4.26 Programs such as NAQS has a list of pests and diseases which it targets. This includes animal diseases, plant pests and pathogens, and weed species. All are monitored by a survey program which includes visits to the countries to the north of Australia.<sup>21</sup>

4.27 During its inspection of NAQS activities, the Committee was briefed on the use of sentinel herds used to detect incursions of various diseases, and examined various types of fly traps. Two issues which arose during the inquiry was whether the NAQS target list should be expanded and whether the range of species used for monitoring was adequate.

## Expansion of the NAQS list

4.28 In Chapter 3, the Committee discussed the problem of biofouling. Because in northern Australia the greatest risk appears to be posed by vessels arriving at the quarantine border, the Committee decided the Commonwealth through AFFA should be the prime agency responsible for addressing the problem. As a result, the NAQS list should be expanded to include those biofouling organisms known to be a risk in northern Australia.

4.29 The Committee raised this issue with CSIRO, noting that the CSIRO Centre for Research on Introduced Marine Pests (CRIMP) in Hobart is the centre of excellence in Australia. CSIRO responded positively to the suggestion it become involved and commented that CRIMP did not have all of the diagnostic capacity itself but coordinated with the Australian museums.<sup>22</sup>

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20 Dr Robert Floyd, *Transcript, 3 September 2002*, p. 240.

21 Exhibit No. 13.

22 Dr Robert Floyd, *Transcript, 3 September 2002*, p. 241.

- 4.30 The Committee considers that CSIRO should become involved in the monitoring of biofouling organisms in northern Australia either directly because of its in-house expertise or by coordinating the expertise residing elsewhere.

### Recommendation 13

- 4.31 **The Government should provide additional funds to the Commonwealth Scientific and Industrial Research Organisation to enable its Centre for Research on Introduced Marine Pests to provide diagnostic advice to assist the Northern Australia Quarantine Strategy to monitor biofouling organisms.**

### Monitoring Australian wildlife

- 4.32 The Committee has been provided with a list of animal pests and diseases targeted by NAQS monitoring activities.<sup>23</sup> However, it is unclear whether, apart from sentinel herds of domestic animals and the trapping of feral animals, Australian native animals are routinely monitored for exotic diseases.
- 4.33 The Australian Society for Parasitology told the Committee that marsupials could carry and act as reservoirs for the protozoan disease surra.<sup>24</sup> The Society added that:

Australian wildlife, although they are unique, are certainly susceptible to a range of diseases that are common overseas, and they are the biggest potential reservoir for disease in Australia. If something gets into that reservoir then it will be extremely difficult to eradicate ...

... there should be a targeted program and there needs to be a review of various diseases and at least an initial judgement of their threat in terms of the human or wildlife populations or the feral or domestic populations of animals.<sup>25</sup>

- 4.34 The Society's submission provided other examples of parasitic diseases where Australian wildlife could be at risk or act as reservoirs:

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23 Exhibit No. 13.

24 Surra is a sleeping sickness type of disease found in PNG. It primarily affects horses, dogs and pigs.

25 Dr Mark Sandeman, *Transcript*, 3 September 2002, p. 261.



- *Trichinella* found in Tasmanian marsupials;
  - *Leishmania* discovered in East Timor; and
  - an exotic species of *Babesia* found in dogs in Australia.<sup>26</sup>
- 4.35 The Committee asked AFFA to respond to the issue of surra in marsupials. AFFA's supplementary submission stated that marsupials, unlike domestic animals and their feral counterparts, were extremely difficult to sample. Many were nocturnal, lived in trees, were difficult to capture alive, and suffered post-capture stress.<sup>27</sup>
- 4.36 Surra was a chronic infection in cattle and pigs which meant that infected animals would test positive for a long time. On the other hand, surra was acute and fatal in at least two species of wallaby which meant that infected individuals would not survive long enough to be captured and tested. The first indication of surra therefore was likely to be increased mortality. NAQS invested heavily in public awareness and asked the public to report any increased mortality in native animals to NAQS or State agencies. Reports of increased mortality would be jointly investigated by NAQS and State agencies.<sup>28</sup>
- 4.37 The Committee is satisfied that NAQS has appropriate strategies in place to manage the threats posed to native animals by surra.
- 4.38 However, there may be a case for monitoring native animals for other exotic diseases. **The Committee expects that AFFA, in conjunction with Environment Australia and State and Territory conservation agencies, will keep a watching brief on the issue of exotic diseases entering Australia's wildlife populations and take any necessary monitoring and remedial action.**

### Other monitoring

- 4.39 The Australian Veterinary Association (AVA) has advocated an active surveillance program for diseases such as anthrax which can be sent through the mail and for naturally occurring diseases not currently covered by a surveillance program.<sup>29</sup> The risk of a lack of surveillance was that it was much more difficult to detect a small outbreak before it had

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26 Australian Society for Parasitology Inc., *Submission No. 15*, p. 245.

27 The Committee notes that a trap developed by Ecotrap Pty Ltd may provide a solution by allowing the humane and safe capture of native animals. The *ecotrap* is soft walled with a frame which loses tension when it is triggered. This reduces injury to the captured animal.

28 AFFA, *Submission No. 54*, p. 616.

29 Dr Kevin Doyle, *Transcript, 5 August 2002*, p. 200.

expanded into a major problem. The AVA provided as an example the case of influenza virus which was readily carried by wild birds and could mutate and combine with other influenza viruses to produce 'something quite new and wonderful.'<sup>30</sup>

4.40 The AVA suggested that the decline in disease monitoring had happened 'accidentally' because laboratories no longer took samples from any veterinarian or farm for no cost, having introduced fee-for-service. Consequently, samples were now only provided where the symptoms were 'very bad or very unusual'. The drop in samples reduced the ability of authorities to track disease movement.<sup>31</sup> The AVA gave the example of infectious bovine rhino-tracheitis as a disease no longer able to be tracked due to the decline in passive surveillance.<sup>32</sup>

4.41 The AVA argued that there was a case for Australia paying for the monitoring of some diseases. It noted that the Organisation des International Epizooties (OIE)<sup>33</sup> rules effectively required countries claiming freedom from a particular disease, and deriving trading benefit from the fact, to demonstrate such freedom. For example, the cost of monitoring for bovine spongiform encephalopathy (BSE) was coordinated through Animal Health Australia. The AVA noted that 'the demands by the OIE and WTO for demonstration as to [disease] freedom are increasing day by day.'<sup>34</sup>

4.42 A different view was taken by the National Farmers' Federation (NFF) which indicated it did not support random testing for diseases known on clinical grounds to not occur in Australia. The NFF submission stated:

Surveys (for instance for FMD [foot and mouth disease]) are not required by either OIE or our overseas trading partners in maintaining our FMD-free status for trading purposes. Indeed, such surveys could well be counterproductive since random testing of negative populations inevitably leads to false positive results, probably compromising our status until yet more testing is carried out to confirm continuing freedom from actual disease.<sup>35</sup>

4.43 In drawing its conclusion, the Committee notes that Australia-wide there are some 60 flocks of chickens comprising the National Sentinel Chicken

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30 Dr Joanne Sillince, *Transcript, 5 August 2002*, pp. 203–4.

31 Dr Joanne Sillince, *Transcript, 5 August 2002*, p. 204.

32 AVA, *Submission No. 22*, p. 311.

33 The international animal health organisation.

34 Dr Kevin Doyle, *Transcript, 5 August 2002*, p. 206.

35 NFF, *Submission No. 26*, p. 355.

Surveillance Scheme. These sentinel flocks are able to provide advance warning of outbreaks of Murray Valley encephalitis, and would be useful in detecting incursions of West Nile virus if it entered Australia.<sup>36</sup>

- 4.44 The Committee has not come to a view on whether further monitoring is needed, but expects AFFA to continuously review the need for routine disease monitoring in the light of Australia's national interest and international obligations.

### Expertise needed to identify incursions

- 4.45 The submission from the Australian Society for Parasitology suggested that 'the biggest threat to Australia's future quarantine function is a national decline in education and research training.'<sup>37</sup> The Society elaborated:

There is no department of parasitology left now in this country. That has become a department of microbiology, and I believe from next year there will be two people who are parasitologists left in that place. That is Queensland University. ANU [the Australian National University] used to have a fairly strong parasitology component but there is one person left. There are very few people—of any critical mass certainly—around the country in the universities now. ... CSIRO have cut back extensively on their parasite area as part of their cutback in the whole of the agricultural research area. They have people left in Brisbane and Armidale. As far as I know, that is about it.<sup>38</sup>

- 4.46 The Committee has received additional information on this issue in a supplementary submission:

The CSIRO has amalgamated the former CSIRO Divisions of Animal Health and Animal Production, and parts of Tropical Agriculture. This has resulted in a large scale loss of staff of laboratories in Sydney and Melbourne. In particular the movement of the McMaster laboratory to Armidale has resulted in a serious loss of parasitology expertise.

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36 ABC Radio National Health Report, *The West Nile Virus*, 25 November 2002.

37 Australian Society for Parasitology Inc., *Submission No. 15*, p. 245.

38 Dr Mark Sandeman, *Transcript*, 3 September 2002, p. 259.

There is particular concern with our remaining expertise in aquatic diseases with only 4 scientists in Australia expert in the area of molluscan diseases.<sup>39</sup>

4.47 The Society concluded that a targeted approach was needed comprising for example research grants or research projects where disease risks, especially to Australia's north could be studied.<sup>40</sup>

4.48 The Committee questioned AFFA on the decline in available expertise. AFFA responded:

It is true that there are times when it seems there is going to be a dearth of professionals ... We have been saying that for a long time. I can remember that, when I was a practising nematologist, there were 10 nematologists in Australia. It has been pretty much around that number over a long period, which does not seem to be a lot of plant nematologists. There is a lot of support in those specialist areas from the international network. ... If the number were halved it would not be good, but we would still be able to get by. I do not know how you encourage people to go into those areas when there are so few jobs.<sup>41</sup>

4.49 A less fatalistic view was expressed by CSIRO which advised the Committee that there was an initiative with Plant Health Australia 'to identify the key pests and pathogens that we do not have the diagnostic capacity for in Australia and then develop that capacity.'<sup>42</sup>

**4.50 The Committee expects that such a risk management strategy would be integral to AFFA programs in both animal and plant areas.**

4.51 Nevertheless, the Committee is concerned at the decline in the scientific expertise available in Australia. The creation of such expertise often requires a significant lead time beginning with university undergraduate courses. The Committee has not taken detailed evidence regarding how to build up scientific expertise in quarantine-related areas, but supports any practical moves to address this weakness.

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39 Dr Mark Sandeman, *Submission No. 56*, p. 625.

40 Dr Mark Sandeman, *Transcript, 3 September 2002*, p. 259.

41 Dr Brian Stynes, *Transcript, 20 September 2002*, p. 308.

42 Dr Robert Floyd, *Transcript, 3 September 2002*, p. 240.

## Response capability to disease outbreaks

- 4.52 Australia has had to respond to a variety of disease and pest outbreaks in recent years. Notable examples are:
- periodic outbreaks of the Australian strain of Newcastle disease in poultry; and
  - red fire ants in Brisbane—currently subject to an eradication program costing in excess of \$140m.
- 4.53 The problems associated with mounting a rapid and effective response will be the same irrespective of whether or not such outbreaks result from a breach of the quarantine barrier.
- 4.54 In December 2001, the Government requested the Productivity Commission to consider three FMD outbreak scenarios and ‘evaluate the full economic, social and environmental impact ... including on the agricultural sector, regional Australia, and the national economy’.<sup>43</sup> As well, in September 2002 a major FMD outbreak simulation exercise was conducted to evaluate Australia’s response capability.

## The economic impact of a foot and mouth disease outbreak

- 4.55 The Productivity Commission modelled three outbreak scenarios ranging from a single point outbreak to large multi-point outbreak across three States in south eastern Australia which took a year to control. The results suggested that:
- the loss of export revenue would ‘range from over \$3 billion for a short outbreak to over \$9 billion for a 12 month outbreak’; and
  - the loss to the Gross Domestic Product would be \$2–3 billion for a short outbreak, rising to \$8–13 billion for a 12 month outbreak.<sup>44</sup>
- 4.56 The modelling also provided information on whether to vaccinate animals in the case of an outbreak or whether a cull policy should be adopted. The Productivity Commission told the Committee that it tended to the view that vaccination would only be useful if the outbreak was running out of control. It would then be used as a holding operation to enable the slaughter policy to ‘catch up’.<sup>45</sup>

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43 Productivity Commission, *Impact of a Foot and Mouth Disease Outbreak on Australia*, Research Report, Canberra 2002, p. iii.

44 Productivity Commission, *Impact of a Foot and Mouth Disease Outbreak on Australia*, p. xviii.

45 Mr Garth Pitkethly, *Transcript, 3 September 2002*, p. 252.

- 4.57 The Committee understands that it is currently not possible to distinguish a vaccinated animal to one with FMD. If Australia is to retain its disease free status a cull policy is essential. However, new vaccines are being developed which might permit a non-cull policy.<sup>46</sup> The Committee sought further information from AFFA.
- 4.58 AFFA responded:
- ... the development of new vaccines and diagnostic tests offers opportunities for strategic use of vaccination that could reduce the number of animals which have to be destroyed in an outbreak response. Recent changes to international guidelines mean that the trade effects of using vaccination may not be as severe as applied in the past and many countries are re-evaluating their approaches to the use of vaccination. However, ... it is likely that it will be some time before they result in the policy changes (by both individual trading partners and international organisations that set relevant guidelines and standards) that would enable the full realisation of the opportunities to reduce the number of animals that might have to be destroyed ...<sup>47</sup>
- 4.59 AFFA continued that the costs and benefits of the various options used in response to an FMD outbreak needed to be assessed on a case by case basis. Each outbreak would have particular factors such as the density and species of livestock involved, the virulence of the strain of disease, environmental factors and availability of resources. As well, while Australia might choose a particular option this might not be acceptable to major trading partners. All economic studies had shown that the 'costs associated with loss of export markets far outweigh the direct costs of control and eradication.'<sup>48</sup>
- 4.60 The Committee also questioned the Productivity Commission on the actual scenario parameters—whether an FMD incursion via the Torres Strait to Cape York was more likely than the large outbreak model used, and whether the models included the likely spread of FMD into feral animals like pigs, deer and goats. The Productivity Commission responded that when the models had been discussed it had made it clear it did not want to become involved in the scientific judgements involved and had not been involved in setting the parameters.<sup>49</sup> The Commission

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46 *Foot and mouth needs new strategy* in *New Scientist*, 20 July 2002, p. 10

47 AFFA, *Submission No. 52*, p. 603.

48 AFFA, *Submission No. 52*, p. 603.

49 Mr Robert Kerr, *Transcript*, 3 September 2002, p. 255.

added that the scenarios did not take ‘the knock-on effects into feral animals,’ although it was mentioned ‘as a complicating factor.’<sup>50</sup>

- 4.61 AFFA has commented on the inclusion of feral animal control in disease simulations. It advised the Committee that in October 2001 the Queensland Government had facilitated an emergency animal field exercise in northern Queensland which focused on feral animal control. If there was a need to control feral animals in the case of an outbreak it would be done ‘in accordance with the principles and procedures set out in the *Wild Animal Management Manual* of the Australian Veterinary Emergency Plan (Ausvetplan).’<sup>51</sup>
- 4.62 The Committee believes that had the Productivity Commission’s outbreak scenario involved an incursion in Cape York and a spread into the feral animal population the outbreak would have lasted longer and been even more costly to the Australian economy.

### Capacity to deal with a major disease outbreak

- 4.63 The number of experienced veterinarians is a major factor in dealing with a major animal disease outbreak, such as FMD.
- 4.64 The AVA told the Committee it considered that while there were enough veterinarians in Australia, there were probably insufficient numbers trained on specific issues related to emergency disease outbreaks. It advocated the formation of a trained veterinary reserve, about the size of an infantry company, of veterinarians who would take time off work and be paid to train to combat disease outbreaks. The reserve would replace the current system of sending ‘randomly chosen individuals’ to the laboratory in Geelong—a system which was ‘extremely laudable’ but one which provided ‘very little opportunity for reinforcement.’<sup>52</sup> The plan had been raised in a workshop held to discuss the experiences of Australian practitioners who had travelled to the UK in 2001 to assist in combating the FMD outbreak.<sup>53</sup>
- 4.65 AFFA told the Committee that in responding to a disease event it had plans to draw on expertise from the States and Territories and from the private sector. There were also contingency measures to bring overseas expertise on a loan basis from other governments or on a contract basis. There were special training programs for particular diseases such as

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50 Mr Garth Pitkethly, *Transcript*, 3 September 2002, p. 256.

51 AFFA, *Submission No. 52*, p. 602.

52 Dr Kevin Doyle, *Transcript*, 5 August 2002, p. 201.

53 AVA, *Submission No. 22*, p. 308.

FMD and a number of people had been sent to the UK during the FMD outbreak to get direct FMD experience.

- 4.66 AFFA's submission contained advice that a national FMD coordination framework had been developed to tackle a major animal disease outbreak on a national basis. The Council of Australian Governments (COAG) was the peak body and would be supported by a FMD management and recovery group, comprising the chief executives of the Commonwealth and State agencies directly involved in the emergency.<sup>54</sup>
- 4.67 In September 2002, Australia conducted a major FMD outbreak simulation exercise, called Exercise Minotaur. The scenario was for an outbreak in south west Queensland which spread through northern NSW and all of Victoria. The 2 000 participants had to react to the need to cull over 800 000 animals across 1 400 properties. In addition, there were 'suicides' of farmers who had lost their stock and legal action by one farmer to prevent the cull of his stock.<sup>55</sup>
- 4.68 AFFA advised the Committee in October 2002 that a full assessment of the outcomes of the exercise had yet to be completed but a report was expected to be provided to COAG by the end of November 2002. However, most of the wide range of lessons expected to be drawn from the exercise would be pertinent to the management of large emergency animal disease responses. There was to be a 'five-year rolling plan' of annual 'mini-exercises' to test components of the response system and a major national exercise in 3–4 years time.<sup>56</sup>
- 4.69 The Committee believes AFFA is taking all the steps necessary to prepare Australia for a major disease outbreak. The program of follow up exercises mean that there are mechanisms in place to continually refine Australia's quarantine preparedness.

## Pre-emptive measures

- 4.70 A feature of a risk management strategy is that it identifies the most likely risks and thereby provide an opportunity to undertake pre-emptive measures to minimise the impact should those risks eventuate.
- 4.71 AFFA has provided the Committee with examples of the pre-emptive work with which it has been involved.

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54 AFFA, *Submission No. 14*, pp. 136–7.

55 *World's biggest FMD simulation a success: Officials*, AAP wire article 13 September 2002.

56 AFFA, *Submission No. 52*, p. 602.



## Old World screw worm flies

- 4.72 Screw worm flies (SWF) are ‘blowflies’ which lay their eggs on warm blooded animals. The larvae then consume the flesh of their host causing serious livestock production losses. The New World SWF has been eliminated from the USA, Mexico and several Central American countries through the use of the ‘sterile insect technique’. This involves mass rearing of SWF and releasing large numbers of sterile male flies which out compete the fertile male flies for females. With so many sterile male flies in the population, the SWF fails to reproduce successfully and the population collapses.
- 4.73 Old World SWF are found in PNG and so pose a risk to northern Australia. The sterile insect technique can be used to control the Old World SWF, but because the species is different from its New World relatives the technology has had to be developed afresh.
- 4.74 In the 1970s CSIRO commenced studying the pest with a view to building a pilot mass SWF rearing facility. In 1996 a mass rearing facility was constructed at the Instut Haiwan in Malaysia. The strategy in the event of an outbreak is to use the sterile insect technique together with a variety of quarantine controls. In 2001, a design brief was developed for a facility in Australia to produce 250 million sterile Old World SWF per week in case such a facility was required.<sup>57</sup>

## Plant weed species

- 4.75 AFFA advised the Committee that its pre-emptive work focuses on the development of a target list of plant species which had to potential to become serious weeds in Australia. There was general and targeted surveillance to ensure early warning of incursions and creation of generic processes for efficient and effective responses. In addition AFFA was working with Plant Health Australia to assist industries to develop biosecurity strategies. These may include identifying pre-emptive activities for specific pest threats including those posed by potential weeds.
- 4.76 The submission noted that much of the work on Siam weed was done prior to its detection in Australia. The research included ‘studies on seed biology, susceptibility to chemical and other controls measures and climatic preferences.’<sup>58</sup>

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57 AFFA, *Submission No. 47*, pp. 566–9.

58 AFFA, *Submission No. 47*, p. 546.

## Conclusion

- 4.77 The Committee believes that AFFA is well prepared to respond to incursions of exotic terrestrial pests and diseases. However, evidence provided to the Committee has revealed that currently at the Commonwealth level, there appears to be no capacity to systematically deal with marine incursions, especially of biofouling organisms. The Committee's recommendations in Chapter 3 are designed to assist in closing this gap in the quarantine border.
- 4.78 Despite the Committee's positive view of AFFA's preparedness in the terrestrial area, this is not to say that from time to time serious incursions will not occur. As acknowledged, in Chapter 2 when the Committee discussed Australia's appropriate level of protection, a policy of zero risk is not sustainable.