## Chapter 6

## Management of invasive species at the coastal border

The Commonwealth has made laudable efforts to strengthen border controls, but more can and must be done.  $^{\rm l}$ 

## Introduction

6.1 While Chapter 5 examined the somewhat complex governmental arrangements for the management of invasive species and incursions once they are within Australia, in this Chapter the Committee examines the measures that are in place at the national border to protect the Australian mainland from invasive species. It then goes on to examine issues relating to the management of the Australian marine environment, including the Great Barrier Reef Marine Park. Unlike the shared governmental responsibilities for managing invasive species within Australia, these matters are generally the responsibility of the Australian Government.

## **Border control**

6.2 Earlier chapters of this report contained detailed descriptions of regulatory and institutional arrangements for border control. This section examines the evidence about their adequacy.

## **Biosecurity policies**

6.3 The Australian Government has developed biosecurity policies to prevent or control the entry, establishment or spread of pests and diseases that will or could cause significant damage to human beings, animals, plants, other aspects of the environment, or economic activities. The *Import risk analysis handbook* states that:

Australia's plant and animal health status is maintained through the implementation of measures to facilitate the importation of products while protecting the health of people, animals and plants.<sup>2</sup>

6.4 Assessments are not conducted on all requests for importation:

Australia's approach to addressing requests for imports of animals, plants and their products, where there are biosecurity risks, is to draw on existing sanitary and phytosanitary measures for similar products with comparable risks. However, where measures for comparable biosecurity risks have not previously been established, a thorough assessment will be necessary to identify the risks to Australia and determine what sanitary and phytosanitary measures are needed to reduce those risks to a level

<sup>1</sup> Conservation Council of WA, *Submission 59*, p. 2.

<sup>2</sup> Biosecurity Australia, Import risk analysis handbook, Canberra, 2003, p. 5.

consistent with Australia's ALOP [appropriate level of sanitary or phytosanitary protection].<sup>3</sup>

6.5 The Committee repeatedly heard evidence that preventing the entry of invasive species that are not already in Australia is the best approach to minimising both the potential threats posed by them and the subsequent costs of eradication. In its submission the Bureau of Rural Sciences advised that:

the obvious low cost option for managing the threats posed by invasive species is to restrict and manage both accidental and intentional import pathways. Reducing the risk of invasive species incursion and/or establishing procedures where incursions can be detected.<sup>4</sup>

6.6 The *Quarantine Act 1908* (Quarantine Act) and the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) regulate the entry of live plants and animals into Australia. The Department of the Environment and Heritage (DEH) provided an overview of the integrated approach that it and the Department of Agriculture, Fisheries and Forestry (DAFF) have taken to assessing new importations. In its submission, DEH stated that:

Both the Quarantine Act and the EPBC Act require that live specimens be assessed for their potential impacts. The Departments of the Environment and Heritage and Agriculture, Fisheries and Forestry have worked closely to develop an integrated process for the assessment of specimens. This reduces duplication and streamlines the assessment processes, both for the Australian Government and for the applicant (or potential importer). The agreement of both Departments is required before a live specimen can be imported.<sup>5</sup>

## **Quarantine** Act 1908

6.7 Australia's quarantine system was reviewed extensively in 1998. As a result of the Nairn review numerous changes were made to quarantine policy and law:

From July 1998, under revised quarantine legislation (*Quarantine Proclamation 1998*), all plants were prohibited from entering Australia until they were assessed and/or appeared on the permitted list. The WRA [Weed Risk Assessment] process was adopted at this time, following an exhaustive nine-month consultation period, to assess all new proposed plant imports.<sup>6</sup>

6.8 The Quarantine Act is the mechanism through which this policy operates. It sets out the Commonwealth's role in border monitoring, detection and control arrangements. The Act allows the Governor-General to make proclamations setting

<sup>3</sup> ibid.

<sup>4</sup> Bureau of Rural Sciences, *Submission 62a*, p. 13.

<sup>5</sup> Department of Environment and Heritage, *Submission 61*, p. 7.

<sup>6</sup> Department of Environment and Heritage and Department of Agriculture, Fisheries and Forestry, *Submission 74*, pp. 2-3.

out a range of matters including quarantinable plant diseases and quarantinable pests, and seeds which are permitted to be imported into Australia. Clause 58 of the *Quarantine Proclamation 1998* (the Proclamation) states that each disease mentioned in Schedule 4 of the proclamation is a quarantinable disease and that each pest mentioned in Schedule 4 is a quarantinable pest.

6.9 The key measures used by the Departments for assessing plants, animals, goods derived from plants or animals, micro-organisms or other commodities which might pose a biosecurity risk are Import Risk Analysis and Weed Risk Assessment. These are examined in turn below.

## Import Risk Analysis

6.10 DAFF undertakes import risk analysis processes to assess the risks from pests and diseases and how those risks should be managed:

For animal and plant biosecurity, import risk analysis identifies the pests and diseases relevant to an import proposal, assesses the risks posed by them and, if those risks are unacceptable, specifies what measures should be taken to reduce those risks to an acceptable level.<sup>7</sup>

6.11 The *Import risk analysis handbook* states that import risk analysis is conducted on an import proposal or application if:

- there is no relevant existing biosecurity measure for the good and pest/disease combination; or
- a variation in established policy is desirable because pests or diseases, or the likelihood and/or consequences of entry, establishment or spread of the pests or diseases could differ significantly from those previously assessed.<sup>8</sup>

## Scope of the import risk analysis process

6.12 Concerns were raised that the import risk analysis process was too limited in its scope. Many vertebrate species that are already in Australia have not had import risk analyses conducted to assess their potential for invasion if released. The Bureau of Rural Sciences noted this factor in its submission when it stated that:

Restricting trade or keeping exotic vertebrate species that are already past quarantine barriers, legitimately or otherwise is an area where threat and risk response are not fully developed nationally. These species usually have not had independent risk assessments on their potential for invasion if released.<sup>9</sup>

<sup>7</sup> Department of Agriculture, Fisheries and Forestry, *Submission 62*, p. 4.

<sup>8</sup> Biosecurity Australia, *Import risk analysis handbook*, Canberra, 2003, p. 8.

<sup>9</sup> Bureau of Rural Sciences, *Submission 62a*, p. 6.

#### 6.13 The ACT Government also stressed that:

It is considered important that all introduced species already existing in Australia should undergo a risk assessment to provide guidance on trade and to assess whether species should be withdrawn from trade and/or private collections. The impact of new genotypes should also be considered as part of the risk assessment of existing invasive species.<sup>10</sup>

6.14 The Bureau of Rural Sciences has developed a new model for the Vertebrate Pests Committee which assesses the potential threat that exotic vertebrate species pose of becoming invasive pests that will harm Australia's environment and economy. The model is relevant to other taxa and it evaluates factors that determine the risks posed by particular exotic vertebrate species and separates those species that represent a high threat of becoming pests from those that pose a lower threat. For example:

the climate match between a species' overseas range and Australia and whether or not a species has a history of establishing exotic populations in other countries are two of the factors the model uses to evaluate the threat of a particular species establishing in the wild in Australia.<sup>11</sup>

6.15 The Queensland Government acknowledged that DEH and DAFF support the process for animal risk assessment as agreed to by the Vertebrate Pests Committee. However, it raised concerns about the processes involved and put the view that those processes differ from the nationally agreed processes:

DEH has developed a system of Wildlife Trade and Conservation public notices for changes to the list of imported species under Section 303 of the EPBC Act (http://www.deh.gov.au/biodiversity/trade-use/publicnotices/) but the information supplied by importers does not appear to go through an internal review before posting on the DEH website. The risk assessment process used by DEH is not the nationally agreed Vertebrate Pest Committee (VPC) system. Changes to regulation controlling the importation of birds ... with the introduction of the *Environment Protection and Biodiversity Conservation Act* 1999 resulted in the need for legislative changes in Queensland.<sup>12</sup>

6.16 The Queensland Government also raised concerns that full risk assessments are not carried out on all species. It stated that:

both groups do not currently carry out full risk assessment processes on all species. For example some Biosecurity Australia import risk assessments have not considered the pest potential of the imported animal species e.g. recent risk assessment for deer species. This is contrary to Nairn Recommendation 45 that "import risk analysis used by AQIS include increased considerations of the potential environmental effects of proposed introductions of new species, breeds or varieties of animals and plants or

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<sup>10</sup> ACT Government, *Submission 44*, p. 7.

<sup>11</sup> Bureau of Rural Sciences, Submission 62a, p. 14.

<sup>12</sup> Queensland Government, *Submission 42*, p. 18.

their germ plasm, including their propensity to become weeds, vertebrate pests or invertebrate pests in Australia" (Nairn 1996).<sup>13</sup>

6.17 Risk assessment models, such as that developed for the VPC, can assist in assessing the pest potential of exotic vertebrates; however, there is a subjective component to assessment and this requires input by qualified experts. The Bureau of Rural Sciences noted that:

Although risk assessment models cannot provide definite predictions, because the ecological processes involved are so complex and available technical data is so limited for most species, models ... do help to assess the threats of new exotic vertebrates establishing pest populations in Australia, using a rigorous, science-based and transparent decision making process.<sup>14</sup>

#### Independence of the risk analysis process

6.18 One area of possible concern with the current processes is that the independence of import risk analysis is not assured. If an applicant seeks to import a species that needs to undergo a risk assessment, it is the applicants themselves who arrange for the assessment to be conducted. The Bureau of Rural Sciences acknowledges the lack of independence in this process. In its submission it stated that:

It is therefore absolutely essential that all risk assessments on species be conducted by appropriate experts who act independently of either those applying to import or keep them or others with a vested interest in the outcome of the risk assessment. Therefore, if the applicant pays for a risk assessment, it is desirable that this is done through an independent authority that arranges for an independent risk assessment. Such arrangements are not yet in place in Australia to ensure this independence is achieved for the import of exotic vertebrates and this can put at risk the integrity of the risk assessment process.<sup>15</sup>

6.19 The ACT Government also expressed concern over the lack of independence in this process. It stated that:

The employment of a consultant by the proponent to undertake the assessment is not considered to be independent. The preferred approach to conducting a risk assessment is that the process is coordinated by a Commonwealth agency with the cost of that assessment passed on to the proponent.<sup>16</sup>

6.20 DEH's Dr Rhonda Dickson explained the basis for the current approach:

15 ibid.

<sup>13</sup> Queensland Government, *Submission 43*, p. 18.

<sup>14</sup> Bureau of Rural Sciences, *Submission 62a*, p. 14.

<sup>16</sup> ACT Government, *Submission 44*, p. 7.

To my understanding, it is the main vetting and assessment of the assessments that is done within the department. The department is not resourced to do risk assessments itself.<sup>17</sup>

6.21 In July 2004 the Minister for Agriculture, Fisheries and Forestry, the Hon Warren Truss MP, announced new measures to boost confidence in the rigour of the Import Risk Analysis process. The new measures included the establishment of an Eminent Scientists Group to independently examine the draft Final IRA Reports prior to their release.<sup>18</sup>

#### International Trade Agreements

6.22 Chapter 2 of this Report briefly outlines the international agreements and conventions, including those under the World Trade Agreement (WTO), which can have an impact on Australia's efforts to exclude and control invasive species. Australia's international trade agreements can have an impact on the import risk analysis processes where Australia's refusal to allow imports because of concerns over biosecurity are challenged under trade agreements. This became an issue in Australia's recent dispute with Canada over Australia's refusal to allow the importation of fresh salmon. In its submission the Invasive Species Council said that

Australia is effectively obliged to address the issue of diseases carried with fish and bait following a recent World Trade Organisation (WTO) decision ruling against a national ban on imported uncooked salmon. Australia tried unsuccessfully to justify the ban on the basis of disease risks, but the WTO found that Australia's quarantine policy was inconsistent, because aquarium fish and herring bait are permitted entry, both of which carry greater disease risks than salmon.<sup>19</sup>

6.23 Following the finding of the WTO Panel, Australia carried out a further import risk analysis process and introduced new measures which complied with the WTOs requirements:

The Australian Government and the State of Tasmania subsequently decided to introduce new quarantine measures, and Canada requested that the dispute be referred back to the original panel. Australia produced a new 1999 import risk analysis which was much more detailed and specific than the last one: it not only identified which fish diseases were a high priority and therefore presented an unacceptable risk, but also dealt with probabilities of risk. The Panel found that this IRA complied with Article 5.1, and that most of Australia's new quarantine requirements were based on that assessment. The new legislation tightened import restrictions on

<sup>17</sup> Dr Rhondda Dickson, Department of Environment and Heritage, *Committee Hansard*, Canberra, 18 June 2004, p. 67.

<sup>18</sup> Biosecurity Australia, New Arrangements to Strengthen Import Risk Analysis, Animal Biosecurity Memorandum 2004/15, Plant Biosecurity Policy Memorandum 2004/22, 16 August 2004.

<sup>19</sup> Invasive Species Council, *Submission 56*, p. 6.

herring bait and live ornamental fish, and Canada was unable to show that they continued to violate Article 5.5.<sup>20</sup>

6.24 Although Australia was eventually able to satisfy the requirements of the WTO in this case it highlights the potential for international agreements focussed on trade to undermine measures designed to protect Australia from invasive species. As outline later in this Chapter, Australia has played a leading role in international forums in developing measures to protect Australia from introduced marine pests. In the Committee's view, Australia should be similarly active in ensuring that international trade agreements give adequate recognition to the need for individual countries to be able to protect themselves from the effects of invasive species.

## Conclusion

6.25 This discussion has highlighted some deficiencies in the import risk analysis process. While these are of concern and should be addressed, it appears to the Committee that the most significant problems in relation to invertebrate species are addressed by the current processes or arise from pest species which are already widely distributed within Australia.

6.26 A more pressing concern is that the integrity of Australia's quarantine system is being jeopardised by the lack of independence in the import risk analysis process. The current system which allows the proponent to directly select and fund the party which will carry out the assessment creates an obvious conflict of interest. One's faith in the adequacy of the current system turns on whether there is sufficient trust in the quality of the review conducted by the department. Several witnesses expressed doubts in this respect. The establishment of an Eminent Scientists Group to review IRAs is a welcome measure, but it may not go far enough.

6.27 This is a key issue. One wrong import risk assessment could have horrendous consequences. The Committee recognises that, given the uncertainties of the science, the only assured way of avoiding errors in import risk assessments is to close the borders. This is, of course, unrealistic. In the Committee's opinion a better system would see a closer involvement of Biosecurity Australia in the process of conducting import risk analyses, either by conducting them itself on a cost recovery basis, or by co-ordinating their production by a panel of approved providers, again with the cost of the assessment being borne by the proponent.

## Recommendation

That the import risk assessment process be modified to guarantee greater independence in their preparation.

<sup>20</sup> Ms Renae Leverenz, *Submission 27*, p. 66.

## Recommendation

That the Commonwealth Government take a leading role in relevant international forums to seek better recognition of the environmental consequences of current trade rules.

## Weed Risk Assessments (WRA)

6.28 The Weed Risk Assessment process operates in parallel with Import Risk Analysis. It is designed to enable non-invasive plant species to be imported, while preventing the importation of potentially invasive species new to Australia. Wholesale nurseries, horticultural companies, agricultural suppliers, private individuals, botanic gardens, universities, researchers, and state and territory governments use the Weeds Risk Assessment process.

6.29 The quarantine proclamation deals with the introduction of plants and plant material. Clause 63 of the Proclamation prohibits the importation of seeds unless the plant is listed in Schedule 5 (the 'permitted' list) of the Proclamation or the Director of Quarantine grants a permit. Clause 65 prohibits the importation into Australia of a plant or plant part listed in Schedule 6 (the 'prohibited' list) unless the Director of Quarantine has granted a permit.

6.30 Dr Rachel McFadyen, the Weeds CRC's Chief Executive Officer, put the WRA process in these terms:

The point is that AQIS has a prohibited list. They also do not go through the weed risk assessment. They have already been assessed and are prohibited. On the other side you have the permitted list, and it is those that fall into neither the one nor the other. It is a bit like immigration, if you like. If you are an Australian citizen and you have got a passport then you are on the permitted list. You may go to jail the moment you get here, but you are permitted.<sup>21</sup>

6.31 Commonwealth legislation since 1999 has ensured that all new proposed plant species imports into Australia are subjected to a Weed Risk Assessment (WRA) system, which assesses the likelihood of plants becoming weeds. The assessments are based on attributes known to be associated with invasiveness and a high probability of negative environmental impact.

6.32 The WRA process is for plants that fall neither into the 'permitted' (Schedule 5) list nor the 'prohibited' (Schedule 6) list. DAFF advised that:

there are three outcomes of the WRA assessment - the species is accepted, rejected or further evaluated. If the result is to accept, then the species is permitted importation if standard quarantine requirements are satisfied (no quarantine pests or diseases are identified during the WRA). If the result is to reject, importation of the species is prohibited (due to its high potential to

<sup>21</sup> Dr Rachel McFadyen, Committee Hansard, Brisbane, 14 April 2004, p. 25.

become a weed of agriculture and/or the environment) and the species can only be imported with a permit and used under strict quarantine conditions.<sup>22</sup>

6.33 The overall WRA process appears to enjoy general support. For example, the Weed Management Society of South Australia said in its submission that:

The Weed Risk Assessment System used by Biosecurity Australia for new plant imports is effective, scientifically-based, and accepted under international trade agreements and standards.<sup>23</sup>

6.34 However the Society did raise a concern about the limited resourcing of the system which leads to delays in assessments.<sup>24</sup>

#### Concerns about the WRA process

6.35 More significantly, however, there is general outrage about the exemption from the WRA system of plants on the Schedule 5 permitted list. In its submission the Invasive Species Council said:

Because it is more stringent than the systems most countries use, WRA has won much praise here and overseas.

But WRA is not operating as it should. Hundreds of weeds may be imported legally into Australia without any assessment whatever. The system is so flawed it raises serious questions about the competence and commitment of our quarantine service.<sup>25</sup>

6.36 The Committee heard extensive evidence from a range of organisations about a loophole in Schedule 5, namely the inclusion of several thousand genera on the permitted list. Under the permitted list, therefore, entire genera are granted blanket approval for importation. This is the case even if not all of the species in the genera are already present in Australia:

at present there are many potentially invasive plants on the AQIS permitted list, and therefore not subject to the WRAS process. This includes instances where entire genera (related species) have been granted blanket approval for importation. There are also problems where a plant may be present in Australia but not invasive, therefore further importations would normally be permitted. If new strains are imported, the result may be development of an invasive problem.<sup>26</sup>

...apparently the current practice for importing non-native plants is that a scientific name is not required for plant species that are covered by an

<sup>22</sup> Department of Agriculture, Fisheries and Forestry, *Submission 62*, p. 4.

<sup>23</sup> Weed Management Society of South Australia Inc, *Submission 35*, p. 6.

<sup>24</sup> ibid, p. 4.

<sup>25</sup> Invasive Species Council, *Submission 33*, Attachment 3.

<sup>26</sup> CRC For Australian Weed Management, *Submission 22*, p. 6.

exempt genus listed on Schedule 5 of the Quarantine Act. Consequently, new non-native species are entering Australia without being recorded and put on a database of non-native species in Australia, resulting in invasive species being sold without any official record of their presence in Australia, e.g. Ceylon hill cherry.<sup>27</sup>

6.37 A recent study by the University of Western Australian and the CRC for Australian Weed Management found that the species of 2,916 plant genera already on the Schedule 5 permitted import list are not subject to WRA.<sup>28</sup> As of 1 December 2003 this permitted the importation of nearly half of all plant species on Earth.<sup>29</sup> This includes 125,241 plant species of which 4,003 are known agricultural and environmental weeds not yet present in Australia through 700 (24%) of the 2,916 listed genera.<sup>30</sup>

6.38 This includes numerous weeds that are closely related to Weeds of National Significance (WONS), including all members (with a few exceptions) of the genera *Asparagus* (bridal creeper, *Asparagus asparagoides*), Hymenachne (*Hymenachne amplexicaulis*), and *Annona* (pond apple, *Annona glabra*). Further examples are presented in the table below.

WONS nominee in a permitted genus	Common name	Number of weedy relatives permitted for importation but not yet present in Australia
Jatropha gossypifolia	Bellyache bush	6
Thunbergia grandiflora	Blue thunbergia	1
Schinus terebinthifolia	Brazilian pepper	1
Genista monspessulana	Broom	4
Sporobolus indicus var. major,	Giant Parramatta grass and Giant rat's tail grass	13

Table 6.1 - List of Weeds of National Significance (WONS) nominees and the number of their weedy relatives on the Schedule 5 Permitted List that are *not yet* present in Australia<sup>31</sup>

<sup>27</sup> WWF Australia, *Submission 30*, p. 26

<sup>28</sup> H Spafford Jacob, R Randall and S Lloyd, Front Door Wide Open to Weeds: an examination of the weed species permitted for import without risk assessment. WWF Australia, 2004.

<sup>29</sup> A Glanznig, K McLachland and O Kessal, *Garden Plants that are Invasive Plants of National Importance: an overview of their legal status, commercial availability and risk status*, WWF Australia, Sydney, 2004, p. vi.

<sup>30</sup> H Spafford Jacob, R Randall and S Lloyd, Front Door Wide Open to Weeds: an examination of the weed species ppermitted for import without risk assessment. WWF Australia, 2004.p.iii.

<sup>31</sup> ibid.

S. natalensis and S. pyramidalis		
Themeda quadrivalvis	Grader grass	3
Hydrocotyle ranunculoides	Hydrocotyl	16
Hyptis suaveolens	Hyptis	11
Bassia scoparia	Kochia	8
Pennisetum polystachion	Mission grass	10
Cortaderia spp.	Pampas grass	1
Ligustrum lucidum and sinense	Privet	1
Cytisus scoparius	Scotch broom	3
Sida spp.	Sida	29
Stachytarpheta spp.	Snake weed	2
Erica lusitanica	Spanish heath	1
Elephantopus mollis	Tobacco weed	1
Reseda luteola	Wild mignonette	7

6.39 The study also profiles 20 serious agricultural and environment weed species not yet present in Australia that would be prohibited from import into Australia if they were subject to a weed risk assessment, but are able to be legally imported into Australia through the weakness in the Permitted List. These include:

- **corn brome grass** (*Bromus arvensis* L.), a common weed and grain seed contaminant of cereal crops. Also a weed of orchard, fruit and vegetable crops
- **Portuguese broom** (*Cytisus striatus*), a serious environmental weed in California that displaces native plant species and produces toxic seed. The plant also burns easily and is capable of carrying a fire high into the tree canopy
- **Small geranium** (*Geranium pusillum* L.), a common weed in virtually all cropping systems in Europe that has also naturalised in North and South America and New Zealand
- **Pitted morning glory** (*Ipomoea lacunosa* L.), a weed in Japan, United Kingdom, North America and northern Europe whose seed contaminates agricultural produce, especially grain and grain products
- **Persian ryegrass** (*Lolium persicum*), a serious weed of cereal crops in North America and Europe that causes significant yield losses as well as lowering the quality and grade of the grain

- **Macaranga** (*Macaranga mappa*), planted as a garden plant in Hawaii, the weed has spread throughout much of the island's moister habitats forming dense stands that kill off all native plants
- **Broad leaved meadow grass** (*Poa chaixii*), introduced into the United Kingdom as a garden plant and naturalised 50 years later. Seed is still available from nurseries over the internet. It is a widespread agricultural weed throughout Europe.<sup>32</sup>

6.40 The Committee believes that this quarantine law loophole presents a real and present risk to Australian agriculture and the environment. It noted that the Commonwealth Government agreed to close this loophole in 2001, under targets 4.1.1 and 4.1.2 of the *National Objectives and Targets for Biodiversity Conservation, 2001-2005*:

Target 4.1.1: By 2001, the import of all new live organisms is subject to a risk-based assessment process that identifies the conditions necessary to minimise threats to the environment

Target 4.1.2: By 2001, no new non-native species are deliberately introduced into Australia unless assessed as being of low risk to the environment.<sup>33</sup>

6.41 WWF Australia added that, given that the current AQIS protocols do not require the official recording of unique scientific names for new non-native plant species, it is impossible to maintain an accurate master list of non-native species in Australia. It advised the Committee that the loophole in Schedule 5 also facilitates the import of new, potentially invasive, weeds:

There is a significant loophole in the current quarantine laws. That presents a very significant and unnecessary risk to both agriculture and the environment.<sup>34</sup>

6.42 The listing of plants by genus has enabled known weeds, such as bridal creeper and parkinsonia, which are listed as Weeds of National Significance, to be permitted for import without any Weed Risk Assessment being conducted. WWF Australia told the Committee that:

you have the Commonwealth setting up an alert list of 28 species of environmental weeds that have been targeted for eradication in the medium term and yet nine of the 12 horsetail species that sit on that alert list - the whole genus has been listed - are still able to be legally imported into Australia. Again, that is another contradiction.<sup>35</sup>

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<sup>32</sup> ibid.

<sup>33</sup> Environment Australia, *National Objectives and Targets for Biodiversity Conservation, 2001-2005*, Canberra, 2001, p. 17.

<sup>34</sup> Mr Andreas Glanznig, *Committee Hansard*, Canberra, 26 November 2003, p. 11.

<sup>35</sup> WWF Australia, *Submission 30b*, p. 13.

These WONS species are under 'official control' and thus should be a prohibited import. These examples highlight the poorly coordinated Commonwealth response to preventing the potential import of new weeds and serious weeds subject to 'official control'.<sup>36</sup>

6.43 This issue was also raised by Dr McFadyen. She told the Committee that:

plants should be listed on it [the Schedule 5 permitted list] by their species as well as their genus names. .... The genus name covers an awful lot of things. Plants should be on the list under the correct scientific name for their species alone. An awful lot of them, where people agree that their import is not justified, should be taken off the permitted list.<sup>37</sup>

6.44 Dr McFadyen also used the example of bridal creeper to demonstrate the consequence of listing plants by genus:

One species of asparagus is the cultivated crop. Another species of asparagus is bridal creeper and is one of the 20 weeds of national significance. Both are permitted import because they fall into the genus Asparagus. What we are saying is that they should not have a whole genus; they should have individual species names.<sup>38</sup>

6.45 DAFF told the Committee that:

Arrangements have been made to amend legislation to remove two weeds of national significance, bridal creeper and parkinsonia, from the permitted list. This is to occur in July.<sup>39</sup>

6.46 These plants were removed from Schedule 5 in July 2004.<sup>40</sup>

6.47 WWF Australia also highlighted the failure of the WRA process to address the issue of species which arrived in Australia before its introduction.

Thousands of seed species maintained in germplasm, banks by pasture researchers are also exempted. These seeds were imported before the introduction of WRA and many of them pose a serious weed risk, considering the past performance of new pasture plants.<sup>41</sup>

<sup>36</sup> WWF Australia, *Submission 30*, p. 3.

<sup>37</sup> Dr Rachel McFadyen, Committee Hansard, Brisbane, 14 April 2004, p. 25.

<sup>38</sup> ibid, p. 26.

<sup>39</sup> Mr Charles Willcocks, Committee Hansard, Canberra, 18 June 2004, p. 54.

<sup>40</sup> Quarantine Amendment Proclamation 2004 (No 3) was made by the Governor-General on 21 July 2004.

<sup>41</sup> Invasive Species Council, *Submission 56*, p. 5.

6.48 The Weed Management Society of South Australia similarly raised concerns about the specific exclusion of pasture grasses and ornamental plants from the WRA system.<sup>42</sup>

6.49 WWF Australia recommended:

That Biosecurity Australia immediately implement measures to add outstanding Weeds of National Significance to the Prohibited List, including Parkinsonia, rubber vine, chilean needle grass, athel pine, gorse, and bridal creeper (since they satisfy ISPM "Official Control" requirements), and those weeds on the Alert List of Weeds where they satisfy ISPM "Official Control" conditions.<sup>43</sup>

Biosecurity Australia implement immediate measures to ensure that all invasive plant species are excluded from the Quarantine Act "Permitted List" (Schedule 5), and/or added to the "Prohibited List" (Schedule 4, Part 2), subject to compliance with International Standards for Phytosanitary Measures (ISPM) requirements.<sup>44</sup>

6.50 Dr McFadyen argued that:

What needs to be done is for Schedule 5 to be reviewed. It is supposed to have been reviewed - money was set aside for it to be reviewed - and I believe it should have been done by 2001. It urgently needs to be done; it is a massive loophole ...

... Money was given to them [Biosecurity Australia], I believe, in 1999 and I am fairly sure the review was to be completed by 2001.<sup>45</sup>

6.51 When the Committee took up this matter at its hearings, it was told by DAFF's Mr George Willcocks, General Manager, Landcare and Sustainable Industries that:

Concerns have been raised over the presence of genus level listings on the permitted list, under Schedule 5 of the Quarantine Act. Two thousand genera were reviewed by a consultant some years ago. Much of this work has been validated by Biosecurity Australia and will be subject to public consultation to ensure that changes to the permitted list are soundly based in science. Biosecurity Australia has continued with assessments of a further 1,200 permitted genera as part of the long-term review of the permitted list.<sup>46</sup>

6.52 In their subsequent joint submission, DEH and DAFF explained that:

The permitted plants list, when originally developed, contained both species and genus level listings, with the provision that the permitted list would be

44 ibid.

<sup>42</sup> Weed Management Society of South Australia Inc, *Submission 35*, p. 6.

<sup>43</sup> WWF Australia, *Submission 30*, p. 8.

<sup>45</sup> Dr Rachel McFadyen, *Committee Hansard*, Brisbane, 14 April 2004, p. 22.

<sup>46</sup> Mr Charles Willcocks, *Committee Hansard*, Canberra, 18 June 2004, p. 54.

finalised to species level over a period of time. Plant Biosecurity is progressing a long-term project to determine which species within the permitted genera are present in Australia, not under official control and should therefore be added to the permitted list. Those species not recorded as present in Australia will be removed from the list pending a WRA.

The removal of genus level listings from the permitted list is an important task that will take considerable time. As part of the revision of the permitted list, Biosecurity Australia will provide stakeholders with opportunities to comment on proposed changes.<sup>47</sup>

6.53 In relation to the apparent slowness of implementation of the review, Mr Willcocks told the Committee that:

The project was approved for funding from the national component of the National Landcare Program. It was not a Natural Heritage Trust project. It was approved as a two-year project to be carried out by AQIS, to run between mid-1997 and late 1999, with total funding of \$480,000. The overall aim of the project was to implement the weed risk assessment system. When the project was completed, three of the four objectives had been met and significant progress made on the fourth.<sup>48</sup>

6.54 The objective that had not been finalised was related to the permitted list. Mr Willcocks advised that:

...good progress had been made as the status of all species entries in the existing permitted list had been reviewed, and that of the species in over 2,000 of the genera entries in the list.

It was recognised at the time that although the bulk of the list had been reviewed as part of the project, the complete review of the permitted list to remove genera level entries was a long-term project which would be finalised as part of AQIS's ongoing activities.<sup>49</sup>

6.55 The Committee was advised that the review by Biosecurity Australia of 1200 additional genera was largely finished in 2003. Dr Brian Stynes, General Manager of Plant Biosecurity, Biosecurity Australia, advised that:

Currently we are ground-truthing a high-priority 40 genera that we will look at for industry consultation in the first instance. We obviously need to prioritise this work; it is an ongoing job. We have identified with WWF what the priority genera are. We are working currently on those and ground-truthing those.<sup>50</sup>

<sup>47</sup> Department of Environment and Heritage and Department of Agriculture, Fisheries and Forestry, *Submission 74*, p. 3.

<sup>48</sup> Mr Charles Willcocks, *Committee Hansard*, Canberra, 18 June 2004, p. 55.

<sup>49</sup> ibid.

<sup>50</sup> Dr Brian Stynes, *Committee Hansard*, Canberra, 18 June 2004, p. 57.

6.56 The review of the list involves stakeholder consultation and the permitted list must be consistent with Australia's WTO obligations. International obligations require that a species cannot be taken off of the permitted list without scientific justification.

6.57 Mr Bernard Wonder, Deputy Secretary, Department of Agriculture, Fisheries and Forestry also addressed the Committee about concerns over the time taken for the review of the permitted list to be conducted:

Looking forward, we believe that in 12 to 14 months time we will be able to have a honed permitted list and nothing could then join that list until such time as it had gone through a comprehensive risk assessment.<sup>51</sup>

6.58 The Committee shares witnesses' concerns that so many plants have been able to be freely imported into Australia while the review of the permitted list has been conducted. While it is difficult to determine the impact on Australia's environment and economy of the continued existence of this loophole in the permitted list, its continuation flies in the face of all the evidence that prevention is the best policy. As evidence has highlighted, the true impact of weedy plants listed on the permitted list may not be known for a number of years until the plants have become naturalised; especially with plants that are 'sleepers'.

6.59 The Committee also expresses its concern that to meet its international obligations, Australia cannot prohibit entry of a species unless it is not present in Australia or of limited distribution and under official control. It is one thing to oppose imports on trade grounds – as a means of setting up quasi tariff walls – and another to seek to protect the uniqueness of Australia's biodiversity, especially when eradication is the ultimate long-term goal.

6.60 The extent to which Australia will be able to prevent new species taking hold will, in part, depend upon how soon the review of the permitted list will be finalised and how many species it will be able to prohibit from entering Australia. In the Committee's view, the delay in finalisation of the review is inexcusable.

## Accuracy and reliability of WRAs

6.61 The Weed Risk Assessment system is used to assess for potential weediness plants that people wish to bring into the country. During 2002-2003 Biosecurity Australia, using the weed risk assessment process, refused entry for 320 plant species as assessment of the plants showed that the species had a high potential to become a weed of agriculture and/or the environment if they were to be imported into Australia.<sup>52</sup>

6.62 The Committee received conflicting evidence about the effectiveness of the process. Dr McFadyen told the Committee that the system has been criticised for not

<sup>51</sup> Mr Bernard Wonder, *Committee Hansard*, Canberra, 18 June 2004, p. 59.

<sup>52</sup> Department of Environment and Heritage, *Submission 61*, p. 8.

being accurate and rating too many plants as weedy. She advised that research was being done by the CRC to improve the predictive capability of the assessments.<sup>53</sup> In its submission the Invasive Species Council suggested that the WRA process may rate too few plants as being weedy:

- It is based on the assumption that most pests can be predicted in advance, a conclusion refuted by recent international research.
- There is no requirement to demonstrate that no suitable alternative, noninvasive species are already in Australia prior to considering importation. Nor is there a requirement to demonstrate any public benefit before a new species is imported
- Not all of the questions included in the assessment process need to be answered properly for a plant to pass; some questions can effectively (and conveniently) be ignored if the answer is 'don't know'.
- Many plants continue to win the benefit of the doubt, even though it cannot be demonstrated that they won't become weeds. Since 1997, roughly 67% of applications to introduce foreign plants have been accepted. Some of them undoubtedly will end up on our weed lists.
- There is no condition that importers pay for the costs of control and repair should a plant become a weed. This runs contrary to "polluter pays" principles which are generally applied to other sectors.<sup>54</sup>

6.63 Ms Anthelia Bond, from the Nature Conservation Society of South Australia, advocated that the precautionary principle should be applied during WRAs:

I look at the precautionary principle in the sense of guilty until proven innocent... it is perhaps a pretty harsh approach but if you do not have that approach and you wait until something is proven guilty then you are faced with a much more costly problem to solve. I think that is a strong argument to have the precautionary principle in this case.<sup>55</sup>

6.64 In commenting upon the adequacy and effectiveness of the WRA system, the Tasmanian Weed Society stated that:

- The assumption that all plant imports are weeds until proven otherwise via a scientifically based weed risk assessment (WRA) is considered a valuable check.
- Import assessments and approvals should not be done at higher than the species level (ie not at genera level) for effective risk assessment to be employed.

<sup>53</sup> Dr Rachel McFadyen, *Committee Hansard*, Canberra, 26 November 2003, p. 5.

<sup>54</sup> Invasive Species Council, *Submission 33*, p. 5.

<sup>55</sup> Anthelia Bond, Threatened Plant Action Group Coordinator, Nature Conservation Society of South Australia, *Committee Hansard*, 28 June 2004, p. 73.

• WRA processes need to be maintained and regularly reviewed to ensure they are maximising the latest in terms of risk analysis and international weed science developments<sup>56</sup>

6.65 A number of submitters and witnesses expressed support for the Weed Risk Assessment process but qualified their support by noting areas that needed improvement. The Weed Society of South Australia acknowledged support for the process but noted that for it to be effective the process needs to be quick and effective. Mr Crossman, President, Weed Society of South Australia, stated that:

We want to see rapid weed risk assessments put in place. It is widely believed - and it is true - that the weed risk assessment process is a sound and accurate measure, but we want to see these processes put in place quickly and efficiently.<sup>57</sup>

6.66 In commenting on the Weed Risk Assessment process Dr Barry Traill, Councillor, Invasive Species Council, said that:

It certainly has its benefits if done properly.<sup>58</sup>

## Circumventing WRAs

6.67 A number of witnesses raised concerns that the WRA process can be circumvented. The Committee was advised that an importer can circumvent the Weed Risk Assessment process by importing plants or seeds under outdated, incorrect or common names. In its submission the Invasive Species Council stated that:

Mexican feather grass (Nasella tenuissima), a weedy relative of serrated tussock (N. trichotoma) - one of our 20 worst weeds - was allowed in because the importer unwittingly used an old name: Stipa tenuissima. Stipa is a permitted genus, Nasella is not.<sup>59</sup>

6.68 The international trade in plants via the Internet, with goods being delivered through the postal system, provides another avenue for importing plants which bypasses the weed risk assessment process. In its submission the CRC for Australian Weed Management stated that:

there is an increasing problem of international ordering of plants through the internet, where the plants are sent by post and the purchasers in Australia may not be aware that importation of that material is illegal or a weed threat.<sup>60</sup>

<sup>56</sup> Tasmanian Weed Society Inc., *Submission 18*, p. 5.

<sup>57</sup> Mr Neville Crossman, *Committee Hansard*, Adelaide, 28 June 2004, p. 51.

<sup>58</sup> Dr Barry Traill, *Committee Hansard*, Brisbane, 14 June 2004, p. 48.

<sup>59</sup> Invasive Species Council, *Submission 33c*, p. 2.

<sup>60</sup> CRC for Australian Weed Management, *Submission 22*, p. 4.

## Conclusion

6.69 The Committee is a strong supporter of the Weed Risk Assessment process as a means to significantly minimise the risk of new invasive plants entering Australia. However, the Committee's inquiry has exposed some obvious flaws which limit the effectiveness of the border control system. The following issues need to addressed:

- listing all entries on Schedule 5 as individual species;
- ensuring that species identified as weeds of national significance are automatically removed from Schedule 5;
- standardising all listings of plants and seeds using the scientific name of the species; and
- requiring that all applications to import plants and seeds specify the scientific name of the species.

6.70 While some of these matters are already being addressed, or are likely to be in the future, there appears to be a lack of urgency. The potential cost of not acting expeditiously on these issues is enormous and dwarfs the cost of making the WRA process operate to its full potential.

## Recommendation

# The Committee recommends that the Commonwealth Government act urgently to ensure that:

- all listings on Schedule 5 are made by species, not genera;
- a mechanism be developed to ensure that species identified as weeds of national significance are automatically removed from Schedule 5; and
- all listings and applications for the import of plants and seeds be standardised using the scientific names of species.

## Northern Australian Quarantine Strategy

6.71 A small but key aspect of Australia's defence against invasive species is the Northern Australian Quarantine Strategy (NAQS) which is managed by AQIS. It was established 14 years ago and aims to protect Australia from exotic pests, weeds and diseases that could enter Australia from countries to its north. NAQS does this by identifying and evaluating quarantine risks facing northern Australia and providing early detection and warning of new pests through a program of scientific surveys and monitoring, border activities and public awareness. It also collaborates with neighbouring countries on quarantine activities of mutual benefit.<sup>61</sup>

<sup>61</sup> Department of Agriculture Fisheries and Forestry website at: http://www.affa.gov.au/content/output.cfm?ObjectID=D2C48F86-BA1A-11A1-A2200060A1B00590.

6.72 DAFF described the strategy as one of its key elements to delivering an effective border protection regime.<sup>62</sup> It is an early eradication program and its objective is to ensure that new infestations are discovered and identified while still confined to small areas. It provides staff to survey northern Australia for plants and animals, and alerts Commonwealth and State authorities of the need for eradication when invasive species are found. It also operates complementary measures in neighbouring countries, together with off shore and overseas inspections.

6.73 Due to Australia's proximity to its northern neighbours pest problems are able to reach the Australian mainland through dispersal by birds, wind or human assistance. Surveys in the Torres Strait, Indonesia and Papua New Guinea have enabled the Australian Quarantine and Inspection Service to predict potential risks to northern Australia. This has made it possible to implement measures to detect the pest if it were to arrive in northern Australia or to undertake control measures in neighbouring nations, such as ongoing biological control programs.

6.74 The CSIRO provided a case study on the biocontrol of banana skipper in Papua New Guinea. It highlights the benefits of Australia taking pre-emptive action.<sup>63</sup>

# Case study: biocontrol of banana skipper (Erionota thrax) in PNG to protect Australia<sup>64</sup>

The banana skipper butterfly, a native of South East Asia, became a major pest of bananas in Papua New Guinea (PNG) in the 1980s. It is capable of destroying, on average, 60% of banana leaves, leading to a prediction that, had the pest not been brought under control following introduction of a biological control agent in the late 1980s, production losses by 2020 would have totalled A\$302 million (Waterhouse et al, 1999).

There is good reason to believe that banana skipper could cause losses of even greater magnitude in Australia's banana industry. However the threat once posed by significant populations of the pest in PNG has now largely been removed as a result of the biological control program. Benefits deriving to Australia from this pre-emptive strike, projected over a 25 year period from 1995, have been estimated at A\$988 million. These estimates are based on the assumption that banana skipper would have arrived on the Australian mainland in 1995 had the PNG population not been controlled (Waterhouse et al, 1999).

It could be argued that the Australian research that led to control of banana skipper in PNG could have been delayed until such time as the pest was detected in Australia. This would have been a false economy. As previously indicated, by controlling the pest on our doorstep we have significantly reduced the risk of an incursion reaching Australia. Had this step not been taken and an incursion eventuated, the costs of

<sup>62</sup> Department of Agriculture Fisheries and Forestry, *Submission 62*, pp. 3-4.

<sup>63</sup> CSIRO, Submission 43, p. 15.

<sup>64</sup> ibid, p. 16.

eradicating the pest (if indeed it was feasible to do so) would be much greater than the A\$0.7 million that it cost to implement biological control in PNG. There would have been inevitable delays in getting permission to introduce biological control agents to Australia and further delays whilst the agent(s) were being evaluated and mass reared for release. It is reasonable to expect an interval of 18-24 months between detection of an incursion and release of the first agents. In the meantime, the pest would have infested a much larger area, given its ability to spread at a rate of up to 500 km/year, by which time eradication may well have been unachievable.

6.75 Witnesses were strongly supportive of the program, while noting areas where it could be extended. The Queensland Government advised that:

The Northern Australian Quarantine Strategy currently provides a very good service to Queensland for terrestrial pests, assisting in new invasive species weed identifications and working with DPI [Department of Primary Industry] staff on animal health and plant disease surveys, but again, the Strategy does not currently address potential introduction of marine pests.<sup>65</sup>

6.76 Dr Traill from the Invasive Species Council, expressed support for the Northern Australian Quarantine Strategy but commented that eradication of pests that have been identified by the Northern Australian Quarantine Strategy should be done by a national team as it is a quarantine issue. Dr Traill said:

They have proven enormously good at finding new invaders. They then pass over responsibility for dealing with those often small populations that are just sitting there, waiting to be eradicated fairly cheaply, to state agencies. ... I think there are very cogent, good reasons that the responsibility for a quick response eradication team should be a federally based bureaucracy that does the eradication on the ground, because it is a national problem and the borders in this case are arbitrary in terms of how the problem works. ... I would perhaps make a distinction between dealing with ongoing problems that are well established across a large area and dealing with what I would argue is a quarantine problem. If a species arrives in port, the quarantine service does not ring up a state bureaucrat and say, 'Can you come down to the port and eradicate this thing?' For small infestations a quickness of response is needed. Because it is a national problem, I think that is best dealt with through a standing national team. Just to go on from that, if that is judged for whatever reason as being bureaucratically or politically untenable then very strong bilaterals or MOUs are needed between state and federal agencies to get the results.<sup>66</sup>

6.77 The success of this program has led to suggestions for it to be used as a model for similar strategies in other areas of Australia. The CRC for Australian Weed Management stated that:

<sup>65</sup> Queensland Government, *Submission 43*, p. 18.

<sup>66</sup> Dr Barry Traill, *Committee Hansard*, Brisbane, 14 April 2004, p. 54.

It is an excellent system, and has already saved many times its direct costs. The system needs to be maintained and extended into southern Australia.<sup>67</sup>

6.78 The Weed Society of South Australia also commented on the benefits of extending the strategy to southern Australia. Mr Neville Crossman, President, Weed Society of South Australia said that:

There is also the possibility to have a southern Australian quarantine strategy. That would involve the formal development and maintenance of surveillance systems with trained botanists and making sure that funds were available to respond to incursions so that, when a new weed is identified and found in the landscape or in an environment, the resources are available to go out there, target that weed and, hopefully, eradicate it to prevent it from spreading any further.<sup>68</sup>

6.79 Mr Andreas Glanznig, Biodiversity Policy Manager, WWF Australia, told the Committee that efforts of the Northern Australian Quarantine Strategy are being compromised by the fact that the Strategy is identifying plants for eradication but in some cases those plants are legally available for sale in other areas of Australia. He provided the example of Ceylon hill cherry and told the Committee that the Northern Australian Quarantine Strategy:

identified the Ceylon hill cherry as a target species for eradication, working on the assumption that it was not yet in Australia. They were going off looking here, there and everywhere for this species, but unbeknownst to them, it was for sale at various nurseries throughout the eastern seaboard. Again, because there was not an effective information system in place, Commonwealth initiatives were being undermined by the continued sale of an invasive plant by the states.<sup>69</sup>

6.80 The Committee considers that pre-emptive action is good for maintaining Australia's reputation for high quarantine standards and is also a positive step to assist our near neighbours in maintaining their agricultural industries. The Committee recommends that the Commonwealth continue to provide support to protecting northern Australia from incursions from invasive pests.

## Protection of the marine environment

6.81 In this section the Committee addresses the regulation, control and management of invasive species in the marine environment.

<sup>67</sup> CRC for Australian Weed Management, Submission 22, p. 7.

<sup>68</sup> Mr Neville Crossman, *Committee Hansard*, Adelaide, 28 June 2004, p. 51.

<sup>69</sup> Mr Andreas Glanznig, *Committee Hansard*, Canberra, 26 November 2004, p. 12.

## Responsibility for the marine environment

6.82 Responsibility for environmental issues relating to offshore waters is divided between the States and the Commonwealth. The *Seas and Submerged Lands Act 1973* declares Commonwealth sovereignty over territorial seas and certain Commonwealth rights in respect of the exclusive economic zone, continental shelf, and contiguous zone. Although the Commonwealth retains final control in these matters the Commonwealth and the States reached an agreement over the division of powers in territorial waters in the Offshore Constitutional Settlement agreement in 1997.

6.83 The *Coastal Waters (State Powers) Act 1980* and the *Coastal Waters (State Title) Act 1980* gave effect to this agreement and returned to the States jurisdiction and proprietary rights and title over territorial seas and the underlying sea-bed. The *Coastal Waters (State Powers) Act 1980* gives the States legislative power over the first three nautical miles of Australia's territorial seas. The States have the power to make:

(a) all such laws of the State as could be made by virtue of those powers if the coastal waters of the State, as extending from time to time, were within the limits of the State, including laws applying in or in relation to the seabed and subsoil beneath, and the airspace above, the coastal waters of the State;

(b) laws of the State having effect in or in relation to waters within the adjacent area in respect of the State but beyond the outer limits of the coastal waters of the State, including laws applying in or in relation to the sea-bed and subsoil beneath, and the airspace above, the first-mentioned waters, being laws with respect to:

(i) subterranean mining from land within the limits of the State; or

(ii) ports, harbours and other shipping facilities, including installations, and dredging and other works, relating thereto, and other coastal works; and

(c) laws of the State with respect to fisheries in Australian waters beyond the outer limits of the coastal waters of the State, being laws applying to or in relation to those fisheries only to the extent to which those fisheries are, under an arrangement to which the Commonwealth and the State are parties, to be managed in accordance with the laws of the State.<sup>70</sup>

## The threat from invasive marine species

6.84 Mr Timothy Allen, National Coordinator of the Marine and Coastal Community Network, extensively put the issue in context for the Committee. For example:

In terms of Australia's wealth...Australia has 11 per cent of the world's marine species. Over 85 per cent of the marine species found in our

<sup>70</sup> Coastal Waters (State Powers) Act 1980, section 5.

southern Australia waters are found nowhere else in the world, so there are very high levels of endemism in this region...To compare that to the Great Barrier Reef, 12 per cent of the species found in northern Australia are largely endemic to that region...

The total value of Australian fisheries production is \$1.8 billion...

The general issues associated with marine pests are that they dominate space and force out native species. They can become voracious predators that consume native species. They can cause toxic algal blooms which can cause problems for human consumption of shellfish...

The impacts of many introduced species are likely to be slight, but sometimes we know that the results will be devastating.<sup>71</sup>

6.85 Assessments on the threat posed by invasive marine species is based upon available data. However, the issue of a lack of data of the impacts of invasive marine species was indetified by a number of witnesses. The Invasive Species Council submitted that:

Australia does not have sufficient baseline data or monitoring data to properly assess either the state of our native biota or the existence and impacts of introduced species.<sup>72</sup>

6.86 According to Dr Nicholas Bax, Senior Research Scientist, Commonwealth Scientific and Industrial Research Organisation (CSIRO), Marine Research, there is a potentially enormous threat from new invasive species which might be introduced into Australia:

In recent work we have identified 1,600 species worldwide which, in the marine environment, have had economic and environmental impacts. Of those, between 135 and 700 have invaded Australia. Of those, we would classify about 50 to 70 as pests in that they have had economic and environmental impacts. We have also identified 36 more on the way, which we see as having severe economic or environmental impacts, which means they have had invasive impacts overseas and are in the major trading ports of our partners.<sup>73</sup>

6.87 He pointed out that attempts to protect biodiversity by establishing marine protected areas may be seriously undermined if the issue of marine invasive species is not effectively addressed:

An interesting thing in the marine environment is that a lot of effort now is being put in to establishing marine protected areas around the country as a way of protecting biodiversity. But if those marine protected areas get invaded by marine pests, as some of them are already, then that significantly reduces their environmental value. So marine pests need to be

<sup>71</sup> Mr Tim Allen, *Committee Hansard*, Adelaide, 28 June 2004, pp. 38-39.

<sup>72</sup> Invasive Species Council, *Submission 33b*, p. 3.

<sup>73</sup> Dr Nicholas Bax, *Committee Hansard*, Adelaide 28 June 2004, p. 28.

one of the suite of management actions which occur in the marine environment.  $^{74}\,$ 

6.88 Although not all of the species which are introduced into Australia will be able to survive here, the scale of the possible threat is demonstrated by the large number of ship movements and the number of species being routinely transported:

Australia has 22,000 ship visits per year; half of them are from international sources and half are domestic. At any one time there are about 10,000 species being moved around the world in ballast water. The implication of this is that, in areas like Port Phillip Bay, the port of Melbourne, it is estimated that there is about one invasion detected every year. Not all of those are pests, of course, but it does represent an overseas species establishing in Australia. The rate of invasion is increasing.<sup>75</sup>

6.89 A Hassall & Associates study confirmed that the rate of incursion is increasing:

Marine pest incursion risk, regardless of point source, is thought to be increasing in line with trends and changes in some of the more significant vectors. International experience suggests that the following factors could be significant:

- Increased or changing trade and thus shipping flows;
- New vectors such as oil and gas drilling platforms;
- Decreases in domestic species which may have previously acted as competitors to, or predators of, non-indigenous species; and
- Climatic changes such as global warming affecting the distribution of pest species.<sup>76</sup>

## **Preventing entry**

6.90 Several main vectors by which invasive marine species enter Australia were identified during the inquiry. Ballast water released in Australian coastal waters by commercial vessels may contain invasive marine organisms. Hull fouling on commercial vessels, recreational yachts and fishing boats is also a major potential source of introduced species. Aquaculture and the aquarium industry can also be responsible for the introduction of new species.<sup>77</sup>

<sup>74</sup> ibid, p. 29.

<sup>75</sup> ibid, p. 28.

<sup>76</sup> Hassall & Associates Pty Ltd, *Introduced Marine Pests – Scoping the Socio-Economic Impacts*, January 2003, p. 11-12.

<sup>77</sup> Dr Nicholas Bax, *Committee Hansard*, Adelaide, 28 June 2004, p. 28.

6.91 Although most species could be introduced by more than one vector,<sup>78</sup> one witness advised the Committee that:

Ballast water released in near shore Australian waters and hull fouling represent the two major sources of introduced marine pests. Most introductions are accidental. In one study, hull fouling accounted for nearly 60% of historical introductions, mariculture about 22%, semi-dry ballast less than 5%, ballast water about 15% and intentional introductions around 1%.<sup>79</sup>

Ballast water

6.92 Pest species introduced into Australian waters by ballast water exchange have included fish, invertebrates, molluscs, worms, dinoflagellates (plankton and algae), and seaweed.<sup>80</sup>

6.93 Australia has been active in international efforts to prevent the introduction of new invasive species via ballast water for over a decade:

Australia was one of the first countries to look at the problem of species being transmitted by ballast water and it introduced guidelines for ballast water management in 1989. Those were subsequently adopted by the International Maritime Organisation, but these were voluntary guidelines. Since that time, Australia has been very active in promoting the ballast water convention. This was signed this year, 2004. So Australia has been very active in that area.<sup>81</sup>

The other area where we have had a role is through APEC where Australia and Chile, primarily, now run two risk assessment workshops to look at the problems of marine pests in the APEC economies and try to work out what needs to be done to improve the risk assessment and the response to risk in those areas.<sup>82</sup>

6.94 Mr Andreas Glanznig, Biodiversity Policy Manager, World Wildlife Foundation Australia (WWF) observed that:

To be fair to the Australian government, significant moves have been made, particularly in relation to ballast water. For example, they have developed an Australian ballast water management action plan. There has been funding for the CSIRO to look at some of the biotechnological options and to introduce new procedures—for example, discharging ballast water

<sup>78</sup> Hassall & Associates Pty Ltd, *Introduced Marine Pests – Scoping the Socio-Economic Impacts*, January 2003, p. 11.

<sup>79</sup> Conservation Council of WA, *Submission 59*, p. 4.

<sup>80</sup> Hassall & Associates Pty Ltd, *Introduced Marine Pests – Scoping the Socio-Economic Impacts*, January 2003, p. 10.

<sup>81</sup> Dr Nicholas Bax, *Committee Hansard*, Adelaide, 28 June 2004, p. 35 – 36.

<sup>82</sup> ibid.

offshore so that you do not do it in close proximity to the coast, enabling these invasive marine pests an opportunity to colonise and invade.<sup>83</sup>

6.95 Scientists at CSIRO Marine Research are continuing to lead the world in the field of invasive marine species research, especially in the field of ballast water management. They have developed a technique, using DNA probes, to identify the presence of pest species in water. S[pecies specific probes have been developed for the Northern Pacific seastar, the Pacific oyster and the toxic dinoflagellate. This technique will enable marine pests in ballast water to be identified while at larval and juvenile stages and significantly reduces ballast water management costs for the shipping industry. The probes have been developed in partnership with shipping and port industries and the Australian Quarantine and Inspection Service and have the potential for worldwide application.<sup>84</sup>

6.96 As outlined in Chapter 2 the International Convention for the Control and Management of Ships Ballast Water and Sediments was adopted by consensus at a Diplomatic Conference at the International Maritime Organisation in London on 13 February 2004. The convention requires participants to take steps to prevent, minimise and ultimately eliminate the transfer of harmful aquatic organisms and pathogens through the control and management of ships' ballast water and sediments. It also includes provisions that relate to scientific and technical research on ballast water management, monitoring of ballast water management, provisions for surveying and certification of ships, the provision of technical assistance to other parties and other factors. However, Australia has not yet ratified the convention.<sup>85</sup>

5.1 Ships entering Australian waters are required to either undertake a risk assessment process to calculate the risks of transfer of marine pests in ballast water or to exchange their ballast water on the high seas. Compliance with these requirements is monitored by the Australian Quarantine and Inspection Service.<sup>86</sup> DEH outlined some of the more recent developments during the Committee's hearings:

Reforms introduced over 2000-2003 include the introduction of mandatory ballast water management requirements for international vessels introduced by the Australian Quarantine and Inspection Service in July 2001; the establishment and operation of the national emergency response network is overseen by CCIMPE [the Consultative Committee on Introduced Marine Pest Emergencies]; and an increased focus on scientific research aimed at

<sup>83</sup> Mr Andreas Glanznig, *Committee Hansard*, Canberra, 18 June 2004, p. 29.

<sup>84</sup> CSIRO Marine Research, Media Release: *New test to detect aquatic pests*, 21 April 2004, www.marine.csiro.au/media/o4releases/21apr04.html.

Bepartment of Foreign Affairs and Trade, *Treaty Database*, 24 August 2004, www.info.dfat.gov.au/Info/Treaties.nsf/AllDocIDs/D06C1FAB1733E7AFCA256EFA0007C15 B.

<sup>86</sup> Department of Agriculture, Fisheries and Forestry, *Submission 62*, p. 4.

control of introduced marine pests already in Australia, notably the Northern Pacific Seastar.  $^{87}$ 

6.97 But Dr Bax raised concerns about management of vectors other than ballast water, the need to implement a national system, and the adequacy of resources:

I can probably summarise there that the threat is worsening. Australia has a good record in international ballast water management and in emergency response, but the management of other vectors, both international and domestic, has been lacking and also the long-term management and control has been lacking. In my opinion, it is imperative that the national system gets up and is adequately resourced so it can do its job. In that regard, it is worthwhile noting that the research and the management that has been done is cutting edge as far as the world is concerned. We really lead the world in this instance in many issues. Therefore, we can put a system in but it will not be right the first time. It is going to require ongoing monitoring, evaluation and adaptation to account for the errors we make when we first implement it.<sup>88</sup>

6.98 The issue of ballast water also involves the movement of marine species, both native and introduced, within Australian waters:

where there is intercoastal trading and shipping, there is still an issue about controls at that level because at the moment there is no comprehensive domestic ballast water management strategy. Water from, for example, Tasmania or Victoria could be discharged in the Spencer Gulf or the Gulf of St Vincent here in South Australia. So at the moment there are no national domestic ballast water controls, which I believe is a great problem.<sup>89</sup>

6.99 It is a matter of concern that there are no measures in place to address the issue of the internal movement of ballast water. However, in 2002 a trial program in Victoria demonstrated that a domestic ballast water management strategy could work and might be supported by the shipping industry:

In 2002, in conjunction with the Commonwealth and AQIS and with the support of the shipping industry, Victoria advanced a domestic ballast water management strategy which was successfully trialled in Westernport. That trial highlighted that 83 per cent of the vessels coming to Victoria had in fact come from another port locality within Australian waters. It also highlighted that only two per cent of the vessels had not complied with the trial by the time they came to the port. What it is demonstrating is that the trial was successful and that a domestic ballast water management strategy can work and have the support of the shipping industry.<sup>90</sup>

<sup>87</sup> Department of the Environment and Heritage, *Submission 61*.

<sup>88</sup> Dr Nicholas Bax, *Committee Hansard*, Adelaide, 28 June 2004, p. 29.

<sup>89</sup> Mr Tim Allen, Committee Hansard, Adelaide, 28 June 2004, p. 40.

<sup>90</sup> ibid.

Hull fouling

6.100 Although the introduction of invasive marine species through ballast water has been the focus of much of the international response, the number of species introduced by hull fouling, which is also referred to as biofouling, appears to be greater:

The challenge of ballast water may be minor compared to the challenge presented by biofouling of boats and ships. Biofouling is the 'fouling' or occupation of submerged surfaces, such as hulls, intake pipes, propeller systems, sea chests, anchor wells, and fishing gear, by organisms such as barnacles and worms. Unlike ballast water, biofouling is not restricted to a certain class of vessel - it is an issue for not only international and domestic cargo ships, but fishing boats and recreational yachts moving between harbours.

Perhaps because of the complexity of the biofouling issue, it has been virtually ignored by governments and the IMO. Yet it may be the source of half or more of IMPs. Major invaders in Australia such as the North Pacific Seastar, the Brown Seaweed, and the European Fan Worm may have arrived as hull hitchhikers.<sup>91</sup>

6.101 The threat from invasive species introduced by hull fouling appears to be increasing in part because of measures taken to address the harmful effects on the environment of the most commonly used anti-fouling paint:

Until recently ship owners protected their hulls from invasive species by coating them in paints containing the very toxic tri-butyl-tin (TBT). However, the IMO has adopted the International Convention on the Control of Harmful Anti-fouling Systems on Ships, which will end use of TBT. There is already evidence of more organisms now travelling on hulls. Hull travel was probably always substantial, as anti-fouling paints are often poorly applied and maintained, especially on smaller vessels.<sup>92</sup>

6.102 The issue of hull biofouling was raised by both the Invasive Species Council<sup>93</sup> and the Government of Queensland, which wrote that:

there is currently no management program for prevention of introduction of biofouling organisms.  $^{94}$ 

6.103 At present there do not appear to be any active programs aimed at addressing the problem of species introduction and spread through hull fouling, although the issue is being examined. As discussed in Chapter 3, the National Introduced Marine Pests Coordination Group (NIMPCG) was established to recommend reforms to

<sup>91</sup> Invasive Species Council, *Submission 33b, Attachment 1*, p. 2.

<sup>92</sup> ibid.

<sup>93</sup> ibid.

<sup>94</sup> Queensland Government, *Submission 43*, p. 18.

implement a National System for the Prevention and Management of Introduced Marine Pest Incursions. According to DEH:

Preliminary work on the national system has included identifying the requirements for a system to regulate the ballast water of both international and coastal shipping, and on a framework for management of biofouling pests. Further development is contingent on finalising the agreement between governments on the legislative and financial framework. These matters are being considered by the Natural Resources Management Ministerial Council in October 2003, as well as by the Australian Transport Council.<sup>95</sup>

#### *Aquaculture and the aquarium industry*

6.104 Although the evidence given to the Committee on the sources of introduced marine species indicated that mariculture was a significant source of introductions there do not appear to be any specific measures in place to prevent the entrance of new species through this vector. The Invasive Species Council specifically raised concerns about controls on the import of aquarium fish:

Generally speaking, Australia's approach to import approvals for animals has been more stringent than that for plants, with the noticeable exception of aquarium fish. The large number of aquarium fish species imported freely into Australia is a cause of major concern, and must be reviewed. Quarantine officers have told the ISC that the officers responsible for identifying imported fish species are often inadequately trained for the task.<sup>96</sup>

## Funding, structure and strategy

6.105 The resources available for dealing with marine invasive species, including the adequacy of the research effort, were criticised in several submissions.<sup>97</sup> In its submission the Queensland Government said that:

Barrier activities at a national level are generally well funded and effective, with the exception of introduced marine pests  $\dots^{98}$ 

6.106 The Invasive Species Council submitted that:

...in general, the focus and scale of resourcing by the government on the IMP problem has not been commensurate with the scale of the threats. In particular, the government has failed to address the problems posed by biofouling of vessels. In addition, although the government established a marine pest centre, it is not adequately funding it or requiring that the

<sup>95</sup> Department of the Environment and Heritage, *Submission 61*, p. 10.

<sup>96</sup> Invasive Species Council Victoria, Submission 33, p. 5.

<sup>97</sup> Invasive Species Council Queensland, *Submission 56*; WWF Australia, *Submission 30*; Conservation Council of WA, *Submission 59*.

<sup>98</sup> Queensland Government, *Submission 43*, p. 22.

industry primarily responsible for IMPs contribute to research to resolve or manage the problems.<sup>99</sup>

6.107 Elsewhere in this report the Committee has reviewed the evidence it received of the problems which have arisen in the past because of the short term nature of funding through the National Heritage Trust (NHT). Mr Tim Allen from the Marine and Coastal Community Network, also drew the Committee's attention to the work done by the CSIRO on marine invasive species and the limitations on its funding:

We do know a lot more about the problem and the risk of introductions – and I highlight the good work undertaken by the CSIRO when they had the Centre for Research into Introduced Marine Pests. I would like to state on the record that there has been a diminished capacity in terms of the CSIRO, unfortunately, as a result of resources moving away from this issue in recent years. I believe there were six researchers and now there are three senior researchers. As we know, the moves for a CRC were unfortunately not supported by the shipping industry, so a CRC for ballast water and other vector research was not established.<sup>100</sup>

6.108 Mr Allen also noted that the role of the CSIRO research centre into invasive marine species had apparently been subsumed into the general function of the CSIRO.<sup>101</sup> The CSIRO acknowledged that securing long-term funding for its National Centre for Marine Pest Research – first established in 1994 - has, at times, been problematic.<sup>102</sup> Dr Bax gave evidence to the Committee on the history and funding of its research on invasive marine pests which started in 1994:

We received money through both NHT and the shipping industry. Our research went through a bit of a hiatus, in a way. We reduced our research in the late 1990s as a few staff left and things like that occurred. More recently, other states have started to become involved. Victoria has been very active in this area and other states are building their capacity to respond. Now with the national system getting close to being up, there has been approximately \$3 million of NHT money set aside to implement the national system. At the moment, the funding situation for the next two years looks quite good for implementation of the national system.

Great Barrier Reef Marine Park

6.109 The Great Barrier Reef is controlled by the Commonwealth under *the Great Barrier Reef Marine Park Act 1975*. Although the Great Barrier Reef is one of Australia's greatest national treasures, action to date on identifying potential threats to

<sup>99</sup> Invasive Species Council, *Submission 33b*, p. 3.

<sup>100</sup> Mr Tim Allen, Committee Hansard, Adelaide, 28 June 2004, p. 41.

<sup>101</sup> ibid, p. 43.

<sup>102</sup> Dr William Lonsdale, *Committee Hansard*, Canberra, 18 June 2004, p. 4.

<sup>103</sup> Dr Nicholas Bax, Committee Hansard, Adelaide, 28 June 2004, p. 35.

it from invasive species has been less vigorous than the Committee would have expected. The Committee was told that:

At the moment our knowledge is reasonably limited in terms of a list of potential species which might cause concern in the park. Although there has been some work done by the CRC and research bodies at the University of Queensland and other institutes, it is not yet entirely clear which species might be the ones which are likely to be a problem. That is an area where we are encouraging and trying to focus our Reef CRC and other research providers to begin looking at these issues with more intensity.<sup>104</sup>

6.110 Similarly, although mechanisms exist under the legislation to improve protection of the park:

Currently we have no regulatory controls under the Great Barrier Reef Marine Park Act 1975 or the Great Barrier Reef Marine Park Regulations 1983 that deal with the introduction of invasive marine species. In our act we do have bits talking about the discharge of waste, and the regulations have the ability to define what that is, but at the moment it is not specific.

We also have a new zoning plan that is about to come into effect on 1 July this year. This will provide for the establishment of what we call 'special management areas' to restrict access to or the use of areas of the marine park for emergency situations which might require immediate management action. We also have powers to authorise activities in virtually any zone.<sup>105</sup>

6.111 The evidence the Committee heard from representatives of the Great Barrier Reef Marine Park Authority reflected the concerns of other groups about the immature nature of the Commonwealth's response to the problem of marine invasive species:

We are quite supportive of those processes which attempt to get an all-ofgovernment approach to an administrative and response arrangement which would ensure that action is taken quickly and effectively. I think it is fair to say that, at the moment, there is an absence of that formal approach to planning, decision making and funding responsibilities.<sup>106</sup>

#### The need for a national system

6.112 Compounding the problem of inadequate resources is the issue of the lack of a national system and strategy for dealing with marine invasive species. Although there is a proposal to develop an intergovernmental agreement which would lead to the development of a national system, as described in Chapter 3, there is no national system currently in place.<sup>107</sup> The lack of a strategy to deal with marine pests in northern Australia was raised by the Queensland Government.

<sup>104</sup> Mr Gregor Manson, *Committee Hansard*, Brisbane, 14 April 2004, p. 80.

<sup>105</sup> Mr John Day, Committee Hansard, Brisbane, 14 April 2004, pp. 79-80.

<sup>106</sup> Mr Gregor Manson, Committee Hansard, Adelaide, 14 April 2004, p. 81.

<sup>107</sup> Dr Nicholas Bax, Committee Hansard, 28 June 2004, p. 33.

The Northern Australian Quarantine Strategy currently provides a very good service to Queensland for terrestrial pests, assisting in new invasive species weed identifications and working with DPI staff on animal health and plant disease surveys, but again, the Strategy does not currently address potential introduction of marine pests.<sup>108</sup>

6.113 WWF Australia acknowledged that development of a national system has been hindered by a lack of resources:

There has been sound progress in developing systems to prevent and manage new incursions from hull fouling and ballast water, however, the effective implementation of the National System for the Prevention and Management of Marine pests is currently constrained by inadequate funding.<sup>109</sup>

6.114 Several submissions to the Committee recommended that action be taken to address these issues. The WWF Australia and the Conservation Council of Western Australia both recommended that the national system for the prevention and management of introduced marine pests be fully funded and implemented.<sup>110</sup>

That the Commonwealth, State and the Northern Territory governments fully fund and implement the National System for the Prevention and Management of Introduced Marine Pests developed jointly by the Commonwealth, States and the Northern Territory. The National System puts early warning and rapid response systems in place and defines clear roles and responsibilities for the Commonwealth, States and the Northern Territory. Together this ensures that new introduced marine pests will be quickly found and destroyed.<sup>111</sup>

6.115 Dr Nicholas Bax, Senior Research Scientist, CSIRO Marine Research, told the Committee that there is a sufficient body of knowledge on invasive marine species to enable a national system to be implemented. He also noted that the national system will require change and adaptation to ensure that it achieves its objectives:

It is imperative that the national system gest up and is adequately resourced so it can do its job. In that regard, it is worth while noting that the research and the management that has been done is cutting edge as far as the world is concerned. We really lead the world in this instance in may issues. Therefore, we can put a system in but it will not be right the first time. It is going to require ongoing monitoring, evaluation and adaptation to account for the errors we make when we first implement it.<sup>112</sup>

<sup>108</sup> Queensland Government, Submission 43.

<sup>109</sup> WWF Australia, *Submission 30*, p. 5.

<sup>110</sup> Conservation Council of WA, Submission 59.

<sup>111</sup> WWF Australia, Submission 30, p. 10.

<sup>112</sup> Dr Nicholas Bax, Committee Hansard, Adelaide, 28 June 2004, p. 29.

6.116 In its submission the Invasive Species Council recommended that the costs of marine pests should be met by industry:

Institute a polluter pays system for IMPs, by imposing a ballast levy on vessels, the amount of which is based on level of assessed risk. The money collected should be used on research and management of IMPs, as listed below under a similar recommendation for the IMO. (Note that California already imposes such a tax.)<sup>113</sup>

Advocate a polluter pays system in the IMO. That is, a ballast levy for all international shipping. A levy could be incorporated into the Draft International Convention for the Control and Management of Ships' Ballast Water and Sediments before it is ratified in February next year. The money collected should be spent on:

research into better methods of treating ballast water;

to assist developing nations to upgrade their port inspection policies and to train biologists to conduct port surveys and test ballast water;

better biological information gathering;

research into biological control and other methods of controlling ballast invaders;

funding of rapid response teams to eradicate new invaders when they first establish;

research on hull invaders to determine the scale of the problem and the best solutions; and

compensation payments for those who suffer from ballast invasions.  $^{114}$ 

6.117 In evidence to the Committee a number of suggestions were put forward for improving the barriers to entry of introduced marine species. The Invasive Species Council recommended a range of measures on both biofouling and ballast water:

Conduct a risk assessment of the threats posed by biofouling of different types of vessels to distinguish high-risk from low-risk vessels. Develop mandatory anti-fouling standards for different types of vessels. Develop a risk characterisation model to guide Quarantine staff in regular inspections of hulls and other vessel surfaces on higher-risk vessels.

Providing strong incentives for researchers to develop alternatives to toxic anti-fouling hull paints such as TBT  $^{\rm 115}$ 

Advocate that the IMO develop a major strategy on biofouling.

Advocate within the IMO for a much greater international investment into ballast research and for the development of international standards of an

<sup>113</sup> Invasive Species Council, Submission 56b.

<sup>114</sup> Invasive species Council, Submission 56b.

<sup>115</sup> ibid.

acceptable level of treatment of ballast water. An investment budget of up to 1 billion is commensurate with the scale of the problem and the value of trade involved.<sup>116</sup>

#### Managing Marine Invasive Species

6.118 Both the Invasive Species Council<sup>117</sup> and WWF Australia<sup>118</sup> drew the Committee's attention to the potential to use Section 301A of the Environment Protection and Biodiversity Conservation Act 1999 to support the mitigation and control of established populations of marine pests. As discussed in Chapter 2, Section 301A provides, inter alia, that regulations may be made for preventing trade in identified species and for making plans to eliminate, reduce or prevent impacts of listed species on Australia's biodiversity.

6.119 The possible use of Section 301A was considered by the Joint Taskforce on the Prevention and Management of Marine Pest Incursions (the Taskforce) in 1999. The Taskforce stated that to date there had not been extensive nationally coordinated efforts in the areas of control or mitigation of established populations of introduced marine pests.<sup>119</sup> It went on to say that the existing Section 301A could:

provide an appropriate legislative framework under which national coordination of the development and implementation of introduced marine pest control plans could proceed, However, in developing such plans, the implications of using the EPBC Act need to be fully assessed.<sup>120</sup>

6.120 The Taskforce went on to recommend that the:

Commonwealth Government explore the option of developing statutory plans to reduce, eliminate or prevent the impacts of introduced marine species on the biodiversity of Australia using Section 301A of the Environment Protection and Biodiversity Conservation Act 1999. This should be nationally coordinated by Environment Australia, as part of the National System. (Recommendation 4.20)<sup>121</sup>

## Conclusion

6.121 The evidence received by the Committee has acknowledged the leading role that Australia has taken in developing a response to the threat from marine invasive

<sup>116</sup> ibid.

<sup>117</sup> Invasive Species Council, *Submission 33*, p. 11.

<sup>118</sup> WWF Australia, Submission 30, p. 54.

<sup>119</sup> Joint standing committee on Conservation (SCC)/Standing Committee on Fisheries and Aquaculture (SCFA) National Taskforce on the Prevention and Management of Marine Pest Incursions, *Report of the National Taskforce of the Prevention and Management of Marine Pest Incursions*, Revised edition October 2000, p. 56.

<sup>120</sup> ibid.

<sup>121</sup> ibid, p 57.

species. The Committee supports the work that has been done to date on this issue, but clearly more can, and should, be done.

6.122 Substantial progress has already been made on limiting the threat from species transported in ballast water although it would be premature to conclude that this issue has already been adequately addressed. Some progress has also been made on developing a national framework for dealing with invasive marine species. However, no significant steps have been taken to counter the potential threats from biofouling and the mariculture industries. As a representative from the Great Barrier Reef Marine Park Authority told the Committee:

Clearly, management actions that focus solely on one vector, even if they are successful, will not stop marine invasive species. So, obviously, a national approach – preferably a global one – is required.<sup>122</sup>

6.123 The progress which has been achieved to date on these matters has been painfully slow. Clearly more needs to be done and any delay increases the likelihood of a new incursion which could have a devastating effect both on the environment and industry.

## Recommendation

The Commonwealth Government should take a lead role in Ministerial Councils and other appropriate forums to accelerate progress on the development, implementation and funding of a national system to deal with marine invasive species.

## Recommendation

As a matter of urgency the Commonwealth Government should develop programs to minimise the threat of invasive marine species entering Australia's waters via hull fouling or as a result of the mariculture industries.

## Recommendation

The Commonwealth Government should provide long term funding for research aimed at identifying and combating marine invasive species, particularly those which may threaten marine parks such as the Great Barrier Reef Marine Park, and those that are in the ports of Australia's trading partners.

<sup>122</sup> Mr Jon Day, Committee Hansard, Brisbane, 14 April 2004, p. 79.