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28 April, 2008

Quarantine and Biosecurity Review

WWF-Australia appreciates the opportunity to comment on the Commonwealth's timely review of the management of quarantine and biosecurity matters. We continue to see huge opportunities for the more effective control of invasive plants and animals through better policing of their entry and establishment into Australia.

It is important to note that one of the key impacts of climate change is expected to be an increase in the threat of invasive species to the environment and agriculture. As highlighted in WWF's *recent Australian report Species and Climate Change*¹, many invasive plants and animals will have an increased competitive advantage as a result of climate change. This has already been demonstrated on Macquarie Island - the rabbit explosion that is threatening seabird habitat on the island was caused by 3 key factors: the reduction in the effectiveness of the myxoma virus, the removal of feral cats, and warmer winter temperatures that have enabled rabbits to breed all year round.

Important ways of planning for these sorts of impacts should include greater resourcing of invasive pest and animal programs, including investing in eradicating new pests and weeds before they become established and banning invasive plants from being sold and becoming future weeds. We urge the Government to note in the context of its review that according to WWF's assessment as detailed below, there are more than 4,000 potentially invasive plants within Australia. Despite this frightening statistic, funding for the Cooperative Research Centre for Weed Management has not been renewed this year, and the National Weed Spread Prevention Plan remains unfunded and poorly implemented.

Similarly, the recently adopted Australian Pest Animal Strategy includes an objective to develop an alert list of emerging pest animals and fund the eradication of priority pests that are not yet naturalised and can be eradicated successfully. No funding has been allocated towards this

¹<http://wwf.org.au/publications/australian-species-and-climate-change-report/>

objective as yet, however it would be a very worthwhile investment to prevent new and emerging pests to thrive in future.

Australia has great potential to stop a new flood of pests, weeds and diseases entering and becoming established in Australia. However much greater commitment is needed to prevent the importation and establishment of new weeds and pests, and to implement the good policies and programs already developed for the management of species already damaging Australia's unique biodiversity.

Assistance with remote surveillance

WWF encourages this review to consider expanding support for Indigenous rangers and communities in northern Australia who assist in remote surveillance. The contribution of the Australian community in remote areas of northern Australia has proven to be an important component of quarantine, with long term programs established in the Northern Territory, Queensland and the Kimberley region of Western Australia. Continuing to support and expand the roles and responsibilities of these programs to broader monitoring of pest and disease incursions from neighbouring islands can not only strengthen biosecurity in remote areas but also assist in building training and skills in remote areas. With its proven success, this approach could be considered for expansion to other areas of Australia.

Holes in Australia's biosecurity system

In 2005, WWF-Australia published a report by the Australian Biosecurity Group *Invasive weeds, pests and diseases. Solutions to secure Australia*².

Since the report's publication in 2005, few of the holes in Australia's biosecurity shield identified have been effectively closed. Some of the key holes identified in the report, as well as some additional key points, are outlined below:

1. Need for comprehensive early warning surveillance. Australia has paid dearly for not having comprehensive national early warning programs in place. While the response to the fire ant in Brisbane cost at least \$175 million, a similar incursion in New Zealand cost only \$1.38 million to eradicate because they were detected so quickly. New Zealand has a National Invasive Ant Surveillance Program that surveys ports, airports and other high risk sites.
2. Inadequate contingency plans for environmental weeds, pests and diseases. Australia has effective contingency plans in place to quell incursions by agricultural pests. To complete the biosecurity shield, a similar set of defences needs to be developed for other environmental pests, weeds and diseases.
3. Inadequate protocols to decide eradication priorities and who pays. WWF-Australia welcomes the Australian Pest Animal Strategy and urges the Australian government to work with the states to implement this plan, in particular to develop the Alert list of pest animals and identify and fund priorities for eradication. This is an ideal opportunity to remove the threat of new invasive pests before they become established.
4. A deficient approach to invertebrates. Australia would benefit greatly from a database of introduced insects, spiders, snails and other invertebrate pests, as well as a good understanding of their impact and best practice guidelines for their management.

² <http://www.wwf.org.au/publications/ABGInvasiveSolutions/>

5. Quarantine for Australian islands could be reviewed, particularly the potential for pests to be accidentally imported in shipping pallets, other goods and incoming luggage. An example is at Norfolk Island. The two most recent arrivals to Norfolk Island, the Argentine ant and Asian house gecko, have the potential to be extremely serious pests if they become established on the island. Argentine ants have been reported to completely engulf and kill seabirds and forest birds, and the Asian house gecko has been found to threaten native geckos elsewhere where they have become established. On a recent WWF visit to Norfolk Island, locals reported that both species may have entered the island in shipping pallets or via the luggage of visitors from Brisbane.
6. Similarly, quarantine procedures for vehicles leaving Melbourne and entering Tasmania could be significantly improved to reduce the introduction of new pests, weeds and diseases. With sniffer dogs only currently trained to detect fruit and vegetables, this severely limits the effectiveness of quarantine, with no scope to detect introduced invasive animals.
7. Poor sharing of information. Excellent work is often done detecting and controlling a pest in one region, but because Australia is so vast, with many agencies involved in pest control, the expertise often does not reach other regions battling a similar pest.
8. Lack of community awareness. Many Australians do not understand the scale of the threat of pests, weeds and diseases entering and becoming established in Australia. The recent Senate Inquiry on invasive species recommended that the government develop and deliver national community education campaigns on invasive species. It also urged that curriculum materials be made available to schools.
9. Poor quarantine response to potential incoming threats. For example, many Australians travel overseas each year, however neither they nor the quarantine inspection officers that greet them on their return are always adequately aware of the problem posed by weed and pest imports. A good example is Didymo. The species, which is likely to choke waterways should it become established in Australia, is already a well-known weed in New Zealand and most likely to be transported to Australia on traveller's hiking boots. Only if vigilant quarantine measures are applied to all incoming travellers can we protect uninfected areas in Australia.
10. Management of marine pests and ballast water. A National system for ballast water management is under development, however it currently appears to be reliant on voluntary compliance and a high level of understanding by users. In contrast, the current Victorian system is based on prior notification and therefore ensures better compliance with the system, and hence greater levels of protection and cost saving for all parties. WWF-Australia would like to see the following included in a National system for ballast water management:
 - a. A system that provides assurance of compliance. The currently proposed National system would not provide this assurance, with spot audits of only 10-20% of ships, and after they have come into port. Ideally, ships would report on their proposed plan of ballast water management prior to entering port – to allow for advice from quarantine officers prior to entry, and to avoid the expense of being sent back out of port once they have arrived. This is also a safer option,

avoiding the possibility of contaminated ballast water being released into ports when they should in fact have been managed differently.

- b. A robust risk assessment tool. Risk assessment needs to recognize that most ports surveys are outdated. Hence, while all international ports should be deemed as high-risk, all Australian ports that have not been recently surveyed should be deemed as high-risk also. There needs to be a concerted effort to re-survey all Australian ports if risk is to be managed effectively.

Ideally, the Victorian ballast water system should be considered for its application as a National system, particularly in relation to the prior reporting requirement.

- 11. Mismatches between State laws and the legal sale of known weeds is a significant hole in Australia's biosecurity shield. Australia still lacks a coordinated regulatory approach to manage pests, weeds and diseases. While quarantine laws are being strengthened to prevent the entry of new potential weeds into Australia, there are many potential new weeds that are already in the country and can still be prevented from naturalising, as long as fast action is taken.

WWF-Australia recently prepared a database to identify the level of invasiveness and availability for sale of all potentially invasive plant species. The database also identifies whether the species is a recognised weed in one or more States. More than 4,000 plants available in Australia are identified as being invasive or weedy elsewhere and could be available for sale in one or more states. Almost half of these plants are not yet naturalised and present a significant bio threat to Australia's environment and agricultural industries. More detail about the development of the database is provided in Appendix 1. A final WWF report, with 5 separately categorised lists, will be released shortly. For the purposes of the Quarantine and Biosecurity Review, WWF-Australia recommends the following in relation to the identified invasive plants:

- a. All identified environmental weeds be temporarily removed from trade until they can be risk assessed – these include the 4809 weeds on the WWF list A (Appendix 2);
- b. Of highest priority, and of most relevance to this review, would be to ban trade in all plants in WWF List B (Appendix 3). This lists around 2037 plants that are identified as being highly invasive, available for sale, and not yet naturalised in Australia.

A full WWF report will shortly be released detailing each of the weed lists developed. Unless these species are removed from trade, Australia is not proactively managing its weed situation. We are merely mopping up the spill while the tap is still running. If you have any queries about the comments in this submission, please contact WWF-Australia's Invasive Species Policy Officer, Julie Kirkwood, on (03) 9669 1303 or jkirkwood@wwf.org.au

Yours faithfully



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Director of Conservation

Appendix 1

A National List of Noxious Weeds

1. The problem

Weeds have huge economic, environmental and social costs. The direct financial cost of weeds to the agricultural industry alone is estimated to average \$4 billion a year.ⁱ

The cost of weeds to the environment and biodiversity is incalculable. They degrade whole landscapes and threaten many native plant and animal species. In NSW alone, escaped garden plants threaten 190 threatened plant and animal species.ⁱⁱ

The garden industry is the single largest source of historical, emerging and potential weeds in Australia (Groves et. al. 2005; Randall, unpublished; Barker et. al., 2006; Glanznig, 2005). About 70 per cent of Australia's agricultural and environmental weeds are escaped invasive garden plants (Virtue et. al., 2004).

Tomorrow's weed problems are already here in Australia in the form of thousands of referenced weed species that have been imported as garden plants and have yet to naturalise in the environment. A large number of these plants can be legally sold in Australia and many have been demonstrated as recently available (Barker et. al. 2006, Coutts-Smith et. al. 2006)

By being in commercial trade garden plants present a major threat as they enjoy a level of dispersal well beyond that of natural means. Even weeds that have already naturalised (escaped cultivation and are reproducing naturally in the wild) are given the opportunity to spread further, wider and faster while they remain in trade.

The post-border regulation of weeds is not keeping up with the volume of invasive garden plants being distributed in Australia, only a few hundred plants are banned from sale by various State and Territory weed legislation.

State and Territory weed lists are not harmonised, which results in noxious weeds declared in one jurisdiction being available for sale in another and inevitable "leakages".

The retail nursery industry is diverse, fragmented and often operates on a national scale. Retailers, particularly supermarkets and e-commerce websites, are unlikely to be aware that they are selling invasive plants.

From a legal perspective, adopting a preventative approach may be in the best interests of the suppliers of potentially invasive plant species as there are clear grounds for future claims against garden plant growers and sellers to pay for the 'clean up' costs of invasive plants that they have sold.

2. The solution – a national list of noxious weeds

WWF has compiled a list of plants that have been imported into Australia that are existing or potential environmental weeds. A final report, with 5 separately categorised lists, will be released

shortly. The list is based on the best available data maintained by Australian government departments and the Cooperative Research Centre for Australian Weed Management.

Many plants that are environmental and agricultural weeds in other countries are identified in the list. While it is important to note that not all of these species will become future weeds, the probability that they will is significantly higher than for species with no overseas weed history, especially considering the broad range of climate zones offered by the Australian continent. This list of species indicates that there is a large pool of plants already in Australia imported as garden plants that have not yet established themselves and that pose a significant risk of becoming weeds of agriculture and/or the environment

Preliminary analysis of the lists demonstrates:

- There are around 4809 invasive plants in Australia (WWF List A), and 42% have yet to naturalise (WWF List B).
- There are around 4582 known invasive plants that are likely to be being traded as garden plants. These species constitute around 15% percent (4582 /30000) of plants that are in trade in Australia.
- Only 585 of these invasive plants have any kind of legal control over them under different pieces of State/Territory legislation. However, due to the different categories of noxious weed, a declaration does not automatically ban a plant from being traded and places no obligation on other states/territories to do so in their jurisdictions. Considering the national and unregulated nature of the Australian plant retail industry. It is unlikely that a state weed declaration will prevent a weed from establishing and spreading.

3. **Recommendations to Quarantine and Biosecurity Review 2008:**

- a. All known and potential environmental weeds be temporarily removed from trade until they can be risk assessed – these include the 4809 weeds on the WWF list A.
- b. Of highest priority, and of most relevance to this review, would be to ban all plants in WWF List B. This lists 2037 plants that are identified as being highly invasive, available for sale, and not yet naturalised in Australia.

4. Methodology

The WWF National Noxious Weeds list was developed through combining the following databases.

4.1 *Invasive plants in Australia, sourced from: The Introduced Flora of Australia and its Weed Status (Randall 2007)*

This is a national database of plants introduced into Australia, past and present. It identifies plants that have been documented as invasive either in Australia or overseas in published reports. For information on where the plant was listed as a weed, readers can refer to *A global compendium of weeds* at: <http://www.hear.org/gcw/>. The database contains weed information drawn from over 3000 publications. There are 29,430 introduced species listed in the database, 25,448 of which (or 96.9%) are in cultivation in Australia. The database also includes 606 Australian native species that have naturalised outside their native ranges within Australia.

4.2 *Environmental weeds in Australia* sourced from: *Weed Categories for Natural and Agricultural Ecosystem Management* (Groves et. al. 2003)

This is a database of naturalised non-native plants in Australia for which a voucher specimen exists at a State, Territory or national herbarium (2700 taxa). The species in the database were given a ranking as a weed of natural ecosystems based on an agreed set of criteria. The rankings were made by experts from each State or Territory and represent the best professional judgements available. The rankings are as follows:

1. Naturalised and may be a minor problem but not considered important enough to warrant control at any location
2. Naturalised and known to be a minor problem warranting control at 3 or fewer locations within a State or Territory
3. Naturalised and known to be a minor problem warranting control at 4 or more locations within a State or Territory
4. Naturalised and known to be a major problem at 3 or fewer locations within a State or Territory
5. Naturalised and known to be a major problem at 4 or more locations within a State or Territory

The database was commissioned by the then Department of Environment and Heritage and the Bureau of Rural Science in 2000 and 2001. The Cooperative Research Centre for Australian Weed Management then convened a group of scientific experts on weeds and the Australian flora from all of the State and Territories of Australia to undertake the project.

4.3 *Plants that are likely to be in trade*, sourced from: *Aussie Plant Finder* (Hibbert 2004)

This catalogue lists about 30,000 garden plant taxa (including varieties) derived from the catalogues of 280 individual nurseries and 31 seed suppliers spread across all states and mainland territories. It is important to note that Hibbert (2002) does not include many of the other retail sources for garden plants illustrated in Figure 1 including e-commerce and non-specialised retail outlets such as discount department stores. It also important to note that this audit was based on 2002 data on plant availability. There is clearly an urgent need to conduct a national audit of garden plants currently in trade.

4.4 *Potential future grazing weeds*, sourced from: *Weeds of the Future? Threats to Australia's Grazing Industries by Garden Plants* (Barker et. al 2006)

This list is derived from the West Australia Department of Agriculture National Plants Database. In 2006, Meat and Livestock Australia commissioned the Weeds CRC to generate a list of garden plants that threaten to become Australia's next generation of weeds of the grazing industry including the four major sectors of: meat, dairy, lamb and wool. The study used WA's national database to generate a list of 281 high-risk species and 800 lesser priority species which present a significant risk to Australia's grazing industries should they escape from gardens and naturalise.

The list of 281 priority species are included in the list presented in this document.

The list of potential weeds was generated by searching the national plants database for species that met the following criteria:

1. Introduced to Australia
2. Not reported as naturalised in Australia

3. Record overseas as an environmental and/or agricultural weed
4. Commercially available (11 different plant stock publications surveyed)
5. The following plant types were omitted from the list: Cold climate trees species; aquatic plants (except for the grasses Poaceae/Cyperaceae); Plants with a n overseas weed record in climates dissimilar to Australia; Any remaining species unlikely to present a threat to the grazing industries in Australia; plants with only a single reference as a weed species outside of Australia; Plants with none or a single record of being sold in Australia.

4.5 Declared weeds in Australia, data source: Noxious Weed List For Australian States and Territories (2007)

The noxious weeds list for Australia is prepared by the Australian Weeds Committee (a Natural Resource Management Ministerial Committee). It lists all plants that have been declared as “noxious weeds” under the different State and Territory legislation. The list is based on the botanical name used in the legislation for each jurisdiction.

The list used was current as of September 2007.

5. WWF priority rankings for Australia’s reservoir of invasive plants

WWF has developed priority rankings base for the invasive plants in Australia based on the information made available by the databases described above. The rankings, as reflected in the two tables included in Attachment 2 and Attachment 3, are as follows:

Priority	Weeds to be suspended from trade until they are risk assessed If the risk assessment deems the species to be of high risk then it should join the national noxious weeds list which bans it from trade. If the risk assessment deems the species to be of medium risk then the species should fall under a national mandatory labelling standard and scheme
A	Assigned a ranking 1, 2 or 3 by Groves et al (2003)and/or have been declared as a noxious weed in some part of Australia.
A	Plant known to be invasive either in Australia or overseas Plant has naturalised in Australia Plant does not have an environmental weed ranking from Groves et al (2003)
Priority	Noxious weeds to be banned from trade
B	Plant known to be invasive either in Australia or overseas (Randall 2007) Not naturalised (has not yet escaped human cultivation and established self-reproducing populations in Australia) (Randall 2007)
B	Assigned a ranking 4 or 5 by Groves et al (2003)
B	Assigned a ranking 4 or 5 by Groves et al (2003) Was available for sale as a garden plant in 2004

Explanation of headings in the table:

WWF rankings	See key to ranking provided in section 5 above.
Species	The plant's taxonomic name consisting of genus and species. The genus is the lowest level of plant relatives before individual species are described. A genus can contain from one to many hundreds of species names.
Sub-species or variety	These are taxonomic groups that are a distinctive subdivision of a species whose members have certain hereditary characteristics distinct from other populations of that species.
Naturalised	Naturalised in Australia. Naturalised plants species may be defined as those that have been introduced, become established and now reproduce naturally in the wild, without human intervention. This includes 606 native Australian species that are known to have naturalised outside their native range within Australia. See 4.1 for further description of this data source.
Environmental weed rating	Ranked as a moderate to serious environmental weed by Groves et. al. (2003). See 4.2 for further description of this data source.
Declared noxious where?	Plant has been declared a "noxious weed" under a piece of State or Territory legislation. The State or Territory for which the declaration exists is listed. Note: this does not necessarily ban the plant from trade in that area and the declaration may only apply to a local government area. See 4.5 for further description of this data source.
In trade	Was listed as for sale in Aussie Plant Finder 2002. See 4.3 for further description of this data source.
MLA priority species	Was included on Meat and Livestock Australia's list of 281 priority species which present a significant risk to Australia's grazing industries should they escape from gardens and naturalise. Note: MLA also identified an additional 800 garden plants that also threaten the industry which are not noted in this list. Furthermore many of the species on this list are likely to be weeds of other agricultural sectors. See 4.4 for further description of this data source.

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