Senate Environment and Communications Reference Committee — Inquiry into Environmental Biosecurity

Submission from the South Australian Government

September 2014

Discussion points

1. Recent biosecurity performance with respect to exotic organisms with the potential to harm the natural environment detected since 2000 and resulting from accidental or illegal introductions from overseas
2. Australia's state of preparedness for new environmental incursions
3. any other related matter

SENATE ENVIRONMENT AND COMMUNICATIONS REFERENCE COMMITTEE
INQUIRY INTO ENVIRONMENTAL BIOSECURITY

SOUTH AUSTRALIAN GOVERNMENT RESPONSE TO THE TERMS OF REFERENCE

PREAMBLE

Guiding principles for responding to environmental biosecurity incursion issues in South Australia include:

- The South Australian Government is a signatory to the Intergovernmental Agreement on Biosecurity. This is inclusive of the National Environmental Biosecurity Response Agreement (NEBRA), which provides the basis for a national cost-shared response for any exotic pest or disease incursion which primarily threatens environmental, social or amenity assets. Under the NEBRA, a nationally significant incursion in SA would lead to the drafting of a response plan for consideration by all jurisdictions in deciding whether to embark on a national eradication program. If deemed not technically feasible to eradicate or not nationally cost beneficial, then SA would have to consider whether to fund other management actions to limit the impact of the incursion.
- NEBRA responses are led by Primary Industries and Regions SA, PIRSA, (through Biosecurity SA), in association with the Department of Environment, Water and Natural Resources (DEWNR) and other participating agencies (e.g. Zoos SA). All other state-level environmental or wildlife pest and disease issues are the responsibility of DEWNR.
- Where environmental biosecurity issues significantly affect primary production or human health, or the pest or disease is subject to a national Committee, Deed or Plan; then the relevant primary industry or health sectoral organisation (respectively) will lead the response to that pest or disease, with support from other sectors;

The adequacy of arrangements to prevent the entry and establishment of invasive species likely to harm Australia's natural environment, including:

a. recent biosecurity performance with respect to exotic organisms with the potential to harm the natural environment detected since 2000 and resulting from accidental or illegal introductions from overseas, including:

i. the extent of detected incursions, including numbers, locations and species, and their potential future environmental, social and economic impacts;

South Australia has detected a range of pest and disease incursions posing environmental threats, with some examples provided below. Their likely origins are from overseas or interstate.

Mexican feather grass (*Nassella tenuissima)* was imported into Australia and widely distributed as an ornamental plant under an incorrect scientific name. It is a large, non-palatable tussock grass with the potential to invade and degrade large areas of native woodland and grassland, and pastures for livestock production. South Australia (and other states) responded by raising awareness and liaising with the nursery industry and home gardeners on its identification, with ongoing monitoring at sites where it had been detected and destroyed.

In 2008 and 2009, mass mortalities of Southern bent-wing bat (*Miniopterus schreibersii bassani*) pups were reported from a colony at Naracoorte caves in South Australia. Ten percent of the entire population was affected in 2009. Nodular skin lesions were found to be present on all dead pups submitted for post mortem and were consistent with a Pox virus. This morbidity had the potential to significantly impact on pup production and therefore recruitment of an already endangered species. It is not known if the pox virus was introduced from overseas or elsewhere in Australia.

In 2013, more than 60 Bottlenose (*Tursiops aduncus*) and Common dolphins (*Tursiops truncatus*) washed up dead on beaches in Gulf St Vincent, South Australia. The cause of death was identified as Dolphin Morbillivirus in a joint effort involving DEWNR, PIRSA-Biosecurity SA, the South Australian Museum, the University of Adelaide and the Australian Marine Wildlife Research & Rescue Organisation. It is not known how this virus was introduced in South Australian coastal waters.

Notable incursions or detections found in the wild and at large in South Australia since 2000 include:

- Red-eared slider turtle (*Trachemys scripta elegans*) – illegal keeping
- Corn snake (*Pantherophis guttatus*) – illegal keeping
- Cane toad (*Bufo marinus*) – stowaway from interstate
- Indian myna (*Acridotheres tristris*) – likely stowaway from interstate
- Caulerpa (*Caulerpa taxifolia*) - likely dumping of aquarium contents

ii. the likely pathways of these recently detected incursions and any weaknesses in biosecurity that have facilitated their entry and establishment;

Deliberate importation for potential commercial use or as part of a species collection has historically been the main driver for introductions that pose weed or vertebrate pest risks. For example, Mexican feather grass was imported by at least one commercial nursery into Melbourne and then distributed nationally.

The pathway for pox virus in Southern Bent-wing bats and Dolphin Morbillivirus in dolphins is unknown. The role of migrating species in introducing exotic organisms, like pox virus and Dolphin Morbillivirus, must be considered, and preparing for or controlling this type of pathway is often unrealistic.

Weaknesses in biosecurity that can facilitate entry and establishment of invasive species that threaten natural environments include:

- a lower priority given to environmental threats in comparison to threats to primary production and human health;
- insufficient detection, surveillance and awareness of potential risks at border and post-border levels, including access to rapid and skilled diagnostic services;
- accidental or deliberate misnaming of imported species that may facilitate their importation, in particular for plants and aquarium fish. The permitted list needs revision to remove spurious scientific names that have been added since its inception;
- smuggling or uninformed consignment of vertebrates and invertebrates especially misnamed aquarium fish that are on state or territory noxious lists.
- a lack of regulations and control for bio-fouling of ships. Approximately seventy five percent of marine pest incursions in South Australian coastal waters are believed to be caused by biofouling and the remainder through dumping of ballast water;
- no limitation on the number of individuals that can be imported from overseas. Once a risk assessment has been conducted on a species and the import of a species has been approved then there is no opportunity to limit the numbers of that species that may be imported;
- the current trade in exotic birds through aviculturists in Australia is largely unregulated and this may be acting as an incentive to smuggle.

iii. the extent of quarantine interceptions of exotic organisms with the potential to harm the natural environment, including numbers, locations, species and potential impacts,

Biosecurity SA, a division of the Department of Primary Industries and Regions SA (PIRSA – Biosecurity SA), has managed numerous quarantine interceptions of exotic organisms since 2000 in collaboration with the Commonwealth Department of Agriculture (DoA), including:

- In 2008, a hopper barge arrived in Port Adelaide from New Zealand with several tonnes of fouling. The barge was in-water cleaned in New Zealand and large areas were missed. More than 10 exotic species were found, including mature and recently spawned New Zealand green lipped mussel (*Perna calaniculus*). This triggered a significant eradication response. New Zealand green lipped mussels can quickly colonise hard surfaces and compete with and smother native shellfish;
- An incursion of the Chocolate banded snail (*Eobania vermiculata*) was detected at Outer Harbor, Adelaide. The DoA provided leadership on this response as the detection was made at an approved importing facility. The infestation was effectively eradicated and no other detections of this species were made at other locations surveyed. The Chocolate banded

snail has the potential to displace native gastropod species and cause dieback to native plant species through foraging;

- PIRSA-Biosecurity SA is currently collaborating with the DoA on a response to an interception interstate of pine pallets infested with Asian longhorn beetle (*Anoplophora glabripennis*), Brown mulberry longhorn beetle (*Apriona germani*) and Japanese pine sawyer beetle (*Monochamus alternatus*). This has resulted in inspection of suspect pallets in South Australia (no detections have been made to date) and the development of an ongoing trapping program. The three wood boring beetles have the potential to displace native beetle species and destroy woody plants and trees in native bushland.

These incursions provide an example of those types of marine pest and plant pest incursions that Biosecurity SA regularly responds to. Arrangements are in place to liaise with the DoA on such issues so that risks, both at the initial port of entry and further afield, are properly addressed.

iv. any reviews or analyses of detected incursions or interceptions relevant to the environment and any changes in biosecurity processes resulting from those reviews or analyses;

The following review has been conducted and published:

- Introduced marine species in South Australia: a review of records and distribution mapping by K. Wiltshire, K. Rowling and M. Deveney (2010). South Australian Research and Development Institute Publication No. F2010/000305-1;
- Review of recent plant naturalisations in South Australia and initial screening for weed risk by C.J. Brodie and T.M. Reynolds (2012). DENR Technical Report 2012/02, South Australian Department of Environment and Natural Resources, Adelaide.

More procedures and protocols are currently in place in South Australia than there were 15 years ago as a result of national processes and procedures, through such initiatives as the Intergovernmental Agreement on Biosecurity and the work of sectoral committees (weeds, vertebrate pests, marine pests). Capability in South Australia in regards to emergency management has significantly improved with staff training aligning with national standards.

b. Australia's state of preparedness for new environmental incursions, including:

i. the extent to which high priority risks for the environment have been identified in terms of both organisms and pathways, and accorded priority in relation to other biosecurity priorities,

High priority risks for organisms and pathways in the natural environment have been identified through various national, state and regional level risk assessments. Such assessments tend to be done on an ad hoc basis. It should be noted that risk assessment systems rely on scientific evidence and rigorous analysis and as such there are benefits to be gained in collaborative

approaches between organisations and jurisdictions. Such systems also need to be readily understood and able to be used by decision-makers. South Australia has a risk management system for weeds and for vertebrate pests, which includes consideration of environmental impacts and is used in determining state and regional priorities.

For weeds and vertebrate pests, the main sources of new incursions into the wild tend to be escapes or releases from cultivation/keeping. For example, >65% of weeds in Australia were originally grown deliberately in gardens. Hence the focus on pathways should not just be at the border, but also include areas of high likelihood of establishment within Australia, such as in peri-urban areas.

There is also a role for risk assessment in the release of new plant germplasm for agriculture and ornamental horticulture. Weed risk assessment systems specifically developed for the nursery industry and for new agricultural plant introductions should continue to be used.

In South Australia, a number of agencies are currently involved to differing degrees in the administration of biosecurity arrangements. Resourcing and capacity is stronger in those agencies with primary production and health responsibilities, compared to environmental protection. A more consistent response to exotic organisms that have a potential impact on the environment is needed at national and state levels.

ii. the process for determining priorities for import risk analyses and the process for prioritising the preparation of these analyses,

South Australia uses national processes for determining priorities for import risk analyses, such as amendments to the *List of specimens taken to be suitable for live import* under the *Environment Protection and Biodiversity Conservation Act 1999*. The South Australian government prepares a whole-of-government response in regards to these amendments.

At the national border level the Australian Weed Risk Assessment System is used to determine whether a plant species can be added to the permitted list. This system has been the subject of a range of national and international scientific analyses, yet despite this it has not been revised since its inception in the late 1990's. There is also a "grey area" where certain species are not permitted for entry into Australia, but are not concurrently declared noxious by states or territories if they are found to be present in the country.

iii. the current approach to contingency planning for high priority environmental risks and the process by which they were developed,

The current approach to contingency planning for high priority environmental risks in South Australia is determined on a case-by-case basis. Early detection and eradication is the preferred approach. South Australia is a signatory to the National Environmental Biosecurity Response Agreement, which provides the decision-making process for environmental incursions.

There should be a national cost and impact mitigation sharing process in place for those individuals, organisations and industry groups that create risks resulting in weeds and other environmental pests and diseases entering, emerging, establishing and spreading in Australia.

iv. the adequacy of current protocols and surveillance and their implementation for high-priority environmental risks,

The South Australian Plant Quarantine Standard describes measures and conditions which are in place to protect South Australia from any risks as a result of domestic trade and movement. Systems are currently in place to allow interstate pest plant regulatory agencies to meet and negotiate appropriate risk mitigation measures for plant pests based on pest risk analysis.

Surveillance for environmental pests and diseases occurs as part of current surveillance programs for primary production, such as the federally funded National Plant Health Surveillance (NPHS) program, or as part of threatened species recovery programs. The focus of the NPHS is primarily on pests of primary production at sites that have a relatively high risk of presence based on pathway and habitat considerations. The scope of this program could be expanded through additional funding to include pests of major environmental and amenity significance, such as Asian longhorn beetle and tramp ants.

Surveillance for environmental weeds could be improved through:

- the development of an updated nationally agreed target list. The Commonwealth has a list of weed species for surveillance, but this list is limited and has a northern Australia bias.
- the finalisation of a national plan for surveillance and diagnostics. Such plans have been identified as a requirement for all types of pests and diseases under the Intergovernmental Agreement on Biosecurity.

The South Australian Government welcomes the development of a national surveillance list of vertebrate species by the national Vertebrate Pest Committee as a basis for awareness, surveillance and incursion preparedness. The Marine Pests Sectoral Committee is undertaking similar work.

Automatic communication of international vessel arrivals would be an advantage for state governments in order to manage marine biosecurity risks. Access to information on every international vessel importation and transport arrivals as first port in South Australia would be valuable to identify areas in state waters for conducting marine pest surveys.

v. current systems for responses to new detected incursions, the timeliness and adequacy, and the role of ecological expertise,

Identification of new species incursions occurs through informal arrangements, such as Biosecurity SA, DEWNR and curators of the South Australian Museum and Zoos South Australia for identification of new wildlife health diseases, vertebrate pests and weeds.

The cost for diagnostic testing of wildlife health issues is covered by PIRSA-Biosecurity SA, Wildlife Health Australia and DEWNR.

Ecological expertise in South Australia is used as required. For example, ecological expertise was used during the control of a locust plague to determine the effect of the chemical spray on native wildlife, in particular the endangered Pygmy blue-tongue lizard (*Tiliqua adelaidensis)*.

vi. the extent to which compliance monitoring and enforcement activities are focused on high priority environmental risks,

The regional Natural Resources Management Boards conduct compliance where declared weed and vertebrate pests are offered for sale.

Compliance monitoring and enforcement activities for all other biosecurity risks are limited and occur ad hoc or where evidence is brought forward by a third party.

vii. the adequacy of reporting on incursions, transparency in decision-making and engagement of the community,

Arrangements are in place in South Australia for reporting of exotic plant pests, weeds and vertebrate pests through the National Pest Alert Hotline and of fish through the Fishwatch hotline. These hotlines are very successful in providing citizen science reports. It would be useful to have a national hotline for reporting wildlife health issues.

The Conservation Council of South Australia (CCSA) has a *Feral or in Peril* citizen science program for reporting of specific marine pests through the internet. The CCSA sends reports to PIRSA-Biosecurity SA. PIRSA-Biosecurity SA also has a Range Extension Database and Mapping (Redmap) system, which provides citizen science reports on marine species and invasive marine species are occasionally reported.

Wildlife health issues are reported into eWHIS, a database administered by Wildlife Health Australia.

viii. institutional arrangements for environmental biosecurity and potential improvements;

The federal Department of Agriculture has direct responsibility for risk management of material imported into Australia. PIRSA-Biosecurity SA has direct responsibility for risk management of material moved within Australia and relevant to South Australia.

In South Australia, a number of agencies are involved to differing degrees in the administration of biosecurity arrangements. Resourcing and capacity is stronger in those agencies with primary production and health responsibilities, compared to environmental protection.

PIRSA-Biosecurity SA has biosecurity programs for animal health, plant health, aquatic animal health, aquatic pests, weeds and vertebrate pests. PIRSA-Biosecurity SA coordinates the

state's contributions to national eradication programs of social amenity pests and diseases, such as the Red Imported Fire Ants in south east Queensland.

DEWNR has a key role in relation to pests and diseases threatening the state's flora, fauna and ecological communities.

The Department of Health has primary responsibility for human diseases transmitted by animals.

Some regional Natural Resources Management Boards have regional pest advisory committees that include environmental impacts of pests in their brief.

Potential improvements in national institutional arrangements are:

- greater integration of environmental and agricultural import risk assessment processes;
- more formalised cooperation in national and state/territory surveillance at sites of high likelihood of early detection of new national incursions, inclusive of pests and diseases threatening terrestrial and marine environments

c. any other related matter.

All significant islands around Australia should be considered in terms of havens for native animals, plants and marine life and should have environmental biosecurity protection where possible. An example is Kangaroo Island in South Australia, which is free of many pests present on the mainland. This should be considered as part of any future policy arrangements as there is a strategic advantage in preserving these refuges for the future benefit of the mainland environment.

It is important that the National Biosecurity Committee develops a national significance list of environmental pests and diseases under the National Environmental Biosecurity Response Agreement (NEBRA). This would identify the priority risks to environmental biosecurity and ensure that national contingency plans are prepared for possible incursions.

It is South Australia's firm view that the Red Imported Fire Ant (RIFA) incursion in south east Queensland is of national significance and a national eradication response should be jointly funded by all jurisdictions until such time that it is shown that it is not technically feasible to pursue this strategy. If this were to occur then this pest should be the subject of a national containment program. Without this national focus, RIFA will inevitably spread across the country and cost far more to control in the future than a national eradication or containment strategy. Last year the USA spent $6.4 billion on RIFA control, which in part has been the consequence of a lack of a national coordinated effort.