



**Australian Government Department of Agriculture
— Review of National Marine Pest Biosecurity**
Submission from the South Australian Government
May 2015

Introduction

The South Australian Government welcomes the Australian Government's Review of National Marine Pest Biosecurity. Marine pests pose a significant threat to South Australia's fisheries, aquaculture, recreational and tourism industries. Impacts of concern include competition with species of economic and conservation importance, biofouling of aquaculture infrastructure, introduction of aquatic animal diseases (e.g. Pacific Oyster Mortality Syndrome) and exotic marine plankton causing harm to shellfish and other marine life and to food safety. Preventing the introduction, establishment and spread of high impact marine pests is important in maintaining our state's premium food industries and clean environment, including its marine parks. This response to the Review's discussion paper covers four key issues.

Issue for comment: Limited commitment and resource allocation to implement the *National System for the Prevention and Management of Marine Pest Incursions*

Government jurisdictions invest in marine biosecurity where they see clear, ongoing benefits in terms of reducing and preventing future costs of marine pests to industry and communities. Australia is in the fortunate position of not yet having had many serious marine pest invasions that cause multi-million dollar losses to industry and significant environmental and infrastructure damage (such as invasion of Asian green mussel in the USA). The resulting communication challenge is that many marine stakeholders in Australia do not appreciate the extent of potential impacts as they have not had personal experience with them.

Scientific studies on marine pest impacts are required to provide an evidence base for prevention and management activities. However, for new pest incursions one cannot wait until a pest has reached an unmanageably high density and extent to do such studies. A pest risk management approach needs to be taken to determine high priority species for interventions at a national level, taking account of risk (impact assessment and likelihood of arrival, establishment and spread) and feasibility of their control. Such an approach draws on scientific studies, expert opinion and stakeholder experience in determining priorities. Deveney *et al.* (2008)¹ provides an example of a scientific risk assessment that was used in South Australian government decision making to cease the attempted eradication of *Caulerpa taxifolia*, with the assessment indicating a lesser risk than initially envisaged. Pest specific contingency plans should be prepared by the Australian Government for high priority species.

The lack of nationally consistent funding arrangements in marine biosecurity is a limit to establishing complementary and standard approaches to jurisdictions managing pathway risks of introduction (e.g. ballast water, biofouling, release of legal and illegal aquarium species in our waterways). Marine biosecurity is intrinsically linked throughout Australia due to vessel movements. Cost recovery models should be further investigated in the review, with the

¹ Deveney M., Rowling K, Wiltshire K, Manning C, Fernandes M, Collings G and Tanner J (2008). *Caulerpa taxifolia* (M. Vahl) C. Agardh: environmental risk assessment. Prepared for PIRSA Marine Biosecurity. SARDI Aquatic Science Publication No. F2008/000854-1. SARDI Aquatic Sciences Adelaide.

Australian government best placed to facilitate a national approach. The issue is challenging as there can be considerable disconnect between the risk creators (e.g. international and domestic shipping, recreational yachting) and the beneficiaries of marine biosecurity (e.g. domestic fishing and aquaculture industries, coastal communities). Consistency is important such that there is no trade disadvantage between states on vessel movement, although there should also be market incentive for maintaining low pest status which brings reduced ongoing management costs and risk. One option of a nationally consistent user pays system could look at separate charges through registrations of domestic commercial vessels and other vessels (e.g. recreational boats). In its investigations of cost recovery models, the Australian government should prioritise which components of the National System for the Prevention and Management of Marine Pest Incursions should be funded. An integrated approach should be considered, rather than different and potentially conflicting models of cost recovery for managing different types of pathway risks.

Issue for comment: Management of biofouling

Scientific studies have shown that biofouling of vessels is an equivalent or greater risk than ballast water in moving marine pests between regions at global² and local³ scales. However, this pathway of introduction is poorly addressed in Australia, for both international arrivals and domestic boat movements. South Australia's mineral exports and off-shore petroleum sectors will continue to expand, increasing the risk of inadvertent introduction of new pests. For example, oil drilling platforms from overseas are slow moving so can readily host marine organisms on their trip to Australia. They are here for an extended period and their support vessels can become pathways of such organisms to coastal ports, increasing the risk of pest establishment. This highlights a circumstance where the Australian Government has an important role to play in managing international biofouling risks. It is also acknowledged that states and territories have had limited and inconsistent focus on managing domestic biofouling risks, such as movement between regions of European fan worm on recreational vessels in South Australia.

There needs to be a consistent approach to managing biofouling in Australia, for both international and domestic vessel movements, and for all types of long-distance commercial and private vessels. The Australian Government's biofouling guidelines, such as the Anti-fouling and In-water Cleaning Guidelines, are valuable documents but there has been very limited uptake due to their voluntary nature. South Australia supports adoption of a risk management approach based on the International Maritime Organisation's Biofouling Guidelines. Requiring vessel operators to have an auditable biofouling management plan, combined with periodic risk based surveillance, is a more practical and precautionary approach than underwater surveying for a

² Drake JM and Lodge DM (2007). Hull fouling is a risk factor for intercontinental species exchange in aquatic ecosystems. *Aquatic Invasions* 2, 121-131.

³ Coutts MD and Taylor DM (2004). A preliminary investigation of biosecurity risks associated with biofouling on merchant vessels in New Zealand. *NZ Journal of Marine and Freshwater Research* 38, 215-229.

large list of species. Vessel movements should fall within Australia's standard quarantine practice of establishing an Appropriate Level of Protection (ALOP) for the entry of goods.

As in other areas of biosecurity there should be consistency in such quarantine measures to and within Australia. The Australian Government should facilitate a domestic approach to biofouling, noting that each jurisdiction is responsible for their own legislative requirements. This domestic approach also needs to take account of changes in responsibilities when vessels move between State and Commonwealth waters at 3 nautical miles offshore. The Australian government could also facilitate a national audit of infrastructure and technology currently available to enable cleaning of various types of vessels available throughout each jurisdiction, to indicate any gaps that could limit a new risk management approach to biofouling.

Issue for comment: Domestic ballast water management

The introduction of domestic ballast water arrangements, as proposed in the Biosecurity Bill 2014, is supported by South Australia. For example, South Australia is at risk of invasion by vessel movement of Northern Pacific seastar from Melbourne and Japanese seaweed from Tasmania. The tropical remnant nature of South Australia's upper Spencer Gulf also predisposes it to risks from northern Australia, likely to be exacerbated under climate-change induced warming.

As a minimum, ballast water exchange or treatment should occur between jurisdictions if there is a risk of marine pest spread. The preferred approach though is a 'hybrid' system based on provincial bioregions⁴ (three in South Australia) within which specific, frequent industry short journeys could be addressed on a case by case basis. The review should closely examine the pros and cons of the Victorian approach to ballast water management, it being the only state with current legislative requirements.

To support the implementation of domestic ballast water arrangements there is the need for a small list of indicator species whose presence can be detected rapidly with new DNA technology such as that being developed through SARDI's Australian Testing Centre for Marine Pests (ATCMP). Such rapid testing should be used at all locations of first entry (including offshore anchoring ground and transshipment points) and major domestic trading locations. A nationally consistent zoning approach should be used for level of risk, which could include classes of risk management (e.g. no restriction, exchange ballast water or treat ballast water before entering).

Issue for comment: A national monitoring strategy

South Australia was one of only three jurisdictions which implemented the national monitoring requirements agreed upon by NRM Ministerial Council in 2006, with two surveys at Port Adelaide in 2007-08 and 2010-11. A survey has not been conducted in South Australia since,

⁴ Commonwealth of Australia (2006). A Guide to the Integrated Marine and Coastal Regionalisation of Australia Version 4.0. Department of the Environment and Heritage, Canberra, Australia.

although ongoing ATCMP research at Port Adelaide is informing marine pest status. The high cost of traditional surveys is not justified if other jurisdictions are not undertaking similar surveillance and there is no functioning domestic ballast water system. The ATCMP project is working to implement technology for future routine, low cost marine pest presence testing that should increase participation by jurisdictions.

Monitoring for marine pests in Australia has two broad purposes; (i) establishing baselines and reviewing changes in species occurrence to inform ballast (and biofouling) risk management and (iii) early detection of incursions of new marine pests. The current national monitoring system, which is based on a limited set of international shipping locations, will not achieve both routine ballast water risk management and early detection of incursions of new species. For the latter, the methodology of the current National Monitoring Strategy is too infrequent and spatially limited to be effective at detecting new incursions when they are feasible to eradicate.

Other approaches need to be considered as part of a revised monitoring strategy. This should include strategically located settlement plates, which are routinely utilised for active surveillance in Western Australia and the Northern Territory. Community reporting is an important, ongoing source of passive surveillance, with South Australia utilizing both PIRSA's Fishwatch and the Conservation Council of SA's Reef Watch monitoring program. Accessing and collating information from marine asset monitoring programs, such as South Australia's marine parks program, is another way of collecting data for baselines, introduction of marine pests and early warning of marine pest induced ecosystem changes.