

Appendix G

Action Plan

**for minimising the risks to Australia
from the introduction and
translocation of marine pests by vessels**

***A component of the National System for the Prevention
and Management of Introduced Marine Pests***

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AQIS

AUSTRALIAN QUARANTINE AND INSPECTION SERVICE

Department of **AGRICULTURE, FISHERIES AND FORESTRY - AUSTRALIA**

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Glossary

ACS	Australian Customs Service
AFFA	Agriculture, Fisheries and Forestry – Australia
AICCC	AQIS-Industry Cargo Consultative Committee, which is the peak industry consultative committee for the setting of AQIS fees and charges for shipping.
AQIS	Australian Quarantine and Inspection Service
AMSA	Australian Maritime Safety Authority
ANZECC	Australian and New Zealand Environment and Conservation Council
ATC	Australian Transport Council
Australian first ports-of-call	Ports designated for the purpose of quarantine control for international shipping arriving in Australia.
Ballast water	Water with its suspended matter taken on board a ship to control the trim, list, draught, stability or stresses of a ship.
Contingency de-ballasting areas	Identified areas within the Australian EEZ where ships may discharge or exchange ballast water, irrespective of whether or not such ballast water contains marine pests.
CSO	Community Service Obligations
Decision Support Systems (or DSS)	Scientifically-based risk assessment management tools for use by AQIS, the shipping industry, port authorities and other relevant government agencies to provide sound and objective risk assessments in relation to each vessel voyage and the likelihood of transfer of marine pests.
EA	Environment Australia
EEZ	Exclusive Economic Zone.
Harmful aquatic organisms and pathogens	Aquatic organisms and pathogens which, if introduced into a particular sea area, including estuaries or freshwater courses, may create hazards to human health, harm living resources and aquatic life, damage amenities, impair biological diversity or interfere with other legitimate uses of such areas.
GSO	Government Service Obligations
IMO	International Maritime Organization
Inactivation	A treatment method designed to kill, remove or render infertile or render harmless marine pests.
Marine pests	Meaning taken to include the introduction and translocation of pathogens in the marine environment.
MCFFA	Ministerial Council on Forestry, Fisheries and Agriculture
National System	National System for the Prevention and Management of Introduced Marine Pests, as outlined by the Joint SCC/SCFA National Taskforce on the Prevention and Management of Marine Pest Incursions.
NIMP Coordination Group	National Introduced Marine Pests Coordination Group, as outlined by the Joint SCC/SCFA National Taskforce on the Prevention and Management of Marine Pest Incursions.

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NOAPH	National Office of Animal and Plant Health, AFFA
'Newcastle verification method'	Method (developed in Newcastle, Australia) to verify that a ship has undertaken ballast water exchange at sea.
Pathway	Ecological niche within a vector for the transfer of a marine pest.
QDV (Pratique)	The AQIS Quarantine Declaration form for Vessels (Pratique), which is used by Quarantine Officers to assess the quarantine status of international ships arriving at Australian first ports-of-call.
Sediments	Matter settled out of ballast water within a ship.
Ship	Any type of vessel whatsoever operating in the marine environment.
Ship fouling	A progressive covering, obstruction entanglement or choking of a ship's hull, propeller and other in water surfaces, internal piping systems and equipment by marine species.
Taskforce	The Joint SCC/SCFA National Taskforce on the Prevention and Management of Marine Pest Incursions.
Treatment methods	Mechanical, physical, chemical, biological or other processes to inactivate or avoid the transfer of marine pests.
Vector	Means by which marine pests are transferred from one location to another, e.g. a ship (cf. Pathway).
Vessel	A craft or structure for transport by water, including yachts, oil-rig platforms, barges, hydrofoil boats, air-cushion vehicles, submersibles, floating craft and fixed or floating platforms.
VMS	Vessel Monitoring System database of AQIS for the tracking of international ships and the lodgement of QDV (Pratique).

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Executive Summary

Our isolated and relatively pristine island continent is under constant threat from the adverse impacts caused by introduced marine pests.

These harmful aquatic organisms and pathogens threaten our marine environment, marine industries and public health and in risk terms are perhaps the single greatest quarantine threat that Australia faces today.

The problems these marine invaders cause include

- ?? the impact of the northern Pacific seastar on the biodiversity of marine life in the Derwent Estuary at Hobart
- ?? threats to human health from algal blooms caused by toxic dinoflagellates, which cause paralytic shellfish poisoning in humans
- ?? fouling of boats, moorings and substrates by the black-striped mussel.

There is a pressing need to put in place effective management regimes to prevent further marine pest incursions and halt the translocation of introduced marine pests from place to place around our coastline.

Ships represent the principal vector for these marine pests to arrive in Australian waters. However, shipping is also the dominant means by which our commodity trade is undertaken, with over 95 per cent of Australia's trade dependant on this mode of transport.

Australia's approaches need therefore to balance our trade dependence on shipping with the economic, environmental and social imperatives to prevent marine pest incursions.

Accordingly, this paper provides details of an **Action Plan for minimising the risks to Australia from the introduction and translocation of marine pests by vessels**. Its scope includes actions in respect of marine pests and pathogens.

The Action Plan's focus is on the principal pathways by which marine pests are introduced and translocated by vessels, these being ballast water and ship fouling. It will

seek to address other vessel-related pathways through time.

It outlines a range of immediate and longer-term milestones that will address marine pest issues through

- ?? National management approaches and consultative mechanisms,
- ?? Pre-border arrangements,
- ?? Border arrangements, and
- ?? Post-border arrangements.

The Action Plan is an essential component of the National System for the Prevention and Management of Marine Pest Incursions, as proposed by the Joint SCC/SCFA National Taskforce on the Prevention and Management of Marine Pest Incursions. The National System will be refined over the next two years to address marine pest vectors and pathways, other than vessels.

The Action Plan will require the timely agreement to, and active support of, the Commonwealth, States and Northern Territory, and stakeholders, if the milestones it contains are to be addressed. The milestones reflect the approaches to be taken by the Commonwealth and the co-operative approaches to be undertaken by the Commonwealth with the States and Northern Territory to prevent the introduction and translocation of marine pests by vessels. It is recognised that there are a range of parallel actions that have been and will be taken at the local level by the States and Northern Territory that will complement those taken under this Action Plan.

It is through our combined efforts that Australia will be best placed to minimise the risks from the introduction and translocation of marine pests by vessels.

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Objective

To minimise the risks to Australia from the introduction and translocation of marine pests by vessels.

Context

This Action Plan forms an essential component of the National System for the Prevention and Management of Introduced Marine Pests, as proposed by the Joint SCC/SCFA National Taskforce on the Prevention and Management of Marine Pest Incursions.

It is focused on minimising the risks to Australia from the introduction and translocation of marine pests by vessels. Other activities proposed under the National System will address marine pest incursion emergencies, and the control of marine pest outbreaks.

History

The Action Plan was originally prepared to recognise the outcomes of *'Harmonising Australia's Ballast Water Arrangements'* – A Workshop on the Single National Management Regime convened by AQIS on 15-16 September 1999 in Canberra. It takes account of comments arising from the Australian Ballast Water Management Advisory Council and the views of the Joint SCC/SCFA National Taskforce on the Prevention and Management of Marine Pest Incursions. The Taskforce has recognised the Action Plan as an essential component under its proposed National System.

The Action Plan builds upon the directions taken under *Australia's Ballast Water Management Strategy*, initially introduced in 1995 (subsequently revised – most recently in 1999 with the finalisation of an *Interim Strategy for the Prevention of Marine Pest Incursions*), which is aimed at addressing ballast water as a pathway for vessels to introduce marine pests into Australia's marine environment.

It also takes into account the work of the Australian and New Zealand Environment and Conservation Council in developing a *Code of Practice for Antifouling and In-water Hull Cleaning and Maintenance*.

Introduction

Because of its heavy reliance on shipping, which carries some 95 per cent of imports and exports, Australia is under the constant threat of outbreaks of marine pest species introduced by vessels from overseas. It has been proven that these harmful aquatic organisms and pathogens can have catastrophic impacts on marine, estuarine and freshwater environments, industries that depend on those ecosystems, human health and social amenity. After initial establishment in our waters, through further translocation, these introduced marine pest species may spread far and wide throughout Australia's marine environment.

The key known vectors for the transfer of marine pests are ships (the principal pathways being ballast water and ship fouling), accidental introductions due to mariculture and deliberate introductions (through people bringing species into the country).

Australia, in recognition of the seriousness of this issue, in 1990 was one of the first countries in the world to introduce requirements to minimise the risks posed by ballast water. Since this time these requirements have been progressively enhanced and other pathways have been researched.

This Action Plan focuses on approaches to prevent to the maximum extent possible the introduction and translocation of marine pests by vessels. Other vectors and pathways are being addressed separately as part of the National System.

While our knowledge of the vectors and pathways is currently incomplete it is sufficiently advanced to enable us to take a range of steps to substantially minimise the risk. Additionally, it is widely recognised that

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urgent action in a precautionary manner to address marine pest incursions is necessary.

By mid-2001 Australia will implement mandatory regulatory arrangements for international shipping, which will require ships to address the risks their ballast water may pose to Australia's marine ecosystems, marine industries and human health. Australia's actions in this regard will complement the approaches being taken at a global level within the International Maritime Organisation (IMO).

Some 11,000 international vessels of all shapes and sizes and types arrive in Australian ports each year, including large bulk carriers, oil tankers, yachts, fishing vessels and oil-rig platforms.

The potential for such vessels to introduce harmful aquatic organisms and pathogens into coastal waters is well recognised.

A significant proportion of international vessels continue their voyage from their initial Australian first port-of-call to other Australian ports.

As well, Australian domestic vessels constantly move between Australian ports, harbours, marinas and more remote locations. Consequently, the potential for such coastal voyages to translocate introduced marine pests has also been recognised.

The advent of mandatory ballast water arrangements for vessels arriving in Australia provides an opportunity for Commonwealth, State and Northern Territory authorities and stakeholders to synchronise other preventative actions with those already envisaged.

The Action Plan recognises this and has proposed that, through the proposed milestones, efforts be taken to implement an integrated national management approach to minimise the risks to Australia from the introduction and translocation of marine pests by vessels:

?? that it is underpinned by regulatory, co-regulatory and educational components, and targeted research and development programs

?? establishes AQIS as the lead agency for the development and implementation of the integrated national management approach (building on the considerable experience in AQIS in relation to ballast water management)

?? sees the formation of a lead national consultative mechanism, the Australian Introduced Marine Pests Advisory Council (building on the lead advisory role provided by ABWMAC), which would link into the other coordination arrangements proposed by the Taskforce.

?? sees a continued focus on the adoption by the IMO of an international regulatory arrangement for ballast water, and an expanding focus on bilateral and multilateral arrangements for managing vessels as vectors for the transfer of marine pests

?? oversees the introduction of mandatory international and coastal arrangements for ships carrying ballast water and sediments

?? oversees the introduction of ship fouling regulatory arrangements and associated guidelines for international shipping, and coastal shipping and boating

?? oversees the progressive introduction of regulatory arrangements and associated guidelines to manage other pathways for the introduction and translocation of marine pests by vessels

?? progresses the use of sophisticated risk assessment tools (decision support systems) to allow authorities to more effectively manage the pathways for marine pest to be introduced into the Australian coastal environment by vessels

?? that seeks to ensure that complementary approaches are taken in parallel by other Commonwealth and State and Northern Territory authorities.

Accordingly, this Action Plan provides a 'blueprint' for an **integrated, single national management regime for preventing the introduction and translocation of marine pests from vessels in Australian waters.**

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The size of the task facing all parties cannot be under-estimated. While international vessel visits to Australia from overseas number around 11,000 each year, total vessel numbers in Australia will likely exceed 500,000. Translocation risks posed by coastal movements of these vessels currently remains unclear and it will not be easy to track these vessels or oversight their operational practices. While major ports are recognised as 'at risk', assessments of the risks faced by boat harbours and marinas are less well-understood, and threats to more remote mooring locations are unknown.

Given the size of the task, **this Action Plan will need to be implemented in a staged approach under agreed cooperative arrangements between the Commonwealth, States and Northern Territory and stakeholders.** The negotiations between parties on these arrangements will need to be undertaken as a matter of priority.

Elements

This Action Plan has the following components:

1. Scope

Management of the risks to Australia from introduction and translocation of marine pests by vessels will be scientifically based with the aim of ensuring risk minimisation.

There will be a 'continuum of management approach' in terms of the risks they pose for the introduction and transfer of harmful aquatic organisms and pathogens including pre-border, border and post border arrangements. These arrangements will provide a seamless framework for international and intra-national vessel voyages.

All vessel-related pathways for marine pest transfers shall be managed. However, as our knowledge of each pathway varies, as does knowledge of what treatment and control systems will be effective, the initial emphasis will be given to ballast water and ship fouling.

Arrangements shall take into account the differing vulnerability of areas around the Australian coastline.

Australia's arrangements will complement those being developed at the global level through the International Maritime Organisation, particularly those in relation to ballast water management and the use of anti-foulant paints.

2. Policy & Legal Framework

Australia's approaches will remain responsive to other international developments including those at the bilateral or regional level and wherever appropriate, initiatives in these areas will be actively pursued.

Risk minimisation with respect to harmful aquatic organisms and pathogens will be effected through a combination of education, regulation and co-regulation arrangements with stakeholders.

Given the need for uniformity across Australia's maritime jurisdiction, regulative approaches will, as far as is possible, set out the standards that vessel operators have to be reach in terms of risk minimisation, rather than prescribe the methods they must adopt to meet those standards.

National guidelines will be used to outline options available for vessel operators and other relevant parties to meet Australia's national performance standards. An integrated approach will be pursued adopting a wide range of management measures, e.g. Codes of Practice, compliance agreements.

Consideration will be given to specific regional and local requirements, and the protection of environmental, social and cultural values in particularly sensitive marine areas.

All policy frameworks will address the important issues of safety of life at sea, vessel safety and occupational health and safety.

Arrangements will integrate with, and support, national emergency responses in the event of marine pest incursion incidents.

A mutual obligation model shall be agreed whereby Commonwealth, State and Northern Territory Governments and stakeholders share in the responsibility for preventing

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marine pest incursions. Each parties obligations will be clearly specified and include issues such as funding, provision of resources, and fee-for-service obligations for clients.

These will be managed through memoranda of understanding (MOUs), or equivalent arrangements, between the Commonwealth, States and Northern Territory and equivalent arrangements with other key stakeholders.

Australia's capacity to minimise marine pest incursions shall be evaluated over time.

3. Administrative Arrangements

The Action Plan proposes there be a single management or 'driving' agency, which will be responsible for the overall management and direction of the Program; this responsibility will rest with the Australian Quarantine and Inspection Service. However, this does not imply that AQIS will itself discharge all the elements of the Action Plan; rather it will operate under a cooperative approach with specific requirements and responsibilities of each party, such as ships, ports, and State and Northern Territory Governments, being documented and agreed.

Arrangements that achieve the agreed objective in the most cost effective and cost efficient manner will be adopted, at the same time ensuring that environmental, economic, social and cultural values are protected.

The arrangements will, to the extent possible, be harmonised across Australia, based on complementary straightforward arrangements at the local level. These will provide a comprehensive regime for preventing the introduction and translocation of marine pests by vessels.

Robust monitoring, control and surveillance mechanisms will be implemented. These will allow for the tracking of "high risk" vessels and will include sophisticated decision support systems, and sampling and verification techniques.

To support and explain the regulatory arrangements, educational approaches, through a comprehensive Maritime Awareness Campaign, will be used to target specific client sectors and the wider community.

Access to information and services will be available through a single window to Government, which shall permit electronic commerce.

4. Resources

A wide range of policy, technical, operational, scientific and other expertise shall be drawn from relevant Commonwealth, State and Northern Territory authorities, and stakeholders, as well as international expertise.

The national management arrangements under this Action Plan will outline, under a shared responsibility framework, the roles and responsibilities of authorities and stakeholders.

Secure funding will be required from the Commonwealth, States and Northern Territory (on behalf of the 'public interest') and direct cost recovery will be pursued (where appropriate).

Additionally contributions will be sought from any sector contributing to the problem, or deriving benefit from action taken under the program. Secure funding will be pursued for research and development activities. The opportunity for international linkages with respect to such research and development will be pursued.

Roles & Responsibilities

The successful implementation of the Action Plan requires a coordinated and collective approach inclusive of all levels of government, working in a close partnership with all stakeholders. The following proposed roles and responsibilities are envisaged, but will need to be agreed amongst the parties.

Commonwealth, State and Northern Territory Governments

- ?? Develop and encourage adoption of national and local policies, programs and legislation.
- ?? Establish effective mechanisms for the participation of stakeholders in decision-making, in particular where cost recovery is contemplated.

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- ?? Continue to refine management arrangements for vessels, and facilities (e.g. ports and harbours, drydocking facilities, ship-breaking yards).
- ?? Provide leadership, coordination and, where agreed, resources to assist in providing effective national arrangements for vessel voyages interstate and intra-state.
- ?? Encourage through a concerted and targeted awareness program, community cooperation in preventing marine pest transfers by vessels.
- ?? Provide for the development and implementation of mechanisms to identify and oversight vessel movements inter-state and intra-state.

Commonwealth Government

- ?? Pursue effective responses at the international, regional and bilateral level.
- ?? Provide leadership in introduced marine pest research and development activities.
- ?? Provide effective pre-border arrangements to reduce the risk that vessels intending to travel to Australia will transfer marine pests.
- ?? Provide effective border arrangements in relation to Australian first ports-of-call.
- ?? Provide effective post-border arrangements in respect of international vessels during coastal trading voyages.

State and Northern Territory Governments

- ?? Develop and apply policies, programs and legislation for introduced marine pests that will allow effective responses at the local level, consistent with the agreed national objectives and protocols.
- ?? Provide for effective monitoring for the presence of introduced marine pests in ports and harbours, marinas and other locations.
- ?? Contribute to and encourage introduced marine pest research and development activities.

- ?? Enhance cooperation and coordination of introduced marine pest management arrangements at local levels.

Stakeholders

- ?? Acknowledge the importance of the prevention of marine pest introductions and translocations by vessels and their role and responsibilities.
- ?? Contribute to achievement of the Action Plan's objective and abide by management measures.
- ?? Show the responsibility necessary for co-regulation approaches to continue and expand.
- ?? Participate as appropriate in introduced marine pest management approaches at the international, national, intra-state and local levels
- ?? Through their knowledge and skills improve approaches to introduced marine pest management by participation in relevant advisory and consultative fora and in decision-making, where appropriate, e.g. standard setting and operational issues.

Consultative Mechanisms

Introduced marine pest management issues are, by their very nature, cross-cutting. This was recognised when the Australian Ballast Water Management Advisory Council was formed whereby Commonwealth and State and Northern Territory representation, was found to be derived from a variety of differing portfolios, including transport, fisheries, primary industries, conservation and environment.

The same applies to industry where shipping, ports, importers/exporters, environment, tourism and many others, are affected by introduced marine pest management issues.

Given these many stakeholder interests this issue does not solely fit within the responsibility of any of the existing Ministerial Councils, However several of these, e.g. ANZECC ATC and MCFFA, do have a legitimate and significant interest in this

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matter. It is not seen as necessary for a separate Ministerial Council to be formed for the specific purpose of introduced marine pest management.

Accordingly the following consultative mechanisms have been proposed by the Taskforce for implementation under the National System.

A peak advisory and consultative body, the **Australian Introduced Marine Pests Advisory Council (AIMPAC)** will be formed, which will represent the interests of the Commonwealth, States and Northern Territory, and key stakeholders. This body would link into the Taskforce's proposed interim coordination mechanisms over the next two years. It would also provide advice directly to the range of government agencies, Ministerial Councils and Ministers that are interested in its work. AFFA, in its lead agency role, shall provide secretariat services to AIMPAC.

As part of the Taskforce's proposed interim arrangements, a National Introduced Marine Pests Coordination Group would also be established to oversee implementation of the interim arrangements; coordinate the development of the longer-term National System; and facilitate inter-governmental and stakeholder negotiations. This will ensure coordinated responses to marine pest issues across the various Councils and Committees, synchronise efforts in respect of cross-cutting activities, and coordinate the provision of information and advice to Ministerial Councils. AFFA would also provide supporting secretariat services to the NIMP Coordination Group.

Milestones

The pursuit of this Action Plan will require the agreement of the Commonwealth, States and Northern Territory, and stakeholders to milestones set for the interim measures set out below, as well as longer-term measures. Interim measures are those that can be implemented quickly, as somewhat of a 'stop-gap'. Longer-term measures include those

more permanent arrangements that will be adopted when the national management regime is more fully established.

Every effort will be made to put in place measures prior to, or in conjunction with, Australia establishing its mandatory ballast water management measures (which are targeted to occur by mid-2001).

Establishing the national management regime in a timely and efficient manner requires the key milestones to be identified.

Against each of these milestones it will be important to identify:

- ?? What activities and tasks will be required to reach the milestone?
- ?? Who (or which agencies) will be responsible for (will contribute to) ensuring that the milestone is reached?
- ?? What timetable will be followed to proceed towards the milestone?
- ?? How will work towards the milestone be undertaken?
- ?? Where will the resources required to complete the activities necessary for achieving the milestone come from?
- ?? How will those involved in these activities know that they were successful in their work?

Against these imperatives the following milestones have been set.

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TABLE 1 - National management approaches and consultative mechanisms					
Element	Interim Measures		National Arrangements		Principal Responsibility for Action
	<i>Timetable</i>	<i>Activity</i>	Timetable	Activity	
Lead agency role in the development and implementation of the Action Plan	From Jan '00 to end Jun '00	Interim support for pursuit of the Action Plan prior to budgetary decisions.	2000/01 to end 2003/04 then ongoing	Establish national management role in delivery of the Action Plan.	Cwth (AQIS)
Pursuit of IMO international regulatory regime for ballast water	In train	Participation in IMO meetings and other international forums.	From Jan '00 to end 2003/04	Participation in IMO meetings and other international forums.	Cwth (AQIS with AMSA and Transport & Regional Services)
Pursuit of IMO international regulatory regime for anti-foulant paints	In train	Participation in IMO meetings and other international forums.	From Jan '00 to end 2003/04	Participation in IMO meetings and other international forums.	Cwth (EA with AMSA)
Establishment and implementation of National Introduced Marine Pests Coordination Group <i>Integrates with post-border arrangements - Supporting Frameworks</i>	For two years from commencement of interim arrangements under the National System proposed by the Taskforce.	Proposed by Taskforce to pursue a national strategic approach addressing all vectors and pathways.	-	-	Cwth (AFFA)
Supporting frameworks to the National Procedures Policy and legal Resolution of liability issues Negotiation of agreements on funding and resourcing issues	From commencement of interim arrangements under the National System proposed by the Taskforce.	NIMP Coordination Group to undertake (a) develop the policy and legal framework, (b) resolve any liability issues, (c) negotiate an agreed position on funding and resource issues.	-	-	NIMP Coordination Group
Cessation of role of	From Jan '00 to end	Interim activity	-	-	Cwth (AQIS)

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ABWMAC	Jun '00	pending establishment of AIMPAC.			
Establishment and administration of AIMPAC	From commencement of interim arrangements under the National System proposed by the Taskforce.	Proposed by Taskforce. Commence establishment of Council.	2000/01 to end 2003/04	Establish role as peak Australian advisory body on marine pest issues for vessels.	Cwth (AFFA)
Administration of AIMPAC subsidiary bodies	From commencement of interim arrangements under the National System proposed by the Taskforce.	Commence establishment of secretariat and operational arrangements.	2000/01 to end 2003/04	Establishment of subsidiary bodies, as required.	Cwth (AFFA)
Australian Introduced Marine Pests R&D Program	1998/99 to end 1999/00	R&D Levy on international shipping.	2000/01 to end 2003/04	Establish GSO funding for R&D specific to needs of AQIS in implementing the national arrangements.	Cwth (AQIS)

TABLE 2 - Pre-border arrangements

Element	Interim Measures		National Arrangements		Principal Responsibility for Action
	Timetable	Activity	Timetable	Activity	
Pursuit of bilateral/regional arrangements for introduced marine pests	-	-	2000/01 to end 2003/04 and ongoing	Build on existing relationships (initial focus on New Zealand, Japan and the Republic of Korea).	Cwth (AQIS)

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Australian Ballast Water Management Guidelines <i>Integrates with border arrangements</i>	From Aug '98 to end Jun '01	Voluntary Guidelines with mandatory reporting, sampling and sediment disposal.	By mid-2001 to end 2003/04 then ongoing	Introduce mandatory ballast water management arrangements.	Cwth (AQIS) in consultation with shipping industry
Australian Ship Fouling Management Guidelines <i>Integrates with border arrangements</i>	From Jan '00 to end Jun '01	Development and implementation of voluntary guidelines (by Jul '00). Consideration of a pilot study approach.	By mid-2001 to end 2003/04 then ongoing	Develop and introduce mandatory arrangements.	Cwth (AQIS with DSTO) in consultation with shipping industry
Maritime Awareness Campaign focused on international shipping and cruising yachts <i>Integrates with border arrangements</i>	From Jan '00 to end Jun '01	Development and distribution of educational material to raise awareness of provisional ballast water and ship fouling Guidelines.	2000/01 to end 2003/04	Structured campaign to ensure awareness, understanding and support for mandatory Australian Guidelines.	Cwth (AQIS) with stakeholders
Co-regulation of international shipping <i>Integrates with border arrangements</i>	-	-	2000/01 to end 2003/04	Build on existing arrangements (co-regulation will focus on vessels and facilities)	Cwth (AQIS)
International vessel reporting arrangements <i>Integrates with border arrangements</i>	-	-	1999/00 to end 2000/01	Streamlined reporting of QDV (Pratique) and ACS information.	Cwth (AQIS/ACS) in consultation with AICCC
Decision Support Systems for ballast water and ship fouling for international shipping. <i>Integrates with border arrangements</i>	-	-	1999/00 to end 2000/01 (build) 2001/02 to end 2003/04 (operate)	Develop and implement by Jul '01.	Cwth (AQIS) in collaboration with States/NT

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Ballast water management and control standards <i>Integrates with border arrangements</i>	From Jan '00 to end Jun '00	Setting and agreeing on the policy framework for the development and implementation of Australian standards for ballast water discharges into the EEZ.	From 2000/01 to end 2003/04	Development, implementation and review of Australian standards for ballast water discharges into the EEZ.	Cwth (AQIS) in consultation with the shipping industry and AIMPAC
Establishment of ballast water management areas <i>Integrates with border arrangements</i>	From Jan '00	Implementation of criteria including provisional maps by May '00.	From 2000/01 to end 2003/04	Ongoing refinement of areas and updating of maps.	Cwth (AQIS with AGSO, AMSA, EA) in consultation with States/NT

TABLE 3 - Border arrangements

Element	Interim Measures		National Arrangements		Principal Responsibility for Action
	Timetable	Activity	Timetable	Activity	
Australian Ballast Water Management Guidelines <i>Integrates with pre-border arrangements</i>	From Aug '98 to end Jun '01	Voluntary Guidelines with mandatory reporting, sampling and sediment disposal.	By mid-2001 to end 2003/04 then ongoing	Introduce mandatory ballast water management arrangements.	Cwth (AQIS) in consultation with shipping industry
Australian Ship Fouling Management Guidelines <i>Integrates with pre-border arrangements</i>	From Jan '00 to end Jun '01	Development and implementation of voluntary guidelines (by Jul '00). Consideration of a pilot approach.	By mid-2001 to end 2003/04 then ongoing	Develop and introduce mandatory arrangements.	Cwth (AQIS with DSTO) in consultation with shipping industry, fishing industry and recreational boating associations

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Maritime Awareness Campaign focused on international shipping and cruising yachts <i>Integrates with pre-border arrangements</i>	From Jan '00 to end Jun '01	Development and distribution of educational material to raise awareness of provisional ballast water and ship fouling Guidelines.	2000/01 to end 2003/04	Structured campaign to ensure awareness, understanding and support for mandatory Australian Guidelines.	Cwth (AQIS) with stakeholders
Co-regulation of international shipping <i>Integrates with pre-border arrangements</i>	-	-	2000/01 to end 2003/04	Build on existing arrangements (co-regulation will focus on vessels and facilities)	Cwth (AQIS)
International vessel reporting arrangements <i>Integrates with pre-border arrangements</i>	-	-	1999/00 to end 2000/01	Streamlined reporting of QDV (Pratique) and ACS information.	Cwth (AQIS/ACS) in consultation with AICCC
Decision Support Systems for ballast water and ship fouling for international shipping. <i>Integrates with pre-border arrangements</i>	-	-	1999/00 to end 2000/01 (build) 2001/02 to end 2003/04 (operate)	Develop and implement by Jul '01	Cwth (AQIS) in collaboration with States/NT
Ballast water management and control standards <i>Integrates with pre-border arrangements</i>	From Jan '00 to end Jun '01	Setting and agreeing on the policy framework for the development and implementation of Australian standards for ballast water discharges into the EEZ.	From 2001/02 to end 2003/04	Development, implementation and review of Australian standards for ballast water discharges into the EEZ.	Cwth (AQIS) in consultation with the shipping industry and AIMPAC.

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Establishment of ballast water management areas including contingency de-ballasting areas. <i>Integrates partly with pre-border arrangements</i>	From Jan '00	Implementation of criteria including provisional maps by May '00.	From 2000/01 to end 2003/04	Ongoing refinement of areas and updating of maps.	Cwth (AQIS with AGSO, AMSA) in consultation with States/NT
Verification and compliance methodologies	From Jan '00 to end Jun '01	Implementation of 'Newcastle verification method' and development of additional verification and compliance methods.	From 2000/01 to end 2003/04	Application of developed verification and compliance methods and ongoing development of these methods for all pathways.	Cwth (AQIS) and AIMPAC

TABLE 4 - Post-border arrangements

Element	Interim Measures		National Arrangements		Principal Responsibility for Action
	Timetable	Activity	Timetable	Activity	
National Ballast Water Guidelines	Within six months of implementation of interim arrangements under the National System Proposed by the Taskforce.	Development and training in respect of National Guidelines and agreement between AQIS and States/NT on use and cost of resources.	Jul '00 to end Jun '01 (voluntary Guidelines) 2001/02 to 2003/04 (mandatory arrangements)	Interim voluntary arrangements in place first, followed by mandatory arrangements at the same time as border arrangements.	States/NT with Cwth (AQIS). Services provided by AQIS on a full cost recovery basis. Also involves consultation with AICCC.

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Development and implementation of National Ship Fouling Management Guidelines	Within six months of implementation of interim arrangements under the National System proposed by the Taskforce.	Development and training in respect of National Guidelines and agreement between AQIS and States/NT on use and cost of resources.	Jul '00 to end Jun '01 (voluntary Guidelines) 2001/02 to 2003/04 (mandatory arrangements)	Interim voluntary arrangements in place first, followed by mandatory arrangements at the same time as border arrangements.	States/NT with Cwth (AQIS). Services provided by AQIS on a full cost recovery basis. Also involves consultation with AICCC.
Maritime Awareness Campaign focused on all vessel types and marine facilities	Within six months of implementation of interim arrangements under the National System proposed by the Taskforce.	Development and distribution of educational material to raise awareness of provisional ballast water and ship fouling Guidelines.	2000/01 to end 2003/04	Structured campaign to ensure awareness, understanding and support for mandatory National arrangements.	States/NT with Cwth (AQIS), in consultation with stakeholders
Co-regulation of coastal shipping and marine facilities	-	-	2000/01 to end 2003/04	Building on existing arrangements co-regulation will focus on vessels and facilities.	States/NT with Cwth (AQIS), in consultation with industry
National vessel reporting arrangements	Within six months of implementation of interim arrangements under the National System proposed by the Taskforce.	Expansion of VMS to include coastal voyage movements.	2000/01 to 2003/04	Data management for coastal voyage movements.	Cwth (AQIS, AMSA) with costs recovered from States/NT, as agreed
Decision support systems for ballast water and ship fouling.	Within six months of implementation of interim arrangements under the National System proposed by the Taskforce.	Proposed development of simple ballast water risk matrix for coastal voyages.	1999/00 to end 2000/01 (build) 2001/02 to end 2003/04 (operate)	Ballast water and ship fouling DSS for coastal voyages proposed to be developed and implemented by Jul '01.	Cwth (AQIS) in collaboration with States/NT Cost recovery implications during development and operation of DSS

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Port baseline surveys for all major/high risk ports and all minor/low risk ports	Within six months of implementation of interim arrangements under the National System proposed by the Taskforce.	Priority plans developed for each State/NT for the conduct of surveys.	By end 2003/04	All major/minor ports will have completed a port baseline survey and implemented ongoing port monitoring programs.	States/NT with ports/marinas (in consultation with AQIS and CRIMP)
Port environment management plans for all major/high risk ports	Within six months of implementation of interim arrangements under the National System proposed by the Taskforce.	Priority plans developed for each State/NT for the completion of plans.	By end 2003/04	All major/minor ports will have implemented a port management plan.	States/NT with ports/marinas (in consultation with AQIS, EA and CRIMP)
Establishment of port ballasting and de-ballasting areas including contingency de-ballasting areas.	Within six months of implementation of interim arrangements under the National System proposed by the Taskforce.	Implementation of criteria developed in Dec '99 including provisional maps by May '00.	From 2000/01 to end 2003/04	Ongoing refinement of areas and updating of maps.	States/NT with ports/marinas (in consultation with AQIS, AGSO, AMSA, EA)

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TABLE 5 - Summary of Costs (AFFA estimates of costs to Commonwealth)										
Element	1999/00		2000/01		2001/02		2002/03		2003/04	
	Interim \$'000 #	Longer-term \$'000 @	Interim \$'000	Longer-term \$'000	Interim \$'000	Longer-term \$'000	Interim \$'000	Longer-term \$'000	Interim \$'000	Longer-term \$'000
National Management Arrangements										
?? Existing funds	0	80	0	160	0	160	0	160	0	160
?? Existing cost recovery	0	0	0	0	0	0	0	0	0	0
?? Potential cost recovery	0	0	0	0	0	0	0	0	0	0
?? Additional funding required	197	30	114	2,378	57	2,378	0	2,303	0	2,303
<i>Sub-Total</i>	<i>197</i>	<i>110</i>	<i>114</i>	<i>2,538</i>	<i>57</i>	<i>2,538</i>	<i>0</i>	<i>2,463</i>	<i>0</i>	<i>2,463</i>
Pre-Border Arrangements										
?? Existing funds	0	0*	0	0*	0	0*	0	0*	0	0*
?? Existing cost recovery	0	0*	0	0*	0	0*	0	0*	0	0*
?? Potential cost recovery	0	0*	0	0*	0	0*	0	0*	0	0*
?? Additional funding required	87*	0	0*	250*	0	200*	0	125*	0	125*
<i>Sub-Total</i>	<i>87*</i>	<i>0*</i>	<i>0*</i>	<i>250*</i>	<i>0</i>	<i>200*</i>	<i>0</i>	<i>125*</i>	<i>0</i>	<i>125</i>
Border Arrangements										
?? Existing funds	0	40*	0	80*	0	80*	0	80*	0	80*
?? Existing cost recovery	0	527*	0	1,055*	0	125*	0	125*	0	125*
?? Potential cost recovery	0	188*	0	475*	0	975*	0	975*	0	975*
?? Additional funding required	662*	0	500*	850*	0	1,050*	0	925*	0	775*
<i>Sub-Total</i>	<i>662</i>	<i>755*</i>	<i>500*</i>	<i>2,460*</i>	<i>0</i>	<i>2,230*</i>	<i>0</i>	<i>2,105*</i>	<i>0</i>	<i>1,955*</i>

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Element	1999/00		2000/01		2001/02		2002/03		2003/04	
	Interim \$'000 #	Longer-term \$'000 @	Interim \$'000	Longer-term \$'000	Interim \$'000	Longer-term \$'000	Interim \$'000	Longer-term \$'000	Interim \$'000	Longer-term \$'000
Post-Border Arrangements										
?? Existing funds	0	0	0	0	0	0	0	0	0	0
?? Existing cost recovery	0	0	0	0	0	0	0	0	0	0
?? Potential cost recovery	0	0	0	0	0	925	0	925	0	925
?? Additional funding required	312	38	575	1,250	0	325	0	275	0	250
Sub-Total	312	38	575	1,250	0	1,250	0	1,200	0	1,175
Summary of Costs										
?? Existing funds	0	120	0	240	0	240	0	240	0	240
?? Existing cost recovery	0	527	0	1,055	0	125	0	125	0	125
?? Potential cost recovery	0	188	0	475	0	1,900	0	1,900	0	1,900
?? Additional funding required	1,258	68	1,189	4,728	57	3,953	0	3,628	0	3,453
TOTALS	1,258	903	1,189	6,498	57	6,218	0	5,893	0	5,518

NB. Many of the activities proposed for 1999/00 are subject to additional resources becoming available in a timely manner. Should these funds not come forward it will be necessary to defer these activities until a later timeframe, when funds become available.

Interim measures are those that can be implemented quickly, as somewhat of a 'stop-gap'.

@ Longer-term measures include those more permanent arrangements that will be adopted when the national management regime is more fully established.

* Many of the activities to be undertaken Pre-Border/Border are the same and will only need to be undertaken once. The asterisk indicates those areas where the costs overlap.