



DEPARTMENT OF FISHERIES BIOFOULING BIOSECURITY POLICY

19 January 2017

1 PURPOSE

The Department is the lead agency in Western Australia (WA) for the management of aquatic pests and diseases. Such organisms are amongst the greatest threats to biodiversity and the ecosystems upon which humanity relies (International Convention on Biological Diversity). The Department aims to minimise the adverse impacts of aquatic pests and diseases in WA by:

1. Preventing the establishment of aquatic pests and diseases in new locations by:
 - using a risk-based approach to manage the pathways and vectors that are responsible for their introduction and spread; and
 - eradicating priority pests and diseases in small, localised populations through a focus on early detection, reporting and rapid response.
2. Minimising the impact of established aquatic pests and diseases by:
 - containing priority pests and diseases to limit their spread; and
 - targeted asset protection.

It will also develop appropriate partnership arrangements and engage with relevant agencies, industry and the community regarding aquatic biosecurity, maintain WA's favourable biosecure reputation and comply with State, national and international aquatic biosecurity obligations.

This document describes the Department of Fisheries' (the Department) policy aimed at minimising the adverse impacts of aquatic pests and diseases vectored by biofouling.

Biofouling is the accumulation of microorganisms, algae, plants and animals on submerged surfaces. Biofouling on vessels provides the opportunity for these organisms to be transported and establish outside their natural range with potentially significant adverse impacts including on:

- marine based industries such as commercial fishing, tourism and marine farming
- port infrastructure and access
- human health through diseases or infection such as septicaemia
- environmental biodiversity
- social and cultural values of the marine environment (PWC 2011).

In Australia, approximately 250 non-indigenous marine species have been identified, of which around 75 per cent have been introduced through biofouling. Some of these species are now considered to be invasive marine species (IMS). A smaller number of diseases have been associated with biofouling.

Unlike ballast water, which is regulated at the national border, there is currently no national regulation of biofouling. Instead management consists largely of voluntary guidelines and a system of pest monitoring at key ports, however options, including legislation, are being developed. Internationally the situation is similar, only biofouling guidelines developed so far.

2 SCOPE

This policy applies to:

1. all vessels, other moveable structures, and immersible equipment by which aquatic pests and diseases may be introduced into, or spread within WA, including but not limited to:
 - Recreational vessels;
 - Non-trading vessels (including customs/defence force vessels with the co-operation of the relevant agencies);
 - Commercial fishing vessels;
 - Petroleum production and exploration industry vessels and associated other moveable structures; and
 - Commercial trading vessels.
2. all public and privately owned land and waters within WA, including estuaries, over which the Department has jurisdiction.
3. the management of IMS listed by the Department, or any other species that appear to have clear impacts or invasive characteristics. Similarly only listed diseases will be managed.

3 KEY PRINCIPLES

3.1 Focus on Prevention

The Department's focus is on prevention of the transport, introduction and establishment of aquatic pests and diseases within the State through the proactive management of (i.e. minimization of) biofouling on vessels, other moveable structures and immersible equipment prior to travel into and within the State. This is because the most cost effective and efficient means for managing biosecurity is to focus on the 'prevention' end of the continuum (see the Aquatic Biosecurity Policy, 2014, for further details).

The Department of Fisheries' policy is that vessels should be 'clean' before leaving for new destinations within WA. This means the risk of aquatic pest and disease transport should be kept to an acceptable (low) level by vessel managers complying with relevant international, national and State obligations, legislation and guidelines prior to travel into and within WA waters.

3.2 Least Restrictive Biosecurity Measures

The Department aims to maximise aquatic biosecurity protection for the State, while minimising costs and inconvenience to industry and the community in line with national and international requirements.

3.3 Risk-Based Resource Allocation

Resources for biosecurity activities, including prevention, eradication, containment and asset protection, are allocated according to risk, to achieve the greatest reduction of high priority risks, and the most cost-effective benefit to industry and the community.

The geographical origin of vessels, other moveable structures and immersible equipment will also help determine a descending level of risk and resource allocation, i.e.

- **International** – from outside Australia;
- **Domestic** - from outside WA, but within Australia;
- **Regional** – within WA, Department bioregions and/or Integrated Marine and Coastal Regionalisation of Australia (IMCRA) areas (see Figure 1).

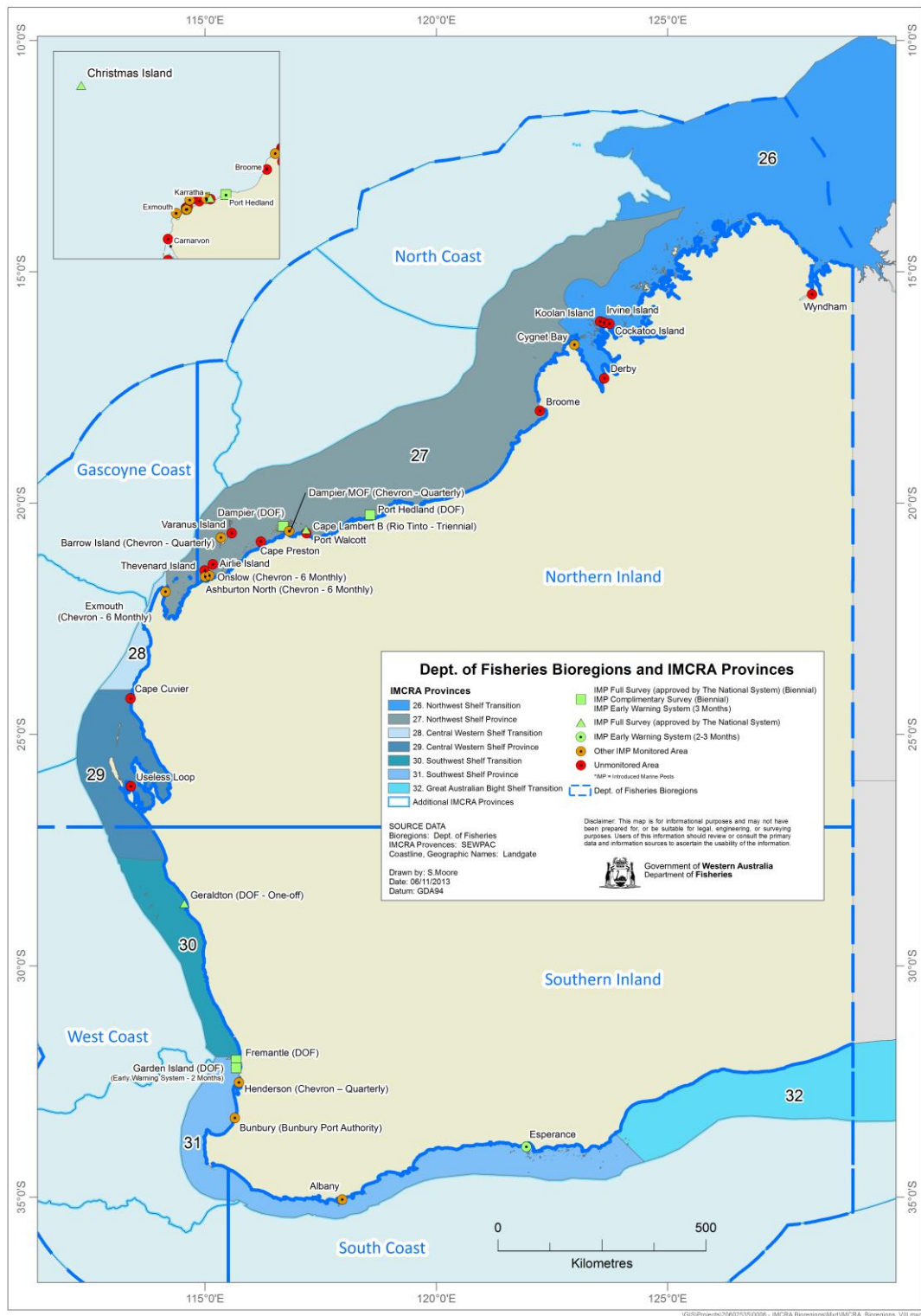


Figure 1: Department of Fisheries’ bioregions and Integrated Marine and Coastal Regionalisation of Australia (IMCRA) (from Fletcher and Santoro, 2012).

3.4 A Shared Responsibility

The Department has a leadership role in aquatic biosecurity management but biosecurity is a shared responsibility and hence is everyone’s concern. Relevant stakeholders have a responsibility to assist in managing biosecurity for WA. See specific section in the Aquatic Biosecurity Policy for further details on specific industry and community stakeholders.

4 LEGISLATION

The Department's primary responsibility is to assist the Minister for Fisheries in administering the *Fish Resources Management Act 1994* (FRMA) and the *Pearling Act 1990*, and subsidiary legislation.

The Department's draft Aquatic Resources Management Bill is proposed to provide a number of head powers to manage biosecurity issues, including emergency powers to deal with biological threats, the ability to "declare" organisms as pests and diseases that require biosecurity management (and create regulations for their control) and the ability to create management plans for recurrent activities that may pose a biosecurity risk.

With respect to its responsibility for marine biosecurity, the Department recognises and complies with relevant international, national and state obligations and legislation. It aims to develop policies that are compatible with other jurisdictions and their legislation. However, the Department recognises that at present there is very little national¹ or domestic legislation for the management of biofouling.

5 OUTCOMES

This policy will be rolled out progressively, with an initial focus on education, and will promote the following outcomes:

1. Keep the biosecurity risk of vessels, structures and equipment transporting aquatic pests and diseases into or within WA to an acceptable (low) level in order to prevent aquatic pests and diseases from entering or being spread further within WA.
2. Maximise the likelihood of successful eradication of aquatic pests and diseases through early detection and rapid response supported by regular monitoring of ports and other nodes.
3. Adequate preparedness and emergency response capacity to effectively manage reports of aquatic pests and diseases as per the National Environmental Biosecurity Response Agreement (NEBRA).
4. Containment of priority aquatic pests and diseases to limit their spread.
5. Minimise the impacts of established aquatic pests and diseases on targeted (high value) assets.
6. Improve awareness and understanding of biofouling issues in the community.
7. Establish Government and industry forums for discussion of emerging biosecurity issues and provide regular communications on biofouling issues.
8. Provide biosecurity management advice to the Office of the Environmental Protection Authority (OEPA) and proponents on development proposals and assisting in the enforcement of relevant conditions made under the *Environmental Protection Act 1986*.

6 SUPPORTING DOCUMENTS

Other key Departmental policies, procedures and guidelines relevant to this policy include:

- Aquatic Biosecurity Policy 2014;

¹ The Australian Government Department of Agriculture manages quarantine controls at the federal borders to minimise the risk of exotic pests and diseases entering the country and administers the *Quarantine Act 1908*. It manages ballast water at the national border and options including legislation are being developed for biofouling.

- Marine biosecurity policy and legislation webpage (<http://www.fish.wa.gov.au/Sustainability-and-Environment/Aquatic-Biosecurity/Vessels-And-Ports/Pages/Legislation-Policies-And-Advice.aspx>)
- Biofouling management tools and guidelines webpage (<http://www.fish.wa.gov.au/Sustainability-and-Environment/Aquatic-Biosecurity/Vessels-And-Ports/Pages/Biofouling-management-tools-and-guidelines.aspx>)
- Western Australian Prevention List for Introduced Marine Pests, Department of Fisheries (http://www.fish.wa.gov.au/Documents/biosecurity/epa_introduced_marine_pests.pdf);

Other directly related documents, such as State and Commonwealth legislation, agreements, and guidelines, can be found in the sections below.

7 DEFINITIONS AND ABBREVIATIONS

In this document the following definitions apply:

Aquatic pests and diseases	Non-native species and diseases that have adverse impacts when present in an area.
Biofouling	Biofouling is the accumulation of aquatic organisms such as microorganisms, plants and animals, on surfaces and structures immersed in or exposed to the aquatic environment. Biofouling may also be known as hull fouling (IMO 2012).
Biosecurity	Mitigating the risks and impacts on the economy, the environment, social amenity or human health associated with pests and diseases (from the NEBRA).
Containment	Management strategies designed to stop or restrict the spread of populations of pests and diseases (De Milliano et al. 2010).
Disease	Defined in the Biosecurity and Agriculture Management Act 2007 as a disease that is capable of having a detrimental effect on an animal or a plant and includes a micro-organism; and a disease agent; and an infectious agent; and a parasite at any stage of its life cycle; or a genetic disorder of an animal or plant.
Eradication or eradicate	Management strategies to eliminate a pest or disease from an area. Eradication is indicated by the pest or disease no longer being detectable.
Fish	Defined in the Fish Resources Management Act 1994 as an aquatic organism of any species (whether alive or dead) and includes — (a) the eggs, spat, spawn, seeds, spores, fry, larva or other source of reproduction or offspring of an aquatic organism; and (b) a part only of an aquatic organism (including the shell or tail); and (c) live rock and live sand, but does not include aquatic mammals, aquatic reptiles, aquatic birds, amphibians or (except in relation to Part 3 and Division 1 of Part 11) pearl oysters.
IGAB	Intergovernmental Agreement on Biosecurity is an agreement

between the Commonwealth, State and Territory governments, with the exception of Tasmania. This Agreement was developed to improve the national biosecurity system by identifying the roles and responsibilities of governments and outlines the priority areas for collaboration to minimise the impact of pests and disease on Australia's economy, environment and the community. <http://www.coag.gov.au/node/47>

IMCRA	Integrated Marine and Coastal Regionalisation of Australia is a spatial framework for classifying Australia's marine environment into bioregions that make sense ecologically and are at a scale useful for regional planning. These bioregions are the basis for the development of a National Representative System of Marine Protected Areas (NRSMPA) (http://www.environment.gov.au/node/18075).
IMS	Invasive marine species.
IMO Biofouling Guidelines	International Maritime Organization 2011 Guidelines for the Control and Management of Ships' Biofouling to Minimise the Transfer of Invasive Aquatic Species. Marine Environmental Protection Committee (IMO-MEPC62), July 2011.
Immersible equipment	Any equipment that is routinely put into the water for an extended period of time but which can be readily removed and transported, which would otherwise not be considered as a component of the vessel from which it is deployed, including anchors, seismic spread well heads, acoustic seabed receivers, dredge heads, fenders, environmental monitoring equipment, buoys, moorings, seabed levellers, acoustic devices, remotely and autonomously operated underwater vehicles etc. It includes floating equipment, but excludes fishing equipment.
Management	A measure applied to protect animal or plant life, human health, or to prevent or limit other damage from risks arising from the entry, establishment or spread of pests and diseases, disease-carrying organisms or disease-causing organisms. Measures include all relevant laws, decrees, regulations, requirements and procedures (from the SPS Agreement).
Movable structure	A structure or installation deployed in aquatic environments that can be moved between locations. Movable structures include (but are not limited to) oil and other exploration rigs, floating dry-docks, pontoons, aquaculture installations, navigational structures. The cleaning and movement of aquaculture stock falls outside the scope of these guidelines and are covered in NSPMMPPI 2013.
National System	National System for the Prevention and Management of Introduced Marine Pest Incursions aims to prevent new marine pests arriving, guide responses when a new pest does arrive and minimise the spread and impact of pests already established in Australia (http://www.marinepests.gov.au/).
NEBRA	National Environmental Biosecurity Response Agreement is the first deliverable of the Intergovernmental Agreement on Biosecurity, and sets out emergency response arrangements, including cost-sharing arrangements, for responding to

biosecurity incidents that primarily impact the environment and/or social amenity and where the response is for the public good (<http://www.coag.gov.au/node/74>).

Pest	Any organism of the kingdoms Animalia (excluding human beings), Plantae, Fungi, Monera or Protista that has had an impact (i.e. significant negative consequences), or poses a likely threat of having an impact (from the IGAB).
Preparedness	Arrangements to ensure that, should an outbreak occur, all the necessary resources and services can be efficiently mobilised and deployed (from the NEBRA).
Prevention	Management strategies including regulatory and physical measures to ensure that outbreaks are prevented or their impacts mitigated, and includes pre-border, border and post-border activities (from the NEBRA).
Risk assessment	An evaluation of the likelihood and the impacts of entry, establishment, or spread of a pest or disease, as set out in the IGAB (from the NEBRA).
SIEV	Suspected Illegal Entry Vessel.
SPS Agreement	World Trade Organization (1994). Agreement on the Application of Sanitary and Phytosanitary Measures (http://www.wto.org/english/tratop_e/sps_e/sps_agreement_cbt_e/c1s1p1_e.htm)
Targeted asset protection	Protection of high-priority assets from the social, environmental or economic impacts of aquatic pests and diseases. High priority asset areas include State marine parks, lands and waters adjacent to A class reserves, pearling and aquaculture facilities, and ports.

8 REVIEW

This policy will be reviewed within two years of the date listed below.

Responsible Officer: Manager – Biosecurity Section, Aquatic Environment Branch

Date approved: 5th May 2014.

9 REFERENCES

- PricewaterhouseCoopers (PWC) (2011). Proposed Australian Biofouling Management Requirements, Consultation Regulation Impact Statement, Department of Agriculture, Fisheries and Forestry, Canberra.
- DAFF (2012). Anti-fouling and in-water cleaning guidelines. Department of Agriculture, Fisheries and Forestry, Canberra
- De Milliano, J.W., Woolnough, A., Reeves, A. and Shepherd, D. (2010). Ecologically significant invasive species: A monitoring framework for natural resource management groups in Western Australia. Prepared for the Natural Heritage Trust 2 Program, Department of Agriculture and Food, Western Australia, South Perth.
- Fletcher, W.J. and Santoro, K. (eds). (2012). Status Reports of the Fisheries and Aquatic Resources of Western Australia 2011/12: The State of the Fisheries. Department of Fisheries, Western Australia.

NSPMMPI (National System for the Prevention and Management of Marine Pest Incursions) (2013). National Biofouling Management Guidelines for the Aquaculture Industry, Commonwealth of Australia, Canberra.