



Government of **Western Australia**

Department of **Premier and Cabinet**
Department of **Treasury**
Department of **Agriculture and Food**
Department of **Regional Development**
Department of **Parks and Wildlife**
Department of **Fisheries**
Department of **State Development**
Forest Products Commission

SUBMISSION FROM THE WESTERN AUSTRALIAN GOVERNMENT AGENCIES

– INTERGOVERNMENTAL AGREEMENT ON BIOSECURITY REVIEW

Western Australia agencies appreciate the opportunity to provide a submission to the Independent review of the Intergovernmental Agreement on Biosecurity (IGAB).

Key Risks to Western Australia's Biosecurity System

Biosecurity incursions have the capacity to increase costs and disrupt export and domestic trade of agriculture, forest, aquaculture and commercial fishing as well as affecting our unique environment, biodiversity and social amenity. For example, Western Australia's unique biodiversity helps to underpin nature-based tourism in Western Australia, with over 18 million visits made in 2014-15 to national parks and other reserves, generating regional employment and income throughout the State.

It is important to note that Western Australia faces incursion risks directly from international movements and from the introduction of pests and diseases that have may have entered other states or territories and are transported into Western Australia via air, ocean transport and significantly land transport.

Continuous refinement and improvement of the system is important and the review of the IGAB is welcomed as an opportunity to reflect progress and what might need to change.

Introduced animal pests and weeds affect Western Australia's biodiversity through loss of habitat, predation on and competition with native animals, feeding on native plants and invading and out-competing native vegetation. Maintaining effective border controls is essential to prevent the spread of invasive species and their associated detrimental effects on Western Australia's environment.

A significant risk for environmental biosecurity is the limited availability of industry partners to contribute to the costs incurred by federal, state and local governments in undertaking control activities for environmental pests. While some species are accidental imports (e.g. *Phytophthora cinnamomi*), many have been deliberate introductions (cane toads, pasture grasses, exotic fish).

The funding mechanisms for biosecurity do not reflect the costs incurred by the public to control accidental or deliberately introduced species that threaten public amenity or conservation values. Changes to IGAB investment principles to reflect the true costs incurred by risk creators and better fund and coordinate environmental biosecurity would lead to improved outcomes.

Key issues relating to the themes in the IGAB discussion paper and scope

The IGAB and schedules (questions 1 to 3)

- The Western Australian agencies involved in biosecurity strongly support the purpose of the IGAB. IGAB and NEBRA are important tools for establishing a common vision and commitment to biosecurity between jurisdictions for management of pests and diseases (including zoonotics).
- Western Australia actively participates on the National Biosecurity Committee (NBC) which is charged with implementation of the IGAB schedules.
- The Agreement identifies priorities for collaboration to minimise the impact of pests and disease on Australia's economy, environment and the community, yet there is no real clarity on what constitutes a 'significant' pest or disease, or how such decisions are taken. Its focus is on the Australian system rather than state-based issues. There can be tension with this approach and not all jurisdictions have signed the current agreement as a result.
- The current framework does not inform how to deal with specific jurisdictional differences/requirements including regional difference (freedom from specific pests and diseases found in other jurisdictions) in status or risk. This matter is of significance and competitive advantage for Western Australia and some other jurisdictions and has been discussed at NBC recently. Whilst policy principles have been drafted at that NBC level the IGAB would be strengthened with the inclusion of mutually agreed principles to recognise differences in pest or disease status or risk, and the way these will be handled.
- The IGAB and NEBRA are less relevant or focussed on aquatic biosecurity than terrestrial risks, in part because there are no equivalent structures to Animal Health Australia (AHA), and Plant Health Australia (PHA) for engaging with industry. In addition, anecdotally NEBRA has been too complex to use during a response for marine pests, with no marine pest response triggering NEBRA to date. However, there is an aquatic cost-sharing deed (AqEADRA) in development.
- While IGAB and NEBRA are referred to by WA state agencies, the current IGAB and its implementation are focused on agriculture and food issues and the resources and energy applied to environmental biosecurity has been less, i.e. Environmental pest management falls between the cracks of other cost sharing arrangements (e.g. weed and livestock deeds). Consideration should be given to adding 'environmental biosecurity' as a priority area. The planned review of the National Environmental Biosecurity Response Agreement (NEBRA) may provide a way to address this, as NEBRA highlights the importance of responding to

environmental pests. However, the current NBC process for consideration of this matter has not led to clear outcomes and responsibilities.

- The current structure of IGAB has an industry focus. The national biosecurity system predominately revolves around import and export concerns as they relate to protecting the economy from the impact of exotic pests and disease and maintaining export market access. Whilst protection of the environment from the impacts of pests and disease is a stated function of IGAB, the structure does not adequately address potential threats to biodiversity values within and across jurisdictions. Consideration should be given to the establishment of an environmental impacts sub-committee to provide advice on environmental biosecurity matters. The scope of an environmental sub-committee should include consideration of introduced species that have become established or 'naturalised' and present major threats to the natural environment.
- Improved rigour, evidence based decision making and transparency is required around the measures for success and governance issues at all levels in the system, including clarity on the roles and responsibilities of the commonwealth and states and territories.
- Governance arrangements across the system are complex with numerous layers, and lack transparency for agencies and external stakeholders alike. For example, NBC has ownership of implementing IGAB priorities, however other related committees set priorities independently. Likewise, finding complete map of committees and their roles is not easy even to members, so must be very difficult for others to understand.
- IGAB should better emphasise coordination and clarity between state and Commonwealth jurisdictions, especially regarding roles and responsibilities. This would identify key gaps and avoid unnecessary duplication. For example, the new Commonwealth *Biosecurity Act 2015* includes new arrangements to manage vessel biofouling at the national level, and ballast water at the domestic level. However it is not yet clear how these will align with existing arrangements across jurisdictions which currently only manage biofouling at the state level (in some jurisdictions), and ballast water at the Commonwealth level. Similarly, there is confusion over biosecurity roles of state and commonwealth in relation to the 3 nm state waters boundary.
- The impact and progress made under the Schedules needs to be measured. Progress against the various schedules is inconsistent. Better progress seems to have been made when there is a clear common aim and some resources are put to drive them. Without a champion (and with frequent changes in senior appointments) it is challenging to make real progress. Alternatively, IGAB needs to match priorities to available resources better, especially in current financial context, as it appears overly ambitious number of priority areas. It may prove more effective to focus on a few especially outstanding risks at a time.
- In practice, NEBRA may not be practical, or may be implemented very unevenly, particularly in relation to aquatic biosecurity. For example, NEBRA requires states to maintain preparedness arrangements, including capacity and capability, for emergency response to incidents of nationally significant pests and diseases (NEBRA, p14). However there is great disparity in resources and prioritisation of aquatic biosecurity management across jurisdictions, and currently there is no list

for nationally significant marine pests, leading to large inconsistencies of effort and management across the country.

- Western Australia has reviewed progress against schedules two to eight and the following comments are provided.

| SCHEDULE | COMMENTS |
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| <p>Schedule 2</p> <p>National Decision-Making and Investment Framework</p> | <ul style="list-style-type: none"> • Incomplete • Sound work completed for National Funding Model Framework. National Framework for Cost Sharing Biosecurity Activities and principles for national portfolio investment agreed at IGAB Implementation Taskforce level however actual implementation of these models, principles and frameworks is yet to be agreed. • The stocktake of national investment has been conducted effectively for two years. • Risk assessment, and in the main the priority reforms areas, in schedule 2 have not been achieved. |
| <p>Schedule 3</p> <p>National Biosecurity Information Framework</p> | <ul style="list-style-type: none"> • Some progress on standards has been achieved. • Recent Agriculture white paper and funding of \$20 million for Information system enhancements noted. • The majority of the jurisdictions are moving to a single platform (MAX) for emergency management. • Sharing of data between commonwealth and jurisdictions remains problematic. |
| <p>Schedule 4</p> <p>National Surveillance and Diagnostic System</p> | <ul style="list-style-type: none"> • Reasonable progress on national surveillance and diagnostic systems. • White paper funding for northern Australia's biosecurity framework will support increased surveillance in the north. • Diagnostic infrastructure for animal disease is considered to be mature; consolidation of infrastructure has occurred in most jurisdictions. • Plant area is less advanced in terms of assurance of effectiveness against capability and surge capacity. |
| <p>Schedule 5</p> <p>National Management Framework for</p> | <ul style="list-style-type: none"> • Good progress on prioritisation of pest and disease framework. • National framework developed and approved and being implemented through the invasive plants and |

| | |
|--|--|
| Established Pests and Diseases | <p>animal committee and cross sectorial committees.</p> <ul style="list-style-type: none"> • The focus has been on vertebrate pests and weeds. |
| Schedule 6 National Engagement and Communication Framework | <ul style="list-style-type: none"> • National communication framework developed. • Recent round table workshops in each jurisdiction effective but more work is required. • Behavioural change will take a long time to come into effect. |
| Schedule 7 National Emergency Preparedness and Response Arrangements | <ul style="list-style-type: none"> • Reasonable progress. • Variations in investment in different jurisdictions based on opportunity (e.g. resourcing) • Further exercise and training will require significant resources to maintain capability. |
| Schedule 8 National Biosecurity Research, Development and Extension Framework | <ul style="list-style-type: none"> • Strategic research, development and extension cross sectorial strategies developed but implementation is patchy. • Coordinated research, development and extension is mostly through existing (time bound) Plant and Invasive Animals CRCs. A new model should be considered. |

Agreeing to risks, priorities and objectives (questions 4 to 8)

- There is a need for greater attention and agreement on the key risks at the national level by sector (plant and animal sectors, marine, invasive species sectors) and/or by consideration of potential major risks from a systems perspective. The application of professional risk management processes and expertise across the system could then better inform the application of effort and resources on a priority basis.
- Greater emphasis needs to be placed on prevention in the new NBC priorities, which seem to focus heavily on emergency response and surveillance. While early detection and eradication is a key focus of aquatic biosecurity, prevention is far more important and resource efficient, especially in aquatic systems. Once a marine pest enters an open system, such as the ocean, eradication or containment is highly unlikely to be successful. This is particularly true for mobile species such as finfish and comb jellies. A pertinent example is provided as an environmental pest case study (Attachment 1). The Department of Fisheries has approached this issue by working with stakeholders and industry to develop strategies, tools and standards that empower them to manage pre-border and post-border risks. For example, the online, freely available “Vessel Check” vessel biofouling risk assessment tool.

- There is a tendency for some high profile pests (e.g. wild dogs) to become politicised and resource allocation may not be commensurate with impact, whilst other equally or higher impact pests (e.g. starlings in Western Australia) and diseases may receive less attention.
- Strong surveillance and rapid response systems are needed Australia-wide to ensure that new incursions are quickly addressed.
- Adherence by the Commonwealth government to consultation mechanisms is a high priority. For example, recent consultation processes with the States on the draft determinations and BICON (which specify import conditions) under the Commonwealth *Biosecurity Act 2015* highlighted the need to accommodate biosecurity issues critical to Western Australian industries and environment.
- The National biosecurity system requires review to ensure that high-risk environmental biosecurity concerns are adequately addressed within our border security system. In particular, the review should identify gaps in pathway and risk analyses. A nationally consistent method for assessing biosecurity risk in relation to environmental biosecurity should be adopted. Prioritising environmental threat risks presents inherent difficulties and potential exotic threats are numerous and diverse. An effective method of prioritising environmental pests or the potential of environmental pests should be developed, as 'lists' are unlikely to be feasible or effective.
- A nationally consistent methodology for incorporating the potential impacts on the environment when undertaking cost-benefit analyses on biosecurity incursions would be required.
- There is general agreement on the importance of preparedness and emergency response and management. Agreement about how to measure success in emergency preparedness and response and recommend the development of performance standards is required.

Embedding shared responsibility (questions 8 and 10)

The Beale Review in 2008 recommended extending the Commonwealth reach in legislation; a national biosecurity agreement; independent science based decision making; a national biosecurity authority; shared responsibility in planning and funding with industry defining an appropriate level of protection for Australia; balancing risk and return; ensuring the integrity of the system and resourcing the biosecurity system. While some of its recommendations have been actioned others have had little or no action. There has been no agreement yet on shared responsibility for surveillance strategies between industry and government.

- Transparency in operational processes is an area for improvement. Western Australia has valuable regional assets and protects its interstate border by investing in a border biosecurity system that is analogous to that of the Commonwealth protection of Australia's international border. In order to encourage cooperation to strengthen the biosecurity of Australia and Western Australia both border protection systems need to communicate in an open, transparent and timely way e.g. currently there is no obligation for the Commonwealth to share reports on biosecurity breaches/post-border detections

and border interceptions of pests and diseases that might impact Western Australia's biosecurity status to their Western Australian counterparts. Open, transparent and timely information exchange between the Commonwealth and Western Australian governments is critical to early detection and response. Early responses increase the likelihood and cost effectiveness of eradication of the pest or disease.

- Western Australia supports and encourages government, industry and community groups to understand their roles and participate in biosecurity management. This work is ongoing. The work of the Western Australian Biosecurity Council in engaging with these groups to come up with agreed roles and responsibilities has informed role statements in the Western Australian Biosecurity Strategy and is recommended to the Panel as a good starting point. The Department of Agriculture and Food (Western Australia) and Department of Fisheries have a number of projects that engage with community and industry in their roles of surveillance reporting and decision making for managing biosecurity threats.

Funding biosecurity (questions 11 to 15)

- Government's aim should be to focus its investment to the left hand side of the invasion curve for preparedness and response measures (for agriculture and fisheries, and commercial forestry).
- Progress on acceptance by industry of responsibility and funding mechanisms for established pests and diseases and areas of regional difference (i.e. non-exotic pest and diseases) has been slow and relies on state legislation to support implementation. Western Australia has a number of Industry Funding Schemes and a mechanism for industry to partner with government through Recognised Biosecurity Groups under the BAM Act, and the APC Act to support industry contributing to biosecurity management, but not all states have equivalent mechanisms. The Commonwealth shows a reluctance to impose new taxes and charges in this field.
- Clearer roles and innovation in mechanisms for attracting and securing industry funding or other additional resourcing would assist in this space. This would include consideration of national mechanisms for industry to invest in areas of regional difference or endemic issues important to industry.
- The actual investment by industry is hard to quantify and may include a range of 'in-kind' contributions.
- The investment principles for funding biosecurity espouse cost sharing arrangements that are generally not workable for environmental biosecurity. Cost-sharing arrangements may be accommodated by industries for whom there are demonstrable financial benefits associated with the biosecurity measures. However, with environmental biosecurity the benefits are generally considered to be a 'public good' and the environment is considered a 'risk beneficiary' (e.g. benefits from reducing risks associated with invasive species). However, it is not apparent how those organisations with an interest in the environment could effectively implement pre- and post-border biosecurity measures or implement

effective surveillance and reporting mechanisms with limited funding and disjointed oversight.

- Potential new funding arrangements for all biosecurity activities should be explored, and might consider a levy on risk creators to be directed toward funding a body that is responsible for environmental biosecurity.

Market access (questions 16 to 18)

The *Biosecurity Act 2015* and its 'covering of the field' in relation to import conditions could have an impact on Western Australia's freedom from specific pests and diseases which are widespread or present in other jurisdictions.

Western Australia is free from many pests and diseases that are present in other states and territories in Australia supported by a natural geographic advantage and a robust border biosecurity system equivalent to Australia's border biosecurity system. This position provides Western Australia's agrifood industry with competitive market access in some areas.

Australia's biosecurity system is world-leading and underpins the international market access for Australia's exports of agriculture and food products. The system is constantly challenged and exotic incursions do occur at national borders and these are usually managed through national deeds which specify industry, commonwealth and state contributions.

- Regional freedom and the advantages/benefit that market access can bring to jurisdictions (independently and collectively) needs to be recognised and opportunities embraced.
- There is a maturing in understanding of regional freedom status and of the importance of pest and disease, chemical and residue freedom in Australia's competitiveness in market access.
- This competitiveness is currently world-leading but cannot be taken for granted. The nexus between Australia's biosecurity system and market development and access needs to be strengthened and leveraged; and systems continually improved to capitalise on market opportunity. Priorities and activities could form part of the work to inform and develop a new market access system that engages both biosecurity knowledge and evidence and market development expertise.
- The current approach across and within some jurisdictions is fragmented. More clarity on the expectations of the surveillance and diagnostic systems needed to underpin market access is needed, as well as agreed mechanisms to for appropriate information sharing.

The role of research and innovation (questions 19 to 21)

- The impact of research, development and extension in biosecurity should be measured and innovation outcomes such as system quality improvement should be pursued i.e. a focus on traditional research, development and extension is short-sighted and a broader scope is required.

- Research could be conducted on the value of having market access trade zones that support area freedoms.
- It is agreed that industry-based R&D should continue to play a role, however the concept of a national biosecurity funding mechanism is supported. Leverage of dollars is essential to promote effective collaborative approaches to research, development and extension/innovation. A commonwealth underwritten/supported Biosecurity Research, Development and Extension Fund would benefit the country by maintaining sustainable capacity and capability, especially in light of the fact that the national CRC model has changed and there has been no significant source of commonwealth funding for animal biosecurity (aka Australian Biosecurity CRC for emerging infectious diseases) since 2009 and the Plant Biosecurity CRC will not be funded beyond 2018. Attention should be paid to the new model mooted for the next iteration of the Invasive Animal CRC to measure its success. There is significant good will, expertise and skills amongst the Universities, CSIRO and DAFWA in Western Australia to contribute to biosecurity research, development and extension.

Measuring the performance of the national biosecurity system (questions 22-24)

- Agreed return on investment and measures of impact approaches are not established for the system. Return on investment work in Western Australia indicates the return can be high. Establishing agreed values would be a very useful tool for promoting public awareness and attracting government, industry and community buy-in to support and contribute to the system.
- National minimum standards for data collection should be established to allow data from multiple sources to be collated and examined.
- Attempts to consider risk and resources application across sectors have been problematic at NBC and at jurisdictional levels, and continues to lead to a level of subjective apportioning of resources, or in some cases to politicising of resources application. This is compounded by the lack of clear key performance measures indicators or measures.
- Measures at present are often activity measures rather than impact measures. Measures of impact could include benefits, for example absence of incursions or pests and diseases, ability to eradicate incursions and the costs of this, return on investment across sectors, and market access (value) enabled. Clarifying the benefits and impacts of the system is essential.
- More resources and stronger performance accountabilities are required to drive improved governance and effective measurement of progress against the schedules.
- The NBC has recognised that its work is not transparent to all stakeholders. In terms of achieving outcomes related to the Schedules commitment to outcomes within available resources would assist. Additional resourcing would improve the NBC's effectiveness, impact and efficiency of biosecurity systems, improve and governance.

Consideration of the Scope of the Review

- 1) Covered in comments
- 2) Western Australia supports the Agreement with adjustments
- 3) Covered in comments
- 4) Supported
- 5) Covered in comments
- 6) Covered in comments
- 7) Covered in comments

Attachments

Attachment 1 – Case study of an environmental aquatic pest, the white colonial ascidian *Didemnum perlucidum*.

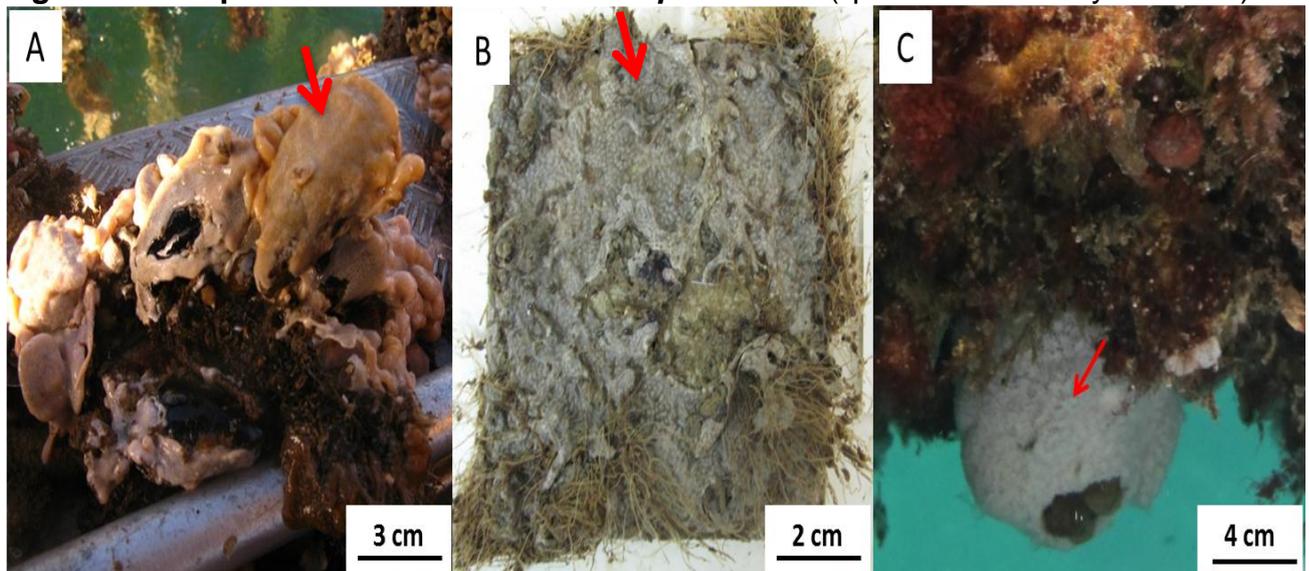
ATTACHMENT 1: Case study of a marine pest - *Didemnum perlucidum* in Western Australian waters

Introduction

The white colonial sea squirt, *Didemnum perlucidum*, serves as a cogent example of the significant challenges in managing marine pests.

This species was first detected on settlement plates in the Swan River, Western Australia (WA) by researchers in 2010 and again in 2011, when it was found at both the Swan River and Hillarys Boat Harbour (Smale and Childs, 2011). However, it only came to the Department's attention in 2012, from a report following its detection during a national standard invasive marine pest survey of Fremantle port and surrounds, by the Department in 2011. At the time little was known about the species, and there was confusion over its pest status, in part as it was thought to be a possible cryptogenic species. Adding to this context, two existing national marine pest list (National CCIMPE Trigger List and monitoring target list) listed *Didemnum* spp., rather than this organism specifically. However, by mid 2012 *D. perlucidum* was classified as an invasive marine pest in State waters by the Department. The same year *D. perlucidum* was detected and confirmed in multiple locations along the Western Australia coastline including Dampier, and near Barrow Island, as well as on vessels at Exmouth. By 2014 *D. perlucidum* had been confirmed in Esperance and Henderson, Albany, Exmouth, Geraldton, Onslow, and Rottnest Island.

Figure 1: Examples of the various forms of *D. perlucidum* (species indicated by red arrow).



Impacts

This marine pest is identified as having extreme environmental, moderate business and low societal impacts by the Department. This pest reproduces prolifically, both sexually and by asexually by fragmentation, throughout the year.

However, little was known about this species to begin with and significantly it has displayed different distribution and growth characteristics than expected based on available scientific advice. For example, although thought to be a tropical species,

D. perlucidum has been found growing and reproducing in more temperate areas such as Hillarys Boat Harbour, and as far south as Albany and Esperance on the south coast.

Also, in 2013 a pest survey of the lower Swan River down to Cockburn Sound found *D. perlucidum* to be the most abundant IMP present in the Fremantle area, and growing over natural substrates previously thought to be safe from this species (See Figure 2). Due to these unpredicted growth characteristics impacts are difficult to predict and may be worse than anticipated. So far impacts seen include smothering of sea grasses in the Swan River, and heavy fouling by *D. perlucidum* on aquaculture and pearling infrastructure in the Kimberley, which can significantly increase costs of cleaning. Mussel growers in Cockburn Sound have also expressed concern about heavy fouling of lines with *D. perlucidum*.

Management

General movement controls were considered at an early stage to stop the spread of *D. perlucidum*. However, this was quickly discounted as impractical and ineffective given the increasingly wide distribution around the state, and the huge restriction on industry even at targeted locations. The Department's focus quickly moved to understanding the species better, and developing and trialling cost effective control and local eradication measures to protect high priority assets such as Marine Protected Areas, pearling and aquaculture leases, the Montebellos and Abrolhos Islands, where reinfection could potentially be managed.

More recently, following the detection of *D. perlucidum* in 2015 at the Abrolhos Islands in limited areas on artificial structures, trials were conducted to try and eradicate or control the pest at this location. In addition, an attempt was made to limit reinfection by providing clean vessel advice to vessel owners travelling to the Abrolhos, asking them to manage biofouling to prevent further spread of this pest to the islands. The control trial continued from 2015 to early 2016, and provided useful information around the use of wrapping techniques to smother the pest. However, ultimately, the trial not successful in removing *D. perlucidum* from all infected areas, very heavy reinfection continued from previously unknown infrastructure entering the area. The trial was halted, and *D. perlucidum* is now considered established at the Abrolhos Islands.

Challenges and Learnings

As well as the confusion over the pest status of *D. perlucidum*, this pest posed multiple challenges to being successfully management, including:

- Prolific reproduction by both sexual and asexual means i.e. tiny fragments from *D. perlucidum* in vessel fouling can easily move the pest around the state
- Difficult to identify in the field, even by taxonomic experts, as there are many similar looking native Didemnids, and the species are not well described. A molecular test had to be developed to give confidence in identification. This also prevented involving the public in surveillance activities.
- The pest is of varied appearance depending on its location and environment. It can be a range of colours (pink, brown, white, yellow) and forms (flat or bulbous) (See Figure 1).

- The pest didn't behave as expected. Considered a tropical species in scientific literature, it also grows and reproduces in temperate areas in WA. Described as a fouler of artificial structures, it was also found growing on natural substrates in WA.

These factors combined to make management of this prolific, unexpected pest highly problematic, and eradication impossible. In addition, it was detected too late for decisive action and now is throughout the state (See Figure 3 for known distribution as of late 2015). Confirmed detections have also been made in NSW and NT.

The establishment of *D. perlucidum* in Western Australia is a cautionary tale that emphasises the importance of prevention and early detection, which increase the chance of a timely, cost-effective response and successful outcome. To prevent pests like these establishing, strong regulation and tools are needed to stop them arriving in the first place, for example:

- Promotion of good vessel management to reduce fouling and therefore the risk of marine pests being present and moved around.
- Having a clear regulatory framework, flexible enough to deal with new pests that arrive but are not on any existing lists, or well understood.
- Molecular tools that can easily and quickly identify difficult species such as *D. perlucidum*
- Good information sharing around the country, to raise awareness of new pest detections.

Figure 2: *D. perlucidum* growing on natural substrates in the Swan River, WA.

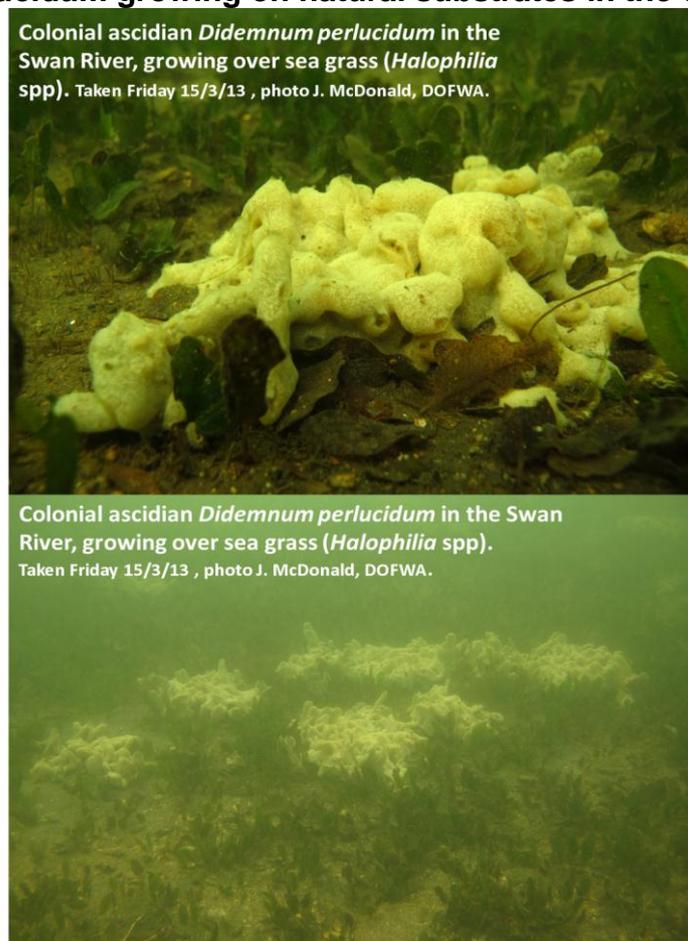
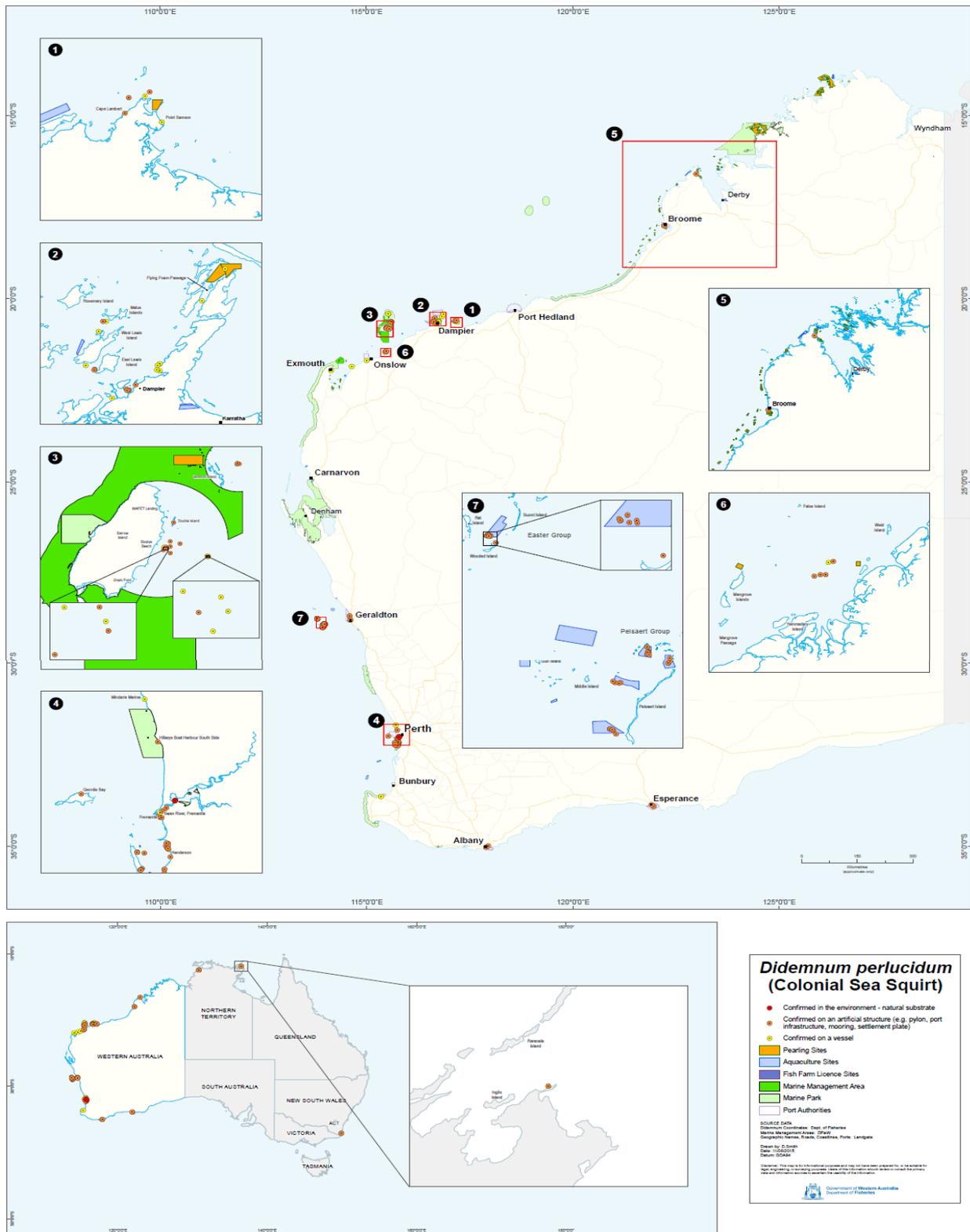


Figure 3: Distribution of *D. perلucidum* in Western Australia (as at August 2015).
 Also available at: <http://www.fish.wa.gov.au/Sustainability-and-Environment/Aquatic-Biosecurity/Vessels-And-Ports/Pages/Managing-Didemnum-perلucidum.aspx>



References

Smale, D.A. & Childs, S. Biol Invasions (2012) 14: 1325. doi:10.1007/s10530-011-0167-8