

DPI Primefact

A guide to help local government embed aquatic biosecurity into a coastal management program

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DPI Aquatic Biosecurity, Animal Biosecurity, Biosecurity and Food Safety

Good biosecurity practices protect our aquatic environment from pests and diseases that can devastate ecosystems and cause significant damage to our economy, environment and lifestyle.

What is Aquatic Biosecurity?

Aquatic biosecurity is about protecting the economy, human health and the environment from aquatic pests, diseases and saltwater weeds.

Why is Aquatic Biosecurity important?

Introduced aquatic pests and diseases threaten the plants and animals of NSW waterways by damaging the natural balance of aquatic ecosystems. To help reduce the spread of pests and diseases and enable early detection to support effective management action where needed, everyone needs to practice good biosecurity.

Marine pests and diseases once introduced can have a serious effect on our way of life. They can:

- affect human health
- compete with native species
- damage coastal areas and structures
- restrict access to waterways, ports and marinas
- spread disease.

Historical outbreaks of marine pests and diseases in NSW have shown major adverse impacts on aquaculture, production, employment, and quality and reputation of seafood. There are also tangible impacts on Aboriginal cultural heritage as environmental degradation can impact on spiritual connections e.g., totemic species, culturally significant species, links to Country and food sources (TARA)¹.



Figure 1 Boats in the marine estate

Aquatic pests and diseases in NSW

Over the past 200 years, many marine pests have been both intentionally and accidentally introduced into NSW, and it is still happening today. These species arrive from interstate or overseas and invade the marine environment. Some introduced marine animals and seaweeds are regarded as marine pests.

Marine pests are plants and animals that are not native to a region. Pest species can threaten indigenous aquatic species directly as predators and/or competitors for food or space, or indirectly by altering the natural habitat. It is believed pests contribute to the decline of some threatened native species.

Introduced pathogens and parasites can also threaten native biodiversity by causing diseases in native species. Monitoring and management of aquatic animal diseases is important not only for environmental reasons but to support our aquaculture industry, wild capture fisheries and the ornamental (aquarium) species industry.

Information on known pests and diseases across catchments in NSW can be found on the NSW DPI website Aquatic Pest and Disease Distribution map:

<https://www.dpi.nsw.gov.au/fishing/aquatic-biosecurity/pests-diseases/pest-disease-distribution>



Figure 1 A yacht having biofouling removed (Photo: Midcoast Boatyard & Marine)

Promoting Aquatic Biosecurity

Our economy, environment and community are all dependent on good biosecurity measures and local councils and their communities can play a key role in strengthening these measures.

Shared responsibility

Under the *Biosecurity Act 2015* there is a general obligation on people to be aware of their surroundings and take action to prevent the introduction and spread of pests, diseases, weeds and contaminants. This is called the “General Biosecurity Duty” and is outlined in Part 3 of the Biosecurity Act.

When people are using NSW waterways for fishing or other activities, they have a responsibility for managing biosecurity risks that they know about or could be reasonably expected to know about. There is not an expectation to know about all biosecurity risks, but you are expected to know about risks associated with your industry, business, day-to-day work and hobbies.

Reporting

All community members are encouraged to report suspected aquatic pests and diseases to NSW DPI Aquatic Biosecurity through any of the following:

- Calling the 24-hr Emergency Animal Disease Hotline: 1800 675 888

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- Online via: <https://www.dpi.nsw.gov.au/fishing/aquatic-biosecurity/reporting>
- Email: aquatic.biosecurity@dpi.nsw.gov.au

The key to successful eradication or containment of a marine pest incursion is early detection. The local community has the best knowledge of their area and therefore plays a key role in early reporting of any unusual or suspect pests and diseases.

Embedding Aquatic Biosecurity in a Coastal Management Program

Incorporating aquatic biosecurity into your Council Coastal Management Program (CMPs) supports objectives outlined in the Coastal Management Act 2016, in particular the protection and enhancement of natural coastal processes and coastal environmental values. Keeping the marine environment free from aquatic pests and diseases supports ecosystem integrity and resilience and maintains the environmental, social and economic value of the coastal zone.

Aligning relevant CMP actions (such as enhancing estuarine health and improving biodiversity) with aquatic biosecurity practices may assist in coastal management.

Developing good biosecurity practices in a local context through CMPs may contribute to minimising the potential impact of aquatic pests and diseases and ensuring. The following ideas may assist local government to embed aquatic biosecurity into a CMP at each preparation stage, where relevant:

Stage 1: Identify the scope of a CMP

- Recognise marine pests and diseases as a key threat to the coastal environment in your region.
- Consider incorporating community education and involvement as an activity to increase general awareness of aquatic pests and diseases.
- Identify key stakeholders including aquatic industries (e.g., commercial fishing, aquaculture, boat servicing providers, marine tourism operators) and recreational waterway users within your coastal management area as key stakeholders in your consultation strategy.
- Refer to NSW DPI marine pest (www.dpi.nsw.gov.au/fishing/aquatic-biosecurity) and Australian Government Marine Pest (www.marinepests.gov.au) information to inform and identify potential threatening species. Check out the online marine pest map at <https://www.dpi.nsw.gov.au/fishing/aquatic-biosecurity/pests-diseases/pest-disease-distribution> to see a list of key marine pests in your area.
- Consider any threatened species/environments within your coastal management zone that may be impacted by introduced pests and diseases.



Figure 2 Asian green mussels (*Perna viridis*) has previously been detected in QLD and on several internationally arriving vessels in Australian waters.

Stage 2: Determine risks, vulnerabilities and opportunities

- Engage with identified stakeholders including aquatic industry representatives.
- Engage with DPI Aquatic Biosecurity team for assistance with identifying key risks, vulnerabilities and opportunities to incorporate biosecurity into your plan.

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- Adopt information and products available through NSW DPI Aquatic Biosecurity program to engage with community and key stakeholders (explain the risks and benefits of adopting good management practices).
- Consult and collaborate with NSW DPI to identify potential opportunities and shared goals e.g., education programs, active promotion of voluntary compliance with biosecurity measures (promotion of biosecurity risks and active participation by the community).
- Identify potential pathways for the introduction of marine pests/diseases in your area. For example, consider:
 - Boats and gear that carry “hitchhikers” on hulls and niche areas especially when moving between waterways
 - Hulls, anchors, chains can become fouled with marine organisms with moored boats needing regular cleaning and maintenance.
 - Mooring and marine infrastructure such as marinas are also susceptible to marine biofouling and require regular cleaning.
 - Boat and yacht ballast can transport organisms - sometimes quite long distances depending on how the vessel is used.
 - Fishers could use inappropriate bait or burley e.g., human food scraps or bait brought from outside NSW.
 - Aquarium owners could release pest animals or weed through cleaning or deliberate release when no longer wanted.
 - Community members could “free” live animals intended for human consumption for cultural or ideological reasons.
- Determine if council facilities could be enhanced to address biosecurity risks:
 - Provide bins in waterfront areas so unwanted fishing catch, bait, debris from cleaning and human seafood scraps can be easily disposed of into landfill.
 - Provide spaces to hose boats and gear on exit at boat ramps to ensure any pests and diseases are not transported to other waterways.
- Ensure biofouling is appropriately managed on council owned marine infrastructure such as recreational boating facilities, pontoons, jetties and wharves. Refer to the national biofouling management guidelines for best practice measures including educating staff and customers on marine pest risks and watching for and reporting pests:
<https://www.marinepests.gov.au/commercial/port-marina/biofouling-guidelines>
- Document and know your local area to enable early detection and reporting of exotic species.



Figure 3 Asian shore crab (*Hemigrapsus sanguineus*) is not currently recorded in NSW but has been recently detected in VIC and if introduced here could compete with and prey upon native fish, crabs and shellfish

Stage 3: Identify and evaluate options

- Access and collate information on available through NSW DPI (www.dpi.nsw.gov.au/fishing/aquatic-biosecurity), Commonwealth Department of Agriculture, Water and the Environment (www.marinepests.gov.au) and relevant scientific literature.

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- Evaluate the identified management actions, considering their feasibility, viability and acceptability to stakeholders.
- Determine your preferred management actions and priorities.
- Engage with DPI Aquatic Biosecurity and DPI Fisheries and any other relevant public authorities around any implications for assets/responsibilities.
- Identify potential funding opportunities, pathways and timing of management actions.
- Prepare your business plan for implementation including considerations for aquatic biosecurity management.

Stage 4: Prepare, exhibit, finalise, certify and adopt the CMP

- Document engagement with DPI Aquatic Biosecurity team and other key stakeholders and keep them informed of the CMPs progress.

Stage 5: Implement, monitor, evaluate and report

- Engage with key stakeholders to participate and assist in project delivery.
- Develop monitoring indicators to evaluate and report on aquatic biosecurity measures.
- Inform stakeholders and the broader community of the outcomes of aquatic biosecurity actions taken e.g. people engaged through education programs, infrastructure developed/maintained to address biosecurity risks, reporting of suspect pests/diseases to NSW DPI.

Who can I contact for more information?

For more information on aquatic pests or diseases or on NSW Department of Primary Industries aquatic biosecurity programs, contact:

DPI Aquatic Biosecurity Program

Port Stephens Fisheries Institute

Nelson Bay NSW 2315

P: 02 4916 3900

E: aquatic.biosecurity@dpi.nsw.gov.au

W: www.dpi.nsw.gov.au/fishing/aquatic-biosecurity

References

¹NSW Marine Estate Threat and Risk Assessment Report – Final Report August 2017, BMT WMB Pty Ltd for Marine Estate Management Authority (MEMA)
https://www.marine.nsw.gov.au/_data/assets/pdf_file/0010/736921/NSW-Marine-Estate-Threat-and-Risk-Assessment-Final-Report.pdf

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