Department of Primary Industries
Department of Regional NSW

DPI Primefact

What to include in your Aquaculture Biosecurity Plan

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DPI Aquatic Biosecurity, Animal Biosecurity, Biosecurity and Food Safety

The following checklist will help you to build your enterprise level Aquaculture Biosecurity Plan. To further support biosecurity management planning for your business, refer to the templates, guidance, and applicable sector-specific references in the resources section at the end of this document.

Biosecurity planning will help you; your staff and visitors prepare for and understand how to reduce risks to your aquaculture business and support a rapid response to any suspect disease.

It is recommended that you also consider getting together with other farmers in your area to develop a plan for your estuary or region.

Cover page with key details

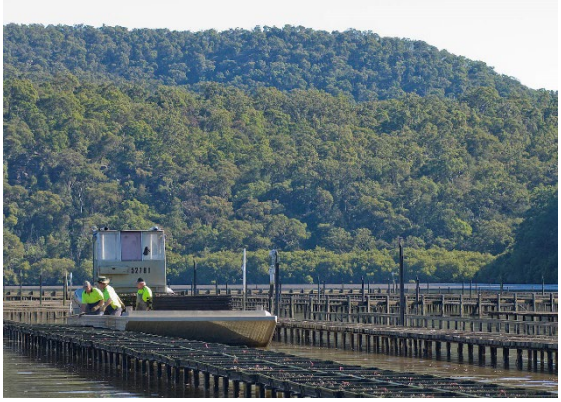

Figure 1 Oyster farmers working on an oyster lease with tray cultivation

- ☐ Contact details for the business, including trading name, company name and directors'/owners' and managers' names and email addresses and phone numbers for each
- ☐ The physical address of any land-based facilities for the business, including both street address and lot/DP number details
- ☐ Reporting details of who to call for suspect pest or disease outbreaks. Include the 24-hour Emergency Animal Disease Hotline 1800 675 888 and your aquatic veterinarian or consultant's contact details.
- ☐ All permit numbers including classes/types held by the business
- ☐ The version number and date the plan was written, with a brief description of changes from the previous version, to help ensure that everyone uses the most recent version
- ☐ Set a review date for the plan preferably annually but at least every two years. Review it more often if significant changes to operations (e.g., species or cultivation area) or emerging risks occur. Consider listing trigger points for an earlier review
- ☐ Add a contents page with clear headings to save valuable time when you need it the most

What your business looks like

- ☐ Species cultivated. For each farm write a list of all permitted species (including live feeds) that you intend to cultivate prior to the next update of your plan. Include whether they are kept as broodstock or in a nursery or grow-out areas

- Contact details of your suppliers and markets for your species
- A map of the general location of your business operations including: the nearest town/s or suburb/s; natural and man-made waterways; and nearby aquaculture businesses
- A clear sketch or diagram/s of your business operations, with written descriptions to cover the following:

For leases over public water include:

- type/s of cultivation material
- location and density of cultivation within the lease
- any land-based facilities associated with the business, showing proximity to waterway, storage, and work areas (e.g., culling, grading, treatment, processing) and waste management for wastewater and solid wastes

For land-based aquaculture include:

- boundaries, including clear indication of the area the biosecurity plan applies to
- detailed information about access points to aquaculture site. Include information about authorised access only entry points, and those access points that are locked outside of business hours
- water source and details of treatment prior to use, including screening, disinfection, settlement, filtration and ozonation
- water reticulation plan - ideally should show water intakes in blue and water outlets in red to signify the higher risk associated with outlet water

Figure 2 Land based aquaculture farm

- unique identifiers for each component of the farm (e.g., building or shed name, tank number, pond number)
- water capacity of each pond, tank and raceway
- internal details of buildings (e.g., position of rooms, doors, tanks, signage and decontamination)
- internal roads, parking and delivery drop off/pick up zones
- equipment storage areas, vehicle and equipment cleaning and decontamination areas
- wastewater storage areas and capacity, and details of ability to treat bulk wastewater even if it is not routinely done

Risk analysis

Risk analysis is broken into hazard identification, risk assessment and risk mitigation. It is an important tool to describe the potential hazards (e.g., a pest or disease) that could impact your business, estimate the likelihood of entry of a hazard into your aquaculture area, the consequence if the hazard occurs, and importantly, what biosecurity management practices can help reduce the likelihood and impacts.

Hazard identification

This refers to the pest or disease.

- Use a table to record name, type (e.g., bacteria, parasite, virus), known distribution, transmission, impacts on aquaculture operations and references for pests and diseases that can impact the species cultivated under your permit. Include those:
  - already known to be present in NSW (endemic) and those in Australia that are not yet known to be present in NSW
  - listed on Australia's National List of Reportable Diseases of Aquatic Animals or as Prohibited Matter under Schedule 2 of the NSW Biosecurity Act 2015, or Notifiable Matter under Schedule 1 of the Biosecurity Regulation 2017

Risk assessment

Use a risk assessment template such as the one listed in the resources section to estimate and record the following:

- Transmission pathways - the ways that a pest or disease could enter, spread within, or leave your farm.

Divide the pathways into:

- entry onto site/business
- spread within site/business
- exit to surrounding areas, e.g., external/other industry or the environment

Include entry and spread by (following are examples only):

- water – water source, water transporting animals, outlet water
- animals – farm stock or adjacent finfish, oysters, etc., feral animals, vermin, pets, birds, parasites
- people – staff, delivery personnel and other visitors
- equipment – hand-held devices, vehicles and vessels
- feed – purchased and naturally occurring
- waste – solid and liquid wastes

- Likelihood estimate –a ranking that describes how often an event (pest or disease) might occur, e.g., from Almost certain to Rare
- Consequence estimate – a ranking of the impact if the event was to occur, e.g., from Insignificant to Extreme
- Overall risk estimate – calculated using the risk matrix provided with the risk assessment template and the estimated rankings for likelihood and consequence

Note: the overall risk estimate is usually calculated under current measures, and for proposed new biosecurity measures. It can also be used to estimate the impact if no risk mitigation measures were in place.

Risk mitigation

These are the measures in place to reduce the risk and impact of a potential hazard. Note – following are examples only:

- Physical measures – separate quarantine facilities, separate equipment in different areas, screening, filtration and ozonation
- Procedural measures – standard operating procedures (SOPs) for business as usual and in the event of a disease outbreak (for SOP templates see "Aquaculture Farm Biosecurity Plan – generic guidelines and template")
- Training and site induction – including pre-site questionnaires, other biosecurity preparedness activities
- Record keeping – mortalities, water quality analysis, checks on integrity of screens and filters and whether treatments such as ozonation are working at required rates
- Reporting – when to report, who to report to (24-hour Emergency Animal Disease Hotline **1800 675 888** and your aquatic veterinarian)
- Person/people responsible for each of the measures within the plan – all staff responsible for reporting, following standard operating procedures, and record keeping; business manager responsible for staff training and site induction and, along with permit holder/s, for ensuring the plan is being updated and followed.

Consider all users of the plan

To get the most out of your biosecurity plan make sure that the relevant details are accessible to all those that need them:

- Your staff need to know the risks, their responsibilities, how and when to report mortalities and suspicions of disease. It is not only your business at stake but also their own job security. There is significant benefit in involving them in developing the plan.
- Government employees coming on the farm to assist in an emergency response need easy access to many of the details you take for granted (such as exact location, direction of water flow, and tank, pond and wastewater capacities) that can be vital to a rapid response.
- Other visitors need to understand the simple steps they can take to help you minimise biosecurity hazards being allowed to enter onto your farm.

What resources are available to help me write/update my plan?

- Disease management in aquaculture webpage, including links to templates and publications such as "Diagnosis, treatment and prevention of the diseases of the Silver Perch" and other resources on the NSW DPI website at: https://www.dpi.nsw.gov.au/fishing/aquatic/animal-health/aquaculture
- "Aquatic Animal Diseases Significant to Australia: Identification Field Guide, 5th Edition" (also available as an App), "Aquaculture Farm Biosecurity Plan –generic guidelines and template" and other, sector-specific guidance on the Department of Agriculture webpage: https://www.agriculture.gov.au/animal/aquatic/guidelines-and-resources
- Search "Your role in Biosecurity" on the DPI website: www.dpi.nsw.gov.au
- Research pests and diseases relevant to your cultivation species
- Your aquatic veterinarian or consultant
- Talk with your staff and other industry members to help reduce the risks to your whole industry
- Check with industry representatives for any upcoming workshops or other materials to assist

More information

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