

Health protocol for the movement of live prawns

Aquaculture Protocol FAMPR001

Version 6

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1.0 Title and document history

This document is the Health protocol for the movement of live prawns, Aquaculture Protocol FAMPR001 version 6, December 2018. This health protocol supersedes the previous version Health protocol for the movement of live prawns, Aquaculture Protocol FAMPR001 version 5, August 2018.

Revision history

Version	Title
2003	Health protocol for the importation of selected live penaeid species from outside Queensland's east coast waters (i.e. Gulf of Carpentaria, Torres Strait, Northern Territory and Western Australia). 2003
May 2005	Health protocol for the importation of selected live penaeid species from outside Queensland's east coast waters (i.e. Gulf of Carpentaria, Torres Strait, Northern Territory and Western Australia). Aquaculture Protocol FAMPR001. Version 2, May 2005
June 2011	Health protocol for the importation of selected live penaeid species from outside Queensland's east coast waters (i.e. Gulf of Carpentaria, Torres Strait, Northern Territory and Western Australia). Aquaculture Protocol FAMPR001. Version 3, June 2011
December 2015	Health protocol for the importation of live prawns from outside Queensland's east coast waters, Aquaculture Protocol FAMPR001 December 2015
August 2018	Health protocol for the movement of live prawns, Aquaculture Protocol FAMPR001. Version 5, August 2018
December 2018	Health protocol for the movement of live prawns, Aquaculture Protocol FAMPR001. Version 6, December 2018

2.0 Abbreviations

AHPND = Acute hepatopancreatic necrosis disease

APFA = Australian Prawn Farmers Association

BQ = Biosecurity Queensland

DAF = Department of Agriculture and Fisheries

FQ = Fisheries Queensland

NATA = National Association of testing authorities

PCR = Polymerase Chain Reaction

PL = Post-larvae

YHV1 = Yellow head virus (strain 1)

WSSV = White spot syndrome virus

3.0 Introduction

This prawn translocation protocol aims to minimise the risk of introducing diseases of concern onto Queensland aquaculture farms and into Queensland waters. It is based on active biosecurity measures and farm management practices that are beneficial to the industry and Government.

Development of a translocation protocol for the movement of prawns into and within Queensland was initially developed by Fisheries Queensland, after consultation with the Great Barrier Reef Marine Park Authority (GBRMPA) and the then Department of Primary Industries and Fisheries. This was in response to the prawn aquaculture industry in Queensland proposing to source *Penaeus monodon* broodstock from northern Australian waters. GBRMPA considered this proposed practice may increase the risk of introducing new or exotic diseases into east coast prawn populations via the translocation of penaeid broodstock from the Joseph Bonaparte Gulf, Torres Strait and the Gulf of Carpentaria into east coast waters.

In 2016-17 there was an outbreak of white spot disease in south-east Queensland prawn farms. Whilst the incursion pathway into the prawn farms and subsequently into Moreton Bay may be never confirmed the most plausible pathway is through imported prawns used for bait. During the outbreak concerns were raised about the use of WSSV infected prawns, sourced from supermarkets, being used as bait on or near the Logan River. This presents a significant entry pathway for disease into the natural environment and into prawn farms. It is now clear that there is an elevated risk of disease in wild caught broodstock. Accordingly, this protocol now applies to wild caught broodstock from anywhere in the country, including east coast waters. Mitigating such risks is critical for the prawn farming industry and preventing spread of disease through aquaculture activities.

On 16 June 2017 the Biosecurity (White Spot Syndrome Virus) Amendment Regulation 2017 was introduced in Queensland. A Biosecurity Area was established imposing various restrictions on the movement of carriers (prawns, worms and yabbies). Unless cooked, no prawns, worms or yabbies are permitted to leave the restricted area, which includes an area from Caloundra to the NSW border and west to Ipswich.

For the purposes of this document, all prawn broodstock and or their progeny are not permitted to be moved out of this restricted area. While broodstock sourced from either the NT or east coast can be moved into the restricted area, subject to this protocol, they or any progeny cannot be moved uncooked out of this area.

Subsequently, the Northern Australia Biosecurity Surveillance Initiative commissioned a qualitative risk assessment of the likelihood of introduction, establishment and spread of aquatic diseases (Diggles, 2017). The risk assessment found a high likelihood of the introduction and spread of white spot disease (WSD), yellowhead virus (YHV1) and acute hepatopancreatic necrosis disease (AHPND).

It is important to note that despite the strict conditions for quarantine and testing in this protocol there still remains an element of risk to industry and environment. This translocation protocol is designed to allow the movement of prawns with the risk mitigated to an acceptable level. The Australian Prawn Farmers Association (APFA) has drafted national biosecurity plan guidelines, which set industry standards for biosecurity planning and management of biosecurity risks. This protocol complements the APFA guidelines and the *Biosecurity Act 2014*, working in partnership with industry to manage disease risk. Importantly, this protocol focuses on known exotic diseases with potential for significant impact. Additional, complimentary biosecurity measures should be considered by prawn farm managers for management of risk around endemic diseases.

4.0 Scope

This protocol is for prawn farmers in Queensland. Compliance with this protocol is a condition of approval to conduct prawn aquaculture in Queensland under the *Planning Act 2016*. The principles of biosecurity are managed through the *Biosecurity Act 2014*. This protocol applies to any movement of live prawns for aquaculture in Queensland, including:

- prawns sourced from the Northern Prawn Fishery, Torres Strait and Western Australia and their progeny. For the purpose of this protocol, these will be referred to as non-east coast prawns;
- wild broodstock sourced from the east coast of Queensland;
- prawns that were reared in captivity, regardless of the origin of their ancestors. Domesticated prawns grown within Queensland's east coast are considered to be east coast stock under this protocol;
- Specific Pathogen Free (SPF) prawns regardless of age;
- post larvae (PL's) sourced from interstate hatcheries; and
- PL's sourced from Queensland hatcheries.

Import of live prawns into Australia from overseas would require specific risk assessment and approval, and this is managed by the Federal Government's Department of Agriculture and Water Resources.

5.0 Requirements for hatcheries and grow out facilities

As a condition of approval to conduct aquaculture under the *Planning Act 2016* the authority holder must ensure:

- all areas and records associated with the aquaculture operation must be made available for inspection; and
- all requirements under this protocol are met prior to movement of prawns into and within Queensland.

Under this protocol, the follow requirements apply (where applicable) prior to the movement of all prawns, including wild stock and domesticated, into and within Queensland:

- application to translocate aquatic animals for aquaculture must be approved;
- decontamination of transport equipment;
- isolation of broodstock;
- separation of stocks;
- hatchery biosecurity;
- storage of broodstock that die or are removed during transport or finished spawning;
- submission of broodstock pleopod samples from every animal for PCR testing;
- movement of larvae and post-larvae; and
- appropriate record keeping.

5.1 Application to translocate

An application to translocate prawn broodstock must be submitted and approved prior to the translocation of wild broodstock.

A translocation approval is not required for stocking ponds from the hatchery or moving domesticated prawns from grow out ponds to a hatchery, if it is operated by the same company/owner, unless the hatchery is located interstate.

Where domesticated broodstock are supplied to a third party (not operated by the same company/owner) hatchery or farm then a translocation approval must be obtained.

The form for translocation can be obtained from the Queensland Government website:

https://www.daf.qld.gov.au/data/assets/pdf_file/0009/72468/Translocation-form.pdf

The completed form should be submitted to the Manager, Aquaculture, DAF at least one week before the intended translocation date. Each translocation of broodstock or their progeny must be approved before any movement of prawns can occur.

5.2 Decontamination of transport equipment

Water and equipment used during transport must be adequately disinfected following every translocation, in accordance with methods stipulated in the application to translocate. This can be achieved by immersion in 100 mg/L active chlorine (or 100mg/L active iodine from an iodophor) for a minimum of 60 minutes, rinsing and then sun-drying equipment for 24 hours. Disinfection can also be achieved using minimum 30mg/L available chlorine, maintained above 5ppm for a minimum of 24 hours. Note that active chlorine levels can be affected by organic matter and sunlight, so this should be monitored and documented to demonstrate that levels have been maintained.

Chlorine-based and iodine-based disinfecting agents are toxic to aquatic life and must be inactivated before they are released into the environment. A 1% solution of thiosulfate may be used to inactivate both compounds.

Further information for decontamination and disinfection can be found in the [AQUAVETPLAN Operational Procedures Manual – Decontamination](#).

5.3 Isolation of broodstock

Translocated broodstock and their progeny should be considered high risk and appropriate quarantine measures applied until negative test results have been received for known high-risk pathogens. All water and waste from the tanks housing the broodstock must be held and disinfected then neutralised before discharge.

5.4 Separation of stocks

Non-east coast broodstock must be kept isolated from Queensland east coast broodstock or other shipments of non-east coast broodstock (e.g. must not share water or be held in the same tank) at all times. This principal applies to both hatchery and grow-out. Note domesticated prawns grown within Queensland's east coast are considered to be east coast stock under this protocol.

5.5 Hatchery biosecurity

Hatcheries must take all reasonable and practicable measures to manage risk of disease entry from the surrounding environment. This includes managing intake water, people, equipment or feed that could introduce disease.

5.6 Storage and disposal of broodstock

All prawn broodstock that die during transport, or in tanks post arrival, prior to, or post spawning must be removed as soon as possible and retained for at least 6 months before disposal. The dead prawns should preferably be stored in a freezer (domestic type at approximately -20°C), though storage in saturated brine solution or 80% ethanol is permitted. Specimens must be clearly labelled with the date, origin, spawner tank and any other relevant details. If there are subsequent disease issues, these specimens may assist in a disease investigation. Any unusual mortality, behaviour or appearance in the broodstock should be reported to Biosecurity Queensland immediately. Disposal of

remaining broodstock must be done in a way that manages risk of disease spread. More information can be found in the [AQUAVETPLAN - Operational Procedures Manual - Disposal](#).

5.7 Submission of samples for disease testing

5.7.1 Wild caught broodstock

Pleopod (swimming leg) samples should be obtained from **every wild broodstock prawn** following transport and submitted to the testing laboratory. The terminal end of two pleopods from each broodstock animal are to be collected. Pleopod samples must then be submitted in accordance with the requirements of the receiving laboratory for PCR testing. For example, samples to be tested at Biosecurity Sciences Laboratory can be stored in 90-95% ethanol, frozen or transported fresh (chilled). Alternatively, samples can be placed in RNA later and refrigerated for up to one week before being transported to the testing laboratory. Samples may be pooled into groups of no more than five and must be tested by PCR for the following high risk exotic pathogens:

- White spot syndrome virus; and
- Yellow head virus (genotype 1).

In addition, faeces samples should be collected from each shipment of broodstock. Since sampling each individual is impractical, faeces samples can be pooled into groups, with one representative sample per 20 animals (e.g. 10 samples for 200 individuals). The details of this sampling can be adjusted as required to suit the situation. Samples should be chilled, not frozen and submitted for broth enrichment and PCR testing for PIRab toxin genes that are associated with acute hepatopancreatic necrosis disease (AHPND). Positive results from this testing will need to be followed up to identify the species of bacteria.

5.7.2 Domesticated broodstock

Any domesticated stock on-sold are to be accompanied with evidence indicating freedom from white spot syndrome virus and yellow head virus (genotype 1) and PIRab toxin genes. However, since successive generations are likely to involve a lower level of risk, this may not require testing of every individual, and alternative testing arrangements will be assessed on a case-by-case basis (e.g. hatchery accreditation).

5.7.3 Requirements for testing laboratories

Comprehensive veterinary diagnostic services are available through Biosecurity Queensland at Biosecurity Sciences Laboratory, Coopers Plains. Testing broodstock for translocation at other laboratories in Australia is also acceptable, however they must meet the following criteria:

- The laboratory must hold NATA accreditation in Animal Health including the detection and identification of bacteria and viruses by PCR and comply with the requirements of ISO/IEC 17025:2017; and
- Participation in the Australian National Quality Assurance Program;
- Approval of the jurisdiction's Chief Veterinary Officer to conduct testing for exotic, notifiable or emerging or as required by the jurisdictional CVO; and
- The laboratory must operate lawfully within their State or Territory to conduct testing for exotic diseases.

Where there is no legislative requirement for the jurisdiction's Chief Veterinary Officer to provide approval to conduct testing for exotic diseases alternative arrangements may be assessed by Biosecurity Queensland to accommodate this requirement.

All results must be retained and made available to Biosecurity Queensland upon request. Any positive results must be reported to Biosecurity Queensland immediately.

For any exotic disease testing, duplicate tissue samples or tissue homogenate samples must be retained by the testing laboratory, because if indeterminate or suspect positive results are obtained, these will be required for official confirmatory testing.

Note that testing in non-government laboratories is only permitted for disease screening of apparently healthy animals. If disease is suspected, contact your veterinarian or Biosecurity Queensland.

5.8 Movement of larvae and post-larvae

Larvae, PLs or juveniles sourced from wild or domesticated broodstock must not be removed from a hatchery until there is evidence of freedom from diseases in the broodstock as required under this protocol.

An application to translocate must be submitted and approved prior to the translocation of larvae, PLs or juveniles from a hatchery to a third party. The recipient of the stock must submit a translocation form and demonstrate that biosecurity risks have been managed in line with this protocol.

A translocation approval is not required if moving larvae, PLs or juveniles from a hatchery to grow out ponds if operated by the same company/owner, unless the hatchery is located interstate. If the hatchery is located interstate, the company/owner must submit a translocation form and demonstrate that biosecurity risks have been managed in line with this protocol for each batch of broodstock used to produce larvae, PLs or juveniles (note not for each batch of larvae, PLs or juveniles).

5.9 Record keeping

Records must be kept, detailing broodstock collection locations, transport dates and mortality data both during transport and in the hatchery. Records must also be kept of any movement of PL's either to or from the farm, including both origin and destination. Hatchery production records (e.g. initial production numbers, survival rate) must also be kept for each numbered or labelled tank. This should be retained for at least one year. Copies of these records must be made available for DAF officers if requested. This information will remain confidential.

6.0 Your general biosecurity obligation

The *Biosecurity Act 2014* (the Act) outlines obligations on people in relation to biosecurity risks. Under the Act, a general biosecurity obligation applies to everyone. It states that a person dealing with biosecurity matter (e.g. disease agent) or carrier (e.g. prawns) who knows or ought to know that the biosecurity matter or carrier poses a risk or is likely to pose a risk, is obliged to take all reasonable and practical measures to prevent or minimise the risk.

The Act presents a flexible, risk-based approach, which gives you the freedom to determine how specific disease risks should be managed on your farm, in the best interests of your industry.

7.0 Notifying Biosecurity Queensland

Under the Act, you are required to report any knowledge of a disease event that could cause significant adverse effect on the economy, human health, environment or social amenity. If you suspect serious or exotic disease on any farm, report your suspicion immediately to Biosecurity Queensland.

8.0 Contacts

Biosecurity Queensland: 13 25 23

Emergency Animal Disease Watch Hotline (24h national service): 1800 675 888

Manager, Aquaculture, DAF

Email: aquaculture@daf.qld.gov.au

Phone: (07) 3087 8035

North Queensland, DAF: 13 25 23

Biosecurity Sciences Laboratory

Health and Food Sciences Precinct

Block 12, 39 Kessels Road

Coopers Plains, Qld 4108

Phone: (07) 3708 8762

Fax: (07) 3708 8860

Email: bslclo@daf.qld.gov.au

9.0 Resources

AQUAVETPLAN manuals: <http://www.agriculture.gov.au/animal/aquatic/aquavetplan>

Aquatic disease field guide: [http://www.agriculture.gov.au/animal/aquatic/guidelines-and-resources/aquatic animal diseases significant to australia identification field guide](http://www.agriculture.gov.au/animal/aquatic/guidelines-and-resources/aquatic%20animal%20diseases%20significant%20to%20australia%20identification%20field%20guide)

Diggles et al., 2017. Northern Australia Biosecurity Initiative – Marine pest and disease risk assessment. DigFish Services Pty Ltd, Banksia Beach, Queensland.