

Shellfish Hatchery Protocol

Production and Translocation into Port Stephens estuary of diploid Pacific Oyster (*Crassostrea gigas*) spat

produced by Yumbah Oyster Hatchery, South Australia

Purpose

The following protocol has been developed to minimise the risk of the introduction of diseases and pests from South Australian waters into Port Stephens estuary, NSW via the translocation of diploid Pacific Oyster (*Crassostrea gigas*; also known as *Magallana gigas*) spat (juvenile seed stock) produced by Yumbah Aquaculture Pty Ltd at the facility known as Yumbah Oyster Hatchery at 729 Sullivan Drive, Point Boston, Port Lincoln, South Australia 5067.

Scope

Diploid Pacific oyster spat produced by Yumbah Oyster Hatchery will only be permitted to be placed into Port Stephens estuary where it can be demonstrated that the spat have been produced in accordance with the following protocol.

Relevant Legislation

Diploid Pacific oyster spat produced under this protocol may only be imported into NSW by persons or entities ('the shipper') authorised to farm Pacific Oysters under Section 144 (Aquaculture Permit) of the *Fisheries Management Act 1994* with a special or specific permit condition on their NSW Department of Primary Industries and Regional Development (NSW DPIRD) Aquaculture Permit for each of the following:

- that for the purpose of section 217 of the *Fisheries Management Act 1994* authorises the importation of live Diploid Pacific oyster spat into NSW, and
- That for the purpose of 216 (1) of the *Fisheries Management Act 1994* authorises Diploid Pacific oyster spat produced at Yumbah Oyster hatchery in Point Boston, South Australia to be placed onto the leases authorised by that permit (see definition for 'shipper' below).

Following the initial translocation by the shipper into waters of NSW, the Pacific Oysters may only be on-sold for further cultivation within NSW, or otherwise translocated for further cultivation within NSW where that sale or other translocation is to a person/entity authorised to farm Diploid Pacific Oysters under Section 144 of the *Fisheries Management Act 1994* at that additional location, and is subject to the record keeping and reporting requirements in this protocol as well as to all conditions under the relevant Aquaculture permits and any other restrictions under the *Fisheries Management Act 1994*, the Fisheries Management (Aquaculture) Regulation 2024, the *NSW Biosecurity Act 2015* and the Biosecurity Regulation 2017.

A NSW DPIRD Fisheries Officer under the *Fisheries Management Act 1994* or Authorised Officer under the *NSW Biosecurity Act 2015* may examine batches of Diploid Pacific oyster spat shipped from the source hatchery at any time once a shipment enters NSW to ensure that the shipment complies with this protocol, the provisions of the *NSW Biosecurity Act 2015*, the Biosecurity Regulation 2017, the *Fisheries Management Act 1994* and the Fisheries Management (Aquaculture) Regulation 2024.

Note: At any time a formal legal instrument can take effect that may override either parts of, or the entire, protocol.

Documentation requirements relating to translocation of Diploid Pacific Oyster spat under this protocol must be provided to NSW Department of Primary Industries and Regional Development via email to oyster.import@dpird.nsw.gov.au

General Biosecurity Duty

On 1 July 2017 the NSW *Biosecurity Act 2015* commenced which provides a framework for responsibility for the biosecurity risk that is shared among the community, industry and government. The Act establishes a number of 'biosecurity duties' that include:

- a general biosecurity duty
- duties relating to Prohibited Matter, and
- a duty to notify biosecurity events.

The general biosecurity duty supports shared responsibility through its broad scope. Any person who deals with biosecurity matter or a carrier and who knows, or ought reasonably to know, the biosecurity risk posed or likely to be posed by the biosecurity matter, carrier or dealing has a biosecurity duty to ensure that, so far as is reasonably practicable, the biosecurity risk is prevented, eliminated or minimised. The general biosecurity duty can be found in Part 3 of the Act.

More information on the Act and the general biosecurity duty can be found on the website:

<https://www.dpi.nsw.gov.au/fishing/aquatic-biosecurity/legislation-regulations>

Definitions

Algal production cycle means the time period from which algae is acquired and cultivated for use in the larval and spat production cycle.

Business day means Monday to Friday 9am to 5pm, excluding public holidays.

Closed hatchery system means an enclosed land based cultivation facility for oyster larvae and spat with biosecurity controls in place, isolated from estuarine production facilities and isolated from facilities that produce stock for any other purpose.

Competent authority means a National Association of Testing Authorities (NATA) accredited veterinary diagnostic laboratory (e.g. Elizabeth Macarthur Agricultural Institute; EMAI) approved by the NSW Chief Veterinary Officer.

Diploid Pacific Oyster spat means oysters of the species *Crassostrea gigas* (also known as *Magallana gigas*) produced within a source hatchery that have two complete sets of chromosomes and not had measures undertaken to alter the number of sets of their chromosomes.

Independent certifier means a competent certifier as approved by the NSW Chief Veterinary Officer.

Individual batch means a group of oyster spat produced from a single spawning event, and held in a upweller system that uses the same source of water.

Larval and spat production cycle means the time period from spawning of oyster broodstock within a closed hatchery system, to cultivation of larvae, to spat prior to importation into NSW.

NSW DPIRD means the New South Wales Department of Primary Industries and Regional Development, formed on 1 July 2024 (formerly known as Department of Primary Industries (NSW DPI) as part of the Department of Regional NSW).

Aquaculture shipment log book (previously known as an Oyster Shipment Log Book) means a log book in a form approved by the Secretary of the Department for purposes of complying with conditions imposed by this protocol and Part 2, Division 3 of the Fisheries Management (Aquaculture) Regulation 2024.

Shipper means the person or entity in NSW who will be receiving the batch of oysters direct from the source hatchery and who holds an aquaculture permit under section 144 of the [Fisheries Management Act 1994](#), whose permit authorises the placement of Diploid Pacific Oyster spat produced by Yumbah Aquaculture Pty Ltd at the source hatchery at Point Boston, South Australia onto the leases of Port Stephens authorised by that aquaculture permit under the [Fisheries Management Act 1994](#).

Source Hatchery means Yumbah Oyster Hatchery facility at 729 Sullivan Drive, Point Boston, South Australia 5067.

Supplier means Yumbah Aquaculture Pty Ltd

Protocol

1) Broodstock Collection & Transport

- (a) Pacific Oyster spat intended for translocation into NSW may only be produced from broodstock that have the written approval of the NSW Chief Veterinary Officer or their delegate prior to production of spat¹.

2) Hatchery & Larval Rearing

- (a) The source hatchery must maintain a comprehensive hatchery biosecurity plan containing details of all relevant operational measures for disease exclusion (such as broodstock management, treatment of intake water, cleaning and disinfection protocols, pest exclusion measures, visitor control procedures etc.) and which demonstrates that the supplier is able to meet all requirements of this protocol
- (b) Diploid Pacific oyster spat are to be produced in a closed hatchery system and are at no time to be placed in, or exposed to South Australian waters that have not undergone filtration and treatment as outlined in 2 (c) below.
- (c) All seawater used in the hatchery system must be subject to nominal filtration 1.0 micron or less followed by ultraviolet irradiation at a dose of at least 30 mJ/cm² for the duration of the larval and spat production cycle. The hatchery must also certify that all seawater used in the larval, spat and algal production cycle has been subject to nominal filtration to 1.0 micron or less followed by ultraviolet irradiation at a dose of at least 30 mJ/cm².
- (d) All tanks, internal water supply lines, valves and culture equipment used in the larval and spat production cycle must be cleaned with chlorine (made to a minimum solution of 200ppm active effective chlorine) and washed with fresh water prior to commencing the larval and spat production cycle.
- (e) Broodstock must remain isolated from all other molluscs and invertebrates in the hatchery both physically and spatially (in separate rooms and separate water supplies) as well as operationally (complete separation of all equipment used on broodstock to ensure it never leaves the broodstock room).
- (f) Each batch of eggs/sperm must be removed from spawning tanks/vessels containing broodstock oysters as soon as possible after stripping. Thereafter they must remain completely isolated both physically and spatially from all other molluscs. This must involve being reared in separate rooms, with separate water supplies and use of dedicated equipment that is not used in any other part of the facility.
- (g) Prior to the first Diploid Pacific oyster spat batch being produced for importation to NSW, and thereafter every 12 months, a hatchery audit must be performed by an independent certifier to verify that the source hatchery meets all requirements of this protocol. This audit form must be approved by the NSW Chief Veterinary Officer prior to production of any spat intended for translocation into NSW.

¹ Broodstock will only be approved if they meet the following criteria:

Pacific oyster broodstock should:

1. Only be of either SA or NSW origin (no broodstock which have been previously translocated from any state other than NSW into SA may be used).
2. Not be taken from locations where OsHV-1 μ Var or *Bonamia* spp. have been known to occur,
3. Not be taken from areas where active outbreaks of perkinsosis are known to be occurring
4. Not be taken from any areas where investigation of unusual or unexplained bivalve mortalities are being undertaken
5. Not be taken from areas close (<15 km) to international shipping ports.

3) Pre-dispatch Diagnostic Testing

The following requirements must be met no more than 30 days but in time for the final results to be available not less than two full business days prior to the importation into NSW:

- (a) A random sample of spat from every individual batch that is intended for translocation must be sampled for diagnostic testing. The spat that will be submitted for diagnostic testing must all be stress-tested by holding them at a minimum temperature of 21°C for no less than four weeks prior to sampling for diagnostic testing.
 - (b) Three² random samples of at least 300 spat from each individual batch (with each lot of 300 comprised of an equal number of spat collected from each upweller used to produce that batch) of Diploid Pacific oyster spat are to be forwarded for testing and examination to a competent authority for the following:
 - (i) 300 spat² are to be tested by polymerase chain reaction for the presence of:
 - OsHV-1; and
 - Other Malacoherpesviruses; and
 - *Bonamia* spp.; and
 - *Perkinsus* spp.; and
 - (ii) 300 spat are to be tested through incubation in Ray's Fluid Thioglycolate Media (RFTM) for *Perkinsus* spp.; and
 - (iii) 300 spat are to be examined for a general health screen by histopathology for the presence of any signs of infectious disease that may represent a biosecurity risk to NSW.
- ² To be discussed prior to collection with the competent authority to ensure that the polymerase chain reaction tests can be completed on the same 300 spat sample. Arrangements must be made with the competent authority to ensure that a minimum 300 spat per batch are tested for each of the polymerase chain reaction tests listed above.
- (c) A statement of general health and a certificate of disease status must be provided by the competent authority.
 - (d) A batch of Diploid Pacific oyster spat produced at the source hatchery must not be placed into waters of NSW unless the batch of spat has been certified free of evidence of disease agents by the competent authority.

4) Shipment Documentation

Prior to dispatch of each batch of Diploid Pacific Oyster spat from the source hatchery to NSW:

- (a) Not less than two full business days prior to the translocation shipment, the supplier must prepare and email to the shipper, a declaration stating:
 - (i) The species, approximate number and size of oyster being shipped; and
 - (ii) That the requirements under sections 1), 2) and 3) of this protocol have been met, and
 - (iii) That there have been no unusual mortalities of undetermined cause in the Pacific Oyster populations at the facility at any time throughout the larval and spat production cycle and no evidence of the presence of aquatic pests or diseases listed as either prohibited matter under Schedule 2 of the NSW *Biosecurity Act 2015* or notifiable matter under Schedule 1 of the *Biosecurity Regulation 2017* in the source hatchery throughout that time.
- (iv) Provide a copy of all health certifications, certificate of disease status and laboratory reports from the competent authority/ies of the tests required for Pacific Oysters under section 3) of this protocol

- (b) The shipper must:
 - (i) complete a copy of the aquaculture shipment log book; and
 - (ii) provide a completed copy of the aquaculture shipment log book to the supplier.
- (c) Not more than two weeks and not less than two full business days prior to translocation, the shipper must notify NSW DPIRD of the intended oyster translocation and provide copies of the following to the NSW DPIRD email address oyster.import@dpiird.nsw.gov.au:
 - (i) all health certifications, certificate of disease status and laboratory reports from the competent authority/ies of the tests required for the Diploid Pacific Oysters under section 3) of this protocol; and
 - (ii) the completed aquaculture shipment log book at 4)(b)(i) above; and
 - (iii) the source hatchery declaration at (4)(a) above
- (d) All documentation listed in (4)(c) above must accompany the Diploid Pacific Oyster batch throughout shipment from the source hatchery into NSW, and must be held for a period of 12 months after the arrival of the shipment in NSW by the shipper and any other person who receives the Diploid Pacific Oyster batch or any part of that batch.
- (e) Copies of the records required under this protocol must be produced to a fisheries officer under the *Fisheries Management Act 1994*, or an authorised officer under the *NSW Biosecurity Act 2015*, on request.
- (f) If the shipper supplies any part of the Diploid Pacific Oyster batch received from the source hatchery to another person/s or entity within 12 months after the arrival of the shipment in NSW, in addition to any other applicable shipment requirements, the following conditions must be adhered to:
 - (i) the shipper must supply copies of all records required to provided to NSW DPIRD in section (4)(c) of this protocol to all persons or entities receiving any part of the batch for further cultivation in NSW, and
 - (ii) any person/s or entity who receives the batch or any part of that batch, is to retain these records for a period of 12 months and to produce copies of the records to a fisheries officer under the *Fisheries Management Act 1994*, or an authorised officer under the *NSW Biosecurity Act 2015*, on request
- (g) the requirements for the shipper in section (4)(f) of this protocol apply to all persons or entities that received part of the batch for all subsequent sales for cultivation in NSW, possession for cultivation within NSW, or movement for cultivation within NSW, of the Diploid Pacific Oysters translocated to NSW under this protocol for 12 months after the arrival of the shipment in NSW.