

**SUBMISSION OF INFORMATION FOR RECOGNITION OF DISEASE-FREE STATUS FOR BONAMIA EXITIOSA IN TRALEE BAY, IRELAND IN ACCORDANCE WITH CHAPTER 4 OF PART II OF REGULATION (EU) 2020/689 AND ARTICLE 11 OF COMMISSION IMPLEMENTING REGULATION (EU) 2020/2002**

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| <b>1. Date of submission</b>                                                                                                                                                                                                             | 19 December, 2024                                                                                                                                                                        | <b>Member State</b>                                      | Ireland                                                                                                                                                                                                                                    |
| <b>2. Contact point</b>                                                                                                                                                                                                                  |                                                                                                                                                                                          |                                                          |                                                                                                                                                                                                                                            |
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| <b>Disease Information</b>                                                                                                                                                                                                               |                                                                                                                                                                                          |                                                          |                                                                                                                                                                                                                                            |
| <b>3. Name of Category C disease</b>                                                                                                                                                                                                     | Infection with <i>Bonamia exitiosa</i>                                                                                                                                                   | <b>4. Grounds for recognition of disease-free status</b> | Historical and surveillance data in accordance with paragraphs (1)(a) and (2) of Article 70 of Commission Delegated Regulation (EU) 2020/689 and point 1(b) of Section 5 of Annex VI to Commission Implementing Regulation (EU) 2020/2002. |
| <b>5. Territorial scope</b>                                                                                                                                                                                                              | Zone (i.e. a contiguous hydrological system with a distinct health status with respect to a specific disease that forms part of a coastal area with a precise geographical delimitation) | <b>Location</b>                                          | Tralee Bay (see map in Appendix I)                                                                                                                                                                                                         |
| 7. I, the undersigned, confirm that the relevant criteria set out in point (a) of Article 66 of Regulation (EU) 2020/689 are met. Further details are set out below.                                                                     |                                                                                                                                                                                          |                                                          |                                                                                                                                                                                                                                            |
| 10. Compliance with paragraphs (1)(a) and (2) of Article 70 of Delegated Regulation (EU) 2020/689 and with point 1(b) of Section 5, Annex VI to Implementing Regulation (EU) 2020/2002 concerning infection with <i>Bonamia exitiosa</i> |                                                                                                                                                                                          |                                                          |                                                                                                                                                                                                                                            |

## Background

Tralee Bay is located in county Kerry, in the southwest of Ireland (see Appendix I). This provisional declaration of freedom from infection with *B.exitiosa* concerns a self-populating native oyster (*Ostrea edulis*) fishery, which is actively managed by the Tralee Oyster Fishery Society Cooperative. Annual production ranges from 100 to 300 tonnes per year, depending on spat settlement.

No other aquaculture activities take place within 30km of Tralee Bay, by sea. The nearest native oyster fisheries are Kilkieran Bay and Galway Bay which are both in excess of 100km away, by sea. The status of those bays with regard to *Bonamia exitiosa* is unknown, however the parasite has never been detected in Ireland, despite more than 30 years of screening for *Bonamia spp.*, using laboratory techniques which would provide suspicion of infection with *B.exitiosa*, if the parasite was present.

According to the list of aquatic species which is set out in the Annex to Commission Implementing Regulation (EU) 2018/1882, *Ostrea edulis* is the only species found in Ireland, which is considered to be susceptible to *Bonamia exitiosa*.

This provisional declaration of freedom concerns a zone where native oyster beds are actively managed and owned by the Tralee Oyster Fishery Society Cooperative, and which remain their property throughout the rearing and culture stages, up to and including harvesting. For that reason, the operation has been approved as an aquaculture establishment by the competent authority.

## Details of disease surveillance

Surveillance has been carried out in Tralee Bay in accordance with the aquatic animal health legislation that has applied within the EU since the early 1990s i.e. Council Directives 91/67/EEC and 2006/88/EC, Commission Regulation (EC) No 1251/2008, Regulation (EU) 2016/429 and Commission Delegated Regulation (EU) 2020/689. Details of the samples collected and tested in accordance with that legislation during the period 1993 to November 2024, are included in Appendix II.

During that period, all samples have been tested using tissue imprints, a test which allows for the detection of both *B. ostreae* and *B. exitiosa*. Neither parasite has ever been detected in Tralee Bay.

Details of the sampling which has been carried out in Tralee Bay since 1993, are set out in Appendix II. In total 3,151 *O.edulis* were sampled and tested negative for *B. exitiosa*, over a thirty year period. All parts of Tralee Bay where *O. edulis* are found, have been included in the active surveillance programme.

## Prevention to control the introduction of the disease agent

Infection with *B. exitiosa* is a notifiable disease in Ireland. It has never been notified to the competent authority, nor has surveillance for *Bonamia spp.* ever raised suspicion of the presence of *B. exitiosa* in Ireland.

As described above, this provisional declaration of freedom from infection with *B. exitiosa* concerns a self-populating native oyster (*Ostrea edulis*) fishery in Tralee Bay. There are no other aquaculture establishments in the bay, and as a consequence, there have been no movements of aquatic species which are susceptible to *B. exitiosa* into the bay, since 1993. All movements within/to/from Ireland are notified to the competent authority in advance and are therefore, readily controlled and fully traceable. In addition, aquaculture operators are obliged to keep records of all movements to and from their establishments, as well as mortality records. These records are checked during regular risk-based inspections. Increased unexplained mortality in the establishment must be reported to the competent authority, for investigation.

Concerning natural dispersion of potentially infected native oysters from outside of Tralee Bay, native oysters have a larval stage which lasts between 11 and 30 days (depending on environmental conditions). During this pelagic stage, larvae can travel distances greater than 10 kilometres on the ocean currents (Perry & Jackson, 2017) DNA from both *Bonamia ostreae* and *Bonamia exitiosa* has been detected by PCR in larvae (Arzul et al 2011) suggesting that larvae could play a role in transmission of the parasites, however, the closest native oyster fisheries to Tralee Bay are Galway Bay and Kilkieran Bay, which are a little over 100 kms away, by sea. Galway Bay have been infected with *Bonamia ostreae* since the late 1980s during which time Tralee Bay has remained free of *Bonamia ostreae*, suggesting that the transfer of the *Bonamia* parasite via larval dispersion from an infected area to Tralee Bay, though theoretically possible, is highly unlikely. Following the larval stage, oysters settle and become sedentary, thus movement of any other stage of native oysters besides larvae into the proposed disease-free zone can only be achieved by physical transfer of oysters.

Importantly, all aquaculture establishments in Ireland are approved by the competent authority, in compliance with Regulation (EU) 2016/429 and Commission Delegated Regulation (EU) 2020/691. As a consequence, all approved establishments, including Tralee Bay Oyster Fishery, have a biosecurity plan which identifies routes through which a disease agent can enter the aquaculture establishment, spread within it and transfer from it, as well as identifying risk-mitigation measures for each biosecurity risk which was identified. The operators of Tralee Oyster Fishery Society cooperative have devised such a biosecurity plan, and implement it on an ongoing basis.

In addition, the competent authority implements a risk-based health surveillance scheme which includes health visits and sampling at an appropriate frequency depending on the nature of production at the aquaculture establishment. The programme is aimed at the timely detection of increased mortality, relevant listed diseases, and emerging diseases. The frequency of risk-based surveillance visits depends upon the type of aquaculture establishment and subsequently the risk

ranking assigned to that establishment. Risk ranking criteria are applied in accordance with Part 1 of Annex VI of Regulation (EU) 2020/689. Tralee Bay is currently ranked as 'Medium risk' and is therefore subject to a surveillance visit at least once every two years.

### **Control Measures**

Infection with *B. exitiosa* is a notifiable disease. It has never been detected in Ireland, but if it were, disease control measures in accordance with Chapter IV, Part III of Commission Delegated Regulation (EU) 2020/687 would be applied.

### **Ban on vaccination**

*O.edulis* in Tralee Bay are not subject to vaccination against *B.exitiosa*, or any other disease.

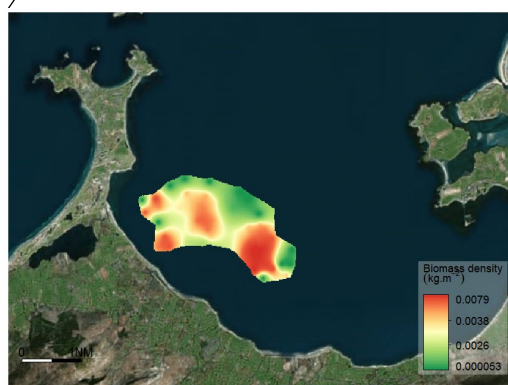
### **References**

Perry, F. & Jackson, A. 2017. *Ostrea edulis* Native oyster. In Tyler-Walters H. and Hiscock K. (eds) Marine Life Information Network: Biology and Sensitivity Key Information Reviews, [on-line]. Plymouth: Marine Biological Association of the United Kingdom.

Arzul et al 2011 - Can the protozoan parasite *Bonamia ostreae* infect larvae of flat oysters *Ostrea edulis*? Isabelle Arzul, Aimé Langlad, Bruno Chollet, Maeva Robert, Sylvie Ferrand, Emmanuelle Omnes, Sophie Lerond, Yann Couraleau, Jean-Pierre Joly, Cyrille Francois, Céline Garcia Veterinary Parasitology 179 (2011) 69–76

Date: 19 December, 2024

## Appendix I: Map of the Tralee Bay & location of the main native oyster beds



Map showing oyster biomass of outer Tralee beds from a 2023 survey (Marine Institute)



Map showing oyster biomass of inner Tralee beds at Fenit from a 2023 survey (Marine Institute)

## Appendix II: Testing of *O.edulis* for *Bonamia* sp. 1993-2023

| YEAR | SEASON | NO OF OYSTERS | BONAMIA RESULT |
|------|--------|---------------|----------------|
| 1993 | Spring | 450           | Negative       |
|      | Autumn | 445           | Negative       |
| 1994 | Spring | 450           | Negative       |
|      | Autumn | 150           | Negative       |
| 1995 | Spring | 105           | Negative       |
|      | Autumn | 135           | Negative       |
| 1996 | Spring | 118           | Negative       |
|      | Autumn | 150           | Negative       |
| 1997 | Spring | 30            | Negative       |
|      | Autumn | 30            | Negative       |
| 1998 | Spring | 60            | Negative       |
|      | Autumn | 30            | Negative       |
| 1999 | Spring | 60            | Negative       |
|      | Autumn | 30            | Negative       |
| 2000 | Spring | Not available |                |
|      | Autumn | Not available |                |
| 2001 | Spring | 60            | Negative       |
|      | Autumn | 50            | Negative       |
| 2002 | Spring | 30            | Negative       |
|      | Autumn | 48            | Negative       |
| 2003 | Spring | Not available |                |
|      | Autumn | Not available |                |
| 2004 | Spring | 60            | Negative       |
|      | Autumn | 60            | Negative       |
| 2005 | Spring | 150           | Negative       |
|      | Autumn | 150           | Negative       |
| 2006 | Spring | 30            | Negative       |
|      | Autumn | 30            | Negative       |
| 2007 | Spring | 30            | Negative       |
|      |        | 30            |                |
|      |        | 30            |                |
|      | Autumn | 30            | Negative       |
|      |        | 30            |                |
|      |        | 30            |                |
| 2008 | Spring | 30            | Negative       |
|      |        | 30            | Negative       |

|      |        |     |          |
|------|--------|-----|----------|
|      | Autumn | 30  | Negative |
|      |        | 30  | Negative |
|      |        | 30  | Negative |
|      |        | 30  | Negative |
| 2009 | Autumn | 30  | Negative |
| 2010 | Autumn | 30  | Negative |
| 2011 | Autumn | 30  | Negative |
| 2012 | Spring | 30  | Negative |
| 2013 | Autumn | 30  | Negative |
| 2014 | Autumn | 30  | Negative |
| 2015 | Autumn | 30  | Negative |
| 2016 | Autumn | 30  | Negative |
| 2017 | Autumn | 30  | Negative |
| 2018 | Spring | 150 | Negative |
| 2020 | Spring | 150 | Negative |
| 2022 | Spring | 151 | Negative |
| 2023 | Autumn | 200 | Negative |
| 2024 | Autumn | 200 | Negative |