

## CHAPTER 10.3.

# INFECTION WITH *GYRODACTYLUS SALARIS*

### Article 10.3.1.

For the purposes of the *Aquatic Code*, infection with *Gyrodactylus salaris* means *infection* with the *pathogenic agent Gyrodactylus salaris*, a viviparous freshwater ectoparasite, of the Family Gyrodactylidae and Class Monogenea.

Information on methods for *diagnosis* is provided in the *Aquatic Manual*.

### Article 10.3.2.

#### Scope

The recommendations in this chapter apply to the following species that meet the criteria for listing as susceptible in accordance with Chapter 1.5.: Arctic char (*Salvelinus alpinus*), Atlantic salmon (*Salmo salar*), brown trout (*Salmo trutta*), grayling (*Thymallus thymallus*), North American brook trout (*Salvelinus fontinalis*) and rainbow trout (*Oncorhynchus mykiss*).

### Article 10.3.3.

#### **Importation or transit of aquatic animal products for any purpose regardless of the infection with *G. salaris* status of the exporting country, zone or compartment**

- 1) *Competent Authorities* should not require any conditions related to *G. salaris*, regardless of the infection with *G. salaris* status of the *exporting country, zone or compartment*, when authorising the importation or transit of the following *aquatic animal products* derived from a species referred to in Article 10.3.2. that are intended for any purpose and comply with Article 5.4.1.:
  - a) heat sterilised hermetically sealed fish products (i.e. a heat treatment at 121°C for at least 3.6 minutes or any time/temperature equivalent that has been demonstrated to inactivate *G. salaris*);
  - b) pasteurised fish products that have been subjected to a heat treatment at 63°C for at least 30 minutes (or any time/temperature equivalent that has been demonstrated to inactivate *G. salaris*);
  - c) mechanically dried eviscerated fish (i.e. a heat treatment at 100°C for at least 30 minutes or any time/temperature equivalent that has been demonstrated to inactivate *G. salaris*);
  - d) naturally dried eviscerated fish (i.e. sun-dried or wind-dried);
  - e) frozen eviscerated fish that have been subjected to minus 18°C or lower temperatures;
  - f) frozen fish fillets or steaks that have been subjected to minus 18°C or lower temperatures;
  - g) chilled eviscerated fish that have been harvested from seawater with a salinity of at least 25 parts per thousand (ppt);
  - h) chilled fish fillets or steaks derived from fish that have been harvested from seawater with a salinity of at least 25 ppt;
  - i) chilled fish products from which the skin, fins and gills have been removed;
  - j) non-viable fish roe;
  - k) fish oil;
  - l) fish *meal*;
  - m) fish skin leather.
- 2) When authorising the importation or transit of *aquatic animal products* derived from a species referred to in Article 10.3.2., other than those referred to in point 1 of Article 10.3.3., *Competent Authorities* should require the conditions prescribed in Articles 10.3.7. to 10.3.12. relevant to the infection with *G. salaris* status of the *exporting country, zone or compartment*.

- 3) When considering the importation or transit of *aquatic animal products* derived from a species not referred to in Article 10.3.2. but which could reasonably be expected to pose a *risk* of transmission of *G. salaris*, the *Competent Authority* should conduct a *risk analysis* in accordance with the recommendations in Chapter 2.1. The *Competent Authority* of the *exporting country* should be informed of the outcome of this analysis.

Article 10.3.4.

**Country free from infection with *G. salaris***

If a country shares a *zone* with one or more other countries, it can only make a *self-declaration of freedom* from infection with *G. salaris* if all the areas covered by the shared water bodies are declared countries or *zones* free from infection with *G. salaris* (see Article 10.3.5.).

As described in Article 1.4.6., a country may make a *self-declaration of freedom* from infection with *G. salaris* if:

- 1) none of the *susceptible species* referred to in Article 10.3.2. are present and *basic biosecurity conditions* have been continuously met for at least the last two years;

OR

- 2) any of the *susceptible species* referred to in Article 10.3.2. are present and the following conditions have been met:
- a) there has been no occurrence of infection with *G. salaris* for at least the last ten years despite conditions that are conducive to its clinical expression (as described in the corresponding chapter of the *Aquatic Manual*); and
  - b) *basic biosecurity conditions* have been continuously met for at least the last ten years;

OR

- 3) the infection with *G. salaris* status prior to *targeted surveillance* is unknown but the following conditions have been met:
- a) *basic biosecurity conditions* have been continuously met for at least the last five years; and
  - b) *targeted surveillance*, as described in Chapter 1.4., has been in place for at least the last five years without detection of *G. salaris*;

OR

- 4) it previously made a *self-declaration of freedom* from infection with *G. salaris* and subsequently lost its free status due to the detection of *G. salaris* but the following conditions have been met:
- a) on detection of *G. salaris*, the affected area was declared an *infected zone* and a *protection zone* was established; and
  - b) infected populations within the *infected zone* have been killed and disposed of by means that minimise the likelihood of further transmission of *G. salaris*, and the appropriate *disinfection* procedures (as described in Chapter 4.3.) have been completed, or the waters containing the infected fish have been treated by chemicals that kill the parasite; and
  - c) previously existing *basic biosecurity conditions* have been reviewed and modified as necessary and have continuously been in place since eradication of infection with *G. salaris*; and
  - d) *targeted surveillance*, as described in Chapter 1.4., has been in place for at least the last five years without detection of *G. salaris*.

In the meantime, part or all of the unaffected area may be declared a free *zone* provided that such a part meets the conditions in point 3 of Article 10.3.5.

Article 10.3.5.

**Zone or compartment free from infection with *G. salaris***

If a *zone* or *compartment* extends over more than one country, it can only be declared a *zone* or *compartment* free from infection with *G. salaris* if all the relevant *Competent Authorities* confirm that all relevant conditions have been met.

As described in Article 1.4.6., a *zone* or *compartment* within the *territory* of one or more countries not declared free from infection with *G. salaris* may be declared free by the *Competent Authority* of the country concerned if:

- 1) none of the *susceptible species* referred to in Article 10.3.2. are present in the *zone* or *compartment* and *basic biosecurity conditions* have been continuously met for at least the last two years;

OR

- 2) any of the *susceptible species* referred to in Article 10.3.2. are present in the *zone* or *compartment* and the following conditions have been met:
- a) there has been no occurrence of infection with *G. salaris* for at least the last ten years despite conditions that are conducive to its clinical expression (as described in the corresponding chapter of the *Aquatic Manual*); and
  - b) *basic biosecurity conditions* have been continuously met for at least the last five years;

OR

- 3) a *zone* or *compartment* supplied with seawater with a salinity of at least 25 ppt may be declared free from infection with *G. salaris* provided that no *aquatic animal products* of a species referred to in Article 10.3.2. are introduced from a site of a lesser health status for infection with *G. salaris* during the 14 days prior to any fish transfers from the *zone* or *compartment*;

OR

- 4) the infection with *G. salaris* status prior to *targeted surveillance* is unknown but the following conditions have been met:
- a) *basic biosecurity conditions* have been continuously met for at least the last ten years; and
  - b) *targeted surveillance*, as described in Chapter 1.4., has been in place, in the *zone* or *compartment*, for at least the last five years without detection of *G. salaris*;

OR

- 5) it previously made a *self-declaration of freedom* for a *zone* from infection with *G. salaris* and subsequently lost its free status due to the detection of *G. salaris* in the *zone* but the following conditions have been met:
- a) on detection of *G. salaris*, the affected area was declared an *infected zone* and a *protection zone* was established; and
  - b) infected populations within the *infected zone* have been killed and disposed of by means that minimise the likelihood of further transmission of *G. salaris*, and the appropriate *disinfection* procedures (as described in Chapter 4.3.) have been completed, or the waters containing the infected fish have been treated by chemicals that kill the parasite; and
  - c) previously existing *basic biosecurity conditions* have been reviewed and modified as necessary and have continuously been in place since eradication of infection with *G. salaris*; and
  - d) *targeted surveillance*, as described in Chapter 1.4., has been in place for at least the last five years without detection of *G. salaris*.

#### Article 10.3.6.

##### **Maintenance of free status**

A country, *zone* or *compartment* that is declared free from infection with *G. salaris* following the provisions of points 1 or 2 of Articles 10.3.4. or 10.3.5. (as relevant) may maintain its status as free from infection with *G. salaris* provided that *basic biosecurity conditions* are continuously maintained.

A country, *zone* or *compartment* that is declared free from infection with *G. salaris* following the provisions of point 3 of Articles 10.3.4. or 10.3.5. (as relevant) may discontinue *targeted surveillance* and maintain its free status provided that conditions that are conducive to clinical expression of infection with *G. salaris*, as described in the corresponding chapter of the *Aquatic Manual*, and *basic biosecurity conditions* are continuously maintained.

However, for declared free *zones* or *compartments* in infected countries and in all cases where conditions are not conducive to clinical expression of infection with *G. salaris*, *targeted surveillance* should be continued at a level determined by the *Aquatic Animal Health Service* on the basis of the likelihood of *infection*.

Article 10.3.7.

**Importation of aquatic animals or aquatic animal products from a country, zone or compartment declared free from infection with *G. salaris***

When importing *aquatic animals* of a species referred to in Article 10.3.2., or *aquatic animal products* derived thereof, from a country, *zone* or *compartment* declared free from infection with *G. salaris*, the *Competent Authority* of the *importing country* should require that the consignment be accompanied by an *international aquatic animal health certificate* issued by the *Competent Authority* of the *exporting country*. The *international aquatic animal health certificate* should state that, on the basis of the procedures described in Articles 10.3.4. or 10.3.5. (as applicable) and 10.3.6., the place of production of the *aquatic animals* or *aquatic animal products* is a country, *zone* or *compartment* declared free from infection with *G. salaris*.

The *international aquatic animal health certificate* should be in accordance with the Model Certificate in Chapter 5.11.

This article does not apply to *aquatic animal products* listed in point 1 of Article 10.3.3.

Article 10.3.8.

**Importation of aquatic animals for aquaculture from a country, zone or compartment not declared free from infection with *G. salaris***

When importing, for *aquaculture*, *aquatic animals* of a species referred to in Article 10.3.2. from a country, *zone* or *compartment* not declared free from infection with *G. salaris*, the *Competent Authority* of the *importing country* should assess the *risk* in accordance with Chapter 2.1. and consider the *risk* mitigation measures in the points below:

- 1)
  - a) the direct delivery to and lifelong holding of the imported *aquatic animals* in a *quarantine* facility;  
and
  - b) the treatment of all transport water, equipment, effluent and waste materials to inactivate *G. salaris* in accordance with Chapters 4.3., 4.7. and 5.5.;

OR

- 2) immediately prior to movement, the *aquatic animals* have been for a continuous period of at least 14 days:
  - a) held in water with a salinity of at least 25 parts per thousand;  
and
  - b) had no contact with other *aquatic animals* of the species referred to in Article 10.3.2.;
- 3) in the case of eggs, they have been disinfected by a method demonstrated to be effective against *G. salaris* and following *disinfection* do not come into contact with anything which may affect their health status.

Article 10.3.9.

**Importation of aquatic animals or aquatic animal products for processing for human consumption from a country, zone or compartment not declared free from infection with *G. salaris***

When importing, for processing for human consumption, *aquatic animals* of a species referred to in Article 10.3.2., or *aquatic animal products* derived thereof, from a country, *zone* or *compartment* not declared free from infection with *G. salaris*, the *Competent Authority* of the *importing country* should assess the *risk* and, if justified, require that:

- 1) the consignment is delivered directly to, and held in, *quarantine* or containment facilities until processing into one of the products referred to in point 1 of Article 10.3.3. or in point 1 of Article 10.3.12., or other products authorised by the *Competent Authority*; and
- 2) all water (including ice), equipment, *containers* and packaging material used in transport are treated to ensure inactivation of *G. salaris* or disposed of in a biosecure manner in accordance with Chapters 4.3., 4.7. and 5.5.; and
- 3) all effluent and waste materials are treated to ensure inactivation of *G. salaris* or disposed of in a biosecure manner in accordance with Chapters 4.3. and 4.7.

For these *aquatic animals* or *aquatic animal products* Member Countries may wish to consider introducing internal measures to address the *risks* associated with the *aquatic animal* or *aquatic animal product* being used for any purpose other than for human consumption.

Article 10.3.10.

**Importation of aquatic animals or aquatic animal products intended for uses other than human consumption, including animal feed and agricultural, industrial, research or pharmaceutical use, from a country, zone or compartment not declared free from infection with *G. salaris***

When importing *aquatic animals* of a species referred to in Article 10.3.2., or *aquatic animal products* derived thereof, intended for uses other than human consumption, including animal *feed* and agricultural, industrial, research or pharmaceutical use, from a country, *zone* or *compartment* not declared free from infection with *G. salaris*, the *Competent Authority* of the *importing country* should require that:

- 1) an *international aquatic animal health certificate* is issued by the *Competent Authority* of the *exporting country* attesting that the *aquatic animals* have been held, immediately prior to export, in water with a salinity of at least 25 ppt for a continuous period of at least 14 days, and no other *aquatic animals* of a species referred to in Article 10.3.2. have been introduced during that period;

OR

- 2) the consignment is delivered directly to, and held in, *quarantine* or containment facilities until processed into one of the products referred to in point 1 of Article 10.3.3. or other products authorised by the *Competent Authority*; and
- 3) all water (including ice), equipment, *containers* and packaging material used in transport are treated to ensure inactivation of *G. salaris* or disposed of in a biosecure manner in accordance with Chapters 4.3., 4.7. and 5.5.; and
- 4) all effluent and waste materials from the *quarantine* facilities are treated to ensure inactivation of *G. salaris* or disposed of in a biosecure manner in accordance with Chapters 4.3. and 4.7.

Article 10.3.11.

**Importation of aquatic animals intended for use in laboratories or zoos from a country, zone or compartment not declared free from infection with *G. salaris***

When importing, for use in laboratories or zoos, *aquatic animals* of a species referred to in Article 10.3.2. from a country, *zone* or *compartment* not declared free from infection with *G. salaris*, the *Competent Authority* of the *importing country* should ensure:

- 1) the consignment is delivered directly to, and held in, *quarantine* facilities authorised by the *Competent Authority*; and
- 2) all water (including ice), equipment, *containers* and packaging material used in transport are treated to ensure inactivation of *G. salaris* or disposed of in a biosecure manner in accordance with Chapters 4.3., 4.7. and 5.5.; and
- 3) all effluent and waste materials from the *quarantine* facilities are treated to ensure inactivation of *G. salaris* or disposed of in a biosecure manner in accordance with Chapters 4.3. and 4.7.; and
- 4) the carcasses are disposed of in accordance with Chapter 4.7.

Article 10.3.12.

**Importation (or transit) of aquatic animal products for retail trade for human consumption regardless of the infection with *G. salaris* status of the exporting country, zone or compartment**

*Competent Authorities* should not require any conditions related to *G. salaris*, regardless of the infection with *G. salaris* status of the *exporting country*, *zone* or *compartment*, when authorising the importation (or transit) the following *aquatic animal products* that have been prepared and packaged for retail trade and comply with Article 5.4.2.:

- 1) *Competent Authorities* should not require any conditions related to *G. salaris*, regardless of the infection with *G. salaris* status of the *exporting country*, *zone* or *compartment*, when authorising the importation (or transit) the following *aquatic animal products* that have been prepared and packaged for retail trade and comply with Article 5.4.2.:
  - no *aquatic animal products* listed.

- 2) When importing *aquatic animal products*, other than those referred to in point 1 above, derived from a species referred to in Article 10.3.2. from a country, *zone* or *compartment* not declared free from infection with *G. salaris*, the *Competent Authority* of the *importing country* should assess the *risk* and apply appropriate *risk mitigation* measures.

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NB: FIRST ADOPTED IN 1997; MOST RECENT UPDATE ADOPTED IN 2018.