



*G. salaris Road Map Update from the United Kingdom*

*Update from UK – England and Wales*

<b>Recommendation</b>	<b>Proposed action</b>
<p>1. Preventive measures and contingency planning.</p>	<p><b>a)</b> Appropriate steps should be taken to prevent the spread of <i>G. salaris</i> on fishing equipment, boats, etc. by use of approved disinfection methods.</p> <p><b>b)</b> All movements of live fish should be recorded so that movements can be traced in the event of an outbreak of <i>G. salaris</i>.</p> <p><b>c)</b> In the event of detection of <i>G. salaris</i>, physical barriers to fish migration should be considered as a measure to prevent the spread of the parasite within a catchment and to uninfected catchments.</p> <p><b>c)</b> Where possible, routine breaks in production and disinfection on rainbow trout and salmon freshwater aquaculture sites should be implemented as part of a control programme in infected areas.</p> <p><b>e)</b> Permission to stock fish into infected river catchments should be based on an assessment of the increased risk of transmission of the parasite to non-infected rivers (e.g. through migration and other routes).</p> <p><b>f)</b> NEAC Parties and their relevant jurisdictions should have contingency plans in place for treatment, containment or eradication. These plans should be developed in consultation with stakeholders. A legal base for the use of rotenone or other treatments, containment and eradication measures should be put in place. Contingency plans should be tested periodically and updated as required.</p> <p><b>g)</b> NEAC Parties and their relevant jurisdictions should endeavor to ensure that adequate resources are available for the implementation of measures to contain and eradicate <i>G. salaris</i>.</p>

	<p>Measure related to risk of introduction of <i>G. salaris</i> on fish carcasses no longer considered necessary – deleted May 2023.</p>
<p>UK (England and Wales) progress on Recommendation 1</p>	<p><b>a)</b> The UK is free from <i>Gyrodactylus salaris</i>. Efforts continue to ensure that river operations comply with biosecurity protocols and to encourage anglers and other water users to remain vigilant to the risk of non-native species and pathogens, to report sightings and to take biosecurity measures (e.g. the 'Check, Clean, Dry' campaign; see: <a href="http://www.nonnativespecies.org/checkcleandry/index.cfm">http://www.nonnativespecies.org/checkcleandry/index.cfm</a>). The GB non-native species secretariat, with the support of partners, are also developing a Priority Angling Pathway plan to reduce the risk of anglers spreading invasive non-native species and pathogens, as required under the Invasive Alien Species Regulation 1143/2014. Further requirements under this Regulation and the Aquatic Animal Health (England and Wales) Regulations 2009 include training Border Force personnel, poster campaigns at ports and other points of entry, warning anglers to carry out biosecurity and liaison with other Member States to prevent aquatic pathogens such as <i>G. salaris</i> entering UK.</p> <p><b>b)</b> The Aquatic Animal Health (England and Wales) Regulations require all fish farms to be authorized by the Competent Authority, maintain movement records of fish on to and from the farm, and operate under an approved biosecurity measures plan. Farms are subject to annual statutory compliance inspections when farm movement records are validated. There are controls on the keeping and release of non-native species through the Wildlife &amp; Countryside Act (1981), Keeping and Introduction of Fish Regulations (2015), and Orders made under the Import of Live Fish Act (1980) (ILFA) will be maintained and continue to be enforced. The ILFA will provide for the screening, where necessary, of fish movements to prevent the spread of non-native fish and diseases</p>

	<p><b>c)</b> The UK is free from <i>G. salaris</i>. However, the use of physical barriers is considered as a means to prevent the spread of infection in the England and Wales <i>G. salaris</i> contingency plan.</p> <p><b>d)</b> The UK is free from <i>G. salaris</i>. However, breaks in production, fallowing and disinfection regimes are considered as good practice in the development of fish farm biosecurity measures plans.</p> <p><b>e)</b> The UK is free from <i>G. salaris</i>. The England and Wales <i>G. salaris</i> contingency plan includes provisions for the prevention of movements of live fish in a <i>G. salaris</i> outbreak, and for measures to mitigate the further spread of the parasite.</p> <p><b>f)</b> <i>G. salaris</i> contingency plans continue to be developed and tested. An exercise in 2019 highlighted the need to improve communications in the event of an outbreak, and further refinements to the plan to address these issues have been made. An exercise with the Environment Agency was conducted in 2022 to assess the resources required to undertake sampling across E&amp;W to demonstrate freedom at catchment level from Gs following detection. The communications plan is scheduled to be tested in 2023/4. The plan would be implemented immediately there was a confirmation of the presence of <i>G. salaris</i> in UK waters. The UK has legislative mechanisms for the approval of biocidal products, and for the implementation of containment and eradication measures in the event of a disease outbreak.</p> <p><b>g)</b> The England and Wales <i>G. salaris</i> contingency plan includes a facility to draw experienced resources from other government agencies and from the devolved administrations in order to assist in the implementation of measures to control a disease outbreak.</p>
<p>2. Cooperation on management</p>	<p><b>a)</b> The North-East Atlantic Commission (NEAC) should retain an item on <i>G. salaris</i> on the agendas for its annual meetings. This would facilitate reports by its Parties and their</p>

	<p>relevant jurisdictions and by the Working Group on measures to prevent the further spread of the parasite and to eradicate it in areas where it has been introduced and on other aspects of this ‘Road Map’.</p> <p><b>b)</b> The Working Group on <i>G. salaris</i> in the North-East Atlantic Commission Area should meet every 3 years thereafter, or more frequently if circumstances require, to provide a forum for more detailed information exchange and review of progress in implementing this ‘Road Map’.</p> <p><b>c)</b> Contingency plans developed by NEAC Parties and their relevant jurisdictions should be made available to the Working Group at its next meeting with the view to sharing information on approaches and challenges. The plans should be made available on the websites of the Competent Authorities with links to them from the NASCO website.</p> <p>) Minor edits made (2023)</p>
<p>UK (England and Wales) progress on Recommendation 2</p>	<p>a) This is a Recommendation for the NEAC and therefore not applicable to the UK (England and Wales) progress report.</p> <p>b) This is a Recommendation for the Working Group and therefore not applicable to the UK (England and Wales) progress report.</p> <p>c) The UK (England and Wales) Contingency plans for <i>G. salaris</i> have yet to be approved by Defra Ministers and so are not yet available for publication.</p>
<p>3. Monitoring methods for use in watercourses, lakes and in aquaculture.</p>	<p>The Working Group should review new developments with regard to monitoring for, and detection of, <i>G. salaris</i>, and develop recommendations for their inclusion in international (i.e. WOH) guidelines.</p>
<p>UK (England and Wales) progress on Recommendation 3</p>	<p>This is an action for the Working Group and therefore not directly applicable for UK (England and Wales) to report against this Recommendation. However, experts from UK (England and Wales) (Cefas) contribute to the Working Group, and therefore to delivering this Recommendation. Research undertaken by Cefas into the detection of <i>G. salaris</i> in wild fish populations includes the development of a</p>

	<p>non-destructive testing method for sampling gyrodactylids on fish. This method is currently in use for surveillance of Atlantic salmon populations in England and Wales. Cefas researchers have engaged with the Norwegian authorities to validate the testing methodology in infected water catchments.</p>
<p>4. Distribution of <i>G. salaris</i> in the NEAC area and adjacent areas.</p>	<p><b>a)</b> Existing monitoring programmes on salmonids in the wild and in aquaculture environments undertaken by NEAC Parties and their relevant jurisdictions should be retained and expanded as necessary. They should provide genetic data for all Gyrodactylus species isolated during monitoring. Reports on these programmes should be provided to the Working Group at their next meeting.</p> <p><b>b)</b> Information should be requested from all NEAC Parties and their relevant jurisdictions which have wild Atlantic salmon but which have not participated in the Working Group to date.</p> <p><b>c)</b> NEAC Parties and their relevant jurisdictions should identify <i>G. salaris</i> as an impact factor in the NASCO river database for those rivers infected by the parasite.</p> <p><b>d)</b> The NASCO Secretariat should make a request to the WOH reference laboratory for <i>G. salaris</i> seeking information on the distribution of <i>G. salaris</i> in countries that have wild and/or farmed susceptible species, but which do not have wild Atlantic salmon.</p>
<p>UK (England and Wales) progress on Recommendation 4</p>	<p><b>a)</b> The Cefas fish health inspectorate (FHI) carries out sampling of species susceptible to <i>G. salaris</i> to maintain skills and experience in relevant techniques. Due to the low number of salmon farms in England and Wales, samples are obtained from wild salmonid populations. This work is carried out in conjunction with the Environment Agency's area fisheries teams during their annual wild fish population surveys. The Cefas FHI carries out monitoring for <i>G. salaris</i> in England and Wales through a rolling programme of sampling covering all river catchments which contain salmon. Within England and Wales, there are seventy-eight rivers that support salmon, although not all</p>

	<p>currently host large populations. Each of the catchments is sampled approximately every five years where possible. The fish sampled are usually parr, of up to 15 cm in length, and a total of 30 fish are sampled where possible. Generally, a sample of 30 salmon are taken, but where the numbers of salmon are too low to obtain this sample size, trout and grayling may be taken as a substitute. The Cefas Weymouth laboratory has evaluated a <i>G. salaris</i>-specific real-time PCR assay developed by Marine Scotland Science. The assay has been validated so that samples can be pooled with loss of sensitivity. This has made screening large numbers of parasites that would need to be tested when undertaking forward and backward tracing during a disease outbreak, quicker and cheaper. The haplotype of any positive samples would be confirmed by amplification and sequence analysis of the COI gene.</p> <p><b>b)</b> Not applicable to UK (England and Wales) because it has participated in the Working Group. <b>c)</b> As <i>G. salaris</i> has not been found in rivers of UK (England and Wales), it is not specified as an impact factor in the NASCO river database for those rivers.</p> <p><b>d)</b> This is a Recommendation to the NASCO Secretariat and therefore not applicable for this response by UK (England and Wales)</p>
<p>5. Research to inform the effective management of <i>G. salaris</i>.</p>	<p><b>a)</b> The NEAC Parties and their relevant jurisdictions should conduct applied research to inform the effective management of <i>G. salaris</i>, particularly the following:</p> <ul style="list-style-type: none"> <li>- the distribution and genetics of <i>G. salaris</i>;</li> <li>- the effects of salmon genetics on susceptibility to <i>G. salaris</i>;</li> <li>- the effect of environmental factors on pathogenicity;</li> <li>- to clarify the classification of <i>G. salaris</i> and <i>G. thymalli</i> and then develop a reliable method to distinguish between pathogenic and non-pathogenic strains;</li> <li>- general biology and mechanisms of spread of the parasite;</li> </ul>

	<p>- effect of environmental parameters and ecology on the distribution of <i>G. salaris</i>;</p> <p>- detection and diagnostic methods for <i>G. salaris</i>;</p> <p>- new environmentally friendly treatment methods in rivers and lakes, e.g. acid aluminum and chloride.</p> <p><b>b)</b> The Working Group should keep research requirements and monitoring needs under review and report regularly to the NEAC.</p>
UK (England and Wales) progress on Recommendation 5	<p><b>a)</b> As the UK is free from infection with <i>G. salaris</i> research into the environmental factors influencing <i>G. salaris</i> is not easily conducted. The main emphasis of research conducted at the Cefas Weymouth laboratory is the development of refined molecular diagnostics to differentiate between <i>Gyrodactylus salaris</i>, and <i>Gyrodactylus thymalli</i>. This research programme is ongoing. Molecular analysis of <i>G. thymalli</i> present in E&amp;W will allow more accurate and quicker discrimination of parasites collected during surveillance in the event of an outbreak. <i>G. thymalli</i> samples are shared with the WOAHP reference laboratory.</p> <p><b>b)</b> This Recommendation is to the Working Group and therefore is not applicable to this UK (England and Wales) progress report.</p>
6. Classification of Gyrodactylus species	NEAC Parties and their relevant jurisdictions should only support any future proposal to synonymise <i>G. salaris</i> and <i>G. thymalli</i> if, in parallel, WOAHP standards and national legislation recognize the different pathogenicity and host predilection of these two species.
UK (England and Wales) progress on Recommendation 6	The UK supports this position. Research conducted at Cefas is analyzing the genome of <i>G. salaris</i> and <i>G. thymalli</i> in order to differentiate the two species and attempting to identify genetic markers that differentiate the two species which could be used as targets in PCR assays.
7. Publicity, education, and awareness	<b>a)</b> NEAC Parties and their relevant jurisdictions should develop publicity material on the threat of the parasite to wild Atlantic salmon and specify measures to prevent its spread; strategies for the effective

	<p>dissemination of this material should be developed particularly with regard to targeting high risk groups. Existing material should be reviewed and updated as appropriate in the light of current knowledge. The NASCO Secretariat should develop standard text as a basis for such publicity material. b) This material should be made available on the web sites and promoted on the social media platforms of the Competent Authorities and NASCO with a view to highlighting the serious risks posed by the spread of the parasite.</p>
<p>UK (England and Wales) progress on Recommendation 7</p>	<p><b>a)</b> The Cefas Fish Health Inspectorate publish information on <i>G. salaris</i>, fish farm biosecurity, fishery biosecurity and best practice for anglers both as hard copy material and through electronic means. Efforts continue to ensure in-river operations comply with biosecurity protocols and to encourage anglers and other water users to remain vigilant to the risk of nonnative species and pathogens, to report sightings and to take biosecurity measures (e.g. the 'Check, Clean, Dry' campaign; see: <a href="http://www.nonnativespecies.org/checkcleandry/index.cfm">http://www.nonnativespecies.org/checkcleandry/index.cfm</a>). The GB non-native species secretariat, with the support of partners, are also developing a Priority Angling Pathway plan to reduce the risk of anglers spreading invasive non-native species and pathogens, as required under the Invasive Alien Species Regulation 1143/2014. Further requirements under this Regulation and under the Aquatic Animal Health (England and Wales) Regulations 2009 include training Border Force personnel, poster campaigns at ports warning anglers to carry out biosecurity and liaison with other Member States to prevent aquatic invasive species, such as <i>G. salaris</i> entering UK. The last part of this sub-Recommendation is for the NASCO Secretariat and therefore not applicable to this progress report.</p> <p><b>b)</b> Information on biosecurity is published on the Gov.UK website, and on social media</p>



	<p>through the Fish Health Inspectorate Facebook page.</p> <p>No update required (2022)</p>
8. Continuity of current measures in the EU Animal Health Law	<p>Relevant NEAC Parties and their relevant jurisdictions should seek to ensure continuity in the provisions related to <i>G. salaris</i> in current EU animal health legislation (Regulation 2016/429) which should be retained, in particular with regard to additional guarantees.</p>
UK (England and Wales) progress on Recommendation 8	<p>Not relevant to the UK.</p>
9. Criteria for diagnosis and establishing <i>G. salaris</i> -free zones	<p>NEAC Parties and their relevant jurisdictions should implement the diagnostic standards in the WOH Manual of Diagnostic Tests for Aquatic Animals.</p>
UK (England and Wales) progress on Recommendation 9	<p>UK (England and Wales) continues to apply WOH diagnostic standards and is considering use of eDNA methods recently published by the OIE for <i>G. salaris</i>.</p>
10. Trade in live susceptible fish species	<p><b>a)</b> Trade in disinfected eggs is preferable to trade in live susceptible fish species. However, where movements of live susceptible fish species are approved, NEAC Parties and their relevant jurisdictions should ensure that trade in live susceptible fish species only takes place between areas of equal <i>G. salaris</i> status or from a higher to lower status area.</p> <p><b>b)</b> NEAC Parties and their relevant jurisdictions should ensure the health status of the traded live susceptible fish species and/or their eggs, and the competence of the certifying Authority.</p>
UK (England and Wales) progress on Recommendation 10	<p><b>a)</b> At present, the UK is recognised as being free from <i>G. salaris</i> and as such the parasite is considered exotic to the country. The UK is one of the few areas in Europe that is recognised free from the parasite along with the Republic of Ireland and two river catchments in Finland. Due to recognised freedom from <i>G. salaris</i>, the United Kingdom is able to restrict imports of live salmonids to countries that have an equivalent health status i.e. demonstrated freedom from <i>G. salaris</i> and are approved as such by that countries competent authority. The National controls</p>

	<p>implemented under the 8 Aquatic Animal Health (England and Wales) Regulations 2009 mean that any suspicion of infection or mortality resulting from infection must be reported to the Fish Health Inspectorate. Failure to inform the FHI of any suspicion of <i>G. salaris</i> is an offence under the regulations.</p> <p><b>b)</b> The UK applies strict controls on the import of susceptible species of live fish and ova in order to protect the high aquatic animal health status. In addition to the requirement for health attestations for imports of live aquatic animals England and Wales also implements a post import disease surveillance programme for all imports of <i>G. salaris</i> susceptible species.</p>
<p>11. Shared catchments</p>	<p>NEAC Parties and their relevant jurisdictions with shared catchments or having catchments in close proximity should implement appropriate mechanisms for cooperation, including the establishment and strengthening of inter-country working groups and the development of common contingency plans to control and eradicate <i>G. salaris</i>.</p>
<p>UK (England and Wales) progress on Recommendation 11</p>	<p>UK (England and Wales) shares catchments with UK (Scotland). There is a clear legal basis attributing statutory responsibilities across the two shared catchments with responsibility for the River Tweed catchment falling to Scottish Government, with the River Esk catchment being the responsibility of England. There is regular engagement between the Competent Authorities and the Official Services on aquatic animal health across the administrations, including participation in joint contingency exercises.</p> <p>All measures still relevant – no update required 2023</p>

## *Update from UK – Northern Ireland*

NEA14.704

### *Template for the Provision of Information to the Working Group on *G. salaris**

The Terms of Reference (ToRs) for the 2022 Meeting of the Working Group on *G. salaris* are as follows:

1. Provide a forum for exchange of information among the Parties / jurisdictions on research on, and monitoring, control and eradication programmes for, the parasite *G. salaris*;
2. Review progress in relation to the recommendations contained in the Commission's '[Road Map](#)' including progress with the development and testing of contingency plans; and
3. Develop recommendations for enhanced co-operation on measures to prevent the further spread of the parasite and for its eradication in areas where it has been introduced.

This template allows Parties / jurisdictions to provide information in response to each of the above ToRs, including on the recommendations in the Road Map, [NEA\(18\)08](#). Only those recommendations that relate to Parties / jurisdictions are included.

The information provided will be annexed to the Report of the Meeting, which will be posted on the NASCO website.

Some recommendations may not be relevant to your Party / jurisdiction, but please complete the template as best you can and return it to the Secretariat **by 20 October 2022**.

**ToR 1:** Provide a forum for exchange of information among the Parties / jurisdictions on research on, and monitoring, control and eradication programmes for, the parasite *G. salaris*

*Please provide any information you wish to share on research on, and monitoring, control and eradication programmes for *G. salaris*:*

Northern Ireland is free from *G. salaris* and has adopted national measures approved as per EU 2021/260. This allows control of movement into Northern Ireland of susceptible species in that they must originate from MS (or parts) free from disease and that they must be accompanied by an official certificate covering health guarantees.

In order to ensure continued disease freedom surveillance samples of 30 fish are taken from 10 - 12 farms and 8 rivers annually. Samples are analysed at AFBI by skin scrape, microscopic examination and PCR testing. All results since testing began in 2007 have been negative.

**ToR 2:** Review progress in relation to the recommendations contained in the Commission's '[Road Map](#)' including progress with the development and testing of contingency plans.

*The recommendations relevant to Parties / jurisdictions are set out below.*

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| 1. a) | Appropriate steps should be taken to prevent the spread of <i>G. salaris</i> on fishing equipment, boats, etc. by use of approved disinfection methods. |
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*Please provide information on your Parties' / jurisdiction's progress on this:*

Excerpt from the DAERA contingency plan: ‘DAERA will produce / distribute posters/leaflets alerting local river users to the outbreak and providing advice on precautionary measures they can take to avoid or prevent the spread of GS. These will be posted at key river sites by DAERA and Loughs Agency Fishery Officers, as appropriate. Up to date information will be provided on the current GS situation on the DAERA and Loughs Agency websites as required.’

1. b)	All movements of live fish should be recorded so that movements can be traced in the event of an outbreak of <i>G. salaris</i> .
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*Please provide information on your Parties’ / jurisdiction’s progress on this:*

For internal moves operators must notify DAERA of their intention to move a consignment of live fish. An inspector will issue a permit to accompany the consignment. Movements into and out of Northern Ireland are accompanied by an animal health certificate (intratrade or export). Operators must keep records of such movements per the Animal Health Law.

1. c)	The risk of <i>G. salaris</i> introduction through the processing of fish carcasses should be assessed and, where appropriate, mitigated through control of processing
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*Please provide information on your Parties’ / jurisdiction’s progress on this:*

*N/A , no processing facilities in NI*

1. d)	Physical barriers to fish migration should be considered as a measure to prevent the spread of <i>G. salaris</i> within a catchment and to uninfected catchments.
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*Please provide information on your Parties’ / jurisdiction’s progress on this:*

*N/A*

1. e)	Where possible, routine breaks in production and disinfection on rainbow trout and salmon freshwater aquaculture sites should be implemented as part of a control programme in infected areas.
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*Please provide information on your Parties’ / jurisdiction’s progress on this:*

*N/A*

1. f)	Permission to stock fish into infected river catchments should be based on an assessment of the increased risk of transmission of the parasite to non-infected rivers (e.g. through migration and other routes)
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*Please provide information on your Parties’ / jurisdiction’s progress on this:*

*N/A – (authorisation is required before stocking is allowed as normal business.)*

1. g)	NEAC Parties and their relevant jurisdictions should have contingency plans in place for treatment, containment or eradication. These plans should be developed in consultation with stakeholders. A legal base for the use of rotenone or other treatments, containment and eradication measures should be put in place. Contingency plans should be tested periodically and updated as required
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*Please provide a link to your Parties’ / jurisdiction’s contingency plan:*

The DAERA contingency plan for GS is in draft form and not yet published on the DAERA website.

*Please provide any other relevant information on this:*

A contingency exercise was conducted earlier this year to test DAERA's response to an outbreak of IHN. Many of the lessons learned from that exercise and the action points to be implemented will be applicable to the GS contingency plan

1. h)	NEAC Parties and their relevant jurisdictions should endeavour to ensure that adequate resources are available for the implementation of measures to contain and eradicate <i>G. salaris</i> .
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*Please provide information on your Parties' / jurisdiction's progress on this:*

Human resources would be sought from other work areas in the first instance in the event of a positive test . No formal arrangements are in place with outside bodies.

3.	The Working Group should review new developments with regard to monitoring for, and detection of, <i>G. salaris</i> , and develop recommendations for their inclusion in international guidelines
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*Please provide information on your Parties' / jurisdiction's progress on this:*

None

4. a)	Existing monitoring programmes on salmonids in the wild and in aquaculture environments undertaken by NEAC Parties and their relevant jurisdictions should be retained and expanded as necessary. They should provide genetic data for all <i>Gyrodactylus</i> species isolated during monitoring. Reports on these programmes should be provided to the Working Group at their next meeting.
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*Please provide information on your Parties' / jurisdiction's progress on this:*

The Gyrodactylis sequencing test is not available in AFBI.

5. a)	<p>The NEAC Parties and their relevant jurisdictions should conduct applied research to inform the effective management of <i>G. salaris</i>, particularly the following:</p> <ul style="list-style-type: none"><li>- the distribution and genetics of <i>G. salaris</i>;</li><li>- the effects of salmon genetics on susceptibility to <i>G. salaris</i>;</li><li>- the effect of environmental factors on pathogenicity;</li><li>- to clarify the classification of <i>G. salaris</i> and <i>G. thymalli</i> and then develop a reliable method to distinguish between pathogenic and non-pathogenic strains;</li><li>- general biology and mechanisms of spread of the parasite;</li><li>- effect of environmental parameters and ecology on the distribution of <i>G. salaris</i>;</li><li>- detection and diagnostic methods for <i>G. salaris</i>;</li><li>- new environmental friendly treatment methods in rivers and lakes, e.g. acid aluminum and chloride.</li></ul>
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Please provide information on your Parties' / jurisdiction's progress on this:

N/A

7. a) & 7. b)	NEAC Parties and their relevant jurisdictions should develop publicity material on the threat of the parasite to wild Atlantic salmon and specify measures to prevent its spread; strategies for the effective dissemination of this material should be developed particularly with regard to targeting high risk groups. Existing material should be reviewed and updated as appropriate in the light of current knowledge. The NASCO Secretariat should develop standard text as a basis for such publicity material.  This material should be made available on the web sites and promoted on the social media platforms of the Competent Authorities and NASCO with a view to highlighting the serious risks posed by the spread of the parasite.
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Please provide information on your Parties' / jurisdiction's progress on this:

Publicity material exists to prevent the spread of invasives and is available on Government websites. Any new material on GS can be added and angling clubs / fishery owners made aware.

8.	Relevant NEAC Parties and their relevant jurisdictions should seek to ensure continuity in the provisions related to <i>G. salaris</i> in current EU animal health legislation (Regulation 2016/429) which should be retained, in particular with regard to additional guarantees.
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Please provide information on your Parties' / jurisdiction's progress on this:

Animal Health Law Regulation (EU) 2016/429 is applicable in Northern Ireland

National Measures are applied as per EU 2021/260

9.	NEAC Parties and their relevant jurisdictions should implement the diagnostic standards in the OIE Manual of Diagnostic Tests for Aquatic Animals.
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Please provide information on your Parties' / jurisdiction's progress on this:

AFBI follow the OIE aquatic manual (Chapter 2.3.3) for surveillance of Gryodactylid species on farmed and wild salmonids.

10. a)	Trade in disinfected eggs is preferable to trade in live susceptible fish species. However, where movements of live susceptible fish species are approved, NEAC Parties and their relevant jurisdictions should ensure that trade in live susceptible fish species only takes place between areas of equal <i>G. salaris</i> status or from a higher to lower status area
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Please provide information on your Parties' / jurisdiction's progress on this:

Movements are controlled. No movements in allowed from countries not GS free

10. b)	NEAC Parties and their relevant jurisdictions should ensure the health status of the traded live susceptible fish species and/or their eggs, and the competence of the certifying Authority.
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Please provide information on your Parties' / jurisdiction's progress on this:

EU model certificates are required

11.	NEAC Parties and their relevant jurisdictions with shared catchments or having catchments in close proximity should implement appropriate mechanisms for cooperation, including the establishment and strengthening of inter-country working groups and the development of common contingency plans to control and eradicate <i>G. salaris</i> .
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*Please provide information on your Parties' / jurisdiction's progress on this:*

DAERA is aware of the need to co-operate with Ireland as there are a number of shared catchments.

**ToR 3:** Develop recommendations for enhanced co-operation on measures to prevent the further spread of the parasite and for its eradication in areas where it has been introduced

*Please provide any information you wish to share on co-operation (including international, national or regional co-operation) on measures to prevent the further spread of the parasite and for its eradication in areas where it has been introduced*

N/A

**Please provide any other information you feel would be beneficial to the Working Group**

## *Update from UK – Scotland*

A summary of the actions taken within Scotland against the Road Map recommendations from the North-East Atlantic Commission Area (NEAC) Working Group on *Gyrodactylus salaris* are provided below. The detail is based upon a submission made to the working group in October 2022, with some minor updates.

The second term of reference of the working group is to review the progress made in relation to the recommendations contained within the Commission's 'Road Map' including progress with the development and testing of contingency plans.

Below are the extracted recommendations and updated comments against each in terms of progress within Scotland, where these are applicable.

*1. a) Appropriate steps should be taken to prevent the spread of G. salaris on fishing equipment, boats, etc. by use of approved disinfection methods.*

Wild fishery stakeholders continue to undertake measures aimed at preventing the introduction of *Gyrodactylus salaris* (Gs) into Scotland. Scotland, as part of the wider GB Health Zone, is recognised as being free from Gs. Measures taken by wild fishery stakeholders include:

- ensuring disinfection of fishing equipment by action or certificate prior to use
- providing equipment to visiting anglers, to avoid potentially infected equipment being used
- educating anglers in best practice in relation to the risks of aquatic animal disease
- developing catchment and river contingency plans in the event of an outbreak of Gs
- mapping and surveying of catchments to facilitate with eradication if required

Many of these actions replicate the requirements of the 'Home & Dry' campaign which was implemented to help prevent the introduction of Gs. These activities follow similar principles associated with the UK-wide 'Check, Clean & Dry' campaign aimed at preventing the introduction of invasive and non-native species. Going forwards, it is likely that 'Home & Dry' will cease, partly because of the emergence of other non-related campaigns using the same terminology. The initiative of best practice associated with preventing the introduction of Gs will be more closely aligned with 'Check, Clean & Dry'.

*1. b) All movements of live fish should be recorded so that movements can be traced in the event of an outbreak of G. salaris.*

All movements of live fish from Aquaculture Production Businesses (APBs) are required to be maintained by law as detailed within the authorisation conditions in accordance with the Aquatic Animal Health (Scotland) Regulations 2009. APBs include all fish farm sites as well as wild fish hatcheries moving stocks between catchments.

*1. c) The risk of G. salaris introduction through the processing of fish carcasses should be assessed and, where appropriate, mitigated through control of processing*

No action taken on this aspect within the reporting period.

*1. d) Physical barriers to fish migration should be considered as a measure to prevent the spread of G. salaris within a catchment and to uninfected catchments.*



N/A – No evidence of Gs within Scotland. Physical barriers both natural and man-made are recognised within Scotland’s Contingency Plan as management tools to facilitate with containing and eradicating Gs.

*1. e) Where possible, routine breaks in production and disinfection on rainbow trout and salmon freshwater aquaculture sites should be implemented as part of a control programme in infected areas.*

N/A – No infected areas within Scotland. In the case of infection then areas subject to movement restriction will have statutory controls which can regulate restocking and require cleaning and disinfection activities.

*1. f) Permission to stock fish into infected river catchments should be based on an assessment of the increased risk of transmission of the parasite to non-infected rivers (e.g. through migration and other routes)*

N/A – No infected areas within Scotland.

*1. g) NEAC Parties and their relevant jurisdictions should have contingency plans in place for treatment, containment or eradication. These plans should be developed in consultation with stakeholders. A legal base for the use of rotenone or other treatments, containment and eradication measures should be put in place. Contingency plans should be tested periodically and updated as required*

*Please provide a link to your Parties’ / jurisdiction’s contingency plan:*

<https://www.gov.scot/Topics/marine/Fish-Shellfish/18364/18610/previous/gswg/Gyrocontingency>

The above plan is published on the Scottish Government website.

*Please provide any other relevant information on this:*

Scottish Government has developed and maintains generic contingency plans to deal with outbreaks of listed disease in accordance with The Aquatic Animal Health (Scotland) Regulations 2009. In the event of an outbreak, operational and strategic responses will be undertaken by Marine Scotland with a view to containing and eradicating disease where possible.

In recognition of the additional challenges posed by Gs, in terms of the potential impacts on wild fish, discrete contingency plans have been developed to deal with an outbreak of the parasite in Scotland. Part of the contingency procedure recognises the extensive expertise and experiences within Norway in terms of containing and eradicating. Agreements have been established to utilise this expertise should the need arise.

Scottish contingency plans for Gs are currently in their 4th edition and were last revised in March 2011. A review of the Gs plan was commenced in September 2022. This is ongoing and the review will allow an update of the plan in relation to Marine Scotland structural and organisational changes, legislation, scientific and diagnostic updates, stakeholder involvement, as well as agreements and MoUs in place.

*1. h) NEAC Parties and their relevant jurisdictions should endeavour to ensure that adequate resources are available for the implementation of measures to contain and eradicate G. salaris.*

Marine Scotland has an established Fish Health Inspectorate and diagnostic capacity which together forms the National Disease Control Centre (NDCC). Scottish Government policy colleagues provide the function of the Disease Strategy Group (DSG). Together the NDCC and the DSG provide the operational and strategic response to any outbreak or detection of Gs. Contingency procedures identify potential assistance from stakeholders particularly in terms of sampling and eradication.

*Recommendation 2 is aimed at the NEAC and therefore no update is relevant from Scotland from this perspective.*

*3. The Working Group should review new developments with regard to monitoring for, and detection of, G. salaris, and develop recommendations for their inclusion in international guidelines*

No action on this in relation to new developments for monitoring or detection within the time period of this update. Procedures adopted in Scotland reflect the current standards as detailed through WOA. H.

*4. a) Existing monitoring programmes on salmonids in the wild and in aquaculture environments undertaken by NEAC Parties and their relevant jurisdictions should be retained and expanded as necessary. If requested, information from monitoring should be made available to the Working Group for consideration at its next meeting.*

Active and passive surveillance programmes remain in place to support Scotland's disease free status with respect to Gs. No targeted screening or sampling for Gs is undertaken and sampling is only conducted where diagnostic samples are collected or in response to issues / suspicions raised, either within farmed or wild fish populations.

*5. a) The NEAC Parties and their relevant jurisdictions should conduct research to inform the effective management of G. salaris, particularly the following:*

- *the distribution and genetics of G. salaris;*
- *the effects of salmon genetics on susceptibility to G. salaris;*
- *the effect of environmental factors on pathogenicity;*
- *to clarify the classification of G. salaris and G. thymalli and then develop a reliable method to distinguish between pathogenic and non-pathogenic strains;*
- *general biology and mechanisms of spread of the parasite;*
- *effect of environmental parameters and ecology on the distribution of G. salaris;*
- *detection and diagnostic methods for G. salaris;*
- *new environmental friendly treatment methods in rivers and lakes, e.g. acid aluminum and chloride.*

No research is being undertaken by Marine Scotland on these areas at present.

*6. NEAC Parties and their relevant jurisdictions should only support any future proposal to synonymise G. salaris and G. thymalli if, in parallel, WOA. H standards and national legislation recognize the different pathogenicity and host predilection of these two species.*

Recommendation 6 relates to the classification of *Gyrodactylus* species. This was not addressed through the contribution by Scotland to the working group, but we agree with the UK position expressed previously in supporting the view which agrees with this recommendation.

7. a) *NEAC Parties and their relevant jurisdictions should develop publicity material on the threat of the parasite to wild Atlantic salmon and specify measures to prevent its spread; strategies for the effective dissemination of this material should be developed particularly with regard to targeting high risk groups. Existing material should be reviewed and updated as appropriate in the light of current knowledge.*

7. b) *This material should be made available on the web sites and promoted on the social media platforms of the Competent Authorities and NASCO with a view to highlighting the serious risks posed by the spread of the parasite.*

‘Home and Dry’ campaign material is still in existence. Guidance is available on-line with respect to best practice relating to preventing the introduction and spread of aquatic animal pathogens. Going forwards, the initiative of best practice associated with preventing the introduction of Gs will be more closely aligned with ‘Check, Clean & Dry’.

8. *Relevant NEAC Parties and their relevant jurisdictions should seek to ensure continuity in the provisions related to G. salaris in current EU animal health legislation (Regulation 2016/429) which should be retained, in particular with regard to additional guarantees.*

Trade restrictions to facilitate in preventing the introduction of Gs remain in place.

Scotland (as part of the GB health zone), has recognised disease freedom with respect to Gs. Following EU exit, trade restrictions were maintained via Regulation 1251/2008 which was retained and amended accordingly. The restrictions in place assist in preventing the import of Gs through commercial activity involving the trade in live aquatic animals. With respect to Gs, imports are permitted only where they are accompanied by a health certificate confirming that the animals, either originate from an area free from Gs, or they have been held immediately prior to dispatch in saltwater for a designated period, or in the case of eggs they have been disinfected prior to dispatch

These measures assist in protecting Scotland from the introduction of the parasite through commercial activity associated with live aquatic animal trade.

9. *NEAC Parties and their relevant jurisdictions should implement the diagnostic standards in the WOAAH Manual of Diagnostic Tests for Aquatic Animals.*

WOAH standards are embedded within MS diagnostic process.

With regards to the detection of Gs, the diagnostic methods employed by MSS satisfies the recommended methodology detailed within the WOAAH Manual of Diagnostic Tests for Aquatic Animals (2022).

Scotland also supports the United Kingdom as a member of WOAAH, by providing comments on the Aquatic Code and Aquatic Manual. These documents cover international recommended standards and practices with respect to specific pathogens, including Gs. Areas covered include:

- trade in and movements of aquatic animals and aquatic animal products
- health status including disease freedom

- biological and aetiological characteristics of pathogens
- surveillance, sampling and diagnostic techniques and procedures

*10. a) Trade in disinfected eggs is preferable to trade in live susceptible fish species. However, where movements of live susceptible fish species are approved, NEAC Parties and their relevant jurisdictions should ensure that trade in live susceptible fish species only takes place between areas of equal *G. salaris* status or from a higher to lower status area*

*10. b) NEAC Parties and their relevant jurisdictions should ensure the health status of the traded live susceptible fish species and/or their eggs, and the competence of the certifying Authority.*

With respect to part 10(a) and 10(b) procedures are established and implemented as part of Scotland's trade control measures. Some additional details are provided through section 8 above.

*11. NEAC Parties and their relevant jurisdictions with shared catchments or having catchments in close proximity should implement appropriate mechanisms for cooperation, including the establishment and strengthening of inter-country working groups and the development of common contingency plans to control and eradicate *G. salaris*.*

Cross border issues are identified and established within the Gs Contingency Plan. Agreements are in place with Defra and Cefas concerning operations and disease control measures with respect to the rivers Tweed and the Border Esk.