	North-East Atlantic Commission *G.salaris 'Road map' Update* *(Tabled by the United Kingdom – England and Wales)*	**NEA(22)10** **Agenda item: 8**

G.salaris 'Road map' Update
(Tabled by the United Kingdom – England and Wales)

Recommendation	**Proposed action**
1. Preventive measures and contingency planning.	**a)** Appropriate steps should be taken to prevent the spread of *G. salaris* on fishing equipment, boats, etc. by use of approved disinfection methods. **b)** All movements of live fish should be recorded so that movements can be traced in the event of an outbreak of *G. salaris*. **c)** The risk of *G. salaris* introduction through the processing of fish carcasses should be assessed and, where appropriate, mitigated through control of processing. **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. **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. **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). **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. **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*.

	All measures still relevant – no update required 2022
UK (England and Wales) progress on Recommendation 1	**a)** The UK is free from *Gyrodactylus salaris*. 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 non-native species and pathogens, to report sightings and to take biosecurity measures (e.g. the 'Check, Clean, Dry' campaign; see: http://www.nonnativespecies.org/checkcleandry/index.cfm). 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 *G. salaris* entering UK. **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 & 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

	c) A risk assessment on routes of introduction of *G. salaris* into England and Wales concluded that the risk of introduction from processing imported fish was considered to be negligible. The majority of fish processed in the UK is derived from the marine environment and thus presents no risk of introducing *G. salaris*. In addition, fish processors are subject to strict controls in relation to the safe disposal of processing wastes. **d)** The UK is free from *G. salaris*.. However, the use of physical barriers is considered as a means to prevent the spread of infection in the England and Wales *G. salaris* contingency plan. **e)** The UK is free from *G. salaris*.. However, breaks in production, fallowing and disinfection regimes are considered as good practice in the development of fish farm biosecurity measures plans. **f)** The UK is free from *G. salaris*. The England and Wales *G. salaris* contingency plan includes provisions for the prevention of movements of live fish in a *G. salaris* outbreak, and for measures to mitigate the further spread of the parasite. **g)** *G. salaris* contingency plans continue to be developed and tested. An exercise in 2019 highlighted the needed 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&W to demonstrate freedom at catchment level from Gs following detection. The communications plan is scheduled to be tested in 2022 or 2023.The plan would be implemented immediately there was a suspicion or confirmation of the presence of *G. salaris* 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. **h)** The England and Wales *G. salaris* 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.
2. Cooperation on management	**a)** The North-East Atlantic Commission (NEAC) should retain an item on *G. salaris* on the agendas for its annual meetings. This would facilitate reports by its Parties and their 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'. **b)** The Working Group on *G. salaris* in the North-East Atlantic Commission Area should meet again in 2018 and then 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'. **c)** 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. No update required (2022)
UK (England and Wales) progress on Recommendation 2	a) This is a Recommendation for the NEAC and therefore not applicable to the UK (England and Wales) progress report. b) This is a Recommendation for the Working Group and therefore not applicable to the UK (England and Wales) progress report. c) The UK (England and Wales) Contingency plans for *G. salaris* have yet to be approved by Defra Ministers and so are not yet available for publication.

3. Monitoring methods for use in watercourses, lakes and in aquaculture.	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.
UK (England and Wales) progress on Recommendation 3	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 *G. salaris* in wild fish populations includes the development of a 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.
4. Distribution of *G. salaris* in the NEAC area and adjacent areas.	**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 *Gyrodactylus* species isolated during monitoring. Reports on these programmes should be provided to the Working Group at their next meeting. **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. **c)** NEAC Parties and their relevant jurisdictions should identify *G. salaris* as an impact factor in the NASCO river database for those rivers infected by the parasite. **d)** The NASCO Secretariat should make a request to the OIE reference laboratory for *G. salaris* seeking information on the distribution of *G. salaris* in countries that have wild and/or farmed susceptible species, but which do not have wild Atlantic salmon.

UK (England and Wales) progress on Recommendation 4	**a)** The Cefas fish health inspectorate (FHI) carries out sampling of species susceptible to *G. salaris* 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 *G. salaris* in England and Wales through a rolling programme of sampling covering all river catchment's which contain salmon. Within England and Wales, there are seventy-eight rivers that support salmon, although not all 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 *G. salaris*-specific real-time PCR 5 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. **b)** Not applicable to UK (England and Wales) because it has participated in the Working Group. **c)** As *G. salaris* 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. **d)** This is a Recommendation to the NASCO Secretariat and therefore not applicable for this response by UK (England and Wales)

5. Research to inform the effective management of *G. salaris*.	**a)** The NEAC Parties and their relevant jurisdictions should conduct applied 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 environmentally friendly treatment methods in rivers and lakes, e.g. acid aluminum and chloride. **b)** The Working Group should keep research requirements and monitoring needs under review and report regularlyto the NEAC.
UK (England and Wales) progress on Recommendation 5	**a)** As the UK is free from infection with *G. salaris* research into the environmental factors influencing *G. salaris* 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 *Gyrodactylus* salaris, and *Gyrodactylus thymalli*. This research programme is ongoing. Molecular analysis of *G. thymalli* present in E&W will allow more accurate and quicker discrimination of parasites collected during surveillance in the event of an outbreak. *G. thymalli* samples are shared with the OIE reference laboratory. **b)** This Recommendation is to the Working Group and therefore is not applicable to this UK (England and Wales) progress report.
6. Classification of *Gyrodactylus* species	NEAC Parties and their relevant jurisdictions should only support any future proposal to synonomise *G. salaris* and *G. thymalli* if, in parallel, OIE 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 analysing the genome of *G. salaris* and *G. thymalli* 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	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. 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.
UK (England and Wales) progress on Recommendation 7	**a)** The Cefas Fish Health Inspectorate publish information on *G. salaris*, 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: http://www.nonnativespecies.org/checkcleandry/index.cfm). 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 *G. salaris* entering UK. The last part of this sub-Recommendation is for the NASCO Secretariat and therefore not 7 applicable to this progress report. **b)** Information on biosecurity is published on the Gov.UK website, and on social media through the Fish Health Inspectorate Facebook page. No update required (2022)
8. Continuity of current measures in the EU Animal Health Law	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.
UK (England and Wales) progress on Recommendation 8	*G. salaris* is not on the list of diseases subject to control at EU level. Individual Member States that wish to seek freedom for this disease and place restrictions on trade in susceptible species from infected countries must do so using the National Measures provisions in Article 226 of EC Regulation 2016/429. These are effectively the same as the current national measures that UK uses to control the disease under current Aquatic Animal Health Regulations. in order to maintain freedom from this disease throughout the UK
9. Criteria for diagnosis and establishing *G. salaris*-free zones	NEAC Parties and their relevant jurisdictions should implement the diagnostic standards in the OIE Manual of Diagnostic Tests for Aquatic Animals.
UK (England and Wales) progress on Recommendation 9	UK (England and Wales) continues to apply OIE diagnostic standards and is considering use of eDNA methods recently published by the OIE for Gs..
10. Trade in live susceptible fish species	**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. **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.
UK (England and Wales) progress on Recommendation 10	**a)** At present, the UK is recognised as being free from *G. salaris* and as such the parasite is considered exotic to the country. The UK is one of the few areas within the EU that is recognised free from the parasite along with the Republic of Ireland and two river catchments in Finland. Due to recognised freedom from *G. salaris*, under Council Directive 2006/88/EC, Article 43, the United Kingdom is able to restrict imports of live salmonids to countries that have an equivalent health status i.e. demonstrated freedom from *G. salaris* and are approved as such by that countries competent authority. The National controls 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 *G. salaris* is an offence under the regulations. **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 susceptible species.
11. Shared catchments	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*.
UK (England and Wales) progress on Recommendation 11	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. All measures still relevant – no update required 2022