

## Abstract

Scottish Government, in co-operation with relevant stakeholders including aquaculture and wild fisheries interests, has produced a contingency plan to deal with the presence and detection of the monogenean helminth parasite *Gyrodactylus salaris*, within Scotland. *G. salaris* has caused extensive mortality among wild Atlantic salmon (*Salmo salar*) populations in parts of Norway. This, combined with the evidence that Scotland's wild salmon strains are susceptible to the pathogen, highlights the need to prevent the introduction of the parasite into Scotland and elsewhere in the United Kingdom. It also highlights a requirement to be prepared to act in the event of an outbreak should biosecurity be breached and *G. salaris* become established in Scottish waters. The policy of the contingency plan is based upon eradication, where this is deemed possible, and where it is not, a policy of containment prevails. This poster considers the steps necessary to help prevent the introduction of *G. salaris* into Scotland and gives an outline of the contingency plan with emphasis on its development and key components.

## Introduction

Unlike many aquatic animal disease agents, which are often most pathogenic to farmed populations, *G. salaris* causing gyrodactylosis, is most detrimental to wild fish. Surveillance on fish farms and from wild fisheries has been conducted in Scotland over the past 15 years suggesting the absence of *G. salaris*. Scottish Atlantic salmon strains have been identified as being susceptible to the pathogen (MacKenzie & Bakke, 1994), and it is probable that its introduction would have catastrophic effects to wild fisheries in Scotland which are valued at over £100 million to the Scottish economy<sup>1</sup>.

## Steps to prevent introduction

Recognition of this threat and the potential devastation posed by *G. salaris* has led to the launch of an awareness campaign to increase the profile of the parasite and help educate to prevent its introduction. Preventative measures include:

- Additional Guarantees granted under Commission Decision 2004/453/EC – protective measure in relation to live fish trade
- 'Home & Dry' campaign – advice, posters and leaflets to angling and water sports sectors
- A dedicated website detailing relevant information and links to posters and leaflets: [www.infoscotland.com/gsbug/](http://www.infoscotland.com/gsbug/)
- Road shows offering advice, instruction and recommendations to the angling sector

Whilst the aim is prevention rather than cure, backup investment in a Contingency Plan has been made which will be enacted in the event that *G. salaris* is detected in Scotland and/or the United Kingdom.

## Key components to the plan

### *Gyrodactylus salaris* Contingency Plan

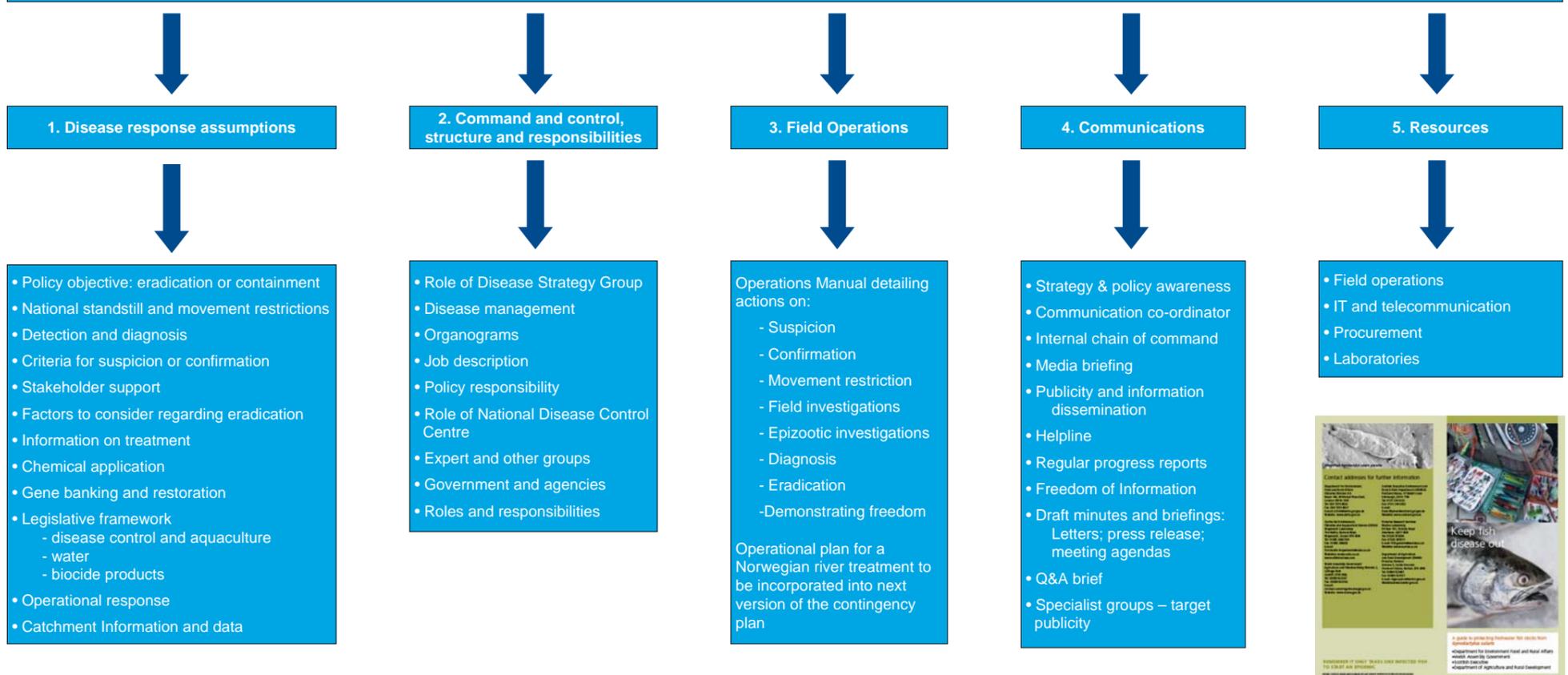


Table 1. Summary of the development of *Gyrodactylus salaris* (Gs) Contingency Plan for Scotland

Process	Areas Identified	Further Details
Development	Workshop	Multi country / discipline representation. Assessing biology of Gs, risks, legislation, draft plans. Established requirement for a Working Group.
	Norwegian experience	Regular consultation with Norwegian authorities involved with Gs in Norway. Invitation to SG staff to observe numerous river treatments
	Designated task force	Encompassing representatives from Government departments/agencies, aquaculture industry, wild fisheries, industrial and recreational water users.
Task Force – Sub Groups	Prevention and containment	To assess the measures required to prevent spread and contain Gs.
	Contingency planning	Produce an effective contingency plan.
	Statutory controls	Identify the necessary controls required and ensure that these are put in place.
	Research and development	Maintaining up to date scientific knowledge and an awareness of the distribution of Gs within Europe.
Contingency Plan Evaluation	Gene banking and river restocking	Identification of the requirements for repopulation following eradication.
	Desk top exercise	Using fictitious scenarios, elements of the plan were tested to consider response. Gaps of knowledge were identified and amendments made.
	Further recommendations	Address gaps in scientific knowledge, training, unanswered questions.
	Annual review	To consider operations and legislative changes or other updates and amend accordingly.

## References cited

MacKenzie, K. & Bakke, T.A. (1994) Comparative susceptibility of native Scottish and Norwegian stocks of Atlantic salmon, *Salmo salar* L., to *Gyrodactylus salaris* Malmberg: Laboratory experiments. In: *Parasitic Diseases of Fish*. Pike, A.W. & Lewis, J.W. (eds.), Samara Publishing Ltd, Dyfed, pp. 57-58.

<sup>1</sup> A Strategic Framework for Scottish Freshwater Fisheries.

## Acknowledgement

Scottish Government acknowledges the contribution of the numerous stakeholders, as well as expertise from the Norwegian Directorate of Nature Management and the National Centre for Veterinary Contract Research and Commercial Services, LTD (VESO). Stakeholders were integral to the production of the Contingency Plan and contribution to the Task Force. Particular credit should go to Arthur Griffiths ([Arthur.Griffiths@scotland.gsi.gov.uk](mailto:Arthur.Griffiths@scotland.gsi.gov.uk)) the Chairman of the *G. salaris* Task Force who was responsible for overseeing the work of the group and the production of the Contingency Plan.



Fig 1, top and Fig 2, above. Leaflets and posters produced as part of the awareness campaign.