

3rd Annual Fish Health Seminar

7 December 2011



GILPAT: An Investigation into Gill Pathologies in Marine Reared Finfish

This project (Grant-Aid Agreement No. PBA-AF-08-002) is carried out under the *Sea Change* strategy with the support of the Marine Institute and the Marine Research Sub-programme of the National Development Plan 2007–2013, co-financed under the European Regional Development Fund.





GILPAT
An investigation into gill pathologies in marine reared finfish

Aim:
 Investigate the aetiology and pathogenesis of gill pathologies in finfish and initiate a pilot monitoring programme for zooplankton.

Objectives:

- Epidemiological investigations of gill pathologies in all Irish marine sites.
- Development of diagnostic tools (zooplankton identification, molecular methods).
- Pilot monitoring programme (continuous sampling/monitoring at 2 sites in year 1).
- Development and proposal of practical management and mitigation measures.



Epidemiology & reviews

Journal of Fish Diseases 2011 doi:10.1111/j.1365-2795.2011.02251.x Rev Fish Biol Fisheries
 DOI 10.1007/s11160-010-9182-6

REVIEWS

Review


A review of infectious gill disease in marine salmonid fish

S O Mitchell and H D Rodger
 Vet-Aqua International, Craunton, Co. Galway, Ireland

Non-infectious gill disorders of marine salmonid fish

Hamish D. Rodger · Louise Henry ·
 Susan O. Mitchell

A national survey of gill health and disease in finfish farms in Ireland. K. Murphy & H. Rodger.



Molecular Diagnostic Tools

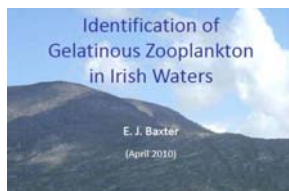
New assays developed for five potential pathogens:

- Atlantic salmon paramyxovirus
- *Tenacibaculum maritimum*
- *Neoparamoeba perurans* (AGD)
- *Desmozoon lepeophtherii* (microsporidean parasite)
- *Candidatus* *Piscochlamydia salmonis* (epitheliocystis)



Training/Monitoring

Training workshops for industry



Gill disease in marine farmed Atlantic salmon at four farms in Ireland. Rodger HD, Murphy K, Mitchell SO & Henry L. 2011. *Veterinary Record* (25) 10.1136.

Longitudinal study investigating gill disease in marine farmed Atlantic salmon.

Mitchell SO, Baxter EJ, Holland C & Rodger HD. *Aquaculture International* (accepted).

Monitoring/Challenge Studies

Downloaded from veterinaryresearch.bmj.com on October 12, 2011 - Published by group.bmj.com

Short Communications

Vol. 11: 245-257, 2011
doi: 10.23910/10100726

AQUACULTURE ENVIRONMENT INTERACTIONS
Aquacult Environ Interact

Published online 26
September 2011

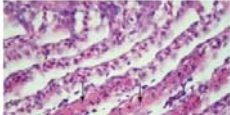
OPEN ACCESS

Gill disorders in marine-farmed salmon: investigating the role of hydrozoan jellyfish

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³Vet-Aqua International, Oceanside Business Park, Oceanside, Co. Galway, Ireland

S. O. Mitchell, E. J. Baxter, H. D. Rodger






OPEN ACCESS Freely available online PLOS one

Gill Damage to Atlantic Salmon (*Salmo salar*) Caused by the Common Jellyfish (*Aurelia aurita*) under Experimental Challenge

Emily J. Baxter^{1,2,3,4}, Michael M. Sturt², Neil M. Ruane⁴, Thomas K. Doyle¹, Rob McAllen², Luke Haman², Hamish D. Rodger³

¹Coastal and Marine Research Centre, Environmental Research Institute, University College Cork, Cork, Ireland, ²Department of Zoology, Ecology and Plant Science, School of Biological, Earth and Environmental Sciences, University College Cork, Cork, Ireland, ³Aquaculture and Fisheries Development Centre, School of Biological, Earth and Environmental Sciences, University College Cork, Cork, Ireland, ⁴Fish Health Unit, Marine Institute, Co. Galway, Ireland, ⁵Vet-Aqua International, Co. Galway, Ireland

Engineering review of mitigation measures

- site location - offshore aquaculture
- early warning systems – monitoring/modelling/satellite
- mitigation technologies – bubble curtains, enclosed cages
- closed containment systems – onshore aquaculture using wave energy systems to provide power
- biofouling – MIC system (cleans and vacuums), silicon based coatings

AQUAPLAN: Health Management for Finfish Aquaculture

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Background

Many countries have developed comprehensive strategies for the management of aquatic animal health:



Australia's Strategic Plan for Aquatic Animal Health



Canada's National Aquatic Animal Health Program



A Code of Good Practice for Scottish Finfish Aquaculture





Goals of the Project

- to enhance the ability of the Irish aquaculture industry/regulators to deal with fish health issues
- to develop a national strategic plan for fish health
 - Improved communication/reporting
 - Contingency plans (new and emerging diseases)
 - Farmed Salmonid Health Handbook
 - Training

Training

Fish Health Training

- 1-2 day course held annually
- Basic fish health & diagnostics
- GILPAT workshops



VET AQUA INTERNATIONAL FISH HEALTH MANUAL 1.0

October 2010 | Hannah Rodger



VET AQUA INTERNATIONAL FISH HEALTH MANUAL II

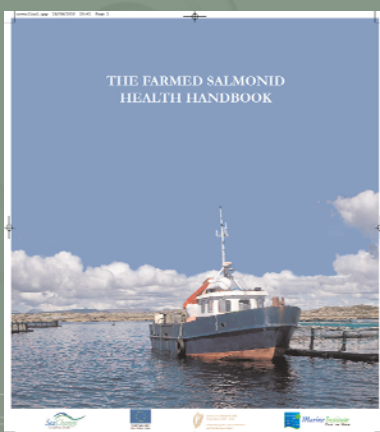
April 2011 | Hannah Rodger

Technical Leaflets

- Biosecurity
 - General biosecurity
 - Cleaning & Disinfection
- Disease leaflets
 - Listed diseases e.g. ISA, VHS etc.
 - Non-listed diseases e.g. rickettsiosis, pancreas disease, francisellosis etc.
- Compatible with *Farmed Salmonid Health Handbook*



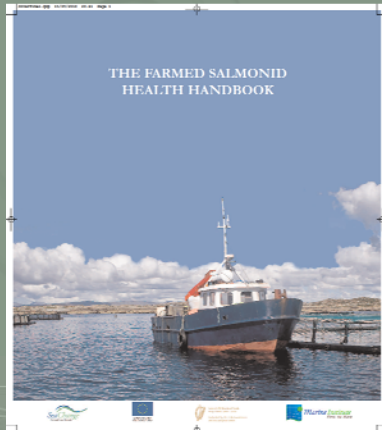
The Farmed Salmonid Health Handbook



- Fish Health & Welfare
- Environment
- General Husbandry
- Biosecurity
- Legislation
- Information leaflets



The Farmed Salmonid Health Handbook

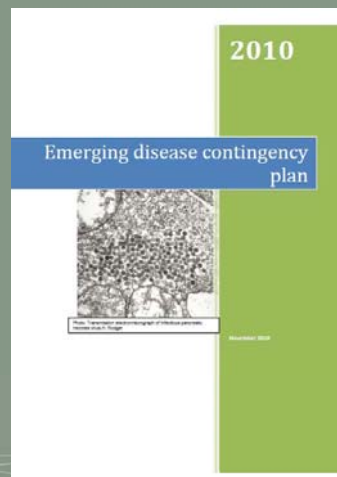


Launched 23 Nov 2011 by Minister Coveney TD

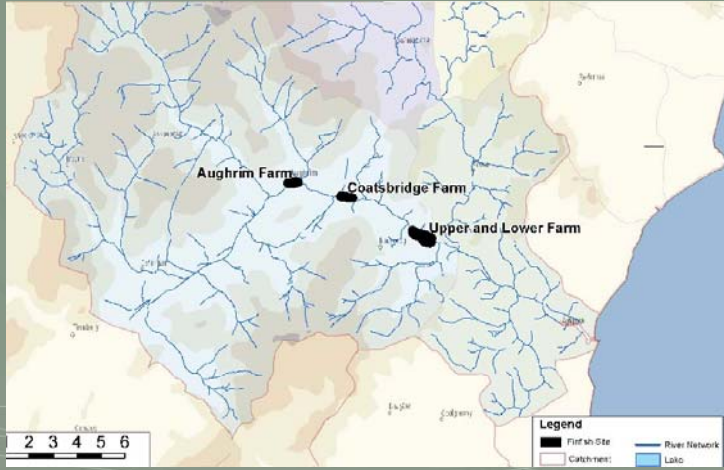


Contingency planning - outline

- National Control Centres
- Resources
- Response Options
- Culling & Disposal
- Disinfection
- Movements
- Following
- Surveillance
- Training
- Public Awareness



Contingency planning - epidemiology



Contingency planning - epidemiology

