

# Keep Fish Diseases Out

A guide to protecting freshwater fish stocks from gyrodactylosis and other serious fish diseases



Llywodraeth Cynulliad Cymru  
Welsh Assembly Government



An Reire Talmhaloche  
agus Forbairthe Tuioche

Department of Agriculture  
and Rural Development  
www.dard.wales.gov.uk

Department o' Agriculture  
an Lansare Ddicam



SCOTTISH EXECUTIVE  
Environment and Rural Affairs Department



**defra**

Department for Environment  
Food and Rural Affairs

## Keeping disease out

Fish in our freshwater fisheries, rivers and lakes are free from some of the most serious fish



diseases that occur in other countries. It is important to keep it that way.

Restrictions on the import of live fish into the UK continue to play a major role in

keeping disease out. You too can help protect our freshwater fish by your actions:

- As a fish farmer, fisheries manager or dealer in live fish you can avoid introducing infected stock into our waters by following the import rules.
- As an angler, you can take simple precautions when moving between fisheries to avoid spreading disease.

## What are the Diseases?

### **GYRODACTYLOSIS**

Gyrodactylosis can cause heavy losses to wild Atlantic salmon stocks. It is caused by the parasite *Gyrodactylus salaris* which has been found in salmon in Norway, Sweden, Finland, Russia and other countries bordering the Baltic. So far, *Gyrodactylus salaris* has not been detected in the UK. However, the UK's salmon stocks are very susceptible to the parasite and if it were inadvertently introduced into our waters, entire river systems could quickly become infected wiping out salmon stocks completely.

Please see our leaflet: *“Keep Fish Disease Out – A Guide to protecting freshwater fish stocks from Gyrodactylus salaris”* for further information.

### **SPRING VIRAEMIA OF CARP**

Spring Viraemia of Carp (SVC) is a contagious viral disease which could wipe out stocks of carp, roach, tench, goldfish, Wels catfish and other species. There is no cure for the disease.



The disease is well established in Europe but not in the UK where SVC is controlled and any disease outbreaks contained. For further information please see our leaflet: *“Keep Fish Disease Out – A Guide to protecting fish stocks from Spring Viraemia of Carp”*.

### **OTHER DISEASES**

There are a number of other serious exotic diseases and parasites which, if introduced to this country, would cause high mortalities in both farmed and freshwater fish and salmon.

These include:

**Infectious Salmon Anaemia (ISA)** – this is a contagious viral disease affecting all ages of Atlantic salmon in sea-



water. Outbreaks typically occur after transfer of farmed smolts to cages in sea-water with peaks in new cases in late spring and autumn. Atlantic salmon are the only species known to be susceptible to ISA though sea trout and rainbow trout have been shown, experimentally, to transmit the disease. No treatment exists at present although European rules allow for vaccination in some cases. ISA is currently present in Norway, the Faeroe Islands, Canada and the USA. Please see our booklet: *“Combating Fish Disease”* for further information.

### **Infectious Haematopoietic Necrosis (IHN) –**

this is an infectious disease which can cause high mortalities among susceptible juvenile salmonids. However, all salmonid species are susceptible to IHN. No treatments are available. IHN was first recorded in France in 1987 and has since been found in Belgium, Italy and Germany. It is widespread and endemic along the Pacific coast of the USA and Canada, and has been reported in other areas of the USA. Occurrences have also been reported in Japan and Taiwan. IHN has never been found in UK waters. Please see our booklet: *“Combating Fish Disease”* for further information.

### **Viral Haemorrhagic Septicaemia (VHS) –**

is an infectious disease which causes high mortalities among farmed rainbow trout in Europe. In freshwater, VHS has also been recorded in brown trout, grayling, coregonids, pike and largemouth bass. The disease has not been detected in any trout or salmon in UK waters. There is no treatment for the disease. VHS has been recorded in 16 European countries since 1938. It has also been identified



in migratory salmon stocks and Pacific cod and herring populations on the West coast of the USA and some marine fish species in Europe and Japan. Please see our booklet: "Combating Fish Disease" for further information.

**Epizootic Haematopoietic Necrosis** – this is a highly infectious systemic viral disease which is fatal in juvenile redfin perch (European perch). Infections, with occasional deaths, also occur in rainbow trout. The causative virus remains infective for prolonged periods in water and is extremely resistant to disinfection. It is found only in Australia although closely related viruses have been detected among fish in Europe but not in UK waters.

**Epizootic Ulcerative Syndrome** – this is a seasonal epizootic fungal disease of great importance in wild and farmed freshwater and estuarine fish. The disease is now endemic in South-east and South Asia and has recently extended to West Asia. It is indistinguishable from red spot disease of eastern Australia and mycotic granulomatosis of Japan and USA. Over 100 freshwater fish species are susceptible, particularly snakeheads and barbs. Mortality can be reduced by removing infected fish and improving water quality.

A new disease of so far limited distribution is **Koi Herpes virus** (KHV) – this very infectious virus has recently been identified as a cause of koi and carp deaths. Outbreaks of disease



generally occur at water temperatures between 16–25°C. The virus only appears to infect *Cyprinus carpio* which includes koi, ghost koi and common carp. Goldfish and other cyprinids are not known to be affected by or carry the virus. Since 1998, there have been cases in the UK, Europe, USA, Indonesia, Israel and Japan. There is currently no treatment available for this disease.

## What is being done?

Under European Union rules, the UK is able to impose tight restrictions on imports of live fish, eggs and fry. The rules are detailed and vary according to species but, in general terms, live imports must:

- Come from regions of equal fish health status, or
- Come from sites that are certified disease free and accompanied by a health certificate signed by an official veterinary inspector of the exporting country.

Further details are set out in the booklets: *A Guide to Importing Fish* and *Combating Fish Disease*. These can be downloaded from <http://defraweb/fish/fishfarm/index.htm> or you can get free copies from the contact addresses listed at the end of this leaflet.

Provided they are observed, these controls will significantly reduce the risk of importing diseases.

## What can you do?

Whilst everything possible will be done to maintain and enforce disease control measures, you too can help.

### HELP STOP ILLEGAL IMPORTS OF FISH



It is in the interests of everyone involved in fishing to help put a stop to illegal imports.

If you suspect that fish are being imported illegally, please contact staff at the address at the end of this leaflet or call the **CEFAS TELEPHONE HOTLINE: 01305 206681**.

If you import fish you have a legal obligation to follow the import rules. You must report immediately if:

- You have any doubt about the validity of the health certificates accompanying imported fish, or
- If the fish appear diseased.

**Never** introduce suspect fish into your waters or mix them with other stocks.

## **TAKE CARE WHEN STOCKING**

If you are planning to introduce fish into any inland waters, whether they are imported or domestically produced, you may also need the written consent of the Environment Agency under Section 30 of the Salmon and Freshwater Fisheries Act 1975. Further information is set out in the "Buyer Beware" leaflet which can be obtained free from your local Environment Agency office (details at the end of this leaflet).

In Scotland, the permission of the District Salmon Fishery Board is required for releases of salmon into rivers covered by the Boards. Release of non-native species requires a licence from the Scottish Executive Environment and Rural Affairs Department (SEERAD).

In Northern Ireland the approval of the Department of Culture, Arts and Leisure is required before releasing fish into the wild. The release of non-native species requires a licence from the Environment and Heritage service.

## **KEEP YOUR FISHING EQUIPMENT CLEAN**

As an angler, remember that fish diseases can be spread inadvertently through fishing equipment which has been in contact with infected fish, water or sediment. The *Gyrodactylus salaris* parasite is very hardy and capable of surviving for several days in damp conditions such as plastic bags and wet angling equipment (waders, landing nets, lines etc). Fish viruses such as SVC, VHS and KHV can also potentially be carried on fishing tackle, nets and equipment.

Take special care to ensure that tackle and clothing are not contaminated, particularly when:

- returning to the UK from fishing abroad, or
- fishing in waters where fish diseases are present or suspected.

In these circumstances:

- thoroughly clean all fishing equipment including nets, sacks, tackle, footwear and clothing
- then dry for at least 48 hours.

Freezing is also an effective method of killing the GS parasite. Equipment and clothing should be deep frozen for at least one day.

Additional protection can be obtained by chemical disinfection of pre-cleaned clothing and tackle. This is particularly important if you are planning to use equipment again before it has been thoroughly dried.

## CHEMICAL DISINFECTION

Chemical disinfection of pre-cleaned protective clothing and boots can be achieved by spraying or wiping with a solution containing a

concentration of iodine at 250 mg/ltr, leaving for five minutes and then rinsing with uncontaminated water such as tap water. Fishing equipment should be immersed for a minimum of



fifteen minutes in the iodine-based solution before rinsing. All surfaces exposed to chemical treatment should be washed down with tap water. Other chemicals such as caustic soda (sodium hydroxide) may also be used to treat equipment. Further information and guidance can be obtained from the contacts featured in this leaflet.

N.B. Disinfectants should be used with care. All fishing equipment and clothing should be checked to ensure that they can withstand treatment and the use of goggles and protective clothing may be advisable when handling some of the chemicals. Many chemical treatments are extremely poisonous to fish. Disinfectants and washings must be disposed of in a way which does not harm the environment. They should never be tipped into water containing fish or other aquatic life. If in doubt, contact the manufacturer.

### **Further information**

For further advice on fish health, import rules, cleaning and disinfecting fishing tackle and clothing, or to report suspected illegal imports or abnormal mortalities in fish stocks, contact:

#### **England and Wales**

Fish Health Inspectorate  
Centre for Environment, Fisheries and Aquaculture  
Science (CEFAS)  
Weymouth Laboratory  
Barrack Roa  
The Nothe  
Weymouth, Dorset DT4 8UB  
Tel: 01305 206673/74  
Fax: 01305 206602  
E-mail: [fish.health.inspectorate@cefas.co.uk](mailto:fish.health.inspectorate@cefas.co.uk)  
Website: [www.efishbusiness.com](http://www.efishbusiness.com)

#### **Scotland**

Fisheries Research Services  
Marine Laboratory  
PO Box 101, Victoria Road  
Aberdeen AB11 9DB  
Tel: 01224 876544  
Fax: 01224 295620  
E-mail: [fishhealth@marlab.ac.uk](mailto:fishhealth@marlab.ac.uk)  
Website: [www.frs-scotland.gov.uk](http://www.frs-scotland.gov.uk)

## **For policy advice please contact:**

### **England and Wales**

Department for Environment, Food and Rural Affairs  
Fisheries Division IIA

Area 5E

Whitehall Place West

London SW1A 2HH

Tel: 020 7270 8826

Fax: 020 7270 8827

E-mail: [sh.fishiie@defra.gov.uk](mailto:sh.fishiie@defra.gov.uk)

Website: [www.defra.gov.uk](http://www.defra.gov.uk)

### **Welsh Assembly Government**

Agriculture and Fisheries Policy Division 2

Cathays Park

Cardiff CF10 3NQ

Tel: 02920 823567

Fax: 02920 823562

E-mail: [fisheries@wales.gsi.gov.uk](mailto:fisheries@wales.gsi.gov.uk)

Website:

[www.countryside.wales.gov.uk/fisheries](http://www.countryside.wales.gov.uk/fisheries)

### **Scotland**

Scottish Executive Environment and Rural Affairs  
Department (SEERAD)

Pentland House

47 Robb's Loan

Edinburgh EH14 1TWI

Tel: 0131 244 6225

Fax: 0131 244 6552

E-mail: [carrol.herbertson@scotland.gsi.gov.uk](mailto:carrol.herbertson@scotland.gsi.gov.uk)

Website: [www.scotland.gov.uk](http://www.scotland.gov.uk)

### **Northern Ireland**

Department of Agriculture and Rural Development  
Fisheries Division

Annexe 5, Castle Grounds

Stormont Estate

Belfast BT4 3PW

Tel: 02890 523491

Fax: 02890 523121

E-mail: [Nigel.Quinn@dardni.gov.uk](mailto:Nigel.Quinn@dardni.gov.uk)

Website: [www.dardni.gov.uk](http://www.dardni.gov.uk)

Other booklets are available from the addresses on previous pages 10 and 11:

*A Guide to Importing Fish*

*Combating Fish Disease*

*A Guide to Shellfish Health Controls*

*Keep Fish Disease Out – A Guide to Protecting Fish Stocks from Gyrodactylus salaris*

For advice on the rules for introducing fish into inland waters in England and Wales, please telephone the Environment Agency general enquiry line on 0645 333 111. Your call will be directed to your nearest Environment Agency office. For more detailed information, please contact:

National Fisheries Laboratory

Environment Agency

Bromholme Lane, Brampton

Huntingdon

Cambridgeshire PE28 4NE

Tel: 01480 414581

Fax: 01480 433873

E-mail:

**[nffishhealth@environment-agency.gov.uk](mailto:nffishhealth@environment-agency.gov.uk)**

For advice on the introduction of fish into inland water in Scotland please contact David Dunkley at the Scottish Executive Environment and Rural Affairs Department (SEERAD).