



FINNISH FOOD
AUTHORITY

Ruokavirasto • Livsmedelsverket

PROTECT THE SALMON

Prevent the transmission of the *Gyrodactylus salaris* salmon parasite



THE WATERWAYS OF UPPER LAPLAND ARE FREE OF THE SALMON FLUKE PARASITE (*GYRODACTYLUS SALARIS*)

Commonly known as salmon fluke, *Gyrodactylus salaris* is a parasite that has been killing parr and decimating salmon populations in Norway and Russia. The waterways of the Teno, Näätämö, Paats, Tuuloma and Uutua Rivers in Upper Lapland are protected against this parasite under the Animal Diseases Act. It is strictly forbidden to transfer live fish or roe from any other area that is not officially declared free of *G. salaris* to Upper Lapland. Transporting fish or non-disinfected roe to Upper Lapland from other areas of Finland is strictly prohibited. Fish or non-disinfected fish eggs must also not be transplanted from one waterway to another within Upper Lapland.

The parasite is transmitted through water and fish. *G. salaris* can survive without a host for days, and thus it may be transmitted even through water, or wet equipment or tools.



FISHERS

Any fishing equipment and tackle brought into the Upper Lapland watershed from other waterways – reels, rods, lures, nets, boots, waders, flotation devices, gutting tools – must be completely dry or disinfected before they may be used. On the Teno River bordering Norway, only boats registered in the local boat register may be used; and those boats must not be used in any other waterways.

It is prohibited to gut and scale fish brought from another waterway, to wash gutting tools and to dump fish gutting waste in natural waterways in the Upper Lapland watershed.

Using bait fish is prohibited for angling, ice fishing and fly fishing in the Upper Lapland watershed. Bait fish may not be brought in from other waterways or transplanted from one waterway to another within the watershed.



CARAVANERS

Do not dump waste water from your camper van or caravan into a water way; let it soak into the soil sufficiently far from the shore.



PILOTS

Do not pump out water from the floats of your seaplane into any waterway that flows into the Arctic Ocean. Use jerry cans to empty out the floats and then soak the water into the soil sufficiently far from the shore.



CANOERS

Ensure that your canoe, SUP board or rubber raft is completely dry or disinfected before you continue your journey in the next waterway.



HIKERS

Never pour water into a waterway that has been brought from elsewhere; let it soak into the soil sufficiently far from the natural waters.



DIVERS

Ensure that your diving equipment is completely dry before going on to dive in the next waterway. Disinfect or dry your trim vest, also on the inside.



BOATERS

Unless your boat is completely dry when you arrive in the Upper Lapland watershed, disinfect it. Do not let bilge water from your boat escape into the waterway. On the Teno River bordering Norway, only boats registered in the local boat register may be used; and those boats must not be used in any other waterways.

INSTRUCTIONS FOR TREATING EQUIPMENT AND TOOLS

G. salaris dies by drying. A day at +20 °C and in dry conditions will kill the parasite. In a cold and damp environment, drying will take longer.

The parasite is sensitive for heat and 1 h in a +60 °C sauna, or 10 sec in +50 °C water will kill the parasite.

Furthermore, 24 h in a -18 °C freezer will kill the parasite.

IF YOU ARE NOT ABSOLUTELY SURE THAT YOUR EQUIPMENT AND TOOLS ARE DRY, VISIT A DISINFECTION STATION!

The parasite can also be killed by disinfection. Disinfection services are available at all licencing points on the Finnish side of Teno River. There is a disinfection station maintained by the Lapland Centre for Economic Development, Transport and the Environment at the Inari fishing port (open in the summer). The location of other disinfection services can be found on the Centre's website.

When crossing over to Norway, fishing equipment and tackle must again be disinfected or dried. If travelling within the Teno River area, a drying or disinfecting performed in Finland is sufficient.

GYRODACTYLUS SALARIS

is a 0.5 mm parasite living on the skin and fins of the salmon. It cannot be seen with the naked eye. *G. salaris* can also live and breed on the skin of rainbow trout and can survive for short times on the skin of other species of fish. Under favourable conditions, the parasite can breed and multiply at a very rapid rate.

The parasite is found for instance in the Tuuloma River on the Russian side, in Tornio River and in other waterways flowing into the Baltic Sea. The parasite has killed parrs and decimated salmon catches in 50 rivers in Norway and in parts of Russia, such as Kieretti River. The salmon populations in rivers flowing into the Atlantic Ocean or Arctic Ocean have no resistance to *G. salaris*. It is therefore vital to prevent the parasite from spreading to Upper Lapland.

G. salaris uses its tiny hooks to attach itself to the surface of fish skin and gills. The parasite feeds on cells and mucus around the attachment site. The parasites are also capable of moving on the fish surface. Both the attachment and feeding disturb the normal function of the skin and gills. A mild infection does not harm the fish very much, but in the case of a more serious infection the mechanical irritation will lead to excessive excretion of mucus and the damaged skin is vulnerable to infection and fungal diseases. *G. salaris* does not infect humans or domestic animals.



The hooks are at the rear end of the parasite. The hooks inside the parasite belong to the next generation. This already carries the next daughter, whose hooks are quite well developed. The propagation resembles the famous Russian doll. Photo: Jussi Kuusela



Photos: Panu Orell, Perttu Koski, Jussi Kuusela | Map © Karttakeskus Oy, Helsinki | Catchment areas © SYKE

Further information:

- Fishing on Teno River, disinfection: www.ely-keskus.fi
 Lapland Centre for Economic Development, Transport and the Environment,
 fisheries unit, tel. + 358 295 037 000
 Tenoinfo the publication is updated each year and is available on the internet
- *G. salaris* - parasite and how to combat it: www.foodauthority.fi



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