IP(10)5

Aquaculture, Introductions and Transfers and Transgenics Focus Area Report

EU-Finland

Focus Area Report on Aquaculture, Introductions, Transfers, and Transgenics

EU – FINLAND

31 December 2009

1. Introduction

1.1. Activities within the Party or Jurisdiction related to aquaculture, introductions and transfers, and transgenics

In Finland there are two river systems supporting Atlantic salmon stocks, the Rivers Teno and Näätämöjoki. Both rivers are in the subarctic area, located between 68ºN and 70ºN, and they are border rivers with Norway with their lowest sections belonging only to Norway (Fig. 1). The River Teno (Tana in Norwegian) is a large salmon river with a drainage area of 16 386 km² and a mean discharge of 170 m³/s. One third of its drainage area belongs to Finland. In contrast more than 80 % of the River Näätämöjoki system (Neidenelva in Norwegian, drainage area 3 160 km²) is located in Finland. Most of the waters are State-owned and are ruled by the Metsähallitus (Forest and Park Services, a governmental authority), which co-operate with local stakeholders in fisheries management.

No fish farming is allowed in the drainage area of the River Teno. In addition, no releases of any kind of fish are allowed in the rivers and lakes within the salmon migration area of the River Teno. It is also prohibited to transfer live fish or undisinfected eggs from other watersheds in Finland to the River Teno and Näätämöjoki drainage areas (Figs 2 and 3). However, small-scale transfers of indigenous fishes from one lake or river to another is allowed outside the salmon migration area within the River Teno drainage area This activity requires a permit from the Ministry of Agriculture and Forestry. In 2004-2009, fish (mostly Arctic charr) have been collected from 7 different lakes (varying yearly between 1 to 4 lakes) and introduced to 14 different lakes (varying yearly between 2 to 7 lakes).

In the River Näätämöjoki, there is not a general prohibition of fish farming and stocking of fish in the drainage area. In the River Näätämöjoki catchment area, there is a small hatchery in Sevettijärvi managed by the Metsähallitus. Eggs and milt of native Arctic charr, whitefish and grayling are collected from mature fish from the lakes within drainage area. Hatching is carried out over the winter and the newly hatched fry are stocked to lakes outside the salmon migration area in early summer. The inflow for the hatchery is from a small pond and the outflow is filtrated through ground. In 2005-2009, fertilized eggs have been collected from 4 different lakes (varying yearly between 1 to 2 lakes) and newly hatched fry have been introduced to 26 different lakes (varying yearly between 1 to 11 lakes).

1.2. Policy and management structure as it relates to aquaculture, introductions and transfers, and transgenics

General

The only tools in salmon stock management in the River Teno are the fishery regulations, introduced and agreed by Finnish and Norwegian authorities for the river fisheries (General agreement for the River Teno, 1989). Similarly, the salmon stock in the River Näätämöjoki is managed principally by similar approach. A variety of both national and bilateral legislations

regulate the nature conservation, land use and fishing activities in both rivers (Siirala & Huru 1990).

Aquaculture

Aquaculture is prohibited in the River Teno drainage area by the general agreement of the River Teno fishery between Finland and Norway (94/1989). In the River Näätämöjoki drainage area aquaculture activities are possible and they are regulated according to the environmental legislation as in other areas in Finland. If the amount of additional growth of farmed fish is greater than 2000 kg per year in a fish farm, a specific license by the Environment Permit Authority is required. The same applies to natural food ponds with water surface area greater than 20 hectares. If the amount of additional growth of farmed fish is less than 2000 kg per year, or the natural food pond's water surface area is less than 20 hectares, no special license is needed. However, all fish farms, regardless of the production volume, are required to be registered to the aquaculture register managed by the regional fishery authority (Centre for Economic Development, Transport and the Environment for Lapland). In most cases the aquaculture units also need to apply for additional permits from the Environment Permit Authority according to the Water Act (264/1961). If the aquaculture unit is in the Nature-2000 area or in the vicinity of one, an evaluation of the influences on this area needs to be added to the permit application according to the Nature Conservation Act (1096/1996). The health status of the fishes at the farms, are followed by the Finnish Food Safety Authority and farms have also made contracts with Finnish Food Safety Authority for analyzing of the fish health samples.

At the moment the only aquaculture activity in the River Näätämöjoki area is a small field hatchery in Sevettijärvi where Arctic charr, whitefish and grayling eggs from native fishes are incubated. This field hatchery was established in 1999 and is managed by the Metsähallitus.

Introduction (stocking)

Introduction of fishes is prohibited in the River Teno drainage area by the agreement of the River Teno fishery between Finland and Norway (94/1989). However, in the River Näätämöjoki, fish releases are possible in the drainage area although they have been directed and permitted only to lakes outside the salmon migration area. Introduction of a new fish species or a non-indigenous fish stock to this area is prohibited without a permit from the regional fishery authority.

Transfers

Most of the waters in the River Teno and Näätämöjoki drainage area are managed by the Metsähallitus. The transfer plans to move fish from an area to other within the drainage area have to be approved by the local fisheries management council where stakeholders have their representation. In addition Metsähallitus has to apply for a permit from the Ministry of Agriculture and Forestry to transfer fish within the drainage area of Rivers Teno and Näätämöjoki.

Transgenics

As aquaculture is prohibited in the River Teno drainage area, the question of transgenics is not applicable in this area. Even though there is a small hatchery in the River Näätämöjoki

drainage area, it only uses eggs of the indigenous fish species of local stocks and the question of transgenics is not applicable in this area neither.

2. Implementation of the Williamsburg Resolution

2.1. The Parties shall cooperate in order to minimize adverse effects to the wild salmon stocks from aquaculture, introductions and transfers and transgenics.

The goals of Best Management Practice are not applicable in the River Teno drainage area as aquaculture and introduction of fishes are forbidden in the drainage area. Therefore also the use of transgenics is not allowed in the area. However transfer of indigenous, native fishes is possible within the River Teno drainage area by the permit from the Ministry of Agriculture and Forestry. These transfers have been carried out in small volumes (see above).

In the River Näätämöjoki drainage area, fish farming is basically possible. At the moment there is a small field hatchery outside the salmon migration area where Arctic charr, whitefish and grayling eggs from indigenous fishes are incubated and introduced into lakes.

2.2 Each Party should require the proponent of an activity covered by the Williamsburg Resolution to provide all information necessary to demonstrate that the proposed activity will not have a significant adverse impact on wild salmon stocks or lead to irreversible change.

All fish farms, regardless of the production volume, are required to be registered to the aquaculture register managed by the regional fishery authority. In most cases the aquaculture units also need to apply for additional permits from the Environment Permit Authority according to the Water Act (264/1961). If the aquaculture unit is in the Nature-2000 area or in the vicinity of one, an evaluation of the influences on this area needs to be added to the permit application according to the Nature Conservation Act (1096/1996). The veterinary aspects are monitored by the Finnish Food Safety Authority and farms have also made contracts with Finnish Food Safety Authority for analyzing of the fish health samples. These legal requirements for the proponent ensure that necessary information about the activity is provided to all relevant authorities.

2.3 The Parties should develop and apply appropriate risk assessment methodologies in considering the measures to be taken in accordance with the Williamsburg Resolution.

Each application for fish transfers and/or introductions are assessed rigorously in light of possible risk scenarios. In addition, the contingency plan for *Gyrodactylus salaris* that is under preparation by the relevant authorities in Finland (see NEA(09)5) will include general practices for risk assessment.

2.4 Each Party shall take measures in accordance with Annexes 2, 3 and 4 of the Williamsburg Resolution to:

2.4.1 minimize escapes of farmed salmon to a level that is as close as practicable to zero through the development and implementation of action plans as envisaged under the Guidelines on Containment of Farm Salmon (Annex 3 of the Williamsburg Resolution - CNL(01)53).

Not applicable as there is no salmon farming in the Rivers Teno and Näätämöjoki drainage areas in Finland.

2.4.2 minimize impacts of ranched salmon by utilizing local stocks and developing and applying appropriate release and harvest strategies;

Not applicable as there is no salmon farming in the Rivers Teno and Näätämöjoki drainage areas in Finland.

2.4.3 minimize the adverse genetic and other biological interactions from salmon enhancement activities, including introductions and transfers; and

Not applicable as there is no salmon farming in the Rivers Teno and Näätämöjoki drainage areas in Finland.

2.4.4 minimize the risk of disease and parasite transmission between all aquaculture activities, introductions and transfers, and wild salmon stocks.

Small-scale transfers of fishes from a lake to another are carried out within the drainage area and only in the areas outside the salmon migration area to avoid harmful undesired impacts.

In accordance with the Guidance on Best Management Practices please include information on the following:

- the establishment of area management, risk-based, integrated pest management programs designed to meet jurisdictional lice loads at the most vulnerable life-history stage of wild salmonids;
- the use of single year class stocking and fallowing;
- the strategic timing, methods, and levels of treatment used to achieve the international goal and to avoid lice resistance to treatment;
- the comprehensive, regulated fish health program including details of routine sampling, monitoring and disease control.

These issues are mostly not applicable in Finland as there is no salmon farming in the Rivers Teno and Näätämöjoki drainage areas in Finland. Fish health samples from the field hatchery in Sevettijärvi are collected on a yearly basis according to the requirements by the Finnish Food Safety Authority.

2.5 Movements into a Commission area of reproductively viable Atlantic salmon or their gametes that have originated from outside that Commission area should not be permitted.

Movements of salmon to the River Teno drainage area are prohibited and movement of a non-indigenous salmon stock to the River Näätämöjoki drainage area is prohibited without a permit from the regional fishery authority.

2.6 Introductions into a Commission area of reproductively viable non-indigenous anadromous salmonids or their gametes should not be permitted.

Movements of salmon to the River Teno drainage area are prohibited and movement of a non-indigenous salmon stock to the River Näätämöjoki drainage area is prohibited without a permit from the regional fishery authority. These permits have not been applied for.

2.7 No non-indigenous fish should be introduced into a river containing Atlantic salmon without a thorough evaluation of the potential adverse impacts on the Atlantic salmon population(s) which indicates that there is no unacceptable risk of adverse ecological interactions.

The introduction of non-indigenous fish species to the Commission area in Finland would require a permit from the fishery authorities (Ministry of Agriculture and Forestry and Centre for Economic Development, Transport and the Environment for Lapland). There has not been application for this kind of activity.

2.8 The Parties should apply the Guidelines for Action on Transgenic Salmon (Annex 5 of the Williamsburg Resolution – CNL(04)41), to protect against potential impacts from transgenic salmon on wild stocks.

Not applicable in Finland, as there is no salmon farming in the Commission area in Finland

2.9 Parties should, as appropriate, develop and apply river classification and zoning systems in accordance with Annex 6 of the Williamsburg Resolution for the purposes of developing management measures concerning aquaculture, and introductions and transfers.

Highly controlled, small-scale transfers and introductions are restricted to areas that are outside the salmon migration areas within the catchments.

2.10 The Parties should initiate corrective measures without delay where significant adverse impacts on wild salmon stocks are identified.

No adverse impacts of the current Finnish aquaculture and transfer activities have been detected on the wild salmon stocks. The possible occurrence of *Gyrodactylus* salaries is monitored yearly by extensive sampling of juvenile salmon in different parts of the catchments. The samples are analyzed jointly by Finnish and Norwegian veterinary authorities. Preparation of a contingency plan is underway by the relevant authorities in Finland (see NEA(09)5).

2.11 Each Party should encourage research and data collection (as detailed in Annex 7 of the Williamsburg Resolution) in support of the Williamsburg Resolution and should take steps to improve the effectiveness of the Williamsburg Resolution.

An intensive monitoring programme, aiming at identifying the origin of salmon (wild-escaped) by collecting and analyzing scale samples, has been carried out on a yearly

basis covering all major fishing methods and seasons in both river systems. Monitoring farms is not applicable as there is no salmon farming in Finland

2.12 Educational materials should be developed and distributed to increase awareness of the risks that introductions and transfers of aquatic species may pose to wild salmon stocks and the need for measures to control these activities.

Widespread education programmes have been started in recent years in order to improve the public awareness of the parasite *Gyrodactylus salaris*, its effects on Atlantic salmon stocks, and the measures required to prevent its spreading. This activity, planned and implemented partly in cooperation with Norwegian authorities, has included distribution of information in different forms, e.g. roadside signs, video tapes, leaflets handed out in various places, e.g. together with issuing salmon fishing licenses. In addition, new legislation about the prevention of spread of *Gyrodactylus salaris* has been introduced through the same channels.

References

Siirala, M. & Huru, H. 1990. Plan for multiple use of the Tenojoki River. - Finnish-Norwegian Transboundary Water Commission. Ministry of Environment, Environmental Protection Department; Report 83/1990, 107 + XVI p (In Finnish with an English abstract).

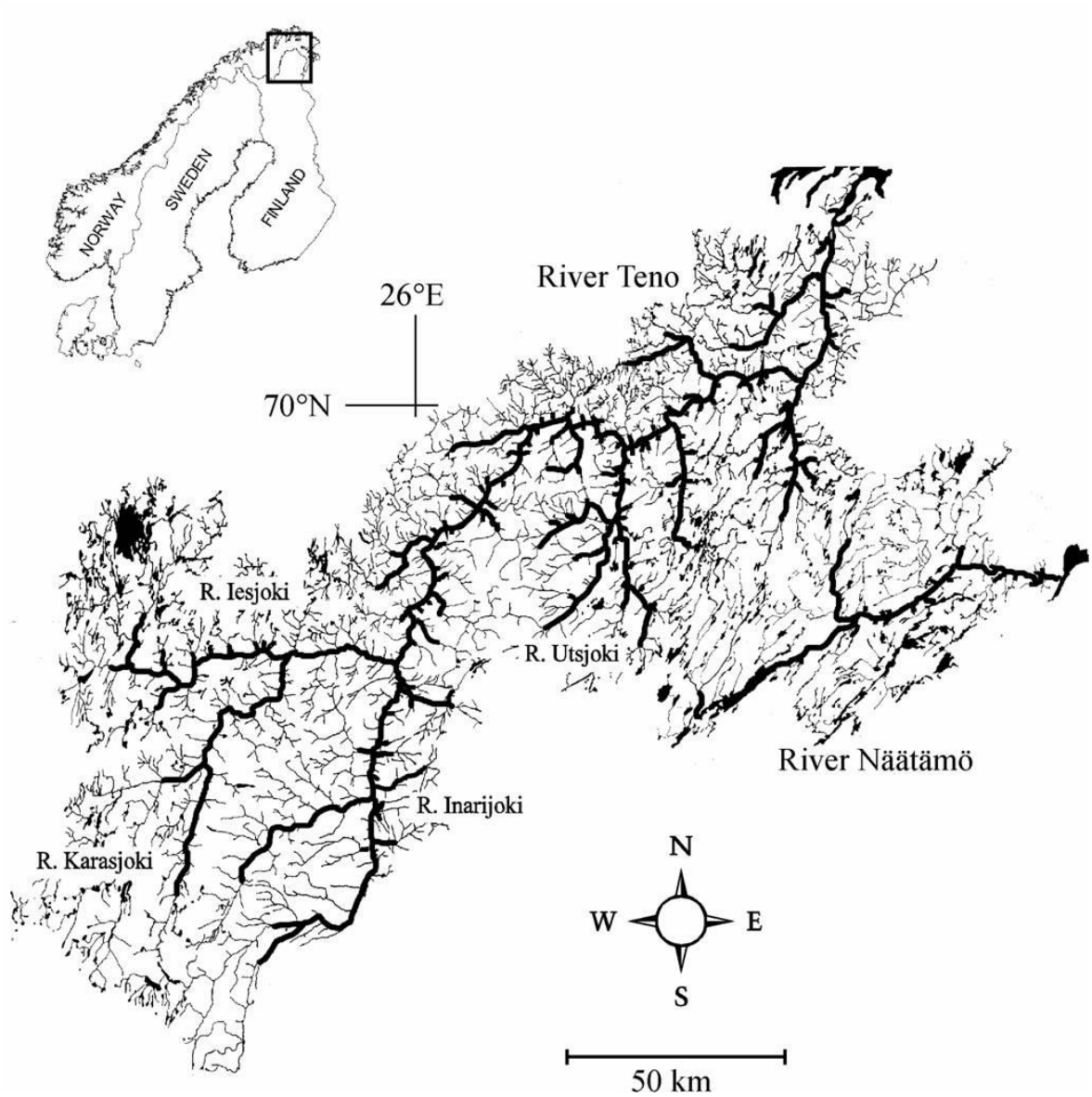

Fig. 1. The rivers Teno and Näätämöjoki in the northernmost Finland and Norway. Distribution area of Atlantic salmon is indicated by thick black lines.

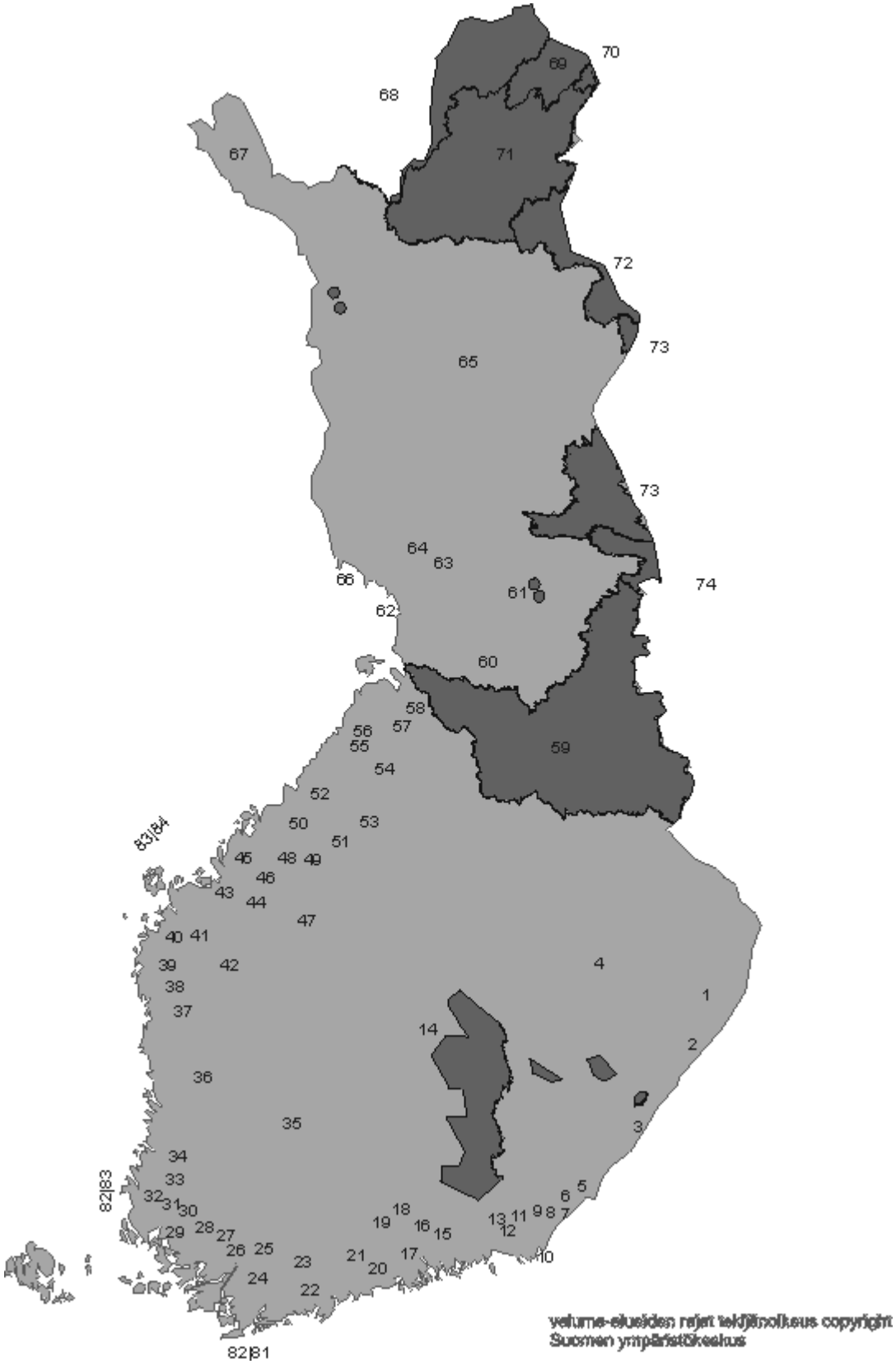

Fig. 2. The restriction areas (dark grey) for fish transfers between drainage areas to prevent the spread of furunculosis. Area 68: River Teno catchment; Area 69: River Näätämöjoki catchment.

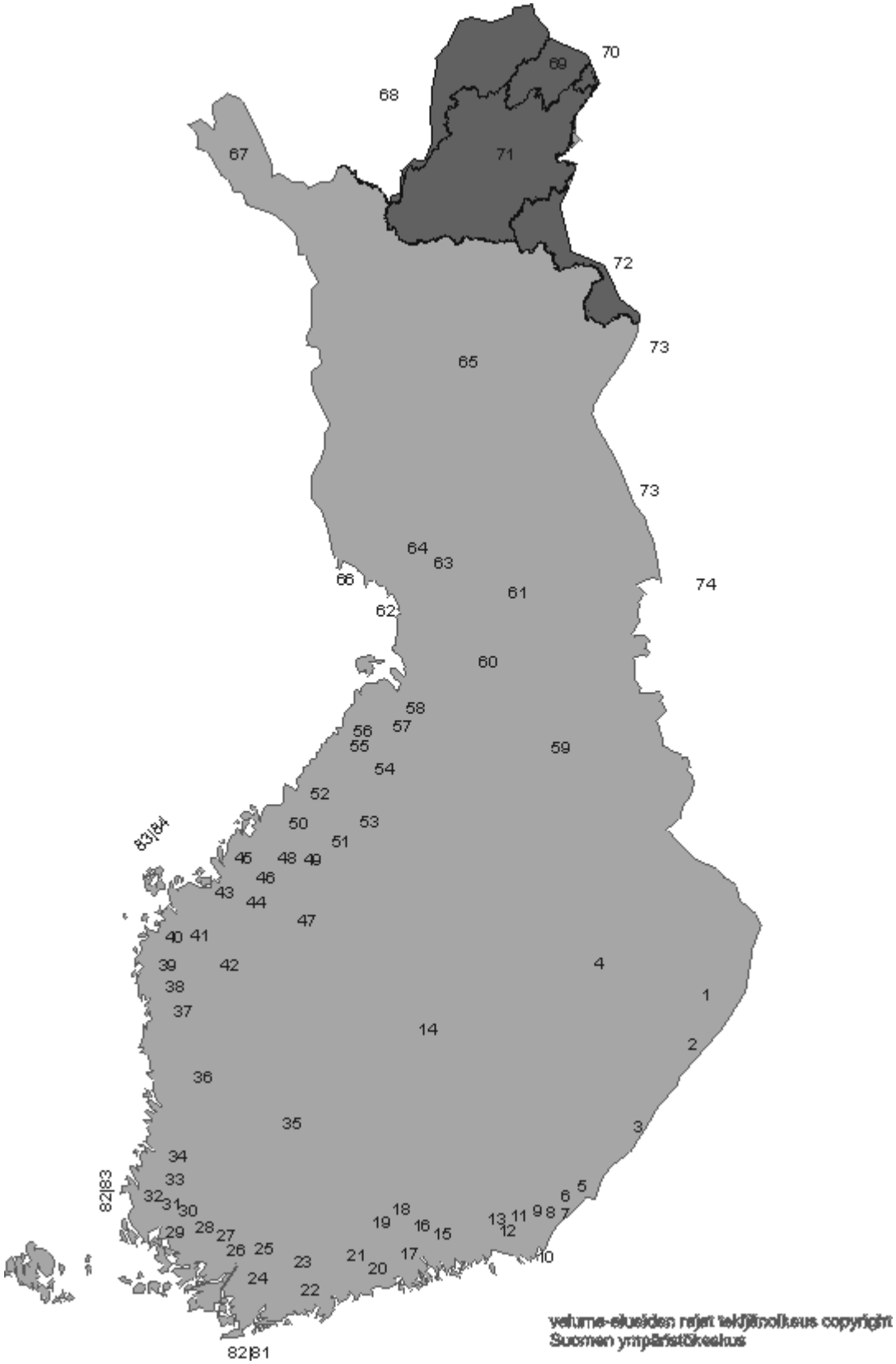

Fig. 3. The restriction areas (dark grey) for fish transfers between drainage areas to prevent the spread of *Gyrodactylus salaris*. Area 68: River Teno catchment; Area 69: River Näätämöjoki catchment.