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Waterprotection in Transboundary Waters

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Transboundary waters of world

- Globally transboundary waters totals more than 260 watercourses
- 40 % of world's population is living on transboundary basin
- There are more than 2000 agreements related to them
- The Convention on the Protection and Use of Transboundary Watercourses and International Lakes by the United Nations Economic Commission for Europe (UNECE) was established 1992 (Helsinki convention)

1

PREVENT, CONTROL
AND REDUCE
TRANSBOUNDARY
IMPACTS

2

ENSURE
REASONABLE
AND EQUITABLE
USE

3

COOPERATE
THROUGH AGREEMENTS
AND JOINT
BODIES



Transboundary waters and Finland

- Finland shares transboundary waters with Sweden, Norway and Russia
- Co-operation based on separate agreements
 - Russia 1964
 - Sweden 1971
 - Norway 1981



Finnish-Russian Transboundary water commission

The Joint
Finnish-
Russian
Commission
on the
Utilization of
Frontier
Waters

РОССИЙСКО-ФИНЛЯНДСКАЯ

Suomeksi | In English

КОМИССИЯ ПО ПОГРАНИЧНЫМ ВОДОЕМАМ

Совместная российско-финляндская комиссия по использованию пограничных водоемов

СОГЛАШЕНИЕ

КОМИССИЯ

- Задачи
- Состав
- Рабочие группы
- Протоколы ежегодных сессий

ПОГРАНИЧНЫЕ ВОДОЕМЫ

ИНФОРМАЦИОННЫЕ ВЫПУСКИ И ПУБЛИКАЦИИ

ИСТОРИЯ СОГЛАШЕНИЯ

ФОТОАРХИВ

КОНТАКТНАЯ ИНФОРМАЦИЯ

НОВОСТИ

Две рабочие группы при российско-финляндской Комиссии по использованию пограничных водных объектов проводили свои встречи в Санкт-Петербурге в конце мая: рабочая группа по комплексному использованию водных ресурсов заседала 26-27 мая 2011 г., а рабочая группа по качеству вод встречалась 30-31 мая 2011 г. Ежегодная сессия Комиссии состоялась в Финляндии в августе 2011 г.

[ФОТО](#)

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Two working groups of the Joint Finnish-Russian Commission on the Utilization of Frontier Waters convened in St. Petersburg in the end of May. The Integrated Water Management Group met on 26-27 May 2011 and the Water Quality Group on 30-31 May 2011; the annual meeting of the Commission was held in August 2011 in Finland.



The agreement

- Long-term and large-scale transboundary cooperation on water management has been carried out between Finland and the Soviet Union/ Russia.
- The agreement concluded in 1964 encompasses most of eastern frontier (about 1000 km) with the exception of sea areas.
- There are 20 watercourses and 448 lakes, rivers, ponds and streams. The largest river basins along the common border are those of the Vuoksi and Paatsjoki.



Transboundary watercourses

- contain large river basins which are affected by issues concerning water regulation, water protection and fisheries.
- Many types of measures have a transboundary impact and carrying out the measures is not possible without the permission of either party.
- These activities have a bearing on water level, discharge volumes or water quality, for example.
- Several hydroelectric power plants are located in river basins of Vuoksi and Paatsjoki.



The Joint Commission meets annually



The structure of the comission

The members and deputy members represent central and district levels of administration whose remits cover

- natural resources and the environment,
- foreign affairs,
- fisheries,
- the frontier guard and
- energy companies.

Each party appoints a chairman and provides the Commission with experts and secretaries.



The annual meeting of the Commission

- The reports provided by each group are discussed and accepted at the annual meeting.
- The annual meeting of the Commission is the formal decision-making body.
- The reports the meeting contain a lot of information (usually some 20 annexes).
- These reports are distributed to the relevant authorities and stakeholders, and they are also given to members of public on request.
- The Commission also handles the initiatives made by NGOs and citizens.

Working groups

The practical work of the Commission is mainly carried out by its permanent working groups according to the annual working plan.

The working groups of the Commission are

1. the integrated water management group
2. the water protection group
3. the frontier guards group
4. the chairmen's group

Each expert group holds meetings regularly.

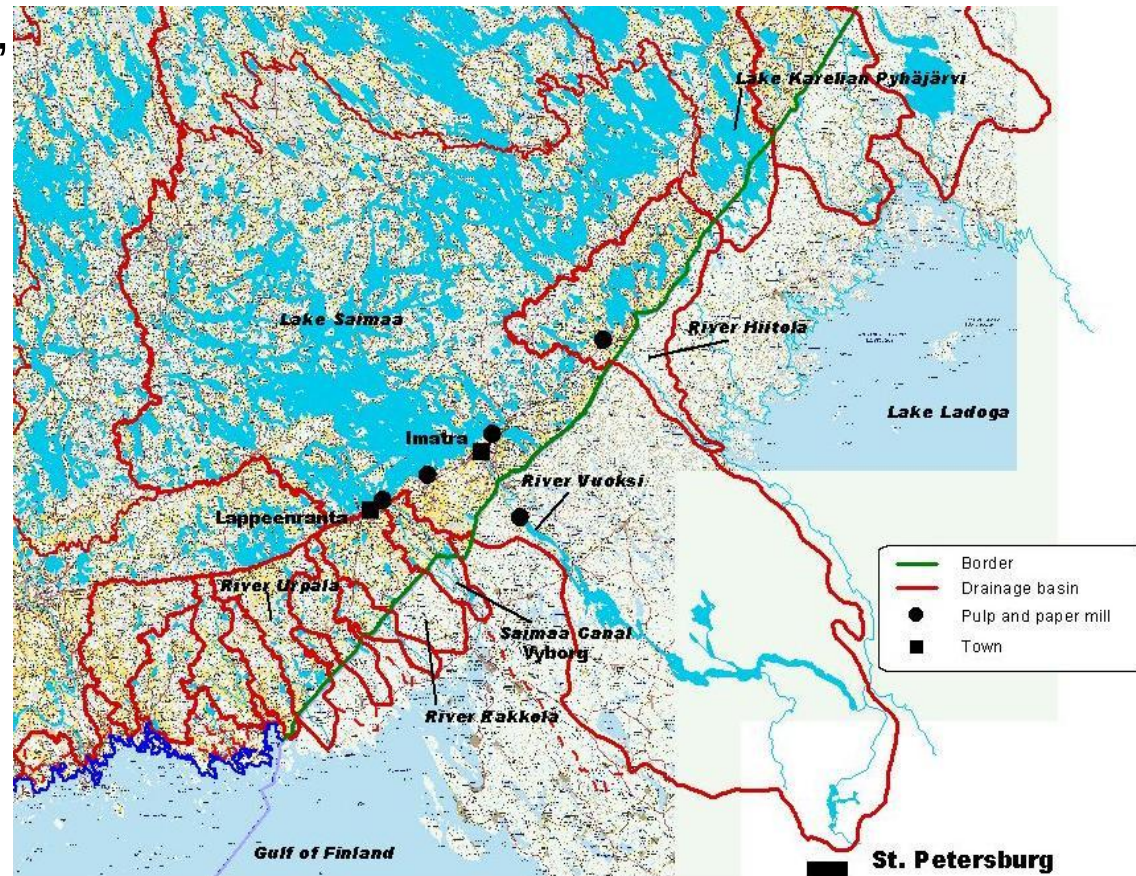


The water protection group

Main interest has long been on watercourses in South-East Finland

Stress for watercourses are caused by

- pulp and paper mills,
- hydropower,
- municipalities
- and agriculture

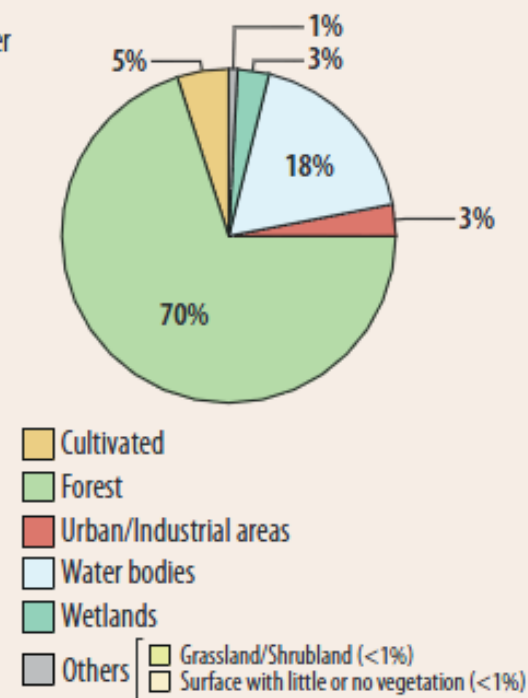
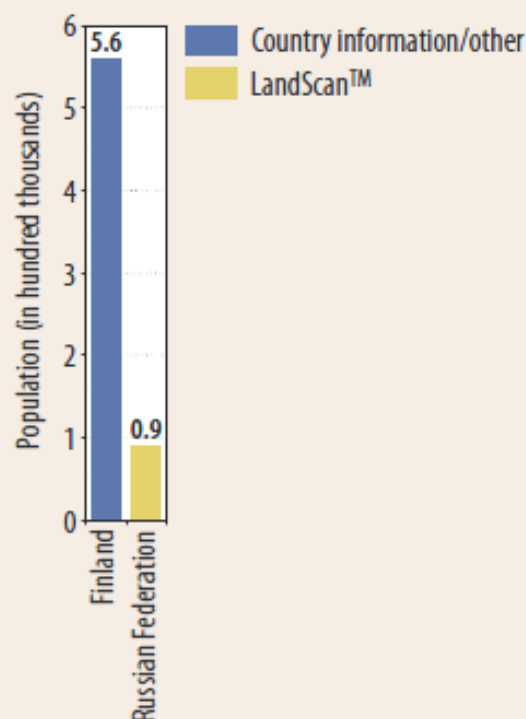
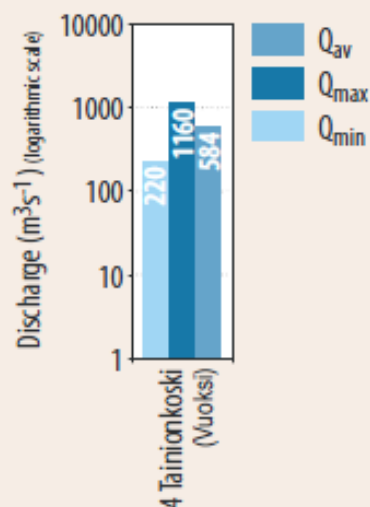


General information of Vuoksi River basin I

Basin of the Vuoksi River

Country	Area in the country (km ²)	Country's share (%)
Finland	52 696	77
Russian Federation	15 805	23
Total	68 501	

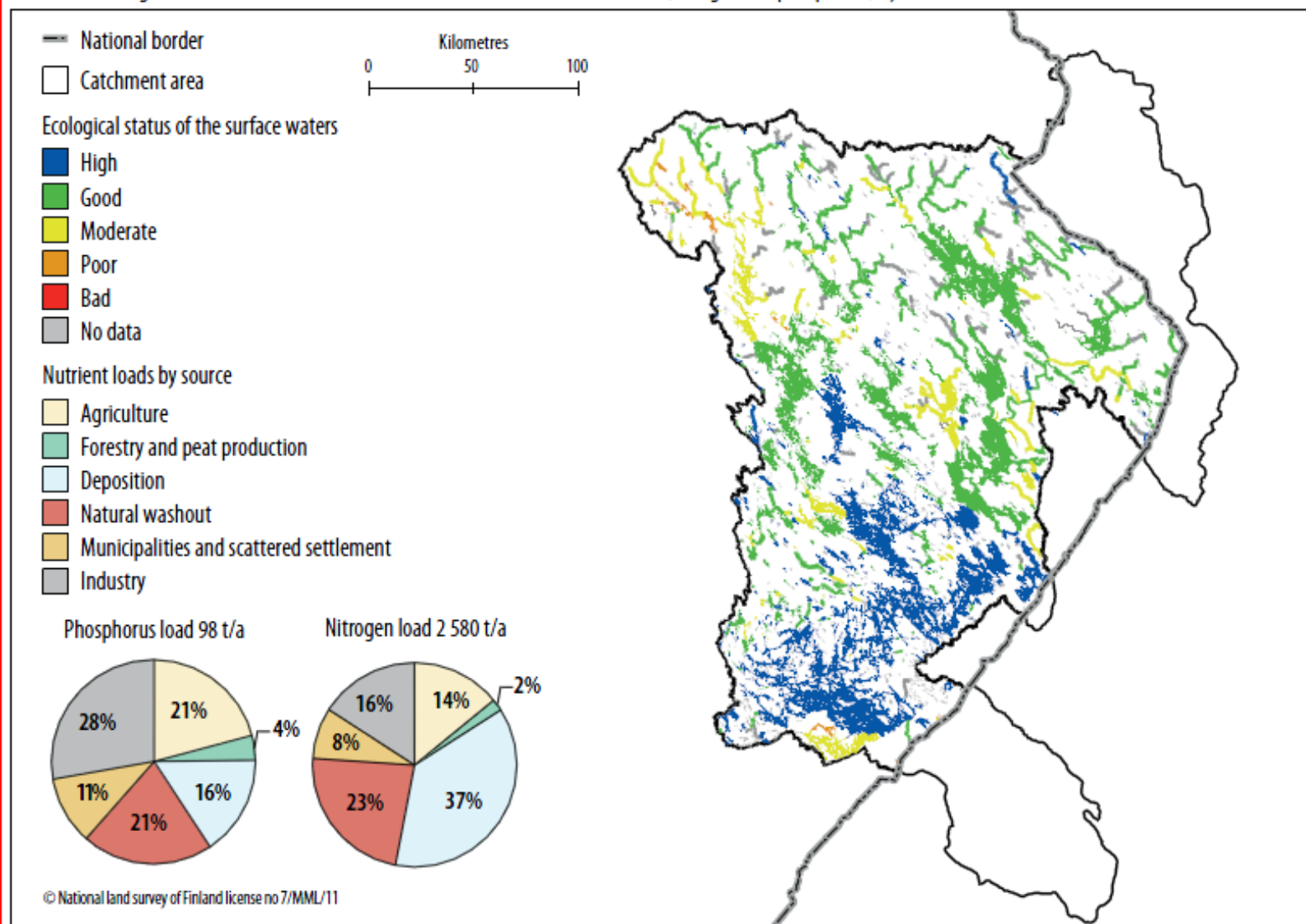
DISCHARGES, POPULATION AND LAND COVER IN THE VUOKSI BASIN



Sources: UNEP/DEWA/GRID-Europe 2011; Finnish Building and Dwelling Register.

General information of Vuoksi River basin II

FIGURE 1: Ecological status of surface waters in the Vuoksi Basin and nutrient loads (nitrogen and phosphorus) by source



Source: Finnish Environment Institute (SYKE), and the Centres for Development, Transport and the Environment of South-East Finland, South Savo, North Savo and North Karelia.

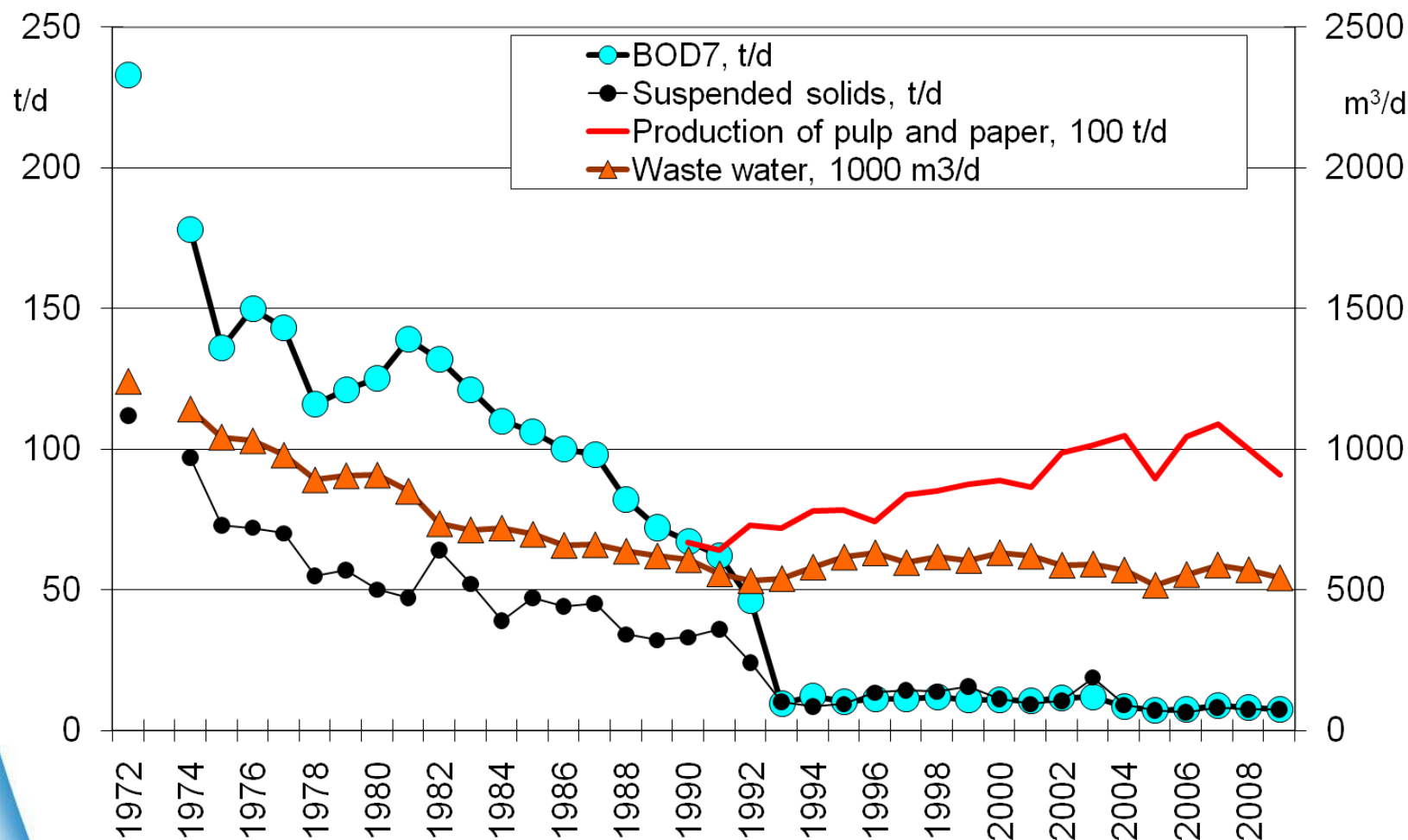
The development of the water quality in the transboundary watercourses

- The reduction of the load has meant an improvement in water quality in both the river Vuoksi and Hiitolanjoki rivers.
- Both the content of organic and phosphorus and nitrogen have reduced in these rivers significantly since 1970s.
- The water quality of the river Vuoksi on the border area has been classified as good.
- The water quality of the Vuoksi river clearly deteriorates on the Russian side before Lake Ladoga.



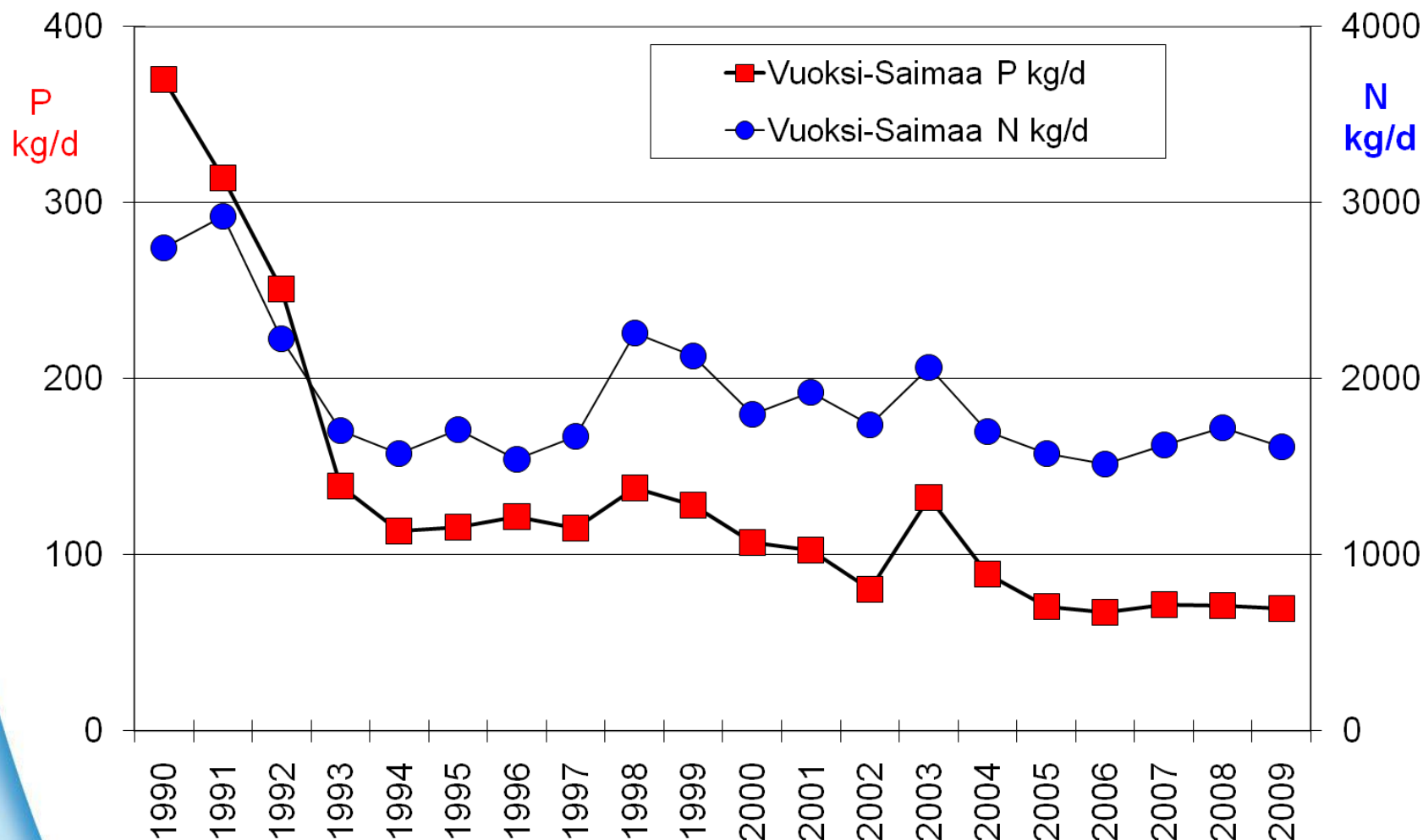
Waste water load affecting River Vuoksi

Pulp and paper industry and municipalities



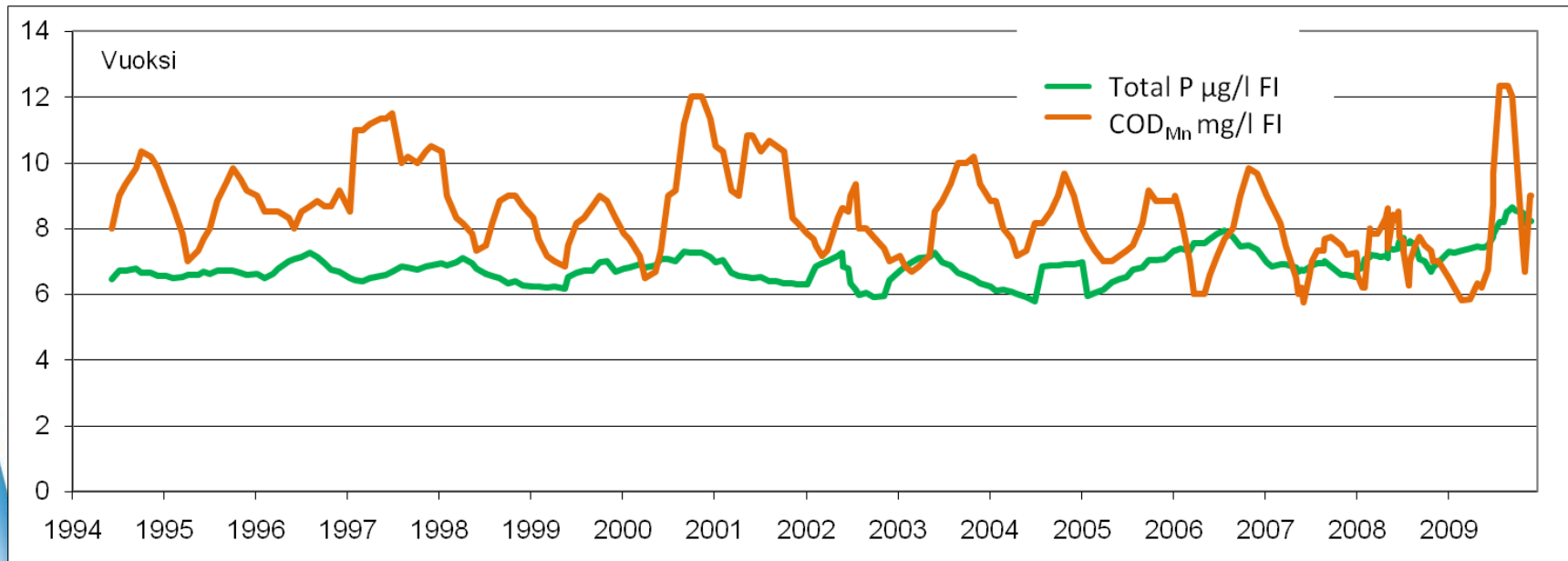
Waste water load affecting River Vuoksi

Pulp and paper industry and municipalities



Water quality of River Vuoksi

- COD_{Mn} = chemical oxygen demand; A measure of the oxygen required to oxidize all compounds in water, both organic and inorganic.
- Total P = total phosphorus; Mass concentration of the sum of organic and inorganic phosphorus (nutrient for algae)



River Rakkolanjoki – problematic water course

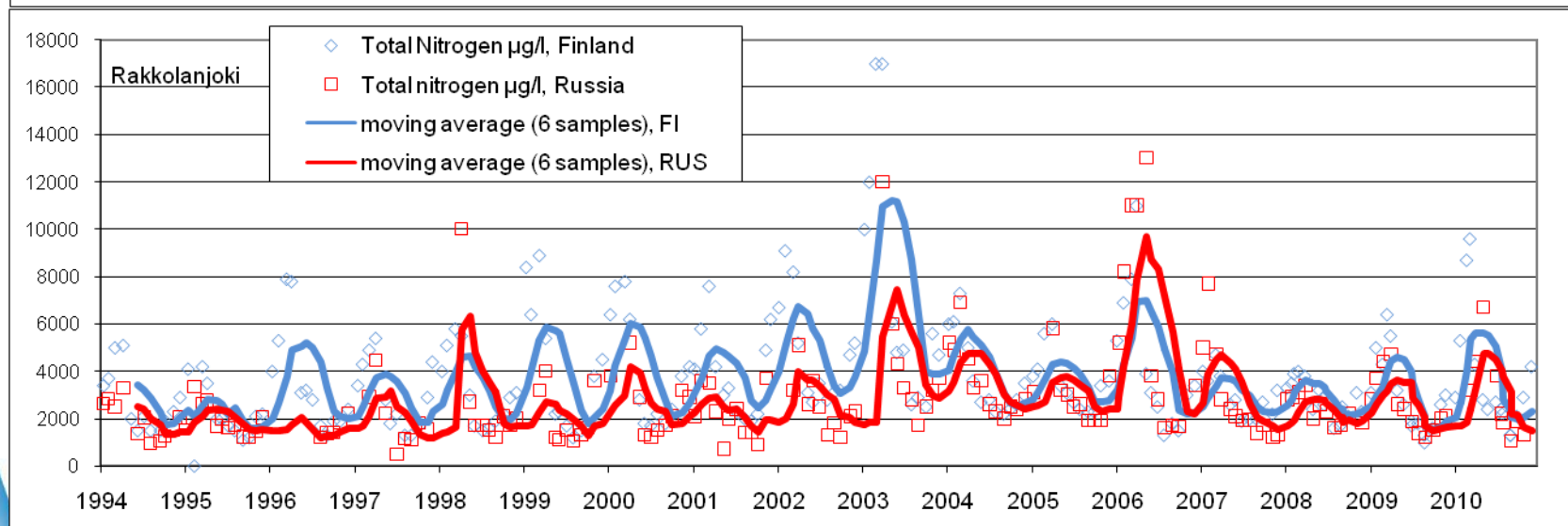
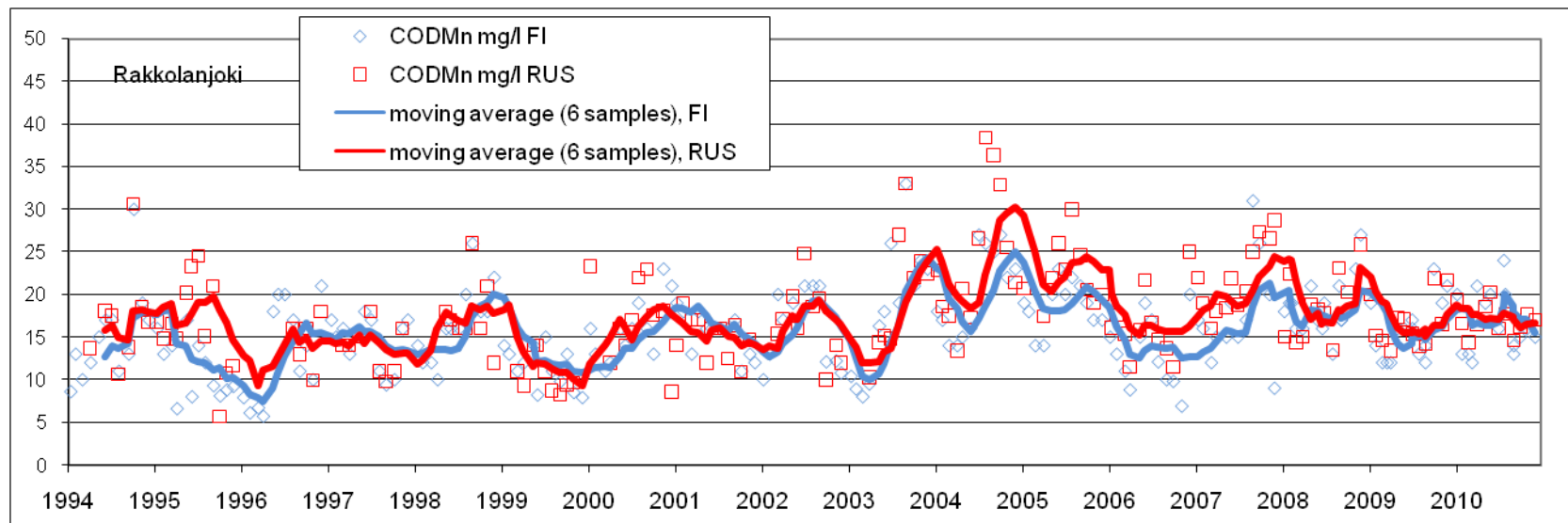
- However, the quality of the Rakkolanjoki river has remained unchanged despite the fact that the total waste water load has been at the same level.
- This is due to the long - lasting load and intensive agriculture.
- The biggest challenge to the water protection group has been and still is to improve the state of the Rakkolanjoki river.

Sub-basin of the Rakkolanjoki River

Country	Area in the country (km ²)	Country's share (%)
Finland	156	73
Russian Federation	59	27
Total	215	

Source: Finnish Environment Institute (SYKE).

River Rakkolanjoki, water quality trends 1994-2010



Water sampling in River Vuoksi March 2008

- Sampling always in a same day in Finnish side and in Russian side
- Joint sampling once in every 1-2 years, in March-April

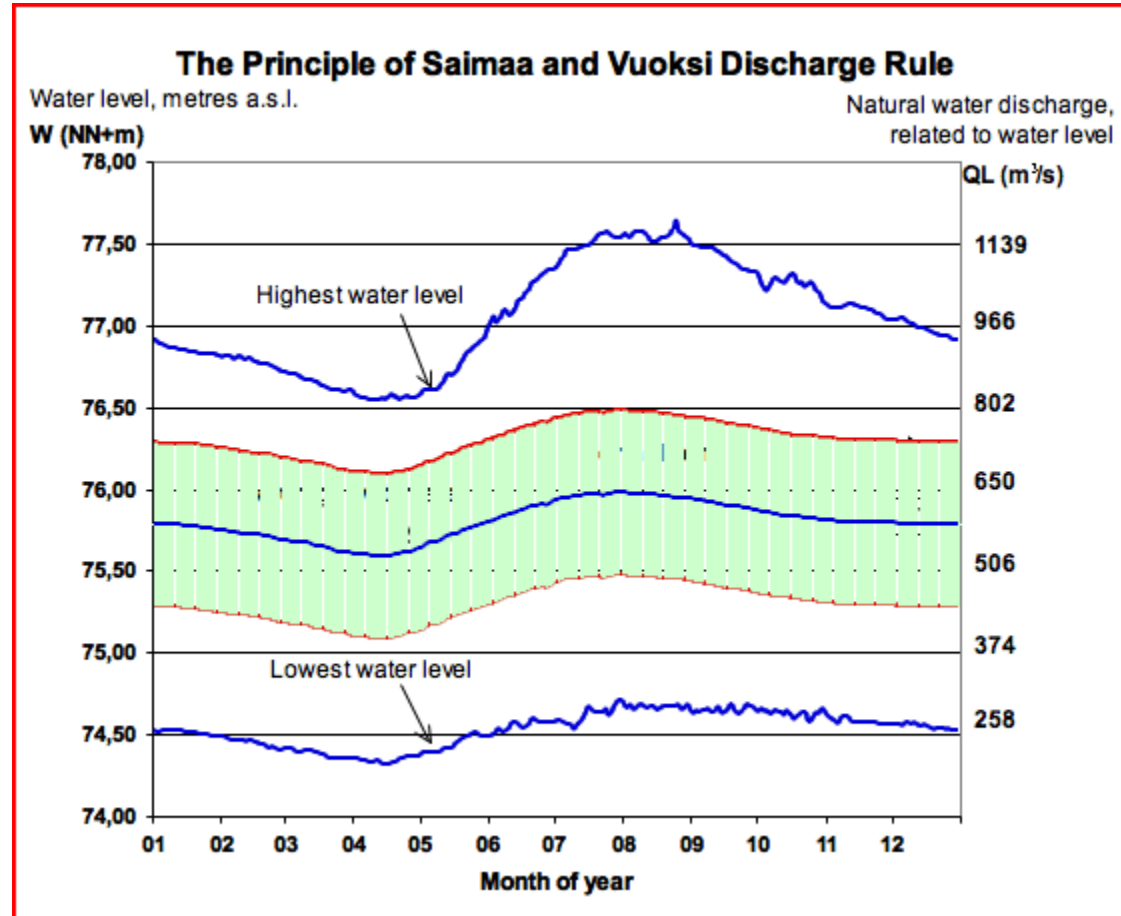


Variables in monitoring

Variable	Дата отбора	
Temperature	Температура	°C
Secchi depth	Прозрачность	м
pH	pH	ед. pH
O ₂ mg/l	Растворенный кислород	мг/дм ³
O ₂ %		% насыщ.
Conductivity	Удельная электропроводимость	мСм/м
Colour	Цветность	градус
BOD ₅	БПК ₅	мгО ₂ /дм ³
BOD	БПК ₇	мгО ₂ /дм ³
COD _{MN}	ХПК _{Mn}	мгО/дм ³
COD _{CR}	ХПК _{Cr}	мгО/дм ³
Suspended solids	Взвешенные вещества	мг/дм ³
Total nitrogen	Азот общий	мкг/дм ³
NH ₄ -N	Азот аммонийный	мг/дм ³
NO ₃ -N	Азот нитратный	мг/дм ³
NO ₂ -N	Азот нитритный	мг/дм ³
Total phosphorus	Фосфор общий	мкг/дм ³
SO ₄	Сульфаты	мг/дм ³
Cl	Хлориды	мг/дм ³
Na	Натрий	мг/дм ³
Fe	Железо общее (вал.)	мкг/дм ³
Mn	Марганец (вал.)	мкг/дм ³
Cu	Медь (вал.)	мкг/дм ³
Zn	Цинк (вал.)	мкг/дм ³
Ni	Никель (вал.)	мкг/дм ³
Hg	Ртуть	мкг/дм ³
Cd	Кадмий (вал.)	мкг/дм ³
Pb	Свинец (вал.)	мкг/дм ³
Oils	Нефтепродукты	мг/дм ³
Phenols	Фенолы	мкг/дм ³
Clorophyll-a	Хлорофилл-а	мкг/дм ³

Different agreement of discharges 1991

- To enhance flood protection and integrated water resource management
- Biodiversity and recreational use is also taken into account
- Hydropower is import beneficiary



Thank you!

Statue of Peter
the Great on the
mouth of
Transboundary
Neva River basin

