Finnish-Russian transboundary water co-operation: experiences from 50 years

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Finland – Russia Transboundary Water Cooperation

Location of Finland with Rivers Vuoksi and Paatsjoki crossing the Russian border
Finnish - Russian Agreement on the Utilisation of Transboundary Watercourses (1964)

• Regulations on impacts in neighbouring country
  – Water flow and structural measures
  – Floods and water scarcity
  – Timber floating and water traffic
  – Fisheries and fish migration
  – Pollution and water quality
  – Public health and economy

• Joint Finnish – Russian Commission on the Utilisation of Transboundary Watercourses
  – Each Party: 3 members and deputies, experts, secretary
  – Meetings annually
Institutional framework

• Joint Commission
  – Meetings once a year
• Working groups:
  – Water Protection
    • Water quality monitoring
    • Monitoring of pressures, particularly waste waters
    • Intercalibration of laboratory analytics
    • Information exchange on planned measures
  – Integrated water management
    • Discharge management
    • Flood control and flood management
    • Hydropower
    • Fisheries, fish migration
    • Information exchange on planned measures
• Requires high commitment by national authorities
The Lake Saimaa - River Vuoksi System

- Catchment 70 000 km²
  - Finland 77 %, Russia 23 %

- Lake Saimaa
  - surface 4 460 km²
  - precipitation ~ 600 mm/a
  - water level fluctuation 3.3 m, annual mean 0.7 m

- River Vuoksi natural discharge
  - mean 600 m³/s
  - max 1170 m³/s
  - min 220 m³/s
The profile and power plants of the River Vuoksi

**VUOKSI**
- Total head (utilized) = 63 m
- Installed power = 440 MW
- Normal annual production = 2500 GWh

**Lake Ladoga**
- Total head (utilized) = 5.00 m

**Lake Saimaa**
- Total head (utilized) = 75.75 m

**TAINIONKOSKI**
- Max. power: 62 MW
- Normal annual production: 300 GWh

**IMATRA**
- Max. power: 178 MW
- Normal annual production: 1000 GWh

**SVETOGORSK**
- Max. power: 100 MW
- Normal annual production: 600 GWh

**LESOGORSK**
- Max. power: 100 MW
- Normal annual production: 600 GWh

**FINLAND**

**RUSSIA**
Lake Saimaa and River Vuoksi Discharge Rule

- Hydropower and flood risks main challenges at the starting point in 1970s
- Initiative of the Russian Party at the Joint Transboundary Commission 1973
- Development targets at the outset
  - Increase winter discharge and minimum flows in River Vuoksi
  - Prevent exceptionally high and low water levels in Lake Saimaa
  - Prevent exceptionally high and low flows in River Vuoksi
- First plan 1979 accepted by Joint Commission
- Jointly accepted 1989, implemented 1991
The Discharge Rule

- Natural water level and discharge in normal circumstances
- When water level forecast goes beyond normal zone discharge may be increased or reduced
- Natural discharge resumed when flood or drought threat ceases
Water quality monitoring

- Annual joint reports
- Water quality monitoring on both sides of the border

- Blue line and dots – Finnish results
- Red line and red dots – Russian results
Pollution loads

- Joint report every year
- Pollution loads from the Finnish side to the Saimaa – Vuoksi system
A case of transboundary IWRM

• Main aim: to minimise adverse consequences in the river system as a whole
• Knowledge and understanding of the neighbours’ situation
• Participatory approach during planning and implementation: involve stakeholders to identify their needs, problems and priorities
• Common understanding of risks, benefits and costs in the broad sense
  – e.g. common projects on flood mapping
A case of transboundary IWRM

- Management of flood and drought risks in both countries
- Hydro power with compensation for Russian losses in some cases
- Also other uses and interests such as water traffic and habitats of fish and endangered Saimaa seal being addressed
Challenges

• Climate change
  – Increased occurrence and variability of heavy precipitation and drought periods
  – Shorter snow period, more abundant autumn and winter floods, less severe spring floods
  – Alterations in ice conditions
    • Ice and snow cover essential for Saimaa seal nesting

• Forecasting and optimal flow control become crucial
  -> real-time data and better forecasts on hydrology and meteorology

• Flood risk management tools: e.g. mapping and planning

• Transboundary early warning systems
Finland - Russia Cooperation: Some General Observations

- Joint transboundary integrated water resources management is achievable even with two very different societies
- Survived cold war and collapse of Soviet Union
- Pragmatic, clear focus on finding joint management interests
- Reasonable and equitable use of shared natural resource
- Still seen as a good exercise by both Parties
Kiitos!