



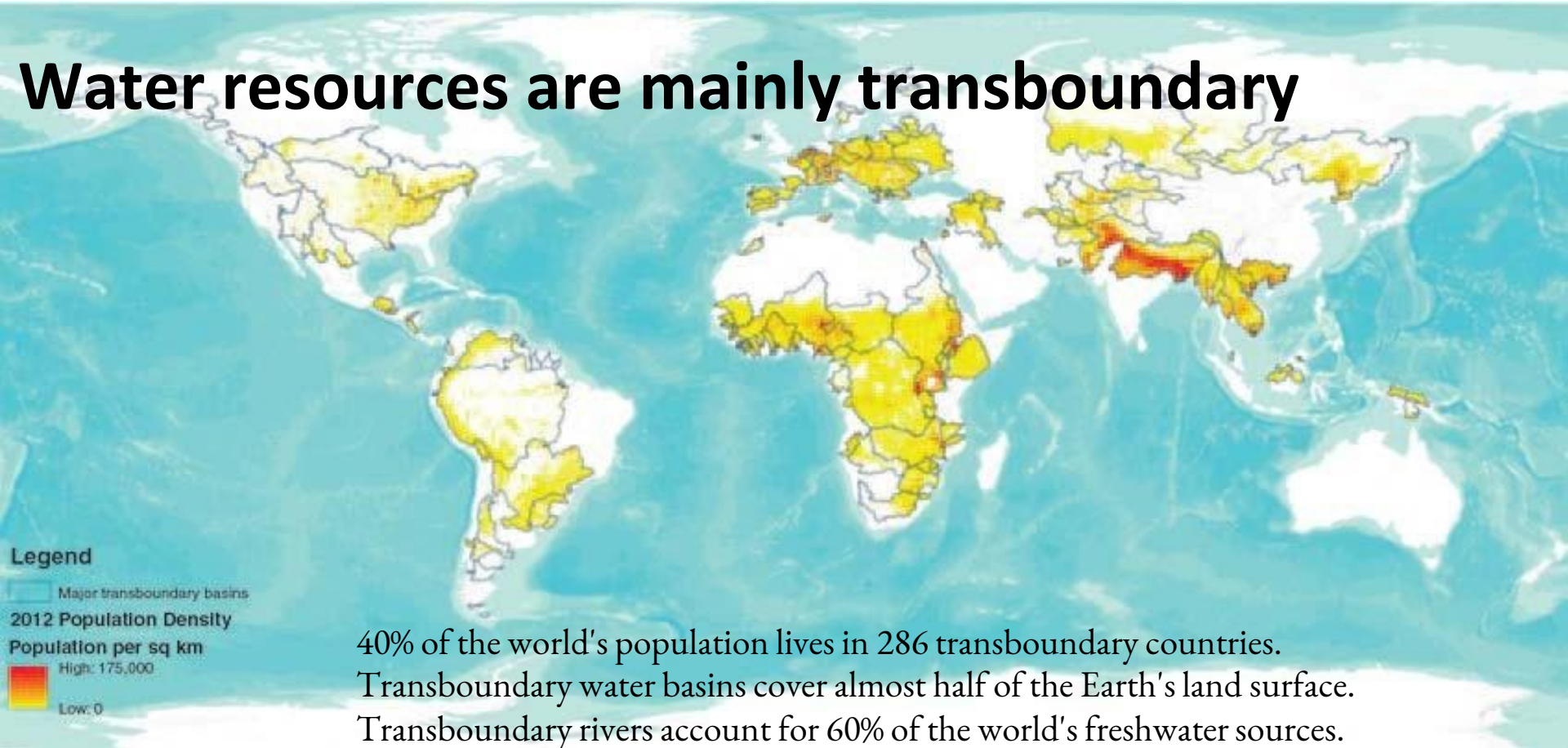
REPUBLIC OF ESTONIA
MINISTRY OF THE ENVIRONMENT

Shared waters - Narva river and Lake Peipus - improving water quality and preventing pollution in a transboundary basin

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Water resources are mainly transboundary



40% of the world's population lives in 286 transboundary countries.
Transboundary water basins cover almost half of the Earth's land surface.
Transboundary rivers account for 60% of the world's freshwater sources.

Source: World Bank

SDG 6.5: Implement integrated water resources management at all levels, including through transboundary cooperation

Transboundary water cooperation: why?

- ✓ **Contributes to cooperation and peace** (inspires cooperation even in fragile areas where there is competition/war history)
- ✓ **Supports the creation of basin organizations to strengthen regional stability and integration**
- ✓ **Helps countries in adapting to climate change through a basin wide approach** (more efficient, joint measures)
- ✓ **Supports the reduction of trade-offs and cross-sectoral conflicts** (optimize the use of resources through cross-border cooperation)



Transboundary Water Cooperation- goals and directions

- A goal is to cooperate, manage shared waters on the basis of equitability and reciprocity according to well harmonized policies, programmes and strategies,
- Aimed at the prevention, control, and reduction of transboundary impact, also
- Aimed at the protection of the environment of transboundary waters, or
- The environment influenced by such waters, including marine environment

Water cooperation on the ground, different formats

For cooperation many countries decided to develop **bilateral and multilateral agreements** in transboundary basins and to establish **joint bodies** worldwide

In the majority of cases in accordance with the Water convention

More than **90 agreements** entered into force in the pan-European region since the operationalization of the Convention (1996).



85 countries participated in activities on the ground under the programmes of work under the Water Convention in the period 2015–2022.

Note: based on activities indicated on Map 1.

98 international organizations and NGOs are partners to the Water Convention.

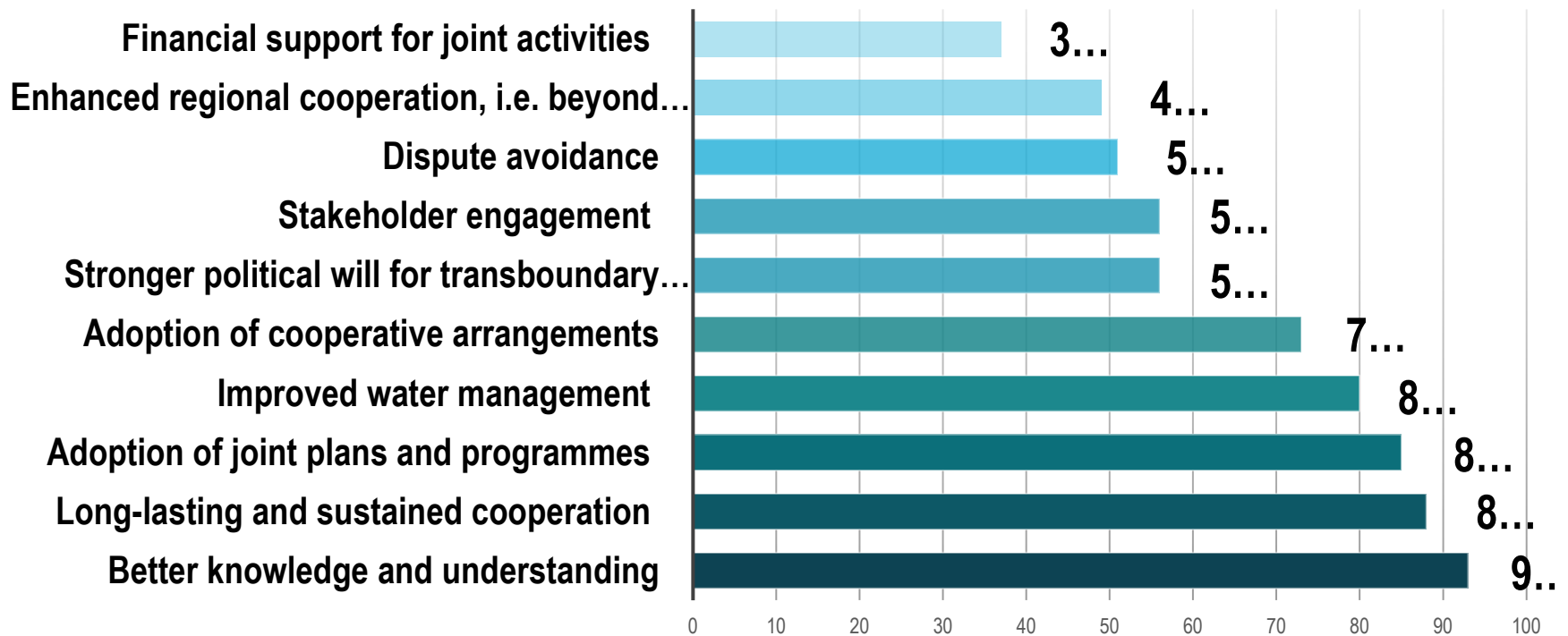
Note: Based on programmes of work for 2019–2021 and 2022–2024.

In 2011–2021, about **6,000 experts** were trained on international water law, water management, climate change adaptation, the nexus approach, dam safety and other areas through the capacity-building activities led by the Water Convention.

Note: Meetings of Convention bodies not included.

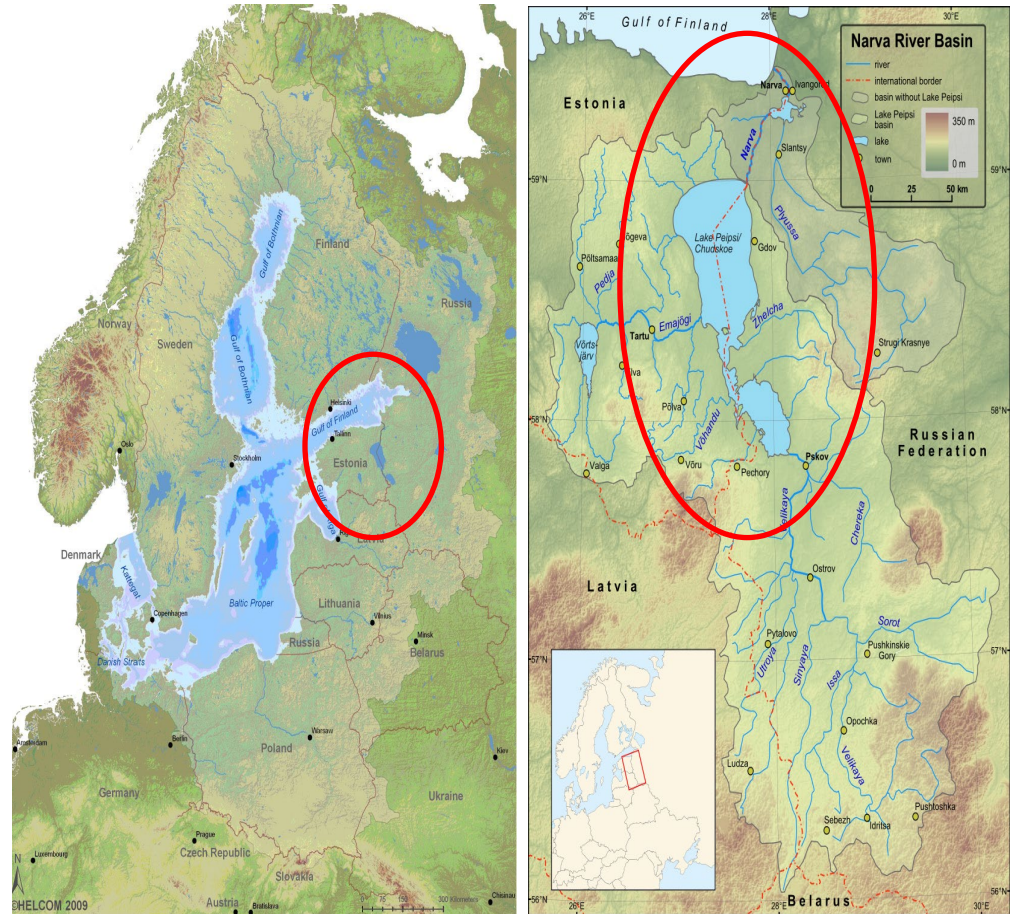


What do countries achieve through transboundary cooperation?



Shared waters - the Narva River and Lake Peipus

- The Narva River together with Lake Peipus are transboundary water bodies, discharging to the Gulf of Finland in the Baltic Sea.
- Lake Peipus is fourth largest lake in Europe and at the same time it is the largest transboundary lake in Europe.
- The basin area of the Narva River is about 57,000 sq.km (Estonia 30.4%, Russia 63.1%, Latvia 5.9%, Belarus 0.6%).
- There are about 1 million inhabitants in the basin area.



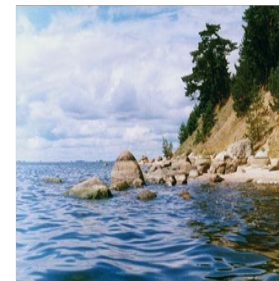
The Narva River

- Basin area 57,000sq.km (Estonia 30.4%, Russia 63.1%, Latvia 5.9%, Belarus 0.6 %)
- The Narva River has an energetic importance: on the river there is the Narva Hydroenergy plant, which belongs to the Russian Federation with the total capacity of 125 MW
- In Estonia there are two powerful energy plants with total capacity of 2,400 MW. Water uptake from the Narva River is used for cooling purposes at the energy plants
- Water uptake from the Narva River is used for drinking water in Narva (with the population of 57,130)



Lake Peipus

- Lake Peipus is the fourth largest lake in Europe and at the same time it is the largest transboundary lake in Europe
- Total area of Lake Peipus at its average water level is 3,555 sq.km, 44 % of the lake is situated in Estonia and 56 % in the Russian Federation
- Lake Peipus is one of the best fish lakes in the world



Main environmental problems and plans for improvement

Problems

- High level on nutrients from land based sources into the lakes, rivers and coastal waters
- Eutrophication of lakes and coastal waters
- Hydro morphological barriers in rivers obstructing the movement of migrating fish
- Industrial releases and pharmaceutical residues in rivers, lakes and coastal waters
- Litter and debris from land based sources, such as wastewater treatment plants, agriculture, industries, storm water systems
- Rivers, lakes and coastal waters not in the good status
- Increasing influence of climate change, which triggers or enhances the processes that take place in the lake

Plans

- Common platform, common goals, common understanding
- Common criteria
- Basin-wide approach
- Common plans or harmonized plans
- Water management plans
- Supervision of plans

Main directions of actions - to prevent, control and reduce transboundary impact

Coherence with the Water Convention, Art.2, Art. 3, para 1

- Taking all appropriate measures
- Implementation through the development, adoption and implementation of relevant **water management plans**, including legal, administrative, economic, financial and technical measures
- Riparian Parties **specify the catchment area**, subject to cooperation and elaborate all relevant criteria jointly



Practical implementation

- Monitoring and exchange of information

Riparian Parties shall establish and implement **joint programmes of monitoring**, harmonize rules and operation of those programmes together with evaluation procedures for **assessment of water quality, both for surface water and groundwater**. National monitoring is developed, usually not harmonized with the neighbours.

Exchange of information: access to the database – joint agreement is needed. Widest exchange of information, as early as possible, on issues covered by the provisions of water management plans and the Water Convention

Water Convention, Art. 4, Art. 6 and Art.11, **12,13**

Practical implementation, Est-Rus (1)

- • **Estonian-Russian joint Commission, Water Convention framework :**
- Integrated water resources management of the Narva River and Lake Peipus; joint monitoring and assessment activities; management of joint water objects, e.g. Narva Hydro Power Plant; management of risks; improvement of the status of water bodies on both the Estonian and Russian sides; supervision of objectives for freshwater, no objectives for marine areas
- • **River basin management plans for Lake Peipus and the Narva River**
- Plans on both sides of the border, in Estonia and Russia
- Coordination of national river basin management plans with the neighbouring countries in joint commission
- • **National marine strategies for the protection of marine areas**
- Plans and measures to protect and improve the status of the marine environment
- Reducing land based pollution into the sea, including
- Improving the ecological status of the sea and protecting fish resources



Practical implementation, Est-Rus (2)

- **Estonian-Russian Joint Commission:**
- An important transnational body that plays the key role of moderator and coordinator across borders to address climate resilience and contribute to resource security and stability.
- Was established in 1997 based on the 1997 Agreement Between Republic of Estonia and the Russian Federation on the Protection and Sustainable Use of Transboundary Watercourses.
- Implements water policy in transboundary waters through two working groups:
 - - 1) Working group on integrated water resources management;
 - - 2) Working group on monitoring, assessment and research.



Practical implementation, Est-Rus (3),

- **Water quality index (WQI(10)) for the Narva River catchment area transboundary rivers:**
- Was use a method for calculation of water quality index (WQI), which was developed by the British Columbian Ministry of Environment, Lands and Parks.
- The method is based on selected water quality parameters (pH, O₂, conductivity EC, BOD₅, CODCr (Russia) or CODMn (Estonia), N_{tot}, N-NH₄, N-NO₃, P_{tot}, P-PO₄) and their limit values for the whole Narva River catchment area.
- Re

0-44 poor	45-59 marginal	60-79 fair	80-94 good	95-100 excellent
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- The developed index was tested on river data from both sides - Estonia and Russia - and the results obtained were very good.
- WQI index was now used to assess the status of border rivers. In 2021, it was good/very good according to both Parties.



Practical implementation, Est-Rus (4),

- **Joint criteria for joint assessment of the state of the Lake Peipus:**
- Hydrological criteria: data of the surface layer in the years 2001-2019 of both the Estonian and Russian sides has been used.
- Hydro-biological criteria: proposal to add chlorophyll a.
- The total set of data (number of samples) that was used to find the class boundaries is more than 5000
- Development of common criteria for lake assessment is in the phase of finalization, the intermediate results are currently being tested.



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Thank you for your attention!

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