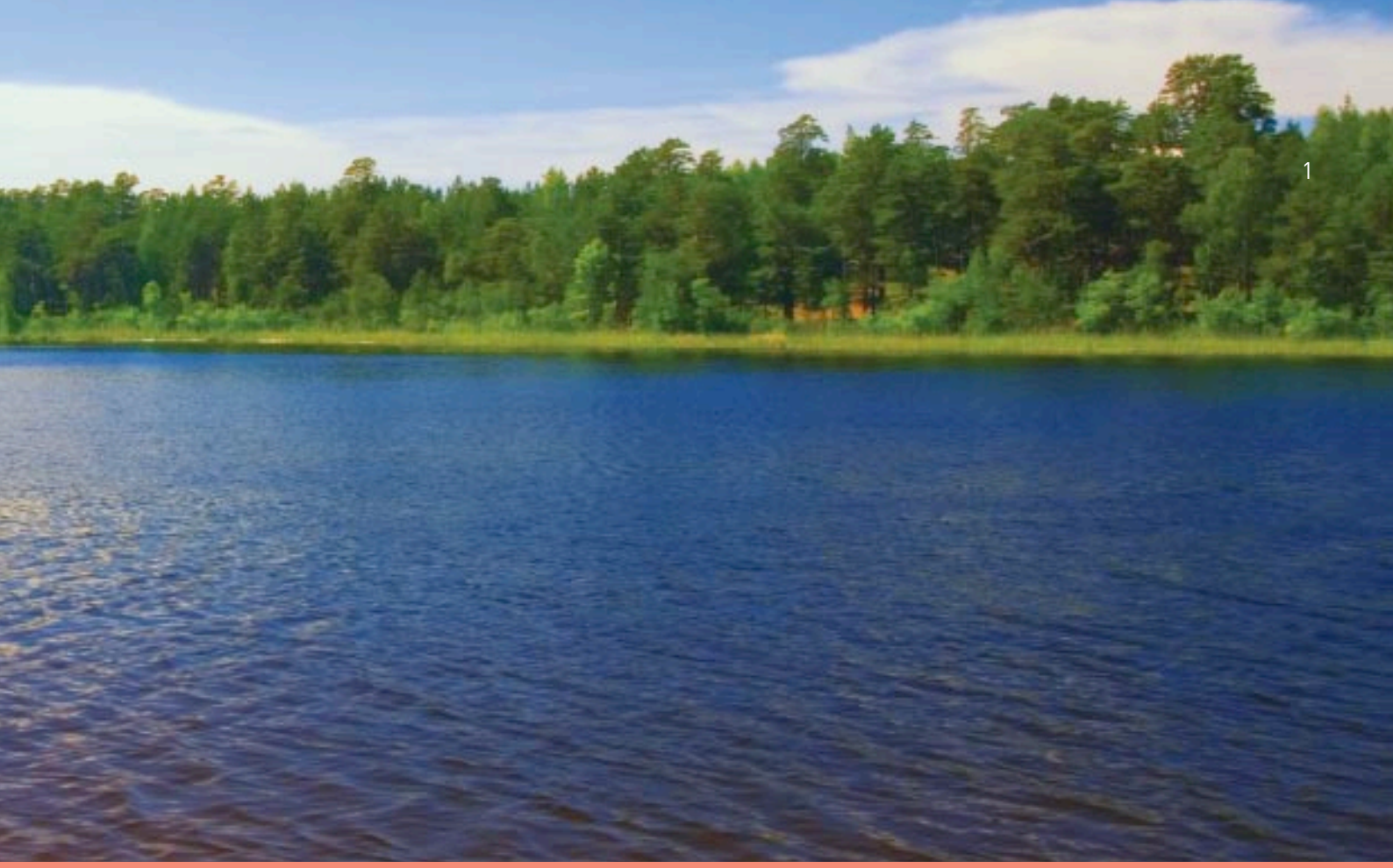

OVERVIEW

Many rivers criss-cross the border between two or more countries, the basins of many lakes are shared between two or three countries, and transboundary aquifers often underlie two or even three countries. The sustainable management of such shared resources requires common approaches to prevent, control and reduce pollution, based on joint objectives and institutional frameworks. For the first time, principles of transboundary cooperation within river basins were laid down in a convention under international law, the 1992 UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Water Convention).

The Water Convention applies to all transboundary waters - surface waters and groundwaters alike. It promotes a river basin approach to water management and recognizes the river basin as the natural unit for water management. The Convention also aims to achieve a good status for waters and related ecosystems, taking into account the specificity of river basins. Moreover, it promotes a "combined approach" to pollution control, through the simultaneous setting of emission limits and water-quality objectives. It calls for the involvement of all stakeholders, including the public, in the decision-making process, and establishes joint bodies as the institutional framework for riparian countries to prevent, control and reduce transboundary impact.

Under the Water Convention, the riparian Parties shall, at regular intervals, carry out joint or coordinated assessments of the conditions of transboundary waters and the effectiveness of measures taken to prevent, control and reduce transboundary impact. The results of these assessments shall be made available to the public. The present Assessment is the first ever in-depth report produced on transboundary rivers, lakes and groundwaters in the UNECE region.

This first Assessment includes 140 transboundary rivers (most of them with a basin area over 1,000 km^2) and 30 transboundary lakes in the European and Asian parts of the UNECE region, as well as 70 transboundary aquifers in South-Eastern Europe, the Caucasus and Central Asia. These rivers, lakes and groundwaters were selected by the riparian countries for this assessment report as they were considered to be "major" water bodies, mostly due to their importance for water supply and the maintenance of ecological functions.

The Assessment has been carried out under the auspices of the Meeting of the Parties to the Water Convention, under the overall leadership of Finland. It highlights the achievements of over 10 years' work under the Water Convention to prevent, control and reduce transboundary impact.

The Assessment serves as a point of reference for Governments, international river basin organizations (joint bodies), other international organizations and relevant non-governmental organizations to improve the status of transboundary waters and agree on joint measures related to integrated water resources management. This Assessment also underlines the challenges that countries face in implementing further measures to counteract still-existing pressures and to improve the ecological and chemical status of transboundary waters.

Part 2 of the Assessment deals with transboundary surface waters. It describes the hydrological regime of these water bodies, pressure factors in their basins, their status (e.g. ambient water-quality data, water-quality classifications) and transboundary impact, as well as trends, future developments and management measures envisaged. Part 2 also aims to summarize the major findings of the assessment: monitoring of transboundary rivers and lakes, pressures from natural and anthropogenic sources, their status and impact, and finally, response measures (e.g. pressure-related responses and good governance).

Part 3 of the Assessment deals with transboundary aquifers in South-Eastern Europe, the Caucasus and Central Asia. In general, this Part is structured similarly to assessment of surface waters in Part 2. Due to the specificity of groundwaters, however, the following aspects are also covered: the characteristics of transboundary aquifers, their uses and functions, groundwater abstraction and use, problems related to groundwater quantity and quality, evidence for transboundary effects, and groundwater management measures for transboundary aquifers. This Part also summarizes the major findings of the assessment of the transboundary groundwaters.

Surface water and groundwater interactions in the same basins have not yet been explored in an integrated manner, and the Assessment is still split into separate parts dealing with these water bodies. The reason is quite obvious: the assessed transboundary aquifers represent only part of the many other aquifers in the basins of the analysed transboundary surface waters, and an analysis of the interactions between surface waters and groundwaters would thus be premature. Future assessments will address this shortfall.

In the present assessment, the impact of human activities on the chemical status of waters has been covered more comprehensively than hydromorphological alterations by human activities and their impact on the status of watercourses. Moreover, water-quality problems have been analysed more thoroughly than water-quantity problems. Thus, the present assessment focuses on the most critical problems in the region and calls for holistic assessments to be made in the future.

The basins of transboundary rivers and lakes and the recharge areas of transboundary aquifers are widely heterogeneous from the economic and environmental points of view, and display very specific problems, calling for tailor-made solutions.

Nevertheless, the assessment pointed to nine major issues to be jointly dealt with in the future:

- The effects of climate change are becoming visible in almost all of the analysed river basins.
- In transboundary river basins, water-sharing among countries in the same basins is often a major water-quantity issue, and continues to cause upstream-downstream conflicts.
- In transboundary aquifers, increasing abstraction for agricultural purposes and drinking water supply is often a major water-quantity issue, and in some cases leads to overuse.

- Organic pollution, nutrient pollution, pollution by hazardous substances and – in the case of rivers – hydromorphological alterations are the most important issues for further action to improve the chemical and ecological status of transboundary waters.

- The contamination of drinking water supplies is significant in Eastern Europe, Caucasus and Central Asia (EECCA)[1] and in South-Eastern Europe (SEE)[2], and causes such water-related diseases as cholera, dysentery, coliform infections, viral hepatitis A and typhoid.

- Action to decrease water pollution from point sources (e.g. municipal sewage treatment, old industrial installations) is of primary importance in basins in EECCA and SEE.

- Pollution from diffuse sources (e.g. agriculture, urban areas) is a key area for action with regard to basins in Western and Central Europe.

- Plans for integrated water resources management still need to be developed for almost all basins; proper attention should be devoted to land-use planning and the joint management of surface waters and groundwaters.

- In developing assistance programmes, taking into account the specificity of each basin, special attention should be given to countries in EECCA and SEE, as these countries face the biggest challenges to reduce transboundary impact.

[1] Countries in Eastern Europe, Caucasus and Central Asia are Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russian Federation, Tajikistan, Turkmenistan, Ukraine and Uzbekistan.
[2] Countries in South-Eastern Europe are Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Greece, Montenegro, Romania, Serbia, Slovenia, The former Yugoslav Republic of Macedonia and Turkey.