



EU-RUSSIA CIVIL SOCIETY FORUM ГРАЖДАНСКИЙ ФОРУМ ЕС-РОССИЯ

Russia and the European Union Need to Improve the Climate Adaptation of Water Ecosystem Management

Position Paper by the Working Group “Environment” of the EU-Russia Civil Society Forum

*‘We are depending on mountain areas for half the water we are drinking’
Romano Prodi, President of the EC,
at the European conference of mountain regions, September 2002, Brussels*

*‘The usual way of thinking is not enough for Baikal;
there you should think higher, purer, stronger – up with its spirit, with no febleness or bitterness’
Valentin Rasputin, writer*

The Working Group “Environment” of the EU-Russia Civil Society Forum considers it necessary to unite the forces of EU and Russian authorities, the scientific community, NGOs, and the public in addressing the climate adaptation of water ecosystems’ management - in the face of rising frequency of extreme climatic events with global impact.

The most vivid examples of water ecosystems in need of climate adaptation in their management schemes are Lake Baikal in Russia and Lake Geneva, which sits between Switzerland and France. Although there are differences in water volume and the number of people living near the lakes, Lake Baikal and Lake Geneva have several important similarities. Both of them are oligotrophic water pools and regulated by hydropower station dams. Around 330 rivers feed into Lake Baikal, the main one being Selenga (which accounts for 50 % of incoming water), and only one river streams out—Angara, which flows into Yenisei and then to the Arctic Ocean. There are around 20 rivers that feed into Lake Geneva, the primary being the Rhone. Similarly, only one river—the Rhone—flows out and feeds into the Mediterranean. There are 4 hydropower stations on the Angara River and 19 stations on the Rhone. There is also a nuclear power station, which uses water from the Rhone to cool the reactor (cold water is taken from the Rhone to the NPP facilities and then warm water is poured off into the Rhone again). There is a thermal coal plant (HPP-10, near the City of Angarsk) on the Angara, which uses cold water from the river to cool its boilers (the heated water is discharged back into the river, then). Lake Baikal and Lake Geneva both experience anthropogenic impacts from tourism and recreation activities, which manifest in the pollution of water utility sinks.

Lake Baikal is located on the territory of two administrative entities—the Irkutsk Region and the Republic of Buryatia. The Selenga River Basin originates on the territory of Mongolia, and the other half of it is located in the Russian Federation. Formation of runoff into Lake Baikal takes place in the Republic of Buryatia and Mongolia, and hydropower stations in the Irkutsk Region consume major

amounts of water. Lake Geneva is itself a trans-boundary site, with its northern part located in Switzerland and its southern part in France (forming about one third of the coastline). The main outflow to Alpine rivers is formed in Switzerland, and some of the main consumers of water are hydro and nuclear power stations in France.

Thus, control of the water regimes of Lake Baikal and Lake Geneva have a pronounced cross-border character (for Baikal it is also interregional), which creates certain difficulties in negotiating the interests of different water users.

One significant difference between Lake Baikal and Lake Geneva is that the impact of ski resorts in the Alps on the water regime of rivers flowing into Lake Geneva is quite large, especially in dry periods (during which water sources are used to produce artificial snow from snow cannons). In contrast, consumption of water from Lake Baikal by the tourist industry has almost no effect on the Lake's water regime either in winter or summer.

During periods of long-lasting low water, the level of Lake Baikal recedes below the minimum permitted level for normal (typical) climatic conditions, as determined by an Act of the Russian government¹. This causes problems for the water supply of coastal settlements and may negatively affect biodiversity of the unique ecosystem.

A worrying situation appears in Lake Geneva as well, as the water supply regime worsens. The water level of Lake Geneva is managed by the Swiss law and includes an agreement with France for reimbursement of 85 million cubic meters of water from the lake for an inter-basin transfer of the same amount to the upper pool of the Arve River, in the basin of Lake Geneva. The de facto implementer of this agreement is the half state-owned company SIG, and its principal owner de jure is the Canton of Geneva. A 60 year concession contract between SIG and the Canton of Geneva synthesises and complements these regulations. These decision-making systems are completely closed to the public. Decision makers generally are not specialists and have only vague understandings of the natural cycles of lake level fluctuations, or the environmental status indicators of lakes, which depend on the lake level adjustment mode. Therefore, their decisions often focus on engineering convenience rather than the preservation of the ecosystems of the lakes and the rivers that feed them. This happens not only in Russia but also in the European Union, despite the presence of the International Commission for the Protection of Lake Geneva (CIPEL). The Commission deals with issues of pollution and publishes reports on the state of ecosystems but has no real impact on SIG's decisions².

As a result of long periods of dry weather, with low local rainfall and simultaneous heavy rainfall in neighboring areas, catastrophic floods occur (eg, Italy, Slovakia in the EU – and Altai in Russia). These examples show that the existing management of water ecosystems over-regulates rivers and lakes in the Alps and in the region of Lake Baikal. They need to be restructured, taking into account new scientific knowledge about the patterns of atmospheric circulation.

The main problem in the management systems of the water regime of Lake Baikal and Lake Geneva is that they are poorly adapted and virtually ignore climate variability, which shows itself in quasi-regular cycles of high and low water that are becoming more extreme. These cycles appear within

1 <http://uatoday.tv/society/lake-baikal-water-level-falls-to-record-lows-posing-risk-to-siberian-water-supplies-417149.html>

2 Hydropower and the Regulation of the Rhone River in a Context of Climate Change and Electricity Liberalisation - http://www.unige.ch/environnement/polet/research/gouvress/gouvrrhone_en.html
Additional information - <http://edytem.univ-savoie.fr/actualites/seminaire-ressources-et-patrimoines>

time scale fluctuations of 3-7 years and 20-30 years, associated with macro-synoptic features of global atmospheric circulation.

The Working Group “Environment” of the EU-Russia Civil Society Forum calls on all interested parties to take responsible care of the Alpine ecosystems, one of the main water sources for the EU, and the World Heritage plot # 754, Lake Baikal, which has 20 % of all freshwater surface reserves on the planet. It **recommends the following**:

1. Stimulate the scientific community of Russia and the EU to cooperate and improve the forecasting of extreme hydrological events in order to better the management of water ecosystems in the Alps and Lake Baikal, taking into account scientific literature that emphasises the importance of this issue over climate forecasts on the scale of centuries and millennia that currently dominate public discourse.
2. Increase public participation, especially that of environmental non-governmental organisations, in decision-making on water regulation (primarily regarding water levels) of Alpine lakes and Lake Baikal, and prioritise the conservation of the natural hydrological cycle, guaranteeing the preservation of biodiversity and unique ecosystems of the Alps and Lake Baikal.
3. Authorise the relevant Russian and EU departments to initiate plans to develop the management of water ecosystems of Lake Baikal and Alpine rivers and lakes, and/or modernise existing plans based on recommendations of the IPCC³, IUCN⁴, and other experts.
4. Review the principles of the regulation control system over the Alpine rivers and lakes as well as Lake Baikal in order to ensure the priority of saving natural hydrological cycles above other types of water usage.

Alpine rivers and lakes as well as Lake Baikal are our common heritage. We must preserve their unique, natural integrity for future generations.

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The EU-Russia Civil Society Forum was established in 2011 by non-governmental organisations as a permanent common platform. At the moment 146 NGOs from Russia and the European Union are member of the Forum. It aims at development of cooperation of civil society organisations from Russia and EU and greater participation of NGOs in the EU-Russia dialogue. The Forum has been actively involved, inter alia, in the questions of facilitation of visa regime, development of civic participation, protection of the environment and human rights, dealing with history, and civic education.

3 IPCC — Intergovernmental Panel on Climate Change (<http://www.ipcc.ch>).

4 International Union for Nature Conservation (<http://www.iucn.ru>).