

National Audit Office: improvement of the condition of bodies of groundwater in bad status depends mostly on conversions in agriculture and the oil shale industry

TALLINN, 25 January 2018 – In the opinion of the National Audit Office, the Ministry of the Environment has commenced with a more detailed planning of the protection of groundwater, but the improvement of the condition of bodies of groundwater still in bad status will take longer than time left until 2021, the overall target in the rest of the European Union, primarily due to the effects associated with the extraction of oil shale and agriculture. Among the 39 Estonian bodies of groundwater, 8 are in bad and 10 are in good but endangered status.

Groundwater resources in Estonia are abundant, and the majority of Estonian residents have clean drinking water available. Despite this, there are more than 200,000 people in Estonia whose well water condition may deteriorate due to the nitrate or pesticide pollution caused by agriculture, extraction of mineral resources or untreated wastewater from households. Excessive water abstraction may also affect the quality of groundwater. Monitoring and studies have so far not provided a good overview of the effect of sources of pressure on groundwater. The data on the basis of which the status of groundwater can be assessed and reliable forecasts can be made is unfortunately not consistent. Current information systems do not enable getting a quick overview of necessary data, incl. companies' self-monitoring data. But solutions are underway, and this is a positive development.

Audit of the National Audit Office indicated that the pollution of groundwater with nitrates has increased, and treating the fields with fertilisers is considered to be the main source of nitrates. The status of groundwater has also not improved in Ida-Viru County significantly affected by the extraction of oil shale, and extraction permits have not established measures that would help prevent damage to groundwater in the future.

The National Audit Office found that although Estonia uses less fertilisers than the average of the European Union, reduction of diffuse pollution caused by agriculture requires more attention than has been given to it so far. Restriction of diffuse pollution is particularly important in areas of unprotected groundwater where pollutants quickly reach groundwater. Limit values of using nitrogen fertilisers in the nitrate-vulnerable zone of Pandivere-Adavere are more lenient in comparison with the actual use of fertiliser and therefore do not prevent the increase of nitrate pollution. Treating fields with fertilisers as required would also help limit pollution, but the state does not inspect this sufficiently. Over the last five years, the use of plant protection products has also increased, leaving residues in groundwater. Surveys confirm that in 17% of medium-deep monitoring wells situated in a nitrate-vulnerable zone, the nitrate content in water is so high that it is no longer recommended to be used as drinking water in an untreated state.

The cleanliness of groundwater largely depends on the environmental awareness of farmers – to produce more moderately in unprotected areas, that way reducing fertilisers and plant protection products required in production that may reach groundwater. Environmental support granted by the state should also be aimed at this goal, which so far has not brought about a sufficient effect. Pollution of groundwater is also caused by wastewater from settlements, which is not collected with the public sewerage system to the required extent. The extent of the problem of groundwater cannot be assessed with more accuracy, however, because neither the state nor local governments have an overview of where individual wastewater treatment systems of people are situated and what condition they are in. Local governments do not check whether the tanks are leak-proof and whether they are emptied regularly.

There are areas in Estonia where pumping groundwater and abstraction of water for human consumption significantly affect the condition of groundwater. Such areas in Ida-Viru County are oil shale mines where the quantity of groundwater pumped out of the mine is four times higher than the quantity of water used for human consumption in Estonia on the whole. Although alleviation measures have been specified in the environmental permits issued to miners, the effect thereof is small. The Ministry of the Environment has admitted the inevitability of the effect caused by the mines. Groundwater resources have been reassessed and redistributed to ensure that all areas can use quality groundwater in Harju County where the effect on groundwater resources is the highest. Excessive water abstraction on the coast may cause an influx of seawater and make groundwater unsuitable for drinking.

The Auditor General Alar Karis said the following when commenting on the results of the audit: “When my colleagues from the General Inspection Organisation of Iran published one of their environmental audits on water resources six years ago, they referred to their most sacred text – the Quran –, not some governmental programme document when justifying the relevance of the topic in the beginning of the audit. “Water has a special status in Islam. Allah has said in the holy Quran that all living beings depend on water, humans should think about it and be grateful for water as a blessing. One way to be grateful to Allah for this blessing is to use water properly and avoid polluting it,” the audit says.

All this sounds timely in any religion or cultural space and could also be a general guiding principle for the audit of the National Audit Office Estonia that addresses our groundwater and the preservation thereof. Warnings have sounded in the world for decades already that coming wars will be fought for water, not for oil. When opening a tap at home or abstracting water from the well, we unfortunately tend to not think about the fact that more than a billion people are plagued by water scarcity and that life, economy and wellbeing are dependent on water. Estonia is one of those fortunate places in the world that has abundant groundwater and where a well can be established and drinking water can be abstracted in nearly every corner of the state. However, there are areas in Estonia where the status of groundwater is poor. This is affected by several factors, including the extraction of oil shale, but also agriculture where pollution is caused by manure and fertiliser storage facilities as well as using plant protection products and fertilisers on fields.

It doesn't matter whether someone reads the Bible, the Quran, Mikita or holds a coalition agreement sacred, we are all living on the same planet and our problems, incl. preserving clean water resources and sustainable use of water, are common for us all.”

Background

Among the 39 Estonian bodies of groundwater, 18 are in bad or in good but endangered status. The European Union has set goals for improving the status of the aquatic environment – all water bodies and groundwater must achieve a good status by 2021 (some by 2027 at the latest). The state will allocate 58 million euros for the protection of groundwater in 2015–2021 with its water management plans. 140 million to be invested in drinking water and wastewater systems and 260 million for support associated with water protection of the Rural Development Plan will be added thereto.

The National Audit Office assessed whether the activities organised by the Ministry of the Environment and the Ministry of Rural Affairs ensure that people are guaranteed to have safe drinking water both right now and in the future and that the rivers, lakes and bogs dependent on

groundwater are preserved. Of the activities affecting groundwater, the audit covered the control of effects accompanying agriculture, wastewater from households not connected to public sewerage, extraction of mineral resources, and water abstraction.