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Protection of drinking water reservoirs in buried glacial valleys in the ice-marginal landscape for securing future demand in the European perspective (ENCORE-Project).

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Quaternary glaciations have left a significant sedimentological fingerprint in the subsurface of north Europe, in the form of buried glacial valleys. These structures are important drinking water reservoirs for millions of people in the ice-marginal landscape, but are increasingly threatened by anthropogenic pollution (nitrate, sulphate and organic pollutants) and geogenic pollution (salinization). That is one of the conclusion of a recent overview study in the IML of northern Europe from the North Sea to the southern Baltic area.

Adequate policy making is yet not possible for several reasons:

- Large amounts of data are needed to get a good grip on the lateral continuity of the complex infill.
- The BurVal Working Group (2006) has shown that a combination of high resolution seismic survey, together with transient electromagnetic (TEM) surveys can provide realistic data for
3D hydrogeological models. However, these data have not yet been retrieved on a European scale.
- Available borehole data can only be used as control points in 3D hydrological models, since the infill of buried glacial valleys is often lateral too complex to make sound interpolations possible.

Pollution in buried glacial valleys crosses national borders in northern Europe and therefore national geological surveys have to cooperate in a newly formed European project on protection of these structures. The ENCORE – project (Environmental Conference of the European Regions) has shown in the past that it can facilitate fruitful European cooperation, which is urgently needed due to the costs of gathering data and due to knowledge gaps between different countries. By working together in a European context, these problems can be reduced so that better policy making is possible in order to secure our future drinking water availability.