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The European Union

Environmental Protection of International River Basins Project



A project implemented by a Consortium
led by Hulla & Co. Human Dynamics KG

Pilot project fiche Pilot project 3 in Belarus (PPBY03)

Country	Belarus
Name	<i>Detailed assessment sources of pollution of potable GW sources supplying the “Novinki” region in the territory of Minsk. This will include the development of a mathematical model to elaborate potential pollution pathways and identification of protection measures to be implemented</i>
Contact person:	Alexandr Stankevich aps_stankevich@mail.ru
Budget	35,000 Euro
Timing	11 November 2014 – 11 November 2015
Short description	<p>Groundwater in Belarus is the main source of drinking water supply. The well field Novinki (figure 1) is the main and one of the oldest well fields in Minsk. Groundwater monitoring has revealed the development of anthropogenic pollution of the aquifers mainly by nitrates. The main aim of the pilot project is elaboration of potential pollution pathways and identification of protection measures to be implemented. The major steps for achieving aim are:</p> <ol style="list-style-type: none"> 1. Analysis of available geological-hydrogeological information of the Novinki well field. 2. Evaluation of vulnerability of production groundwater bodies in the Novinki well field . 3. Analysis of point and non-point pollution sources. GIS (MapInfo) mapping of pollution sources (farms; manure spreading fields, buried landfills etc.). 4. Assessment of impact of abstraction on acceleration of pollution. 5. Mathematical modelling of groundwater flow direction and groundwater quality. 6. Control groundwater sampling in Novinki well field (four seasons) for 4-6 boreholes and the following parameters: main pollutants NH₄, PO₄, Fe, SO₄, Cl, NO₂, NO₃, F, dry residue, permanganate index, trace elements Boron (B), Barium (Ba).
Outputs	<p>Deliverable 1: Inception report, containing implementation strategy and data needs. Deliverable 2: Analysis of available geological-hydrogeological information for the well field. Deliverable 3: Report on the vulnerability of groundwater bodies within the well field. Deliverable 4: Analysis of point and non-point pollution sources and GIS (MapInfo) mapping of pollution sources (farms; manure spreading fields, buried landfills etc.). Deliverable 5: Report on the impact of abstraction on acceleration of pollution. Deliverable 6: Mathematical model of groundwater flow direction and groundwater quality using software GMS v 8.1 (ground modeling system, USA). Deliverable 7: Final report, including elaboration of potential pollution pathways and identification of protection measures to be implemented and the results of groundwater monitoring.</p>

Photos



**Working
well № 1⁶**