

Drinking water extraction facilities at risk of flooding from rivers and groundwater – flood impact assessment for water extraction facilities in Ljubljana area

L. GLOBEVNIK¹ & B. BRAČIČ ŽELEZNIK²

¹ *Institut for Water of the Republic of Slovenia, Hajdrihova 28c, 1000 Ljubljana, Slovenia*
lidija.globevnik@izvrs.si

² *Public Water Utility JP Vodovod-Kanalizacija d.o.o., Ljubljana, Vodovodna cesta 90, 1000 Ljubljana, Slovenia*

Abstract In this paper, risk to the Brest drinking water facility due to an extreme hydrological event in September 2010 is analysed. Groundwater is pumped from the Iška River fan gravel aquifer, which drains mountains in the south. When reaching its fan gravel aquifer, the Iška River starts to infiltrate the aquifer. Its flow decreases to a minimum and increases at geomorphological break between torrential fan and flat Ljubljana Moor surface. The water works at Brest are therefore at risk of flooding from surface water. In September 2010 Ljubljana Moor was flooded for five days. The specific phenomena happened due to Iška River. It overflowed its banks upstream of the Brest water field. It was the first time that the Brest field was also flooded. On the fifth day Iška River disappeared for two days into the groundwater. The operation of drinking water extraction facilities was stopped in the succeeding days.

Key words flood risk; groundwater; drinking water; gravel fan