



An experimental environmental flow implementation on the Common Meuse

Kris Van Looy

Research institute for nature and forest, Kliniekstraat 25, 1070 Brussels, (kris.vanlooy@inbo.be)

The Common Meuse is an unregulated river stretch on the border between Belgium and The Netherlands, subject to a large-scale restoration project. Yet, it is impacted by upstream weir management. Especially low flows are problematic for the Common Meuse with hydropeaking impacts and an unsatisfactory minimum flow. The water shortage is due to water extraction to the canals, water is distributed and a minimum flow of only $10\text{m}^3/\text{s}$ for the Common Meuse is guaranteed. This minimum flow was discussed as an ecological minimum, but unfortunately it is insufficient to prevent algal blooms and oxygen depletion in long lasting low flow conditions.

Since it is already hard and costly to preserve the minimum flow in the Common Meuse (weir spill water is pumped back in these conditions), the demand for a higher ecological minimum flow is therefore not accepted. Solutions within the minimum flow provision are envisaged to improve ecological conditions by altering the strict flow criterion over a day period. As water demand for canals is higher during daytime, some win-win situations could be realised in a scenario with higher provision of water to the canals during day, and higher river flow in the night. In this way, a minor peak is generated that can flush the algal development out of the reach and replenish the water with oxygen.

Physical and biological aspects of this environmental flow implication are gathered and covered with an exhaustive monitoring programme.