

## Cyanobacterial blooms in Wallonia during the summer of 2019

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The importance of cyanobacterial blooms occurring in Belgium has been initially demonstrated during the BelSPO B-BLOOMS2 project more than a decade ago<sup>1</sup>. Though the Belgian regional authorities have issued leaflets and are now aware of the risks, only limited monitoring is organized for lakes and ponds used for recreational activities (excluding fishing) in the Flemish and Walloon regions. Currently, the Walloon region only requests visual observation of the blooms and ELISA-tests to detect microcystin for the monitoring during summer. To enhance our knowledge about the blooms in Wallonia, the cyanotoxins in bloom samples collected during the summer of 2019 were quantified. In parallel, direct Sanger sequencing of the 16S rRNA gene in monospecific blooms was performed as well as the detection of the *mcyE* gene. In total, we tested 49 samples from 5 different ponds and lakes and other surface waters. Eight microcystin congeners and nodularin could be detected and quantified using LC-MS/MS. After analysis, we found MC's in 64,58% of the samples corresponding with levels between 0.21 µg/l and 167 µg/l and the detection of *mcyE* gene was in agreement with the analytical determination. Most of the samples contained more than three variants of MC's. The species found in the samples mostly belonged to the *Microcystis*, *Cyanobium* and *Anabaena* genera.

### References:

Descy, J.-P. *et al.* Final Report: Cyanobacterial Blooms: Toxicity, Diversity, Modelling and Management. *Belg. Sci. Policy* SD/TE/01, 84 (2011).

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