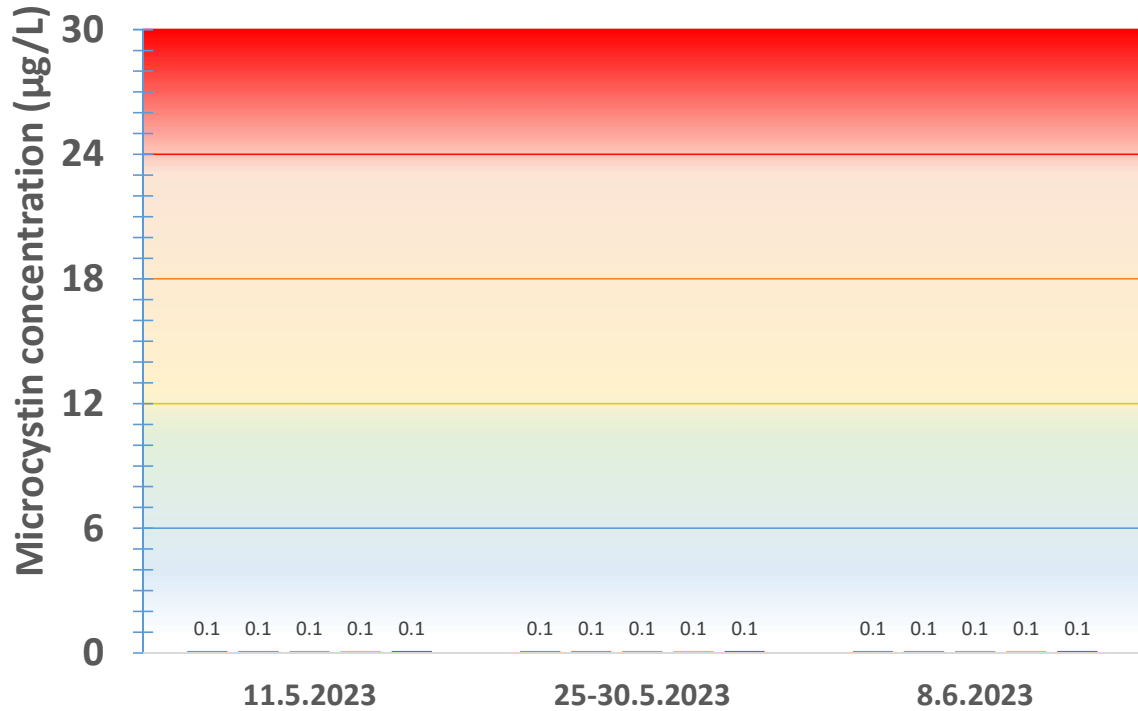


## Cyanobacterial hepatotoxin(Microcystin) concentration in Littoistenjärvi 2023



WHO recreational water guideline value for microcystin: **24 µg/L**

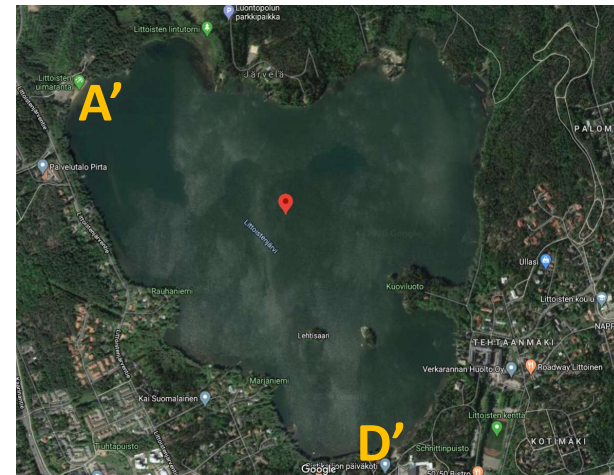
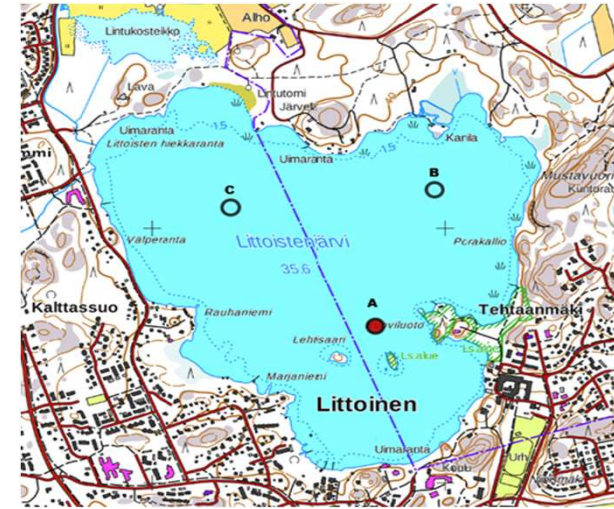
WHO long term drinking-water guideline value for microcystin: **1 µg/L**

Assay detection limit: **0.2 µg/L**

■ 1\_A\_Saarten taus ■ 2\_B\_Koilliselkä ■ 3\_C\_Luoteisselkä ■ 4\_A'\_Hiekkaranta ■ 5\_D'\_Ristikallion Uimaranta

Analysis: 8.6.2023, Report by Sultana Akter, Dept of Life Technologies (Biotechnology), Faculty of Technology, Univ of Turku

No microcystin was detected in Littoistenjärvi water during 11.5-8.6.2023



## Interpretation (8.6.2023 SA)

Collection of Raw water samples : 11.5.2023-6.8.2023

Immunoassay analysis: 8.6.2023

Before analysis, samples were heated at 90 °C for 10 min to release cell bound toxins if any.

The results represent the total cyclic peptide hepatotoxin amount (already released toxin in water and the cell bound toxin) .

The immunoassay detects cyanobacterial peptide hepatotoxins ( microcystins and/or nodularin).

For quantification, microcystin-LR was used as standard.

The assay detection limit is 0.2 µg/L.

### Result:

In Littoistenjärvi water, the detected cyanobacterial peptide hepatotoxin (free and cell bound microcystin) concentrations (µg/L) are as follows:

11.05.20223 A\_Saarten taus: below 0.2 µg/L (below analytical DL)  
B\_Koilliselkä: below 0.2 µg/L (below analytical DL)  
C\_Luoteisselkä: below 0.2 µg/L (below analytical DL)  
A'\_Hiekkaranta: below 0.2 µg/L (below analytical DL)  
D'\_Ristikallion Uimaranta: below 0.2 µg/L (below analytical DL)

25.5.20223 A\_Saarten taus: below 0.2 µg/L (below analytical DL)  
B\_Koilliselkä: below 0.2 µg/L (below analytical DL)  
C\_Luoteisselkä: below 0.2 µg/L (below analytical DL)

30.05.2023 A'\_Hiekkaranta: below 0.2 µg/L (below analytical DL)  
30.05.2023 D'\_Ristikallion Uimaranta: below 0.2 µg/L (below analytical DL)

8.6.20223 A\_Saarten taus: below 0.2 µg/L (below analytical DL)  
B\_Koilliselkä: below 0.2 µg/L (below analytical DL)  
C\_Luoteisselkä: below 0.2 µg/L (below analytical DL)  
A'\_Hiekkaranta: below 0.2 µg/L (below analytical DL)  
D'\_Ristikallion Uimaranta: below 0.2 µg/L (below analytical DL)

Summary: No microcystin was detected in Littoistenjärvi water during 11.5-8.6.2023

## World Health Organization (WHO) recommended provisional guideline values

Provisional lifetime **drinking**-water guideline value for microcystin: **1 µg/L**

Provisional short-term (2 weeks) drinking-water guideline value for microcystin 12 µg/L (Adult), 3 µg/L (children)

Provisional **recreational** water guideline value for microcystin: **24 µg/L**

### Reference:

Chorus, I., & Welker, M. (2021). Toxic cyanobacteria in water: a guide to their public health consequences, monitoring and management (p. 858). Taylor & Francis. P25-28

### Date of analysis: 8.6.2023

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