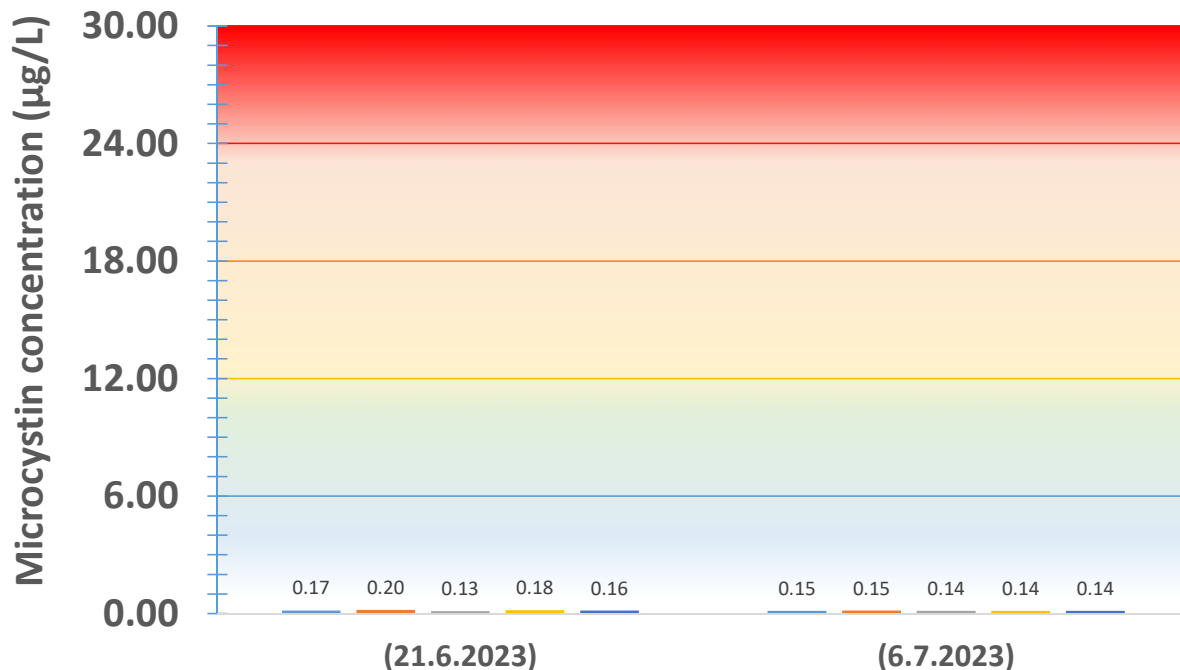


21.6 - 6.7.2023

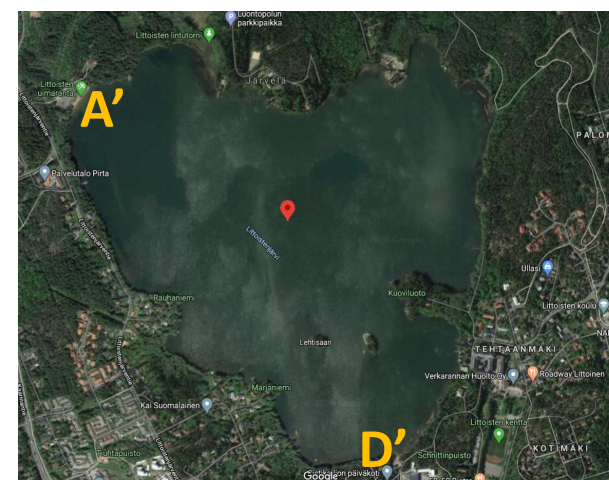
Cyanobacterial hepatotoxin(Microcystin) concentration in Littoistenjärvi 2023



■ 1_A_Saarten_taus ■ 2_B_Koilliselkä ■ 3_C_Luoteisselkä ■ 4_A'_Hiekkaranta ■ 5_D'_Ristikallion_Uimaranta

Analysis: 6.7.2023, Report by Sultana Akter, Dept of Life Technologies (Biotechnology), Faculty of Technology, Univ of Turku

During 21.6-6.7.2023, microcystin concentration in Littoistenjärvi water is very low (around 0.2 or below 0.2 µg/L)



Interpretation (6.7.2023 SA)

Collection of Raw water samples : 21.6.2023, 6.7.2023

Immunoassay analysis: 6.7.2023

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.

Result:

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

21.6.2023 A_Saarten taus: below 0.2 µg/L
B_Koilliselkä: 0.2 µg/L
C_Luoteisselkä: below 0.2 µg/L
A'_Hiekkaranta: below 0.2 µg/L
D'_Ristikallion Uimaranta: below 0.2 µg/L

6.7.2023 A_Saarten taus: below 0.2 µg/L
B_Koilliselkä: below 0.2 µg/L
C_Luoteisselkä: below 0.2 µg/L
A'_Hiekkaranta: below 0.2 µg/L
D'_Ristikallion Uimaranta: below 0.2 µg/L

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

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