Early warning of MIB episode based on gene abundance and expression in drinking water reservoirs

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Supplementarty Material

Figures and/or tables are provided below as the supplemenatary evidences to the main text.

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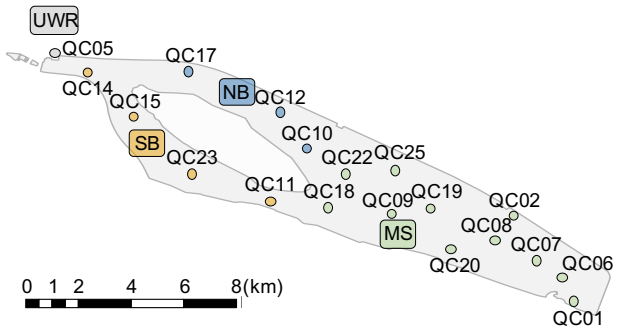

Fig. S1Map and sampling sites of QCS Reservoir

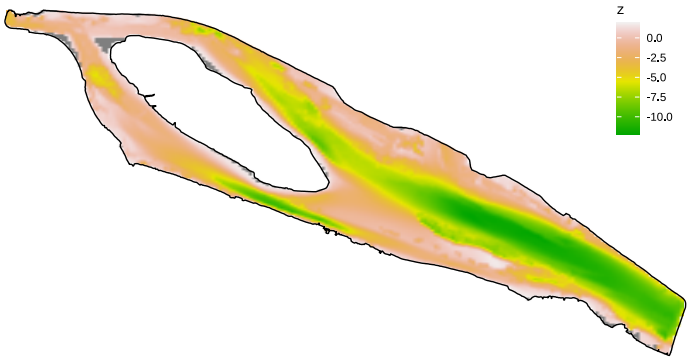

Fig. S2Bathymetry of QCS Reservoir

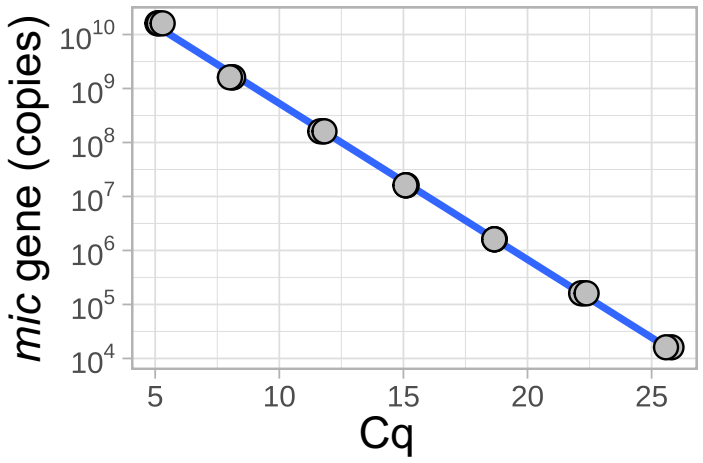

Fig. S3Standard curve of *mic* gene quantification. The correlation between *mic* gene and Cq was: $Cq = -3.4537lg(c_{mic}) + 40.13(R^2 = 0.999, p < 0.0001)$

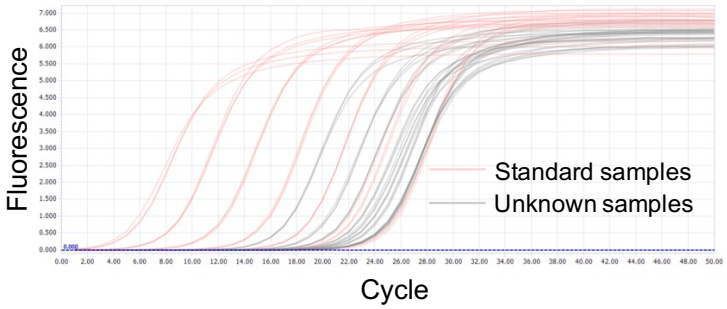

Fig. S4Amplification curves of *mic* qPCR

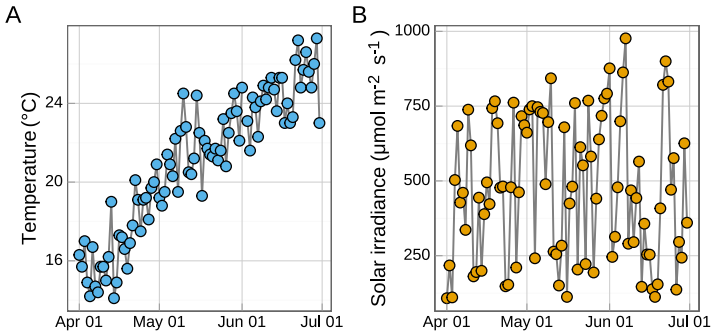

Fig. S5Dynamics of water temperature and light irradiance during the MIB episode in QCS Reservoir in 2021

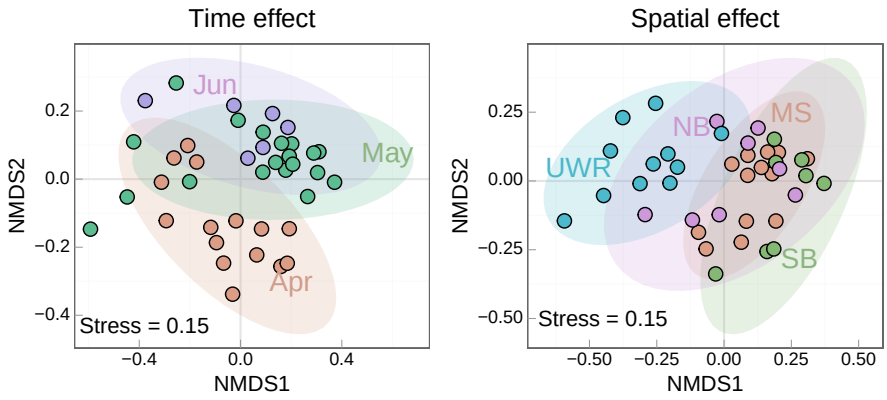

Fig. S6Dynamics of phytoplankton communities in QCS Reservoir in 2021

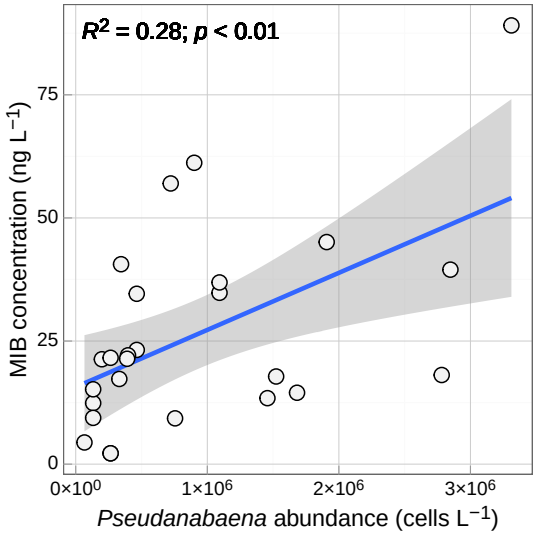

Fig. S7Correlation between MIB concentration and *Pseudanabaena* cell density

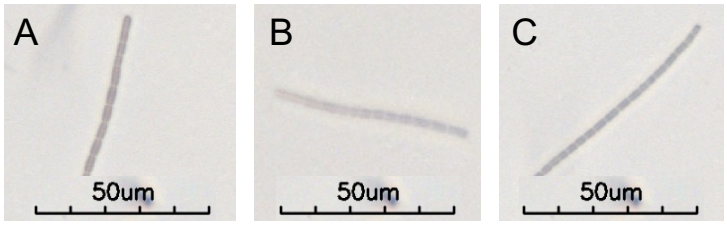

Fig. S8Images of isolated *Pseudanabaena* strains (A: *P. cinerea*; B: *P. limnetica*; C: *P. catenate*)

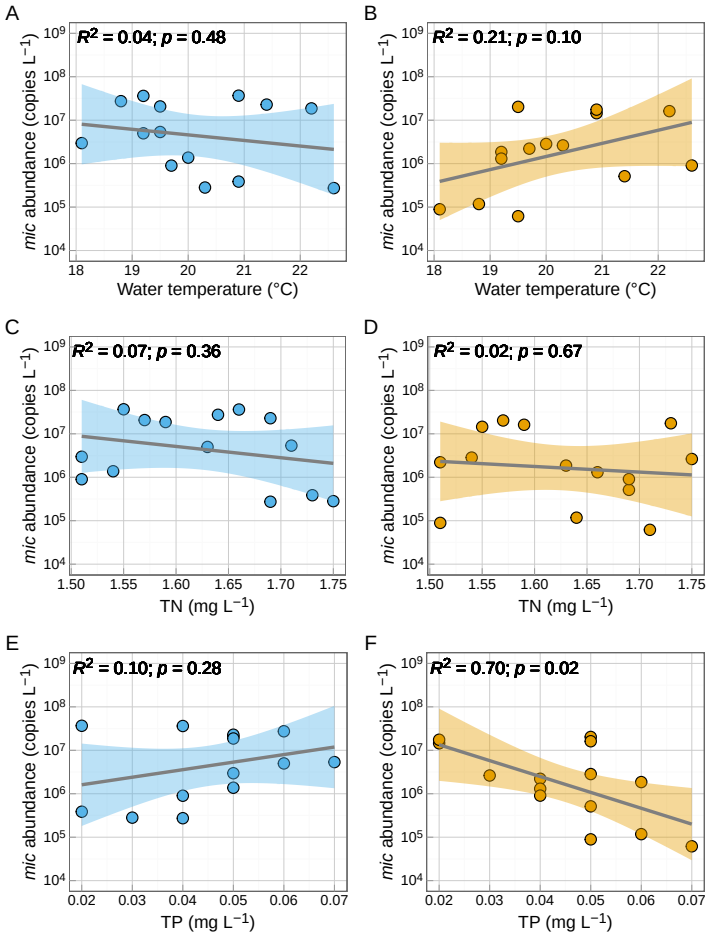

Fig. S9Correlation between DNA or RNA abundance of *mic* gene and water temperature (A, B), TN (C, D), and TP (E, F), respectively, in QC10 during the MIB episode

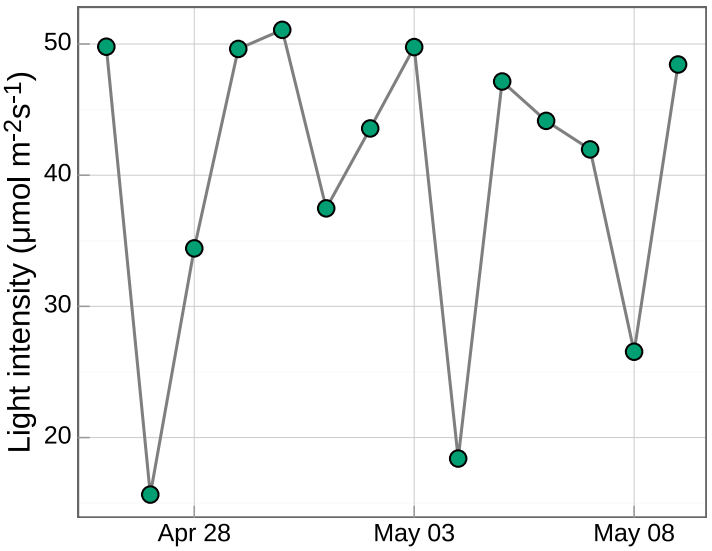

Fig. S10The mean light intentisy of the underwater column in QCS Reservoir during the MIB episode in 2021

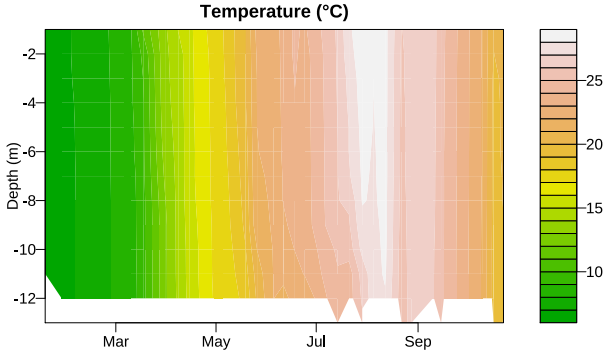

Fig. S11Temperature dynamics in QCS Reservoir

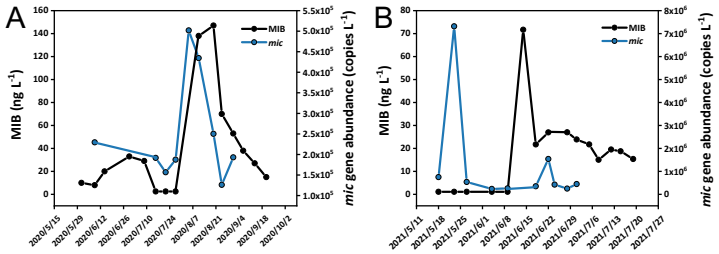

Fig. S12Dynamics of MIB concentration and DNA abundance of *mic* gene in JZ Reservoir (A) and LH Reservoir (B), respectively.

Table S1Distribution of sampling sites in 4 regions of QCS Reservoir

Sampling sites	Regions
QC05	Upstream river water (URW)
QC17, QC12, QC10	North branch (NB)
QC14, QC15, QC23, QC11	South branch (SB)
QC18,QC22,QC25,QC09,QC08,QC19, QC20,QC02,QC07,QC06,QC01	Middle section (MS)

Table S2Three stains of *Pseudanabaena* isolated from QCS Reservoir. Taxonomic classification was identified by 16S rRNA gene sequencing and blasted with NCBI database

Isolation ID	Identification	Similarity	MIB	Accession number
1	*P. cinerea*	1.0000	+	ON571433
2	*P. limnetica*	0.9986	-	ON553403
3	*P. catenate*	0.9961	-	ON571434

References