The following supplement accompanies the article

Contrasting seasonal and interannual environmental drivers in bacterial communities within a large shallow lake: evidence from a seven year survey

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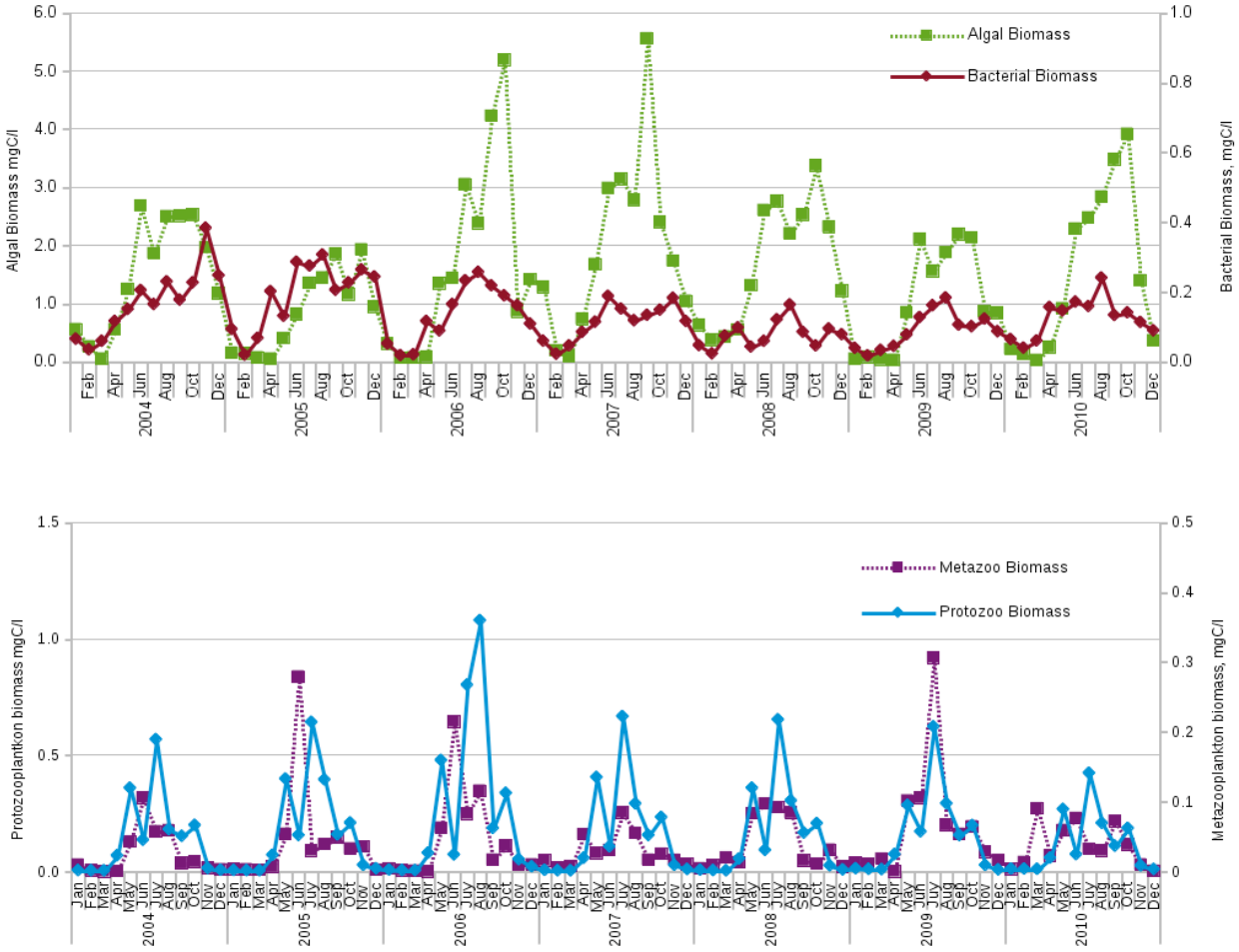
Supplemental Table S1. Physical and chemical variables measured, and protocols. PTOT and NTOT – total concentration of phosphorus and nitrogen, respectively; seston – total suspended solids, CODMn – chemical oxygen demand by permanganate oxidation, CDOM – coloured dissolved organic matter calculated from specific absorption at wavelength 380 nm.

Parameter	**Protocol**	**Remarks**
Secchi depth	Secchi disc	
Temperature	YSI or Marvet oximeter	
Oxygen	YSI or Marvet oximeter	
Water level	Measured at Jõesuu Hydrometric station	Coordinates: 58°23'7" N 26°8'3" E
Ice cover	Visual observation	
[HCO_3]	EVS-EN ISO 9963-1	
PTOT	ISO 15681-2	
[PO_4]	ISO 15681-2	
NTOT	EVS-EN ISO 11905-1	
[NO_3]	EVS-EN ISO 10304-1	
[NH_4]	EVS-EN ISO 11732	
[NO_2]	EVS-EN ISO 13395	
COD_{Mn}	SFS 3036	
[SO_4]	EVS-EN ISO 10304-1	
[Cl]	EVS-EN ISO 10304-1	
[Ca]	SFS 3003	
Alkalinity	EVS-EN ISO 9963-1	
Water Color	EVS-EN ISO 7887	
Seston	EVS-EN 872	
[Fe]	ISO 6332	
[Na]	EVS-EN ISO 11885	
[K]	EVS-EN ISO 11885	
[Mg]	SFS 3003	
Conductivity	EVS EN 27888	
[Si]	Methods of Seawater Anal. 1983	
CDOM	Højerslev 1980; Sipelgas et al. 2003	

Supplemental Table S2. All sequenced OTUs, their closest species match in NCBI GenBank, NCBI phylogenetic affiliation and described habitat of closest species. * - closest match in NCBI GenBank, no closest species with > 91% similarity.

OTU	Accession nr	Closest species	Similarity % to closest species	Phylogenetic affiliation	Habitat
LVo-W34	KC815506	HM856390	99	*Actinobacteria; Actinobacteria; Acidimicrobidae; Acidimicrobiales; Acidimicrobineae;*	Yellowstone National Park
LVo-W62	KC815510	JF439383	100	*Actinobacteria; Actinobacteria; Actinobacteridae; Actinomycetales; Streptosporangineae; Streptosporangiaceae; Planotetraspora*	root nodule
LVo-W73II	KC815508	NR_024821	100	*Actinobacteria; Actinobacteria; Actinobacteridae; Actinomycetales; Streptosporangineae; Streptosporangiaceae; Planotetraspora;*	endophytic actinomycetes in root nodules, subtropical forest soil
LVo-W41	KC815507	EF471695	99	*Actinobacteria; Actinobacteria;Actinobacteriadae, Actinomycetales*	surface water from Chesapeake Bay
LVo-WH6	KC815509	HQ008593	100	*Actinobacteria; Actinobacteria; unclassified Actinobacteria; Candidatus Planktophila*	Argentine freshwater reservoir
LVo-W110	KC815495	HQ827926*	99	*Bacteroidetes/Chlorobi group, OPB56*	freshwater pond, China
LVo-W103II	KC815486	KC886752	100	*Bacteroidetes/Chlorobi group; Bacteroidetes; Flavobacteriia; Flavobacteriales; Cryomorphaceae, Fluviicola*	Lake Zurich epilimnion 5m depth
LVo-WH30	KC815483	HM856394	96	*Bacteroidetes/Chlorobi group; Bacteroidetes; Sphingobacteriia; Sphingobacteriales*	Yellowstone Lake
LVo-W104	KC815485	AF361199	99	*Bacteroidetes/Chlorobi group; Bacteroidetes; Sphingobacteriia; Sphingobacteriales*	mesoeutrophic reservoir
LVo-W23	KC815484	JF460972	99	*Bacteroidetes/Chlorobi group; Bacteroidetes; Sphingobacteriia; Sphingobacteriales; Chitinophagaceae; Sediminibacterium*	drinking water
LVo-W38	KC815474	AM710389	99	*Cyanobacteria; Oscillatoriophycideae; Chroococcales; Radiocystis*	freshwater reservoir, Czech Republic
LVo-W116	KC815472	FJ999622	94	*Cyanobacteria; Oscillatoriophycideae; Chroococcales; Synechococcus*	South China Sea
LVo-W128	KC815473	AM710358	97	*Cyanobacteria; Oscillatoriophycideae; Chroococcales; Synechococcus*	freshwater reservoir, Czech Republic:Machovo jezero
LVo-WH11	KC815478	AM259272	99	*Cyanobacteria; Oscillatoriophycideae; Chroococcales; Synechococcus*	Finland:Lake Tuusulanjarvi
LVo-W132	KC815481	AB610891	99	*Cyanobacteria; Oscillatoriophycideae; Chroococcales; Synechococcus*	saline meromictic lake, Lake Suigetsu, Japan
LVo-WH3	KC815479	HM217066	99	*Cyanobacteria; Oscillatoriophycideae; Oscillatoriales; Leptolyngbya*	Portuguese temperate estuaries
LVo-W122	KC815477	HE974998	100	*Cyanobacteria; Oscillatoriophycideae; Oscillatoriales; Limnothrix*	culture collection, Germany
LVo-W103	KC815471	JQ070064	96	*Cyanobacteria; Oscillatoriophycideae; Oscillatoriales; Pseudanabaena*	biofilm on rock surface of siliceous river
LVo-WH22	KC815482	JF429939	99	*Cyanobacteria; Oscillatoriophycideae; Oscillatoriales; Pseudanabaena*	China: Ningbo, Lake Dongqianhu

LVo-W124	KC815480	AF132792	95	*Cyanobacteria; Prochlorales; Prochlorotrichaceae; Prochlorothrix*	shallow, highly eutrophic freshwater lake
LVo-W88	KC815470	FJ002203	97	*Eukaryota; Stramenopiles; Bacillariophyta; Coscinodiscophyceae; Coscinodiscophycidae*	plankton and benthos of coastal environments
LVo-WH1	KC815475	KC598089	100	*Eukaryota; Stramenopiles; Eustigmatophyceae; Eustigmatales; Monodopsidaceae; Nannochloropsis*	freshwater
LVo-WH27	KC815476	KC598089	99	*Eukaryota; Stramenopiles; Eustigmatophyceae; Eustigmatales; Monodopsidaceae; Nannochloropsis*	freshwater
LVo-W121	KC815497	EU640596	96	*Proteobacteria; Alphaproteobacteria*	Lake Michigan
LVo-W43	KC815500	CP002102	99	*Proteobacteria; Alphaproteobacteria; Caulobacterales; Caulobacteraceae; Brevundimonas; Brevundimonas*	freshwater
LVo-W24	KC815503	KC989550	98	*Proteobacteria; Alphaproteobacteria; Rhizobiales; Methylocystaceae*	Sanjiang Plain marsh soils
LVo-W33	KC815504	KC989550	99	*Proteobacteria; Alphaproteobacteria; Rhizobiales; Methylocystaceae*	Sanjiang Plain marsh soils
LVo-W42	KC815499	HM124375	98	*Proteobacteria; Alphaproteobacteria; Rhizobiales; Methylocystaceae; Methylosinus*	Taihu Lake sediment, China
LVo-W115	KC815496	JF275034	99	*Proteobacteria; Alphaproteobacteria; Rhodospirillales; Acetobacteraceae*	freshwater, Lake Walchen
LVo-W109	KC815505	JF275034	98	*Proteobacteria; Alphaproteobacteria; Rhodospirillales; Acetobacteraceae*	freshwater Germany: Lake Walchen
LVo-W44	KC815501	EU640051	99	*Proteobacteria; Alphaproteobacteria; Rickettsiales; Rickettsiaceae*	Lake Michigan
LVo-W37	KC815498	JQ793241	97	*Proteobacteria; Alphaproteobacteria; Sphingomonadales; Sphingomonadaceae*	sediment core from an arctic wetland
LVo-W113	KC815502	JQ793241	99	*Proteobacteria; Alphaproteobacteria; Sphingomonadales; Sphingomonadaceae; Sphingomonas*	sediment core from an arctic wetland
LVo-WH4	KC815491	FM208181	100	*Proteobacteria; Betaproteobacteria; Burkholderiales; Burkholderiaceae; Polynucleobacter*	Armenia:Lake Sevan
LVo-W123	KC815494	AB599871	100	*Proteobacteria; Betaproteobacteria; Burkholderiales; Burkholderiaceae; Polynucleobacter*	surface water of brackishwater lake
LVo-W73	KC815492	NR_074689	99	*Proteobacteria; Betaproteobacteria; Burkholderiales; Burkholderiaceae; Polynucleobacter; Polynucleobacter*	obligate symbiont
LVo-W117	KC815490	JF72930	99	*Proteobacteria; Betaproteobacteria; Burkholderiales; Comamonadaceae; Polaromonas;*	glacial sediment
LVo-W71	KC815488	HE648197	99	*Proteobacteria; Betaproteobacteria; Burkholderiales; Comamonadaceae; Rhodoferax*	contaminated sediments
LVo-WH28	KC815489	JX949589	97	*Proteobacteria; Betaproteobacteria; Burkholderiales; Comamonadaceae; Rhodoferax*	glaciers in China
LVo-WH5	KC815487	GU257518	98	*Proteobacteria; Betaproteobacteria; Burkholderiales; Ideonella*	activated sludge in a membrane
LVo-W118	KC815493	FJ391507	93	*Proteobacteria; Betaproteobacteria; Methylophilales; Methylophilaceae; Methylophilus*	iron rich, irregularly flooded, inland wetland site
LVo-W34	KC815511	HQ711922	91	*Proteobacteria; Gammaproteobacteria; Legionellales; Legionellaceae; Legionella;*	drinking water



Supplemental Fig. S1. Biomass of major planktonic organisms. Upper panel: phyto - and bacterioplankton; bottom panel: protozoo- and metazooplankton biomass, in the same units (mgC/l).

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