

Table S2. Additional information on 16S rRNA tag sequencing datasets compiled for the meta-analysis.

Study system	Sample name	Depth	Habitat type	Platform	F_primer	R_primer	Data base	Sample accession/ JGI project	citation
Freshwater samples (45 total)									
Great Lakes	ON55M_DCL_Aug2013	DCL	oligomesotrophic	MiSeq	515F-C	806R-H	JGI	GreLakitagplate2	Our Study
Great Lakes	MI41M_DCL_Aug2013	DCL	oligotrophic	MiSeq	515F-C	806R-H	JGI	GreLakitagplate2	Our Study
Great Lakes	SU08M_DCL_Aug2013	DCL	oligotrophic	MiSeq	515F-C	806R-H	JGI	GreLakitagplate2	Our Study
Great Lakes	ER91M_Bminus_Aug2013	Bminus <sup>D</sup>	mesotrophic	MiSeq	515F-C	806R-H	JGI	GreLakitagplate2	Our Study
Great Lakes	ON55M_B10_Aug2013	B10 <sup>D</sup>	oligomesotrophic	MiSeq	515F-C	806R-H	JGI	GreLakitagplate2	Our Study
Great Lakes	MI41M_B10_Aug2013	B10 <sup>D</sup>	oligotrophic	MiSeq	515F-C	806R-H	JGI	GreLakitagplate2	Our Study
Great Lakes	SU08M_B10_Aug2013	B10 <sup>D</sup>	oligotrophic	MiSeq	515F-C	806R-H	JGI	GreLakitagplate2	Our Study
Great Lakes	ER91M_SRF_Aug2013	Surface <sup>S</sup>	mesotrophic	MiSeq	515F-C	806R-H	JGI	GreLakitagplate2	Our Study
Great Lakes	ON55M_SRF_Aug2013	Surface <sup>S</sup>	oligomesotrophic	MiSeq	515F-C	806R-H	JGI	GreLakitagplate2	Our Study
Great Lakes	MI41M_SRF_Aug2013	Surface <sup>S</sup>	oligotrophic	MiSeq	515F-C	806R-H	JGI	GreLakitagplate2	Our Study
Great Lakes	SU08M_SRF_Aug2013	Surface <sup>S</sup>	oligotrophic	MiSeq	515F-C	806R-H	JGI	GreLakitagplate2	Our Study
Glacier Lake, NY	glacier_lake_6m	6m <sup>S</sup>	meromictic	unk	unk	unk	ENA	ERR1299038	(PRJEBI2903)
Glacier Lake, NY	glacier_lake_14m	14m <sup>D</sup>	meromictic	unk	unk	unk	ENA	ERR1299042	(PRJEBI2903)
Swedish Lake Lake Keluke,	JBL_J07_HES	integrated	oligotrophic	454	341F	805R	ENA	SRR444593	Logue et al. 2012
China	Lake_Keluke_1gl_salinity	Surface <sup>S</sup>	freshwater	MiSeq	515F-C	806R-H	ENA	SRR2310185	Zhong et al. 2016
Faselfad lakes	Faselfad BACK-ALP	unknown		454	unknown	unknown	ENA	SRR2545928	Peter et al. 2016
MI Lakes	BAKE1	Surface <sup>S</sup>	high	MiSeq	515F-C	806R-H	ENA	SRR2962903	Schmidt et al. 2016
MI Lakes	BASH1	Hypolimnion <sup>D</sup>	high	MiSeq	515F-C	806R-H	ENA	SRR2962906	Schmidt et al. 2016
MI Lakes	BRIE1	Surface <sup>S</sup>	high	MiSeq	515F-C	806R-H	ENA	SRR2962910	Schmidt et al. 2016
MI Lakes	BRIH1	Hypolimnion <sup>D</sup>	high	MiSeq	515F-C	806R-H	ENA	SRR2962914	Schmidt et al. 2016
MI Lakes	BSTE1	Surface <sup>S</sup>	high	MiSeq	515F-C	806R-H	ENA	SRR2962919	Schmidt et al. 2016
MI Lakes	BSTH1	Hypolimnion <sup>D</sup>	high	MiSeq	515F-C	806R-H	ENA	SRR2962922	Schmidt et al. 2016
MI Lakes	GULE1	Surface <sup>S</sup>	low	MiSeq	515F-C	806R-H	ENA	SRR2962927	Schmidt et al. 2016
MI Lakes	GULE2	Surface <sup>S</sup>	low	MiSeq	515F-C	806R-H	ENA	SRR2962930	Schmidt et al. 2016
MI Lakes	GULH2	Hypolimnion <sup>D</sup>	low	MiSeq	515F-C	806R-H	ENA	SRR2962934	Schmidt et al. 2016
MI Lakes	BAKH1	Hypolimnion <sup>D</sup>	high	MiSeq	515F-C	806R-H	ENA	SRR2962939	Schmidt et al. 2016
MI Lakes	LEEH1	Surface <sup>S</sup>	low	MiSeq	515F-C	806R-H	ENA	SRR2962940	Schmidt et al. 2016
MI Lakes	LEEH2	Hypolimnion <sup>D</sup>	low	MiSeq	515F-C	806R-H	ENA	SRR2962942	Schmidt et al. 2016
MI Lakes	LONE1	Surface <sup>S</sup>	low	MiSeq	515F-C	806R-H	ENA	SRR2962945	Schmidt et al. 2016
MI Lakes	LONH1	7m <sup>D</sup>	low	MiSeq	515F-C	806R-H	ENA	SRR2962947	Schmidt et al. 2016
MI Lakes	PAYE1	Surface <sup>S</sup>	high	MiSeq	515F-C	806R-H	ENA	SRR2962950	Schmidt et al. 2016
MI Lakes	PAYH1	Hypolimnion <sup>D</sup>	high	MiSeq	515F-C	806R-H	ENA	SRR2962955	Schmidt et al. 2016
MI Lakes	SHEE1	Surface <sup>S</sup>	high	MiSeq	515F-C	806R-H	ENA	SRR2962959	Schmidt et al. 2016
MI Lakes	SHEH1	bottom	high	MiSeq	515F-C	806R-H	ENA	SRR2962965	Schmidt et al. 2016
MI Lakes	SIXE2	Surface <sup>S</sup>	low	MiSeq	515F-C	806R-H	ENA	SRR2962970	Schmidt et al. 2016
MI Lakes	SIXH1	Hypolimnion <sup>D</sup>	low	MiSeq	515F-C	806R-H	ENA	SRR2962972	Schmidt et al. 2016
MI Lakes	WINE1	Surface <sup>S</sup>	high	MiSeq	515F-C	806R-H	ENA	SRR2962976	Schmidt et al. 2016
MI Lakes	WINH1	Hypolimnion <sup>D</sup>	high	MiSeq	515F-C	806R-H	ENA	SRR2962980	Schmidt et al. 2016
MI Lakes	BASE1	Surface <sup>S</sup>	high	MiSeq	515F-C	806R-H	ENA	SRR2962984	Schmidt et al. 2016
Humic Lakes	CBH18Jul08_3	integrated_ hypolimnion <sup>D</sup>	dystrophic	MiSeq	515F-C	806R-H	JGI	CrystalBogitags	Linz et al. 2017
Humic Lakes	NSBH16JUL13	integrated_ hypolimnion <sup>D</sup>	dystrophic	MiSeq	515F-C	806R-H	JGI	CrystalBogitags	Linz et al. 2017

Study system	Sample name	Depth	Habitat type	Platform	F_primer	R_primer	Data base	Sample accession/ JGI project	citation
Freshwater continued									
Humic Lakes	TBH08AUG13	integrated_hypolimnion <sup>D</sup>	dystrophic	MiSeq	515F-C	806R-H	JGI	CrystalBogitags	Linz et al. 2017
Humic Lakes	CBE18Jul08_3	integrated epilimnion <sup>S</sup>	dystrophic	MiSeq	515F-C	806R-H	JGI	CrystalBogitags	Linz et al. 2017
Humic Lakes	NSBE16JUL13	integrated epilimnion <sup>S</sup>	dystrophic	MiSeq	515F-C	806R-H	JGI	CrystalBogitags	Linz et al. 2017
Humic Lakes	TBE08AUG13	integrated epilimnion <sup>S</sup>	dystrophic	MiSeq	515F-C	806R-H	JGI	CrystalBogitags	Linz et al. 2017
Marine samples (32 total)									
Caribbean Sea	Caribbean Sea	Surface <sup>S</sup>	pelagic	MiSeq	515F-Y	806R-H	ENA	ERR995952	Parada et al. 2016
Drake Passage	Drake Passage	Surface <sup>S</sup>	pelagic	MiSeq	515F-Y	806R-H	ENA	ERR995950	Parada et al. 2016
Long Island Sound	long_island_sound_SRF	Surface <sup>S</sup>	coastal	MiSeq	515F-C	806R-H	ENA	ERR995890	Parada et al. 2016
North Pacific	north_pacific_100m	100m <sup>D</sup>	pelagic	MiSeq	515F-Y	806R-H	ENA	ERR995978	Parada et al. 2016
North Pacific	north_pacific_SRF	Surface <sup>S</sup>	pelagic	MiSeq	515F-Y	806R-H	ENA	ERR995976	Parada et al. 2016
SPOTS	SPOT_4_2013_DCM	DCL	pelagic	MiSeq	515F-C	806R-H	ENA	ERR995866	Parada et al. 2016
SPOTS	SPOT_07_18_2013_150m	150m <sup>D</sup>	pelagic	MiSeq	515F-Y	806R-H	ENA	ERR995880	Parada et al. 2016
SPOTS	SPOT_07_18_2013_890m	890m <sup>D</sup>	pelagic	MiSeq	515F-Y	806R-H	ENA	ERR995888	Parada et al. 2016
SPOTS	SPOT_4_2013_150m	150m <sup>D</sup>	pelagic	MiSeq	515F-C	806R-H	ENA	ERR995846	Parada et al. 2016
SPOTS	SPOT_4_2013_500m	500m <sup>D</sup>	pelagic	MiSeq	515F-C	806R-H	ENA	ERR995850	Parada et al. 2016
SPOTS	SPOT_4_2013_890m	890m <sup>D</sup>	pelagic	MiSeq	515F-C	806R-H	ENA	ERR995862	Parada et al. 2016
SPOTS	SPOT_07_18_2013_5m	5m <sup>S</sup>	pelagic	MiSeq	515F-Y	806R-H	ENA	ERR995886	Parada et al. 2016
SPOTS	SPOT_4_2013_5m	5m <sup>S</sup>	pelagic	MiSeq	515F-C	806R-H	ENA	ERR995854	Parada et al. 2016
Sargasso Sea	sargasso_sea_st2	200m <sup>D</sup>	pelagic	MiSeq	515F-C	806R-H	ENA	ERR995931	Parada et al. 2016
Sargasso Sea	sargasso_sea_st1	Surface <sup>S</sup>	pelagic	MiSeq	515F-C	806R-H	ENA	ERR995960	Parada et al. 2016
Tropical Western Atlantic Ocean	Ocean	40m	pelagic	MiSeq	515F-Y	806R-H	ENA	ERR995974	Parada et al. 2016
Weddell Sea	weddell_sea	unknown	pelagic	MiSeq	515F-Y	806R-H	ENA	ERR995993	Parada et al. 2016
Coastal Red Sea	Coastal Red Sea (w1)	Surface <sup>S</sup>	coastal	MiSeq	515F-C	806R-H	ENA	SRR1927833	Apprill et al. 2015
Coastal Red Sea	Coastal Red Sea (w23)	Surface <sup>S</sup>	coastal	MiSeq	515F-C	806R-H	ENA	SRR1927842	Apprill et al. 2015
Hegoland North Sea	Hegoland_north_sea_LTE	Surface <sup>S</sup>	coastal	MiSeq	515F-C	806R-H	ENA	SRR2104389	Teeling et al. 2016
Gulf of Mexico	DWH.P3.1	Surface <sup>S</sup>	coastal	MiSeq	515F-C	806R-H	ENA	SRR3731313	Mason et al. 2016
Gulf of Mexico	DWH.P3.25	25m	coastal	MiSeq	515F-C	806R-H	ENA	SRR3731314	Mason et al. 2016
Gulf of Mexico	DWH.P3.50	50m	coastal	MiSeq	515F-C	806R-H	ENA	SRR3731315	Mason et al. 2016
Gulf of Mexico	DWH.P3.75	75m <sup>D</sup>	coastal	MiSeq	515F-C	806R-H	ENA	SRR3731316	Mason et al. 2016
Gulf of Mexico	DWH.P3.200	200m <sup>D</sup>	coastal	MiSeq	515F-C	806R-H	ENA	SRR3731317	Mason et al. 2016
Gulf of Mexico	DWH.P3.300	300m <sup>D</sup>	coastal	MiSeq	515F-C	806R-H	ENA	SRR3731318	Mason et al. 2016
Gulf of Mexico	LC.P4.1	Surface	coastal	MiSeq	515F-C	806R-H	ENA	SRR3731319	Mason et al. 2016
Gulf of Mexico	LC.P4.25	25m	coastal	MiSeq	515F-C	806R-H	ENA	SRR3731320	Mason et al. 2016
Gulf of Mexico	LC.P4.50	50m	coastal	MiSeq	515F-C	806R-H	ENA	SRR3731322	Mason et al. 2016
Gulf of Mexico	LC.P4.90	90m <sup>D</sup>	coastal	MiSeq	515F-C	806R-H	ENA	SRR3731323	Mason et al. 2016
Gulf of Mexico	LC.P4.150	150m <sup>D</sup>	coastal	MiSeq	515F-C	806R-H	ENA	SRR3731324	Mason et al. 2016
Gulf of Mexico	C.P5.1	Surface <sup>S</sup>	coastal	MiSeq	515F-C	806R-H	ENA	SRR3731330	Mason et al. 2016

<sup>S</sup> included in the "surface" group for depth-specific analyses

<sup>D</sup> included in the "deep" group for depth-specific analyses