

Table S1. Characteristics of sampling sites along the depth gradient of Lake Valdayskoe

Depth	Station/ sample #	pH	Temperature, °C	Plants	Sediments color	Sediment substrate	Bottom zone	Water- Column
0	1,2,3	8,9	25,1	Arrow leaf, water lily, hornwort	Black	sand with deposit of spring floods	Littoral	Epilimnion
3	4,5,6	8,4	22,1	Arrow leaf, water lily, hornwort	Black	sand with a little amount of sapropel		
6	7,8,9	8,4	20,8	Arrow leaf, water lily, hornwort	Black	sapropel with a little amount of sand		
9	10,11,12	8	7,9	Absent	Dark-gray	sapropel	Sub-Littoral	Thermoclin
12	13,14,15	8	7,9	Absent	Dark-gray	sapropel	Bottom Slope	
15	16,17,18	8	7,1	Absent	Brown- olive with dark-gray and orange inclusions	sapropel		
18	19,20,21	8	7	Absent	Dark-Gray	sapropel		Hypolimnion
21	22,23,24	7,9	6,8	Absent	Dark-Gray	sapropel		
24	24,26,27	7,9	6,5	Absent	Dark-olive	sapropel		
27	28,29,30	7,8	6,5	Absent	Olive with black and orange inclusions	sapropel	Profundal	
30	31,32,33	7,9	6,4	Absent	Olive with black and orange inclusions	sapropel		
33	34,35,36	7,9	6,2	Absent	Dark-olive	sapropel		
36	37,37,39	7,8	6,1	Absent	Dark-olive	sapropel		
39	40,41,42	7,8	6,1	Absent	Dark-olive	sapropel		
42	43,44,45	7,9	6,2	Absent	Dark-olive	sapropel		
45	46,47,48	7,9	6,1	Absent	Black	sapropel		
48	49,50,51	7,2	6	Absent	Olive- black	sapropel		
51	52,53,54	7,2	6	Absent	Olive- black	sapropel		
54	55,56,57	7,2	5,9	Absent	Olive- black	sapropel		
57	50,59,60	7,2	5,9	Absent	Olive- black	sapropel		