

## Supplementary Materials

### Abundance, biomass and production of bacterioplankton at the end of the growing season in the western Laptev Sea: influence of discharge of Khatanga River (Arctic)

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Table S1. Abundance of suspended particles of different size classes (NP, particles mL<sup>-1</sup>) and mass of suspended particles of different size classes (MP, mg m<sup>-3</sup>) along the transect.

Station	Horizon, m	Parameter	Particle size classes, µm				
			3–10	>10–20	>20–50	>50–210	3–210
5627	0	NP	131400	27800	16500	278	175978
	0	MP	7753	17931	108372	53050	187122
	5	NP	76100	42500	12400	227	131227
	5	MP	6468	17585	316076	39958	380087
	12	NP	162900	70700	49000	177	282777
	12	MP	14498	52672	65170	73334	205674
5630	0	NP,	12200	4400	3400	21	20021
	0	MP	1049	3507	8364	2374	15294
	5	NP,	13100	6200	0	25	19325
	5	MP	1441	4811	0	2826	9078
	20	NP	84900	20200	15600	21	120721
	20	MP	6198	9130	43742	3956	63026
	23	NP	108300	56300	23700	21	188321
	23	MP	10397	58439	119401	2374	190611
5631	0	NP	6000	1200	3600	0	10800
	0	MP	546	1004	9180	0	10730
	10	NP	6700	2900	2900	0	12500
	10	MP	549	2520	7018	0	10087

	18	NP	6800	4400	2200	0	13400
	18	MP	1020	2570	3194	0	6784
	25	NP	6000	1000	3900	0	10900
	25	MP	678	1266	4323	0	6267
5632	0	NP	1100	3400	3300	0	7800
	0	MP	216	4032	51562	0	55810
	10	NP	2900	1900	0	0	4800
	10	MP	438	1212	0	0	1650
	17	NP	5200	3200	0	0	8400
	17	MP	359	1875	0	0	2234
	22	NP	1200	2400	0	0	3600
	22	MP	54	1927	0	0	1981
5591-2	0	NP	600			0	600
	0	MP	158	0	0	0	158
	13	NP	1000	500	0.5	0	2000
	13	MP	25	990	1436	0	2451
	41	NP	7000	4200	0.	0	11200
	41	MP	483	3604	0	0	4087
5590-2	0	NP	0	6300	0	0	6300
	0	MP	0	4442	0	0	4442
	13	NP	1800	700	0.	0	2500
	13	MP	142	816	0	0	958
	59	NP	900	1000	0	0	1900
	59	MP	80	823	0	0	903
5634	0	NP	1427	0	0	0	1427
	0	MP	27	0	0	0	27
	10	NP	1427	0	0	0	1427
	10	MP	66	0	0	0	66
	40	NP	79	0	0	0	79
	40	MP	6	0	0	0	6
	60	NP	3140	0	0	0	3140
	60	MP	471	0	0	0	471

5635	100	NP	126	0	0	0	126
	100	MP	25	0	0	0	25
	182	NP	126	0	0	0	126
	182	MP	25	0	0	0	25
	0	NP	174	48	0	0	222
	0	MP	12	39	0	0	51
	5	NP	174	40	0	00	222
	5	MP	12	33	0	0	45
	75	NP	79	0	0	0	79
	75	MP	6	0	0	0	6
	140	NP	79	0	0	0	79
	140	MP	6	0	0	0	6
	320	NP	96	0	0		96
	320	MP	7	0	0	0	7
	850	NP	2100	0	0	0	2100
	850	MP	88.200	0	0	0	88

Table S2. Abundance ( $10^3$  cels mL<sup>-1</sup>) of free-living bacteria, particle-associated bacteria, bacteria in microcolony and total abundance of bacterioplankton.

Station	Horizon, m	Free-living bacteria	Particle-associated bacteria	Bacteria in microcolony	Total abundance
5627	0	650.2	640.5	52,3	1343.0
	5	412.6	999.3	213,1	1625.0
	12	379.1	1497.0	0	1876.7
5630	0	950.7	806.2	82,0	1838.9
	5	1246.0	1049.0	16,8	2311.8
	20	936.8	763.3	0	1700.1
	23	657.0	1000.1	0	1657.1
5631	0	521.4	382.6	0	904.0
	10	511.5	310.8	0	822.3
	18	1155.5	380.1	0	1535.6
	25	494.9	309.0	0	803.9
5632	0	463.7	282.6	0	746.3
	10	532.3	55.8	50.6	638.7
	17	338.8	151.8	0	490.6
	22	356.2	100.2	8.5	464.9
5591-2	0	420.8	7,9	0	428.7
	13	163,8	10,1	0	173.9
	41	62,8	40,1	0	102.9
5590-2	0	407.8	31,4	0	439.2
	13	130.4	13,2	0	143.6
	59	137.7	2.0	0	139.7
5634	0	366.9	11.4	27.1	405.4
	10	267.6	54.1	0	321.7
	40	87.3	-	0	87.3
	60	251.1	7.0	0	258.1
	100	159.9	1.0	0	160.9
	182	245.8	0	0	245.8
5635	0	277.1	1.4	10.4	288.9
	5	154.3	4.7	0	159.0
	27	80.8	0	0	80.8
	75	157.9	0.4	5,6	163.9
	140	237.7	0.1	0	237.8
	320	269.8	0.3	0	270.12
	850	267.9	8.4	5,2	281.5

Table S3. Mean volume of bacterial cell ( $\mu\text{m}^3$ ) of free-living bacteria, particle-associated bacteria, bacteria in microcolony.

Station	Horizon, m	Free-living bacteria	Particle-associated bacteria	Bacteria in microcolony
5627	0	0.087	0.087	0.117
	5	0.093	0.062	0.314
	12	0.065	0.054	0
5630	0	0.101	0.037	0.108
	5	0.099	0.062	0.100
	20	0.072	0.054	0
	23	0.095	0.062	0
5631	0	0.08	0.100	0
	10	0.092	0.074	0
	18	0.089	0.061	0
	25	0.098	0.081	0
5632	0	0.086	0.071	0
	10	0.060	0.043	0.104
	17	0.080	0.064	0
	22	0.092	0.053	0.093
5591-2	0	0.094	0.066	0
	13	0.043	0.062	0
	41	0.066	0.044	0
5590-2	0	0.040	0.053	0
	13	0.058	0.054	0
	59	0.075	0.057	0
5634	0	0.068	0.084	0.080
	10	0.063	0.073	0
	40	0.072	0	0
	60	0.073	0.054	0
	100	0.075	0.076	0
	182	0.058	0	0
5635	0	0.054	0.056	0.074
	5	0.053	0.05	0
	27	0.084	0.065	0
	75	0.074	0.056	0.163
	140	0.058	0.058	0
	320	0.067	0.067	0
	850	0.064	0.075	0.110

Table S4. Biomass [ $\text{mg m}^{-3}$  ( $\text{mg C m}^{-3}$ )] of free-living bacteria, particle-associated bacteria, bacteria in microcolony and total biomass of bacterioplankton.

Station	Horizon, m	Free-living bacteria	Particle-associated bacteria	Bacteria in microcolony	Total biomass
5627	0	56.6(13.4)	55.7(13.2)	6.1(1.3)	118.4(27.9)
	5	38.4(9.0)	61.9(16.2)	66.9(11.1)	167.2(36.3)
	12	24.6(6.3)	80.8(21.9)	0	105.4 (28.2)
5630	0	96.0(21.9)	29.8(9.0)	8.8(2,0)	134.6 (32.9)
	5	123.4(20.3)	65.0(17.0)	1.7(0,4)	190.1 (37.7)
	20	67.4(16.9)	41.2 (11.2)	0	108.6(28.1)
	23	62.4(14.5)	62.0(16.2)	0	124.4(30.7)
5631	0	41.7(10.1)	38.3(8.8)	0	80.0(18.9)
	10	47.1(11.0)	23.0(5.7)	0	70.1 (16.7)
	18	102.8(24.3)	23.2(6.1)	0	126.0 (30.4)
	25	48.5(11.2)	25.0(6.1)	0	73.5 (17.3)
5632	0	39.9(9.5)	20.1(5.0)	0	60.0(14.5)
	10	60.0(14.5)	2.4(0.7)	5.3(1.2)	39.7(10.3)
	17	29.45(7.0)	9.7(2.5)	0	39.2 (9.5)
	22	32.8(7.7)	5.3(1.4)	0.8(0.2)	38.9(9.3)
5591-2	0	39.6(9.2)	0.5(0.3)	0	40.1(9.5)
	13	7.0 (2.0)	0.6(0.2)	0	7.6(2.2)
	41	4.1(1.0)	1.8(0.3)	0	5.9(1.3)
5590-2	0	16.3 (4.0)	1.7(0.5)	0	18.0(4.5)
	13	7.6(2.0)	0.7(0.2)	0	8.3(2.2)
	59	10.3(2.55)	0.1(0.03)	0	10.4(2.58)
5634	0	24.9(6.3)	0.95 (0.2)	2.2(0.5)	28.05(7.0)
	10	16.8(4.4)	3.9(1.0)	0	20.7(5.4)
	40	6.3(1.6)	0	0	6.3(1.6)
	60	18.3(4.6)	0.4(0.1)	0	18.7(4.7)
	100	12.0(3.0)	0.1(0.02)	0	12.1(3.02)
	182	14.2(3.8)	0	0	14.2(3.8)
5635	0	15.0(4.1)	0.08(0.02)	0.8(0.18)	15.88(4.3)
	5	8.2(2.2)	0.24(0.07)	0	8.44(2.27)
	27	6.8(1.6)	0	0	6.8(1.6)
	75	11.7(2.9)	0.02(0.01)	0.9(0.18)	12.62(3.09)
	140	13.8(3.7)	>0.01	0	13.8(3.7)
	320	18.1 (4.6)	0.02(0.01)	0	18.12(4.61)
	850	17.1(4.4)	0.6(0.2)	0.6(0.1)	18.3(4.7)

Table S5. Abundance ( $N_{\text{HNF}}$ , cells  $\text{mL}^{-1}$ ) and biomass ( $B_{\text{HNF}}$ ,  $\text{mg C m}^{-3}$ ).

Station	Horizon, m	$N_{\text{HNF}}$	$B_{\text{HNF}}$
5627	0	545	7.8
	5	636	9.1
	14	434	6.2
5630	0	273	3.9
	5	322	4.6
	20	238	3.4
	23	175	2.5
5631	0	259	3.7
	10	209	3.7
	18	364	5.2
	25	294	4.2
5632	0	343	4.9
	10	394	4.2
	17	294	4.2
	22	245	3.5
5591_2	0	154	2.2
	13	76	0.8
	41	84	0.7
5590_2	0	198	1.4
	13	106	0.8
	59	97	0.8
5634	0	198	1.4
	10	156	0.8
	40	35	0.5
	60	97	0.8
	100	77	1.1
	182	106	0.8
5635 (СКЛОИ)	0	91	1.3
	5	70	1.0
	27	49	0.7
	75	91	1.3
	140	69	0.7
	320	77	1.0
	850	109	1.0