

Table S1. Pearson correlation test results for mid-channel (A4, B3, C2, D3) and shore (Alley Creek (AC), City Island (CI), Calf Pasture (CP), Rye Playland (RP), Saugatuck River (SR)) site data for abundances of major phytoplankton taxa and bacteria, concentrations of chl *a* (total and per cell size fraction), DON, DOP, and DOC, as well as T (°C), S, DO (mg l⁻¹), pH, and turbidity (Turb (FNU) at shore sites). Pooled means from each site per region (shore and mid-channel) are provided following individual site outputs. Euglenoid abundances (&) were tested using Spearman rank correlations because data were non-normally distributed. For all tests, *p* values are shown with their corresponding correlation coefficients (parentheses), with significant *p* values noted in **bold** ($\alpha = 0.05$). Dashes (-) indicate not applicable

	Mid-Channel							
A4	Bacteria	DON	DOP	DOC	T	S	DO	pH
Pennate Diatoms	0.665 (-0.150)	0.760 (-0.100)	0.760 (-0.120)	0.070 (-0.560)	< 0.001 (-0.820)	0.925 (0.160)	< 0.001 (0.820)	0.145 (0.120)
Centric Diatoms	0.862 (-0.25)	0.803 (-0.050)	0.325 (-0.320)	0.075 (-0.560)	0.010 (-0.660)	0.437 (-0.03)	0.034 (0.570)	0.121 (-0.020)
Dinoflagellates	0.048 (0.520)	0.606 (-0.230)	0.488 (-0.310)	0.070 (0.570)	0.015 (0.640)	0.511 (-0.200)	0.384 (0.050)	0.219 (-0.120)
Raphidophytes	0.573 (0.170)	0.695 (0.120)	0.702 (-0.110)	-	0.608 (0.150)	0.406 (0.240)	0.685 (-0.120)	0.608 (-0.150)
Cryptophytes	0.030 (-0.560)	0.170 (0.390)	0.532 (-0.180)	0.970 (-0.010)	0.564 (0.170)	0.054 (0.530)	0.885 (-0.040)	0.672 (-0.120)
Bacteria	-	0.153 (-0.44)	0.944 (0.010)	0.234 (0.390)	0.234 (0.340)	0.040 (-0.550)	0.642 (-0.140)	0.947 (0.020)
Total chl <i>a</i>	0.392 (0.340)	0.404 (-0.430)	0.345 (0.260)	0.402 (0.280)	0.297 (0.300)	0.238 (-0.340)	0.682 (-0.120)	0.916 (0.030)
>20 μm chl <i>a</i>	0.659 (0.160)	0.626 (-0.200)	0.526 (0.170)	0.392 (-0.290)	0.327 (-0.280)	0.293 (-0.300)	0.445 (0.220)	0.687 (0.120)
5 – 20 μm chl <i>a</i>	0.392 (0.330)	0.325 (-0.440)	0.047 (0.540)	0.182 (0.430)	0.166 (0.390)	0.316 (-0.290)	0.418 (-0.240)	0.726 (0.100)
<5 μm chl <i>a</i>	0.317 (0.360)	0.413 (-0.400)	0.647 (0.100)	0.156 (0.470)	0.030 (0.580)	0.300 (-0.300)	0.252 (-0.330)	0.804 (-0.070)
&Euglenoids	0.319 (0.250)	0.319 (-0.020)	0.948 (-0.200)	0.727 (0.170)	0.119 (0.330)	0.315 (-0.200)	0.248 (-0.210)	0.014 (-0.638)
B3								
Pennate Diatoms	0.940 (-0.190)	0.860 (-0.210)	0.449 (-0.250)	0.013 (-0.660)	0.002 (-0.74)	0.360 (0.040)	0.001 (0.770)	0.473 (-0.040)
Centric Diatoms	0.564 (-0.430)	0.920 (-0.110)	0.259 (-0.350)	0.013 (-0.720)	0.002 (-0.750)	0.828 (0.240)	< 0.001 (0.850)	0.035 (0.560)
Dinoflagellates	0.078 (0.550)	0.183 (-0.580)	0.530 (-0.250)	0.114 (0.490)	0.129 (0.460)	0.203 (-0.400)	0.412 (-0.200)	0.680 (0.050)
Raphidophytes	0.115 (0.450)	0.322 (-0.240)	0.921 (-0.030)	-	0.639 (0.140)	0.804 (0.070)	0.479 (-0.210)	0.455 (-0.220)
Cryptophytes	0.075 (-0.460)	0.315 (0.310)	0.533 (-0.180)	0.990 (-0.020)	0.583 (0.160)	0.036 (0.560)	0.233 (-0.340)	0.816 (-0.070)
Bacteria	-	0.143 (-0.410)	0.913 (0.040)	0.449 (0.610)	0.113 (0.440)	0.003 (-0.720)	0.489 (-0.200)	0.815 (-0.070)
Total chl <i>a</i>	0.266 (0.320)	0.334 (-0.280)	0.472 (0.210)	0.367 (0.320)	0.280 (0.310)	0.062 (-0.510)	0.285 (-0.310)	0.650 (-0.130)
>20 μm chl <i>a</i>	0.429 (-0.230)	0.604 (-0.150)	0.643 (-0.140)	0.309 (-0.360)	0.788 (-0.080)	0.902 (-0.040)	0.722 (-0.100)	0.481 (0.210)
5 – 20 μm chl <i>a</i>	0.090 (0.470)	0.247 (-0.330)	0.149 (0.410)	0.233 (0.410)	0.398 (0.250)	0.008 (-0.690)	0.581 (-0.160)	0.941 (0.020)

<5 µm chl <i>a</i>	0.256 (0.330)	0.609 (-0.150)	0.700 (0.110)	0.253 (0.400)	0.236 (0.340)	0.146 (-0.410)	0.367 (-0.260)	0.353 (-0.270)
&Euglenoids	0.145 (0.420)	0.522 (-0.070)	0.899 (-0.240)	0.167 (0.350)	0.115 (0.380)	0.047 (-0.538)	0.244 (-0.350)	0.012 (-0.652)
C2								
Pennate Diatoms	0.825 (-0.060)	0.634 (-0.150)	0.350 (-0.280)	0.015 (-0.770)	0.001 (-0.810)	0.510 (0.200)	0.012 (0.670)	0.114 (0.460)
Centric Diatoms	0.408 (0.250)	0.216 (-0.380)	0.909 (0.020)	0.368 (0.340)	0.803 (-0.080)	0.390 (-0.260)	0.185 (0.390)	0.327 (-0.300)
Dinoflagellates	0.037 (0.570)	0.916 (-0.050)	0.626 (0.130)	0.051 (0.660)	0.077 (0.510)	0.030 (-0.590)	0.911 (-0.030)	0.402 (-0.250)
Raphidophytes	-	-	-	-	-	-	-	-
Cryptophytes	0.535 (0.190)	0.637 (0.120)	0.006 (0.690)	0.157 (0.520)	0.451 (0.230)	0.230 (-0.360)	0.245 (-0.350)	0.708 (-0.120)
Bacteria	-	0.549 (0.180)	0.900 (-0.030)	0.151 (0.520)	0.268 (0.330)	0.081 (-0.500)	0.922 (0.030)	0.089 (-0.490)
Total chl <i>a</i>	0.088 (0.550)	0.171 (0.370)	0.373 (0.240)	0.006 (0.830)	0.001 (0.810)	0.005 (-0.730)	0.064 (-0.530)	0.110 (-0.460)
>20 µm chl <i>a</i>	0.308 (0.300)	0.369 (-0.280)	0.240 (-0.350)	0.772 (-0.110)	0.473 (-0.220)	0.949 (0.020)	0.129 (0.440)	0.407 (-0.250)
5 – 20 µm chl <i>a</i>	0.062 (0.540)	0.411 (-0.290)	0.262 (0.310)	0.181 (0.490)	0.103 (0.470)	0.089 (-0.490)	0.608 (-0.160)	0.726 (-0.110)
<5 µm chl <i>a</i>	0.224 (0.390)	0.110 (0.430)	0.377 (0.240)	0.026 (0.730)	0.002 (0.780)	0.020 (-0.630)	0.025 (-0.620)	0.260 (-0.340)
&Euglenoids	0.397 (0.350)	0.804 (-0.040)	0.743 (-0.020)	0.016 (0.769)	0.078 (0.370)	0.073 (-0.470)	0.431 (-0.200)	0.938 (-0.230)
D3								
Pennate Diatoms	0.608 (-0.080)	0.426 (-0.070)	0.338 (-0.240)	0.020 (-0.680)	0.021 (-0.610)	0.398 (0.520)	0.207 (0.510)	0.332 (0.260)
Centric Diatoms	0.276 (0.080)	0.920 (0.120)	0.292 (-0.190)	0.806 (0.230)	0.708 (0.160)	0.945 (-0.010)	0.867 (-0.040)	0.953 (0.230)
Dinoflagellates	0.369 (0.060)	0.644 (-0.050)	0.586 (0.120)	0.249 (0.220)	0.028 (0.590)	0.071 (-0.540)	0.155 (-0.330)	0.670 (0.080)
Raphidophytes	-	-	-	-	-	-	-	-
Cryptophytes	0.622 (-0.210)	0.629 (-0.410)	<0.001 (0.850)	0.368 (0.330)	0.369 (0.260)	0.979 (-0.010)	0.179 (-0.380)	0.661 (-0.130)
Bacteria	-	0.794 (0.280)	0.632 (-0.050)	0.306 (0.530)	0.317 (0.290)	0.629 (-0.140)	0.458 (-0.220)	0.041 (-0.550)
Total chl <i>a</i>	0.108 (0.360)	0.182 (0.420)	0.677 (0.200)	0.101 (0.620)	<0.001 (0.820)	0.133 (-0.420)	0.001 (-0.780)	0.243 (-0.330)
>20 µm chl <i>a</i>	0.427 (0.240)	0.502 (0.180)	0.142 (-0.490)	0.590 (0.110)	0.492 (0.200)	0.477 (0.200)	0.276 (-0.310)	0.690 (-0.120)
5 – 20 µm chl <i>a</i>	0.281 (0.230)	0.269 (-0.320)	0.194 (0.490)	0.126 (0.540)	0.533 (0.180)	0.168 (-0.380)	0.481 (-0.210)	0.823 (-0.060)
<5 µm chl <i>a</i>	0.251 (0.250)	0.150 (0.360)	0.457 (0.310)	0.221 (0.500)	0.003 (0.740)	0.107 (-0.450)	0.007 (-0.690)	0.409 (-0.240)
&Euglenoids	0.053 (0.470)	0.237 (0.310)	0.582 (0.090)	0.779 (0.130)	0.063 (0.370)	0.027 (-0.589)	0.412 (-0.360)	0.060 (-0.350)

**A4, B3, C2, D3
Pooled**

	Bacteria	DON	DOP	DOC	T	S	DO	pH
Pennate Diatoms	0.977 (0.010)	0.851 (-0.060)	0.192 (-0.370)	0.016 (-0.730)	0.008 (-0.680)	0.432 (0.230)	0.012 (0.650)	0.426 (0.230)
Centric Diatoms	0.453 (-0.220)	0.719 (-0.110)	0.713 (-0.110)	0.957 (-0.020)	0.503 (-0.680)	0.590 (-0.150)	0.334 (0.280)	0.663 (0.130)
Dinoflagellates	0.013 (0.650)	0.305 (-0.300)	0.944 (0.020)	0.024 (0.700)	0.006 (0.690)	0.041 (-0.550)	0.106 (-0.450)	0.458 (-0.220)

Raphidophytes	0.177 (0.380)	0.970 (-0.010)	0.851 (-0.060)	-	0.550 (0.170)	0.765 (0.390)	0.479 (-0.210)	0.604 (-0.150)	
Cryptophytes	0.829 (-0.060)	0.971 (-0.010)	0.077 (0.490)	0.218 (0.430)	0.210 (0.360)	0.157 (0.390)	0.066 (-0.510)	0.453 (-0.220)	
Bacteria	-	0.033	0.964 (0.010)	0.450 (0.270)	0.308 (0.290)	0.262 (-0.320)	0.765 (-0.090)	0.938 (-0.020)	
Total chl <i>a</i>	0.015 (0.630)	0.529 (-0.180)	0.270 (0.320)	0.049 (0.630)	0.014 (0.640)	0.035 (-0.570)	0.041 (-0.550)	0.641 (-0.140)	
>20 µm chl <i>a</i>	0.438 (0.230)	0.843 (0.060)	0.392 (-0.250)	0.148 (-0.490)	0.441 (-0.220)	0.634 (-0.140)	0.362 (0.260)	0.114 (0.440)	
5 – 20 µm chl <i>a</i>	0.087 (0.470)	0.061 (-0.510)	0.022 (0.610)	0.051 (0.630)	0.102 (0.460)	0.023 (-0.600)	0.256 (-0.330)	0.682 (0.120)	
<5 µm chl <i>a</i>	0.020 (0.610)	0.729 (-0.100)	0.395 (0.250)	0.019 (0.720)	0.003 (0.730)	0.047 (-0.540)	0.013 (-0.640)	0.375 (-0.260)	
&Euglenoids	0.043 (0.547)	0.634 (0.130)	0.581 (-0.070)	0.074 (0.360)	0.007 (0.686)	0.055 (-0.430)	0.052 (-0.440)	0.013 (-0.643)	
Shore									
AC	Bacteria	DON	DOP	DOC	T	S	DO	pH	Turb
Pennate Diatoms	0.757 (-0.310)	0.258 (-0.080)	0.445 (-0.120)	0.539 (-0.170)	0.578 (-0.190)	0.909 (-0.040)	0.861 (-0.060)	0.309 (-0.340)	0.382 (0.290)
Centric Diatoms	0.377 (-0.300)	0.851 (-0.190)	0.422 (0.430)	0.894 (-0.200)	0.031 (-0.650)	0.963 (-0.020)	0.500 (0.230)	0.931 (0.030)	0.072 (0.560)
Dinoflagellates	0.065 (0.640)	0.618 (0.140)	0.367 (0.230)	0.041 (0.600)	0.085 (0.540)	0.425 (0.270)	0.761 (-0.100)	0.719 (0.120)	0.373 (-0.300)
Raphidophytes	0.825 (-0.080)	0.195 (0.490)	0.584 (-0.150)	0.492 (0.210)	0.398 (0.280)	0.553 (0.200)	0.475 (0.240)	0.515 (0.220)	0.152 (-0.460)
Cryptophytes	0.523 (0.180)	0.369 (0.050)	0.468 (-0.310)	0.414 (0.140)	0.335 (0.320)	0.365 (-0.300)	0.021 (-0.680)	0.087 (-0.540)	0.820 (0.080)
Bacteria	-	0.420 (0.260)	0.829 (-0.070)	0.001 (0.840)	0.008 (0.750)	0.927 (-0.140)	0.014 (-0.530)	0.305 (-0.270)	0.808 (0.230)
Total chl <i>a</i>	0.066 (0.550)	0.767 (0.100)	0.403 (0.270)	0.015 (0.680)	0.305 (0.340)	0.829 (0.070)	0.930 (-0.030)	0.622 (0.170)	0.968 (-0.010)
>20 µm chl <i>a</i>	0.089 (0.510)	0.658 (0.140)	0.136 (0.460)	0.082 (0.520)	0.236 (0.390)	0.742 (0.110)	0.729 (-0.120)	0.784 (0.090)	0.748 (-0.110)
5 – 20 µm chl <i>a</i>	0.640 (0.150)	0.975 (-0.010)	0.377 (0.280)	0.120 (0.400)	0.760 (0.100)	0.496 (0.230)	0.530 (0.210)	0.254 (0.380)	0.724 (-0.120)
<5 µm chl <i>a</i>	0.039 (0.600)	0.742 (0.110)	0.631 (0.150)	0.007 (0.730)	0.261 (0.370)	0.874 (0.050)	0.869 (-0.060)	0.656 (0.150)	0.985 (-0.010)
&Euglenoids	0.001 (0.831)	0.810 (0.130)	0.726 (-0.010)	0.003 (0.782)	0.002 (0.855)	0.154 (0.390)	0.129 (-0.290)	0.989 (0.130)	0.154 (-0.350)
CI									
Pennate Diatoms	0.271 (0.210)	0.857 (-0.170)	0.853 (0.280)	0.780 (-0.180)	0.450 (-0.250)	0.134 (-0.480)	0.646 (0.160)	0.724 (0.120)	0.387 (0.290)
Centric Diatoms	0.739 (-0.02)	0.640 (0.170)	0.487 (0.380)	0.547 (0.050)	0.109 (-0.510)	0.633 (-0.160)	0.196 (0.420)	0.197 (0.420)	0.126 (0.490)
Dinoflagellates	<0.001 (0.880)	0.735 (-0.080)	0.273 (-0.310)	0.239 (0.330)	0.024 (0.670)	0.119 (-0.500)	0.022 (-0.680)	0.045 (-0.610)	0.554 (0.200)
Raphidophytes	-	-	-	-	-	-	-	-	-
Cryptophytes	0.876 (-0.120)	0.099 (-0.490)	0.506 (-0.090)	0.151 (0.310)	0.565 (0.190)	0.967 (0.020)	0.337 (-0.320)	0.248 (-0.380)	0.538 (-0.210)
Bacteria	-	0.582 (-0.350)	0.344 (-0.22)	0.234 (0.270)	0.023 (0.680)	0.089 (-0.530)	0.017 (-0.700)	0.086 (-0.540)	0.226 (0.400)
Total chl <i>a</i>	0.005 (0.750)	0.911 (-0.100)	0.845 (0.000)	0.286 (0.280)	0.456 (0.250)	0.091 (-0.530)	0.383 (-0.290)	0.566 (-0.200)	0.053 (0.600)
>20 µm chl <i>a</i>	0.583 (0.080)	0.973 (-0.020)	0.571 (0.300)	0.919 (-0.190)	0.171 (-0.440)	0.293 (-0.350)	0.155 (0.460)	0.120 (0.490)	0.064 (0.580)

5 – 20 µm chl <i>a</i>	0.010 (0.710)	0.788 (0.100)	0.808 (0.000)	0.267 (0.280)	0.278 (0.360)	0.810 (-0.080)	0.362 (-0.30)	0.523 (-0.220)	0.347 (0.310)
<5 µm chl <i>a</i>	0.001 (0.810)	0.804 (-0.150)	0.345 (-0.290)	0.095 (0.540)	0.034 (0.640)	0.067 (-0.570)	0.025 (-0.670)	0.068 (-0.570)	0.127 (0.490)
&Euglenoids	0.278 (0.750)	0.235 (-0.310)	0.499 (-0.290)	0.247 (0.630)	0.055 (0.610)	0.210 (-0.320)	0.034 (-0.639)	0.051 (-0.520)	0.252 (0.570)
CP									
Pennate Diatoms	0.430 (-0.260)	0.749 (0.020)	0.236 (0.370)	0.040 (-0.630)	0.156 (-0.460)	0.721 (0.120)	0.226 (0.400)	0.153 (0.460)	0.403 (-0.280)
Centric Diatoms	0.965 (-0.070)	0.190 (0.360)	0.030 (0.630)	0.019 (-0.610)	0.089 (-0.540)	0.121 (0.490)	0.348 (0.310)	0.181 (0.440)	0.845 (0.070)
Dinoflagellates	0.005 (0.750)	0.900 (-0.230)	0.989 (-0.040)	0.543 (-0.100)	0.119 (0.500)	0.589 (0.180)	0.019 (-0.609)	0.055 (-0.590)	0.218 (0.400)
Raphidophytes	-	-	-	-	-	-	-	-	-
Cryptophytes	0.420 (0.250)	0.551 (-0.180)	0.003 (-0.770)	0.012 (0.760)	0.014 (0.710)	0.581 (-0.190)	0.044 (-0.620)	0.007 (-0.760)	0.552 (-0.200)
Bacteria	-	0.175 (-0.650)	0.750 (-0.130)	0.974 (0.080)	0.024 (0.670)	0.340 (-0.320)	0.002 (-0.820)	0.004 (-0.790)	0.019 (0.690)
Total chl <i>a</i>	0.023 (0.650)	0.782 (-0.220)	0.427 (0.230)	0.244 (-0.180)	0.276 (0.360)	0.298 (0.350)	0.062 (-0.580)	0.235 (-0.390)	0.386 (0.290)
>20 µm chl <i>a</i>	0.560 (0.160)	0.602 (-0.070)	0.360 (0.270)	0.186 (-0.370)	0.236 (-0.390)	0.446 (0.260)	0.700 (0.130)	0.584 (0.190)	0.797 (0.090)
5 – 20 µm chl <i>a</i>	0.146 (0.440)	0.882 (0.090)	0.571 (0.170)	0.634 (-0.120)	0.232 (0.390)	0.642 (0.160)	0.143 (-0.470)	0.264 (-0.370)	0.198 (0.420)
<5 µm chl <i>a</i>	0.007 (0.730)	0.902 (-0.360)	0.875 (-0.120)	0.871 (0.240)	<0.001 (0.890)	0.690 (0.140)	<0.001 (-0.920)	0.009 (-0.740)	0.456 (0.250)
&Euglenoids	0.845 (-0.040)	0.526 (0.020)	0.371 (0.040)	0.761 (0.070)	0.059 (0.480)	0.862 (0.210)	0.108 (-0.280)	0.232 (-0.190)	0.431 (-0.350)
RP									
Pennate Diatoms	0.488 (-0.470)	0.619 (0.000)	0.999 (0.220)	0.988 (-0.440)	0.073 (-0.560)	0.629 (-0.170)	0.098 (0.530)	0.092 (0.530)	0.802 (0.090)
Centric Diatoms	0.216 (-0.480)	0.971 (0.070)	0.253 (0.470)	0.889 (-0.210)	0.016 (-0.700)	0.892 (0.050)	0.029 (0.650)	0.007 (0.750)	0.027 (0.750)
Dinoflagellates	0.057 (0.650)	0.439 (0.200)	0.570 (0.130)	0.813 (0.220)	0.051 (0.600)	0.272 (-0.370)	0.277 (-0.360)	0.667 (-0.140)	0.539 (0.210)
Raphidophytes	-	-	-	-	-	-	-	-	-
Cryptophytes	0.718 (0.120)	0.527 (-0.420)	0.124 (-0.480)	0.105 (0.540)	0.206 (0.410)	0.469 (-0.240)	0.146 (-0.470)	0.179 (-0.440)	0.580 (-0.190)
Bacteria	-	0.637 (-0.110)	0.738 (-0.060)	0.073 (0.510)	0.002 (0.820)	0.165 (-0.450)	0.012 (-0.720)	0.081 (-0.550)	0.818 (0.080)
Total chl <i>a</i>	0.193 (0.410)	0.542 (-0.200)	0.893 (-0.050)	0.346 (0.340)	0.336 (0.320)	0.315 (-0.340)	0.825 (-0.080)	0.751 (0.110)	0.120 (0.500)
>20 µm chl <i>a</i>	0.902 (-0.070)	0.301 (-0.310)	0.649 (-0.120)	0.745 (0.060)	0.464 (-0.250)	0.676 (-0.150)	0.162 (0.450)	0.083 (0.540)	0.064 (0.580)
5 – 20 µm chl <i>a</i>	0.218 (0.400)	0.950 (0.010)	0.930 (0.020)	0.765 (0.130)	0.375 (0.300)	0.846 (-0.070)	0.846 (0.070)	0.467 (0.250)	0.140 (0.480)
<5 µm chl <i>a</i>	0.011 (0.740)	0.967 (-0.040)	0.922 (0.010)	0.207 (0.490)	0.010 (0.730)	0.223 (-0.400)	0.077 (-0.550)	0.317 (-0.330)	0.524 (0.220)
&Euglenoids	0.294 (0.550)	0.842 (0.220)	0.488 (0.100)	0.652 (0.210)	0.060 (0.630)	0.677 (-0.310)	0.168 (-0.410)	0.225 (-0.230)	0.610 (0.110)
SR									
Pennate Diatoms	0.378 (-0.250)	0.359 (0.790)	0.350 (0.350)	0.379 (-0.370)	0.754 (-0.110)	0.389 (-0.290)	0.143 (0.470)	0.336 (0.320)	0.804 (0.080)
Centric Diatoms	0.419 (-0.470)	0.107 (0.400)	0.040 (0.600)	0.033 (-0.620)	0.110 (-0.510)	0.858 (0.060)	0.113 (0.500)	0.227 (0.400)	0.861 (-0.060)
Dinoflagellates	0.764 (-0.030)	0.285 (0.480)	0.093 (0.450)	0.231 (-0.260)	0.604 (0.180)	0.306 (0.340)	0.970 (0.010)	0.411 (0.280)	0.917 (0.040)
Raphidophytes	-	-	-	-	-	-	-	-	-

Cryptophytes	0.522 (0.220)	0.090 (-0.600)	0.118 (-0.490)	0.782 (0.090)	0.408 (0.280)	0.725 (0.120)	0.510 (-0.220)	0.366 (-0.300)	0.758 (-0.110)
Bacteria	-	0.797 (-0.390)	0.461 (-0.330)	0.088 (0.680)	<0.001 (0.900)	0.250 (-0.380)	<0.001 (-0.380)	0.001 (-0.850)	0.161 (0.170)
Total chl <i>a</i>	0.023 (0.650)	0.410 (-0.200)	0.401 (0.220)	0.985 (0.090)	0.012 (0.720)	0.752 (0.110)	0.009 (-0.740)	0.213 (-0.410)	0.779 (0.100)
>20 μm chl <i>a</i>	0.046 (0.580)	0.322 (-0.260)	0.313 (0.270)	0.658 (-0.060)	0.039 (0.630)	0.556 (0.200)	0.034 (-0.640)	0.366 (-0.300)	0.702 (-0.130)
5 – 20 μm chl <i>a</i>	0.040 (0.600)	0.538 (-0.240)	0.518 (0.070)	0.944 (0.240)	0.020 (0.690)	0.881 (0.050)	0.005 (-0.770)	0.135 (-0.480)	0.326 (0.330)
<5 μm chl <i>a</i>	0.020 (0.660)	0.575 (-0.150)	0.499 (0.190)	0.799 (0.140)	0.006 (0.770)	0.790 (0.090)	0.007 (0.090)	0.208 (-0.410)	0.703 (0.130)
&Euglenoids	0.122 (0.470)	0.445 (-0.010)	0.282 (0.290)	0.542 (0.030)	0.007 (0.753)	0.759 (0.010)	0.071 (-0.520)	0.188 (-0.200)	0.911 (0.030)
AC, CI, CP, RP, SR Pooled									
Pennate Diatoms	0.480 (-0.230)	0.929 (0.030)	0.441 (0.250)	0.262 (-0.350)	0.394 (-0.290)	0.931 (-0.030)	0.543 (0.210)	0.563 (0.190)	0.964 (0.190)
Centric Diatoms	0.396 (-0.270)	0.494 (0.220)	0.028 (0.630)	0.119 (-0.470)	0.030 (-0.690)	0.684 (0.140)	0.093 (0.530)	0.058 (0.590)	0.082 (0.590)
Dinoflagellates	0.005 (0.750)	0.814 (-0.080)	0.843 (0.060)	0.404 (0.270)	0.033 (0.640)	0.783 (0.090)	0.052 (-0.600)	0.163 (-0.460)	0.757 (-0.460)
Raphidophytes	0.825 (-0.070)	0.122 (0.470)	0.843 (-0.060)	0.895 (0.040)	0.564 (0.200)	0.957 (-0.020)	0.881 (0.050)	0.943 (0.020)	0.086 (0.020)
Cryptophytes	0.279 (0.340)	0.089 (-0.510)	0.016 (-0.680)	0.031 (0.620)	0.082 (0.550)	0.168 (-0.450)	0.032 (-0.650)	0.007 (-0.760)	0.631 (-0.760)
Bacteria	-	0.536 (-0.200)	0.580 (-0.180)	0.024 (0.640)	0.002 (0.830)	0.714 (-0.130)	<0.001 (-0.920)	0.007 (-0.780)	0.533 (-0.780)
Total chl <i>a</i>	0.013 (0.690)	0.705 (-0.120)	0.599 (0.170)	0.427 (0.250)	0.157 (0.460)	0.962 (-0.020)	0.132 (-0.480)	0.315 (-0.340)	0.196 (-0.340)
>20 μm chl <i>a</i>	0.229 (0.380)	0.438 (-0.250)	0.584 (0.180)	0.901 (-0.040)	0.892 (0.050)	0.841 (0.070)	0.667 (-0.150)	0.871 (-0.060)	0.153 (-0.060)
5 – 20 μm chl <i>a</i>	0.061 (0.560)	0.629 (-0.160)	0.634 (0.150)	0.539 (0.200)	0.177 (0.440)	0.499 (0.230)	0.304 (-0.340)	0.614 (-0.180)	0.376 (-0.180)
<5 μm chl <i>a</i>	0.001 (0.830)	0.857 (-0.060)	0.816 (0.080)	0.165 (0.430)	0.020 (0.680)	0.920 (-0.040)	0.026 (-0.660)	0.121 (-0.500)	0.431 (-0.500)
&Euglenoids	0.020 (0.671)	0.404 (-0.150)	0.345 (0.120)	0.320 (0.270)	0.003 (0.827)	0.114 (0.250)	0.015 (-0.727)	0.061 (-0.410)	0.673 (-0.410)

Table S2. Mean (SE) chl *a* concentrations ($\mu\text{g l}^{-1}$) (total and individual cell size fractions) for mid-channel and shore sites pooled by sampling date (mm/dd/yy). Asterisk (*) indicates chl *a* samples that were stored at $-20\text{ }^{\circ}\text{C}$ for >1 month before extraction

Mid-Channel				
Date	Total	$>20\ \mu\text{m}$	5 - 20 μm	$<5\ \mu\text{m}$
7/20/20	11.23 (4.00)	1.14 (0.77)	1.21 (0.48)	8.88 (2.77)
*8/12/20	13.40 (4.18)	1.23 (0.81)	5.17 (2.50)	7.00 (0.87)
*9/1/20	10.70 (2.13)	1.71 (1.00)	0.95 (0.68)	8.04 (1.01)
10/14/20	2.85 (0.50)	0.87 (0.26)	0.64 (0.16)	1.34 (0.30)
*11/6/20	2.55 (0.50)	0.65 (0.13)	0.20 (0.14)	1.70 (0.52)
3/10/21	3.48 (1.40)	2.33 (1.01)	0.46 (0.22)	0.69 (0.20)
*4/7/21	6.62 (3.10)	2.05 (1.37)	1.18 (0.69)	3.39 (1.26)
5/5/21	1.96 (0.15)	0.61 (0.10)	0.15 (0.01)	1.20 (0.06)
6/8/21	12.56 (4.00)	1.51 (0.58)	4.71 (1.86)	6.34 (2.02)
7/8/21	6.22 (1.16)	0.93 (0.16)	1.58 (0.44)	3.71 (0.69)
7/20/21	13.65 (3.37)	1.82 (1.09)	4.62 (2.62)	7.21 (0.12)
8/3/21	14.08 (6.47)	1.25 (0.93)	1.53 (0.86)	11.30 (4.69)
8/12/21	10.94 (2.19)	2.48 (0.77)	1.68 (0.89)	6.78 (0.73)
*8/31/21	11.43 (2.96)	0.93 (0.46)	1.48 (0.96)	9.02 (1.81)
10/5/21	4.54 (0.17)	1.33 (0.37)	0.85 (0.21)	2.36 (0.28)
Shore				
Date	Total μm	$>20\ \mu\text{m}$	5 - 20 μm	$<5\ \mu\text{m}$
11/20/20	1.67 (0.27)	0.37 (0.09)	0.40 (0.12)	0.90 (0.15)
12/1/20	1.34 (0.21)	0.22 (0.11)	0.12 (0.02)	1.00 (0.14)
1/8/21	7.62 (3.09)	4.77 (2.50)	1.17 (0.36)	1.68 (0.35)
2/5/21	4.10 (1.05)	1.79 (0.60)	0.46 (0.14)	1.85 (0.99)
3/8/21	7.48 (3.19)	3.79 (0.73)	1.43 (1.14)	2.26 (1.49)
4/5/21	3.08 (0.82)	0.78 (0.40)	0.93 (0.34)	1.37 (0.20)
5/7/21	1.82 (0.25)	0.69 (0.14)	0.00 (0.00)	1.13 (0.17)
6/3/21	8.12 (1.77)	2.41 (0.88)	1.24 (0.63)	4.47 (0.76)
7/8/21	53.37 (34.54)	3.19 (1.36)	4.64 (1.46)	45.54 (32.81)
8/5/21	22.56 (6.09)	4.50 (2.05)	6.68 (3.70)	11.38 (2.34)
9/3/21	6.56 (0.77)	1.03 (0.13)	0.46 (0.14)	5.07 (0.87)
10/4/21	22.89 (13.88)	7.89 (4.74)	5.27 (4.58)	9.73 (4.59)

Table S3. Results from Two Sample T-Tests assuming equal variances comparing shore to mid-channel sites of pooled mean abundances within major phytoplankton taxonomic groups, bacteria, as well as concentrations of total chl *a*, DON, DOP, and DOC per season (fall, spring (Spr), and summer (Sum)). Winter was omitted due to insufficient numbers of sampling dates. For all tests, *p* values are shown with their corresponding *t* values (parentheses). Significant correlations are noted in **bold** ($\alpha = 0.05$)

	Centric Diatoms	Pennate Diatoms	Dino- flagellates	Cryptophytes	Euglenoids	Raphido- phytes	Total chl <i>a</i>	Bacteria
	0.305	0.022	0.245	0.020	0.210	0.099	0.505	0.267
Fall	(1.367)	(6.624)	(1.629)	(6.970)	(1.824)	(2.940)	(0.806)	(1.524)
	0.062	0.104	0.381	<0.001	0.064	0.004	0.488	0.654
Spr	(2.567)	(2.101)	(0.984)	(22.432)	(2.547)	(2.547)	(-0.764)	(0.483)
	0.006	0.008	0.156	0.002	0.256	0.046	0.291	0.046
Sum	(5.304)	(4.859)	(1.743)	(7.480)	(1.323)	(1.323)	(1.217)	(2.867)

	DON	DOP	DOC
	0.655	0.979	<0.001
Fall	(-0.483)	(-0.029)	(10.697)
	0.002	0.071	0.018
Spr	(7.609)	(-2.441)	(3.874)
	0.964	0.704	0.002
Sum	(0.048)	(0.408)	(7.661)

Table S4. Pearson correlation test results from mid-channel and shore sites pooled for abundances of common phytoplankton genera, bacteria, and concentrations of DON, DOP, and DOC. For all tests, *p* values are shown with their corresponding correlation coefficients (parentheses), with significant *p* values noted in **bold** ($\alpha = 0.05$)

Mid-Channel	Bacteria	DON	DOP	DOC
	0.015	0.076	0.015	0.015
<i>Prorocentrum</i>	(0.610)	(0.150)	(0.180)	(0.740)
	0.509	0.046	0.488	0.063
<i>Leptocylindrus</i>	(0.190)	(-0.025)	(-0.410)	(-0.610)
	0.275	0.301	0.254	0.308
<i>Skeletonema</i>	(0.300)	(-0.020)	(0.210)	(0.360)
	0.570	0.080	0.529	0.783
<i>Thalassiosira</i>	(0.160)	(-0.030)	(0.030)	(-0.100)
Shore	Bacteria	DON	DOP	DOC
	<0.001	0.185	0.916	0.020
<i>Prorocentrum</i>	(0.880)	(-0.410)	(-0.030)	(0.660)
	0.035	0.954	0.223	0.543
<i>Heterocapsa</i>	(0.610)	(0.020)	(0.380)	(0.190)
	0.065	0.172	0.057	0.009
<i>Skeletonema</i>	(-0.550)	(0.420)	(0.560)	(-0.720)
	0.650	0.585	0.330	0.515
<i>Thalassiosira</i>	(0.150)	(-0.180)	(0.310)	(0.210)

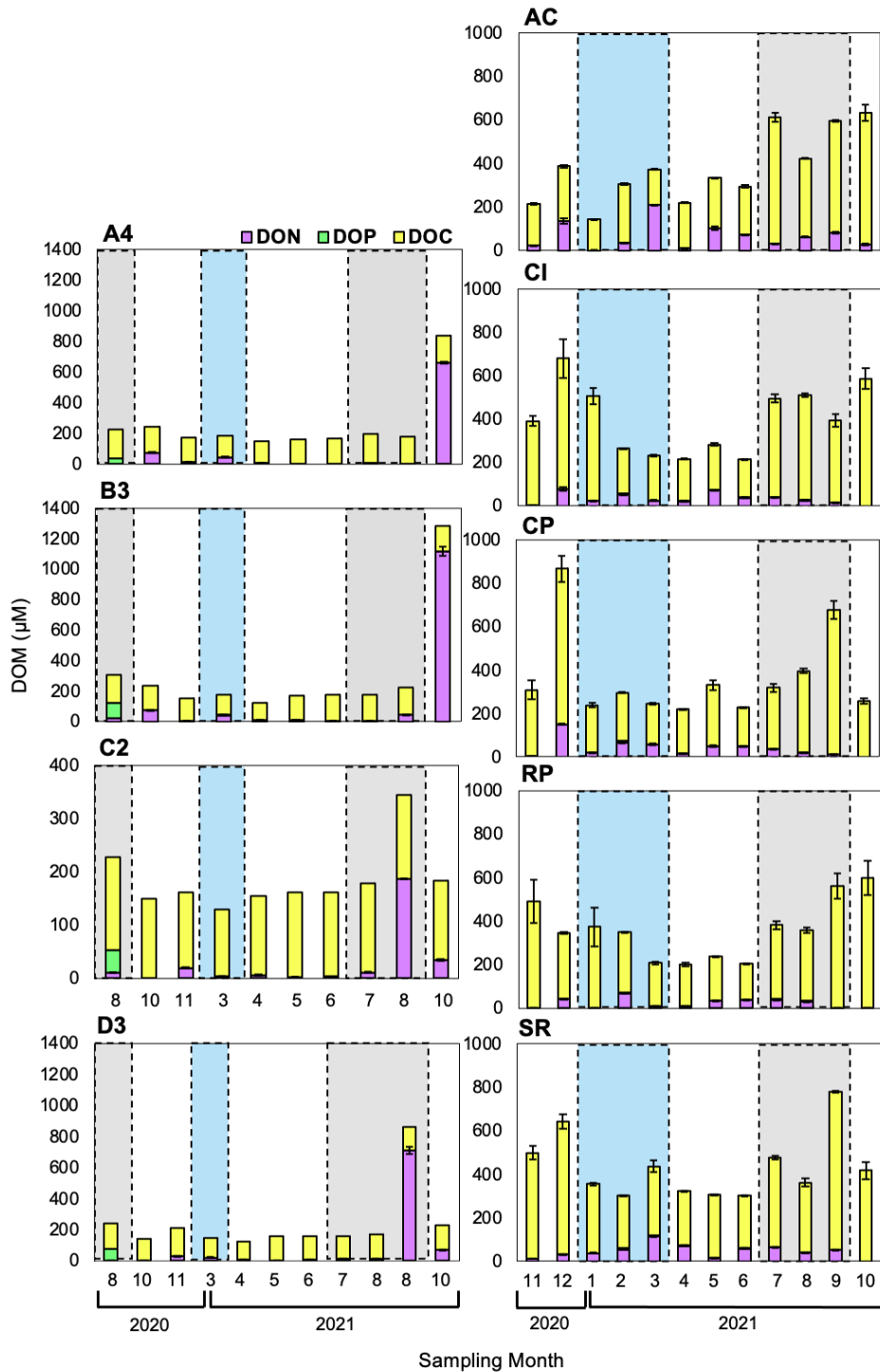


Fig. S1. Stacked column graphs showing mean ($n = 3$) (SE) dissolved organic matter (DOM) concentrations (μM) as DON (purple), DOP (green), and DOC (yellow) per sampling month (1–12 as Jan – Dec) per site (abbreviations defined in Table S1, provided in the top-left corner of each panel). Some error bars are too small to be visualized. Transparent boxes delineate seasons (blue = winter; grey = summer; no box = fall (left side of graph) and spring (right side of graph))