



**Fig. S1:** Relative abundances of bacterial assemblages at the taxonomic level of Phylum in surface (0 - 0.5 m) and bottom of the water column over a *H. akashiwo* bloom period.

**Table S1:** Maximum cell density (and dominant species) of the most prevalent phytoplankton groups recorded throughout the study period.

Date	Phase	Bacillariophytes	Dinophytes	Raphidophytes	Dominant species
15/10/2018	Bloom	43	134	8301	<i>Heterosigma akashiwo</i>
18/10/2018		275	3613	2890	<i>H. akashiwo</i> ; <i>Prorocentrum balticum</i> (dinoflagellate)
22/10/2018		172	1617	2084	<i>H. akashiwo</i>
25/10/2018		459	532	7647	
29/10/2018	Decay	2667	551	963	<i>Pleurosigma angulatum</i> (diatom)
01/11/2018		2581	740	413	
05/11/2018	Bloom	135	631	1721	<i>H. akashiwo</i>
08/11/2018		69	551	48518	
12/11/2018		912	529	3229	
15/11/2018		860	723	2890	
19/11/2018		106	3647	4026	<i>H. akashiwo</i> ; unidentified dinoflagellate (Order Peridinales)
22/11/2018		574	4897	4405	
26/11/2018	Decay	1184	2620	424	<i>P. balticum</i>
29/11/2018		941	1338	206	

**Table S2:** ANOSIM statistical analyses conducted on the temporal variations in the bacterial community profiles throughout an *H. akashiwo* bloom event (Analyses conducted using Primer7 software, resemblance matrix generated using Bray-Curtis similarity coefficients)

Location	Variable	p value	R value	Permutations
Sub-surface	Bloom vs. Decay	0.001	0.556	999
	1° bloom vs. 2° bloom	0.001	0.576	792
	1° bloom vs. Decay	0.011	0.568	999
	2° bloom vs. Decay	0.002	0.55	999
Bottom	Bloom vs. Decay	0.003	0.28	999
	1° bloom vs. 2° bloom	0.036	0.224	462
	1° bloom vs. Decay	0.002	0.483	999
	2° bloom vs. Decay	0.044	0.224	999

**Table S3:** DistLM statistical analyses conducted on the temporal variations in the bacterial community profiles (OTUs) relative to measured physicochemical variables throughout an *H. akashiwo* bloom event (Analyses conducted using Primer7 software; selection criteria: AICc and BEST)

Location	Total R2	Variable	Marginal test p value
Sub-surface	0.49715	Salinity	0.035
		DO	0.069
		Chla	0.007
		PO <sub>4</sub>	0.001
		NO <sub>x</sub>	0.001
		NH <sub>4</sub>	0.114
		Log( <i>H. akashiwo</i> cells)	0.002
Bottom	0.73199	Salinity	0.001
		DO	0.032
		Chla	0.004
		PO <sub>4</sub>	0.103
		NO <sub>x</sub>	0.003
		NH <sub>4</sub>	0.013
		Log( <i>H. akashiwo</i> cells)	0.002

**Table S4:** Tidal data at the time of sampling (Note: there is an approximately 1.5 - 2 hour lag between the tides times recorded at sea and that which occurred at the sampling site within the estuary)

Date	Time	D/N	Site	Tide	Nearest tide time
15/10/2018	12:47:00	Day	2	Falling	12:43 (Low)
18/10/2018	13:30:00	Day	2	Slack/Falling	11:58 (High)
22/10/2018	12:45:00	Day	2	Rising	14:38 (High)
25/10/2018	13:21:00	Day	2	Rising	16:05 (High)
29/10/2018	13:27:00	Day	2	Rising	12:10 (Low)
1/11/2018	13:38:00	Day	2	Falling	16:28 (Low)
5/11/2018	14:20:00	Day	2	Rising	14:23 (High)
8/11/2018	13:40:00	Day	2	Rising	16:01 (High)
12/11/2018	13:43:00	Day	2	Slack/Rising	11:51 (Low)
15/11/2018	13:30:00	Day	2	Falling	14:29 (Low)
19/11/2018	13:37:00	Day	2	Rising	13:28 (High)
22/11/2018	13:07:00	Day	2	Rising	15:10 (High)
26/11/2018	13:58:00	Day	2	Rising	11:26 (Low)
29/11/2018	13:33:00	Day	2	Falling	14:14 (Low)