

Skip the dip - avoid the risk? Integrated microbiological water quality assessment in the Lithuanian coastal waters

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Table S1. Environmental conditions at the sampling sites (mean ± standard deviation (SD), minimum (Min) and maximum (Max), extracted from Overlingė et al [20].

Sites	Parameter	Salinity, PSU	Temperature, °C	pH	Turbidity, NTU
Palanga	Min-Max	4.9-6.93	14.5-25.8	8.14-8.83	2.34-32.8
	Mean±SD	6.25±0.72	18.88±3.16	8.45±0.22	9.94±8.86
Melnrage	Min-Max	2.76-6.82	14.1-24.5	8.15-9.04	2.84-30.43
	Mean±SD	5.72±1.72	18.97±2.95	8.49±0.25	12.48±9.67
Nida BS	Min-Max	6.79-7.21	11.6-25.2	8.00-8.62	2.18-6.65
	Mean±SD	7.00±0.14	19.16±3.96	8.40±0.20	4.55±1.53
Port	Min-Max	0.22-6.89	12.8-25.5	8.23-8.91	4.09-12.48
	Mean±SD	4.27±2.49	20.31±3.91	8.56±0.24	7.98±2.87
Kintai	Min-Max	0.16-2.05	17.4-26.5	7.59-8.63	1.43-4.09
	Mean±SD	0.79±0.73	20.53±3.42	8.08±0.36	2.55±0.85
Nida CL	Min-Max	0.18-0.52	18.3-26.4	8.43-9.01	15.83-61.12
	Mean±SD	0.29±0.14	21.11±2.66	8.78±0.23	32.77±19.88

Table S2. Summary of microbial indicators of water quality per sampling period of 2018 and study sites along Lithuanian coast of the Baltic sea and the Curonian Lagoon.

		FIB			Cyanobacteria				Vibrio spp.		Integrated risk
		<i>E. coli</i>	<i>Enterococci</i> sp.	<i>Bacteroides</i> sp.	Abundance	Biomass	Chl <i>a</i>	Microcystin	<i>V. vulnificus</i>	<i>V. cholerae</i>	
		CFU 100 mL ⁻¹	GC 100 mL ⁻¹	GC 100 mL ⁻¹	Cells mL ⁻¹	mm ³ L ⁻¹	µg L ⁻¹	µg L ⁻¹	P _{inf}	GC 100mL ⁻¹	
Palanga	30-May	11	189	222	57146	0.79	3.6	0	0	0	→ MODERATE
	27-Jun	1	13	0	57572	0.09	4.68	0	0	0	→ LOW
	23-Jul	60	0	0	72528	0.23	7.29	0	0	2,65E+04	→ LOW
	3-Aug	185	77	251	235305	1.00	11.89	0	8,8E-06	1,72E+05	→ HIGH
	30-Aug	23	15	0	12952	0.19	20.08	0	3,7E-05	9,70E+04	→ LOW
	19-Sep	25	8	0	65790	1.34	34.39	0.41	2,7E-05	3,78E+04	→ MODERATE
Melnrage	30-May	42	81	0	190371	0.65	8.93	0.33	0	0	→ HIGH
	27-Jun	0	9	0	55541	0.09	26.13	0.02	0	0	→ MODERATE
	23-Jul	37	27	0	117161	0.65	47.14	0.06	0	2,58E+05	→ HIGH
	3-Aug	87	43	0	191726	2.49	35.73	0.08	0	1,79E+05	→ HIGH
	30-Aug	85	10	0	6807	0.11	14.59	0	2,2E-05	5,46E+05	→ LOW
	19-Sep	13	28	0	22940	0.32	12.91	0.30	1,7E-05	2,07E+04	→ MODERATE
Nida BS	30-May	0	42	0	90	0.00	5.77	0	0	0	→ LOW
	27-Jun	0	0	442	63060	0.21	3.28	0	0	0	→ LOW
	23-Jul	16	8	0	74304	0.28	3.31	0	5,4E-06	2,67E+04	→ LOW
	3-Aug	85	20	0	141968	0.44	8.59	0	1,0E-05	1,54E+06	→ HIGH
	30-Aug	40	0	0	11927	0.37	7.47	0	2,1E-05	4,26E+05	→ LOW
	19-Sep	0	25	0	441	0.01	3.35	0.06	1,0E-05	1,47E+04	→ LOW
Port	30-May	6	389	0	225512	0.64	10.01	0.07	0	0	→ HIGH
	27-Jun	18	122	270	39639	0.08	7.56	0	0	5,90E+06	→ HIGH
	23-Jul	68	90	0	171194	1.02	20.88	0	0	2,10E+07	→ HIGH
	3-Aug	70	21	0	230705	2.35	18.05	0.01	0	4,49E+07	→ HIGH
	30-Aug	111	32	0	61043	1.19	20.73	0.12	0	1,09E+07	→ HIGH
	19-Sep	21	69	0	234056	16.10	53.2	0.56	0	1,89E+06	→ HIGH
Kintai	30-May	63	47	0	725	0.00	2.61	0	0	0	→ LOW
	27-Jun	64	55	0	31383	0.10	6.47	0	0	0	→ LOW
	23-Jul	6	204	0	886	0.01	3.03	0	0	2,09E+08	→ HIGH
	3-Aug	28	392	0	4289	0.29	4.41	0	0	1,28E+08	→ HIGH
	30-Aug	60	52	0	13872	0.03	5.09	0	0	3,54E+07	→ HIGH
	19-Sep	70	145	0	12062	0.16	8.7	0.56	0	7,73E+06	→ HIGH
Nida CL	30-May	65	498	0	308340	1.17	24.01	0.01	0	0	→ HIGH
	27-Jun	450	114	0	410664	3.22	51.23	1.24	0	0	→ HIGH
	23-Jul	160	227	391	175899	1.06	46.9	0.03	0	4,74E+06	→ HIGH
	3-Aug	85	197	0	305888	3.41	53.23	0.03	0	3,70E+06	→ HIGH
	30-Aug	41	120	0	202938	6.65	158.5	4.31	0	0	→ HIGH
	19-Sep	158	310	0	425267	12.39	135.97	10.32	0	0	→ HIGH

- Overlingė, D.; Kataržytė, M.; Vaičiūtė, D.; Gyraite, G.; Gečaitė, I.; Jonikaitė, E.; Mazur-Marzec, H. Are there concerns regarding cHAB in coastal bathing waters affected by freshwater-brackish continuum? *Mar. Pollut. Bull.* **2020**, *159*, 111500, doi:10.1016/j.marpolbul.2020.111500.

Table S3. Results of log-linear regression

	<i>p</i> (model)	R ² (model)	Chi ² (model)	Parameter	<i>p</i> (var)	Chi ² (var)
log <i>V. cholerae</i>	< 0,0001	0,55	265,404	log <i>E.coli</i>	0,34	0,90
				log Chl <i>a</i>	0,001	11,29
				Salinity	< 0,0001	142,32
				Temperature	< 0,0001	26,96
				pH	0,001	11,21
				Turbidity	0,001	10,41

Chi², *p* and R² values for model of *Vibrio cholerae* abundance are displayed. Also given are *p* and Chi² for all individual variables. N=36. Offset= Sites. Significantly influencing parameters are indicated in bold (*p*<0.05)

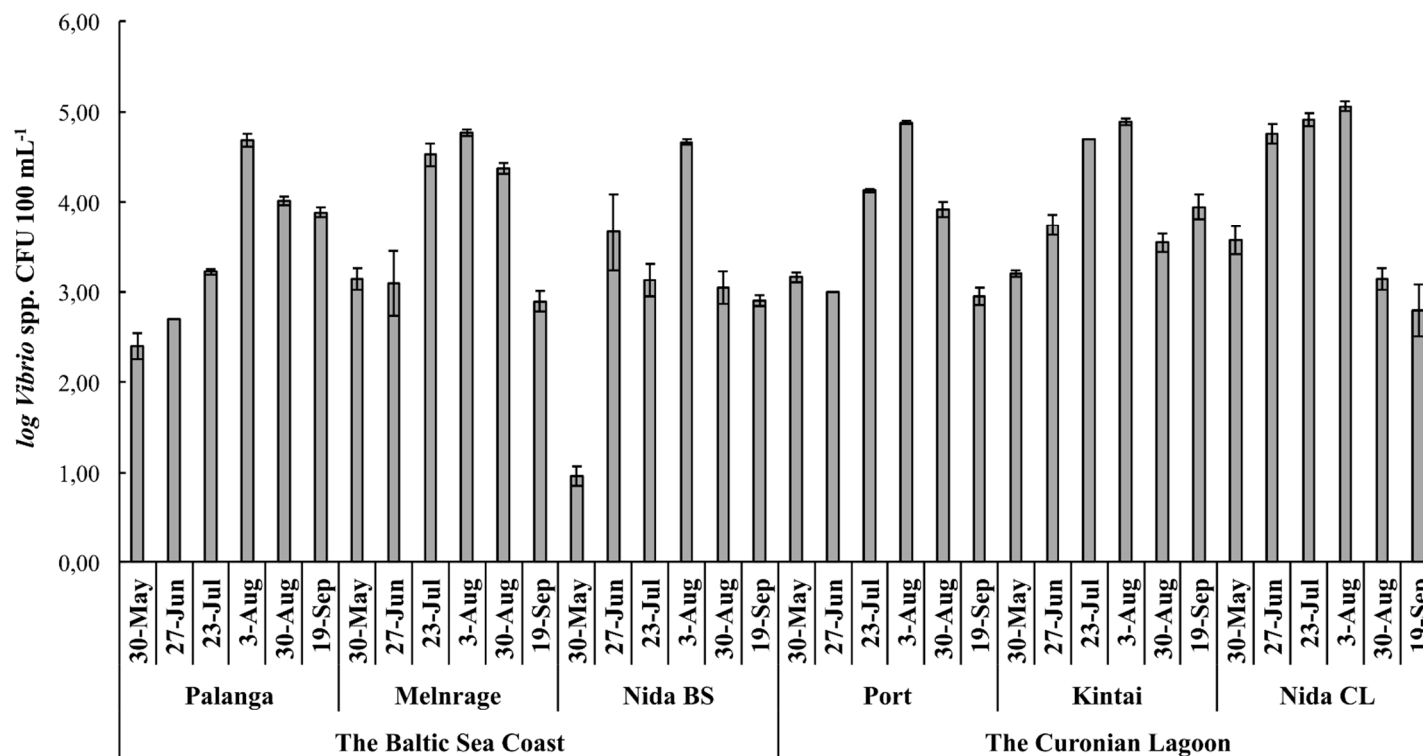


Figure S1. log *Vibrio* spp. concentration in CFU 100 mL⁻¹ obtained in May-September 2018 along the coast of Lithuania and the Curonian Lagoon. Error bars represent the SD (N = 3).