

Table S1: Collection details of *V. parahaemolyticus* strains isolated from the Great Bay Estuary in New Hampshire. Strain numbers in Fig 1 lack the prefix “G.”

Strain(s)	Date isolated	Site ^a	Source	Temperature (°C) ^b	Salinity (ppt) ^b	Dissolved oxygen (mg/L) ^b	trh	tdh
G4	6/27/2007	NI	Water	20.25	25.57	8.53	-	-
G6	6/27/2007	OR	Water	23.77	22.37	7.49	-	-
G7	6/27/2007	NI	Oyster	20.25	25.57	8.53	-	-
G8	6/27/2007	NI	Water	17.14	25.57	8.53	-	-
G10	7/10/2007	NI	Water	17.14	29.36	7.80	-	-
G12	7/10/2007	NI	Oyster	17.14	29.36	7.80	-	-
G23	7/30/2007	FP	Oyster	23.68	25.32	7.93	-	-
G25	7/30/2007	FP	Oyster	23.68	25.32	7.93	-	-
G31	7/30/2007	OR	Oyster	22.85	24.19	7.70	-	-
G43	7/30/2007	NI	Oyster	24.00	27.05	7.90	-	-
G46	7/30/2007	NI	Water	24.00	27.05	6.37	-	-
G61	7/25/2007	NI	Water	21.36	27.20	6.37	-	-
G69	7/25/2007	OR	Oyster	20.38	24.05	7.93	-	-
G74	8/13/2007	OR	Oyster	22.86	27.32	6.68	-	-
G79	8/13/2007	NI	Oyster	21.70	29.73	7.89	-	-
G91	8/27/2007	NI	Oyster	21.70	29.73	5.20	-	-
G95	8/27/2007	NI	Oyster	21.70	29.73	5.20	-	-
G145	9/11/2007	OR	Oyster	18.84	28.59	8.04	-	-
G149	9/11/2007	OR	Water	18.84	28.59	8.04	-	-
G151	9/11/2007	OR	Water	18.84	28.59	8.04	-	-
G227	10/9/2007	OR	Oyster	16.69	31.38	8.76	-	-
G235	10/9/2007	OR	Water	16.69	31.38	9.69	-	-
G237	10/9/2007	NI	Oyster	16.34	31.55	8.85	-	-
G242	10/22/2007	OR	Oyster	14.88	23.63	10.36	-	-
G246	10/22/2007	NI	Water	14.64	26.94	11.14	-	-
G251	10/22/2007	NI	Oyster	14.64	26.94	9.66	-	-
G255	10/22/2007	OR	Water	14.88	23.63	10.36	-	-
G259	11/5/2007	OR	Oyster	8.76	23.41	7.40	-	-
G277	12/5/2007	NI	Oyster	1.91	27.23	7.45	-	-
G300	6/4/2008	NI	Water	17.69	24.59	7.60	-	-
G301	6/4/2008	NI	Water	17.69	24.59	7.60	-	-
G315	6/4/2008	NI	Oyster	17.69	24.59	8.07	-	-
G316	6/4/2008	OR	Oyster	16.17	26.19	7.23	-	-
G317	6/4/2008	OR	Oyster	16.17	26.19	7.23	-	-
G320	6/18/2008	OR	Oyster	20.80	23.60	8.01	-	-
G325	6/18/2008	OR	Oyster	20.80	23.60	8.01	-	-
G335	6/18/2008	NI	Water	19.52	26.76	7.95	-	-
G342	6/18/2008	NI	Oyster	19.52	26.76	7.01	-	-

G348	6/18/2008	OR	Water	20.80	23.60	8.79	-	-
G358	7/1/2008	NI	Oyster	20.51	24.61	9.30	-	-
G360	7/1/2008	NI	Oyster	20.51	24.61	9.30	-	-
G363	7/1/2008	OR	Water	21.96	22.41	6.64	-	-
G365	7/1/2008	OR	Oyster	21.96	22.41	8.19	-	-
G368	7/1/2008	OR	Water	21.96	22.41	6.64	-	-
G377	7/1/2008	NI	Water	20.51	24.61	8.26	-	-
G385	7/16/2008	NI	Water	22.40	27.17	7.60	-	-
G387	7/16/2008	NI	Water	22.40	27.17	7.60	-	-
G389	7/16/2008	OR	Oyster	24.46	25.63	5.65	-	-
G399	7/16/2008	OR	Water	24.46	25.63	5.65	-	-
G401	7/16/2008	OR	Oyster	24.46	25.63	5.65	-	-
G407	7/16/2008	NI	Oyster	22.40	27.17	6.33	-	-
G409	7/16/2008	NI	Oyster	22.40	27.17	6.33	-	-
G412	7/16/2008	OR	Water	24.46	25.63	5.65	-	-
G416	7/16/2008	NI	Water	22.40	27.17	7.60	-	-
G422	7/16/2008	NI	Oyster	22.40	27.17	6.33	-	-
G426	7/16/2008	NI	Oyster	22.40	27.17	6.33	-	-
G430	7/30/2008	NI	Water	22.8	16.64	9.00	-	-
G438	7/30/2008	NI	Oyster	22.8	16.64	6.24	-	-
G441	7/30/2008	NI	Oyster	22.8	16.64	6.24	-	-
G445	7/30/2008	NI	Water	22.8	16.64	9.00	-	-
G451	7/30/2008	OR	Water	22.94	14.26	9.27	-	-
G452	7/30/2008	OR	Water	22.94	14.26	9.27	-	-
G454	7/30/2008	OR	Water	22.94	14.26	9.27	-	-
G461	7/30/2008	OR	Water	22.94	14.26	9.27	-	-
G467	8/5/2008	NI	Water	22.17	12.72	6.94	-	-
G478	7/30/2008	NI	Sediment	22.8	16.64	7.36	-	-
G486	7/30/2008	OR	Sediment	22.94	14.26	7.61	-	-
G487	7/30/2008	NI	Sediment	22.8	16.64	7.36	-	-
G489	8/5/2008	OR	Sediment	22.14	15.84	7.19	-	-
G501	8/5/2008	NI	Sediment	22.17	12.72	7.23	-	-
G507	8/12/2008	OR	Oyster	20.92	8.90	7.15	-	-
G524	8/12/2008	NI	Oyster	20.92	8.90	7.01	-	-
G535	8/21/2008	NI	Water	21.09	16.76	5.65	-	-
G552	8/21/2008	OR	Sediment	21.2	14.7	14.16	-	-
G574	8/28/2008	OR	Water	21.05	20.94	7.53	-	-
G575	8/28/2008	OR	Water	21.05	20.94	7.53	-	-
G594	9/1/2008	NI	Water	20.21	24.59	9.27	-	-
G595	9/1/2008	OR	Water	21.15	24.65	12.82	-	-
G599	9/1/2008	OR	Water	21.15	24.65	12.82	-	-
G623	8/28/2008	NI	Oyster	20.55	22.35	5.4	-	-
G632	9/10/2008	NI	Oyster	20.87	14.15	8.84	-	-

G633	9/10/2008	NI	Water	20.87	14.15	7.75	-	-
G639	9/10/2008	OR	Oyster	21.6	8.4	7.34	-	-
G640	9/10/2008	OR	Oyster	21.6	8.4	7.34	-	-
G645	9/10/2008	OR	Water	21.6	8.4	6.65	-	-
G650	9/19/2008	OR	Sediment	17.25	16.05	7.23	-	-
G653	9/19/2008	OR	Sediment	17.25	16.05	7.23	-	-
G657	9/19/2008	NI	Sediment	17.03	19.86	8.07	-	-
G659	9/19/2008	NI	Sediment	17.03	19.86	8.07	-	-
G660	9/19/2008	NI	Water	17.03	19.86	7.19	-	-
G669	9/24/2008	NI	Oyster	16.37	22.78	6.94	-	-
G677	9/24/2008	OR	Oyster	16.29	20.75	8.13	-	-
G681	9/24/2008	NI	Water	16.37	22.78	7.66	-	-
G683	9/24/2008	OR	Water	16.29	20.75	7.01	-	-
G690	10/1/2008	OR	Sediment	16.47	9.75	8.01	-	-
G691	10/1/2008	OR	Sediment	16.47	9.75	8.01	-	-
G693	10/1/2008	NI	Sediment	16.60	16.09	7.01	-	-
G694	10/1/2008	NI	Sediment	16.60	16.09	7.01	-	-
G702	10/8/2008	NI	Water	13.75	15.65	9.30	-	-
G703	10/8/2008	NI	Oyster	13.75	15.65	7.79	-	-
G707	10/8/2008	OR	Oyster	13.69	13.71	8.79	-	-
G709	10/8/2008	OR	Water	13.69	13.71	14.16	-	-
G710	10/8/2008	OR	Oyster	13.69	13.71	8.79	-	-
G715	10/15/2008	NI	Sediment	14.26	17.41	8.19	-	-
G723	10/15/2008	NI	Water	14.26	17.41	6.64	-	-
G725	10/15/2008	OR	Water	14.16	19.96	5.97	-	-
G727	10/15/2008	OR	Water	14.16	19.96	5.97	-	-
G729	10/29/2008	NI	Sediment	10.60	15.22	5.33	-	-
G731	10/29/2008	NI	Sediment	10.60	15.22	5.33	-	-
G732	10/29/2008	OR	Sediment	10.76	19.69	7.60	-	-
G733	10/29/2008	OR	Sediment	10.76	19.69	7.60	-	-
G734	10/29/2008	OR	Sediment	10.76	19.69	7.60	-	-
G735	10/29/2008	OR	Sediment	10.76	19.69	7.60	-	-
G739	10/29/2008	NI	Water	10.60	15.22	5.41	-	-
G745	11/12/2008	OR	Oyster	8.66	17.44	6.18	-	-
G747	11/12/2008	OR	Water	8.66	17.44	7.61	-	-
G749	11/12/2008	OR	Water	8.66	17.44	7.61	-	-
G752	11/12/2008	OR	Sediment	8.66	17.44	7.36	-	-
G755	11/12/2008	OR	Sediment	8.66	17.44	7.36	-	-
G756	11/12/2008	NI	Sediment	8.97	19.62	6.68	-	-
G760	12/8/2008	OR	Water	1.1	9.9	12.82	-	-
G762	12/8/2008	OR	Sediment	1.1	9.9	9.00	-	-
G766	12/8/2008	NI	Sediment	-0.7	12.3	7.78	-	-
G1216b	9/1/2009	OR	Sediment	20.83	20.79	6.56	-	-

G1217	9/1/2009	OR	Sediment	20.83	20.79	6.56	-	-
G1219	9/1/2009	OR	Sediment	20.83	20.79	6.56	-	-
G1221	9/1/2009	OR	Sediment	20.83	20.79	6.56	-	-
G1226	9/1/2009	OR	Sediment	20.83	20.79	6.56	-	-
G1256	9/1/2009	NI	Sediment	19.95	23.61	6.63	-	-
G1256d	9/1/2009	NI	Sediment	19.95	23.61	6.63	-	-
G1258	9/1/2009	NI	Sediment	19.95	23.61	6.63	-	-
G1282	9/15/2009	OR	Oyster	18.70	23.10	8.00	-	-
G1286	9/15/2009	OR	Oyster	18.70	23.10	8.00	-	-
G1300	9/15/2009	OR	Sediment	18.70	23.10	8.40	-	-
G1304	9/15/2009	OR	Sediment	18.70	23.10	8.40	-	-
G1304b	9/15/2009	OR	Sediment	18.70	23.10	8.40	-	-
G1305	9/15/2009	OR	Sediment	18.70	23.10	8.40	-	-
G1306	9/15/2009	OR	Sediment	18.70	23.10	8.40	-	-
G1318	9/15/2009	OR	Water	18.70	23.10	8.00	-	-
G1319	9/15/2009	OR	Water	18.70	23.10	8.00	-	-
G1334	9/15/2009	NI	Oyster	18.80	25.60	9.80	-	-
G1338	9/15/2009	NI	Oyster	18.80	25.60	9.80	-	-
G1338b	9/15/2009	NI	Oyster	18.80	25.60	9.80	-	-
G1339	9/15/2009	NI	Oyster	18.80	25.60	9.80	-	-
G1340	9/15/2009	NI	Oyster	18.80	25.60	9.80	-	-
G1347	9/15/2009	NI	Oyster	18.80	25.60	9.80	-	-
G1350	9/15/2009	NI	Oyster	18.80	25.60	9.80	-	-
G1355	9/15/2009	NI	Sediment	18.80	25.60	8.60	-	-
G1361	9/15/2009	NI	Sediment	18.80	25.60	8.60	-	-
G1382	10/26/2009	NI	Oyster	10.10	26.30	7.68	-	-
G1383	10/26/2009	NI	Oyster	10.10	26.30	7.68	-	-
G1384	10/26/2009	NI	Oyster	10.10	26.30	7.68	-	-
G1385	10/26/2009	NI	Oyster	10.10	26.30	7.68	-	-
G1386	10/26/2009	NI	Oyster	10.10	26.30	7.68	-	-
G1388	10/26/2009	OR	Oyster	10.10	24.80	7.70	-	-
G1389	10/26/2009	OR	Oyster	10.10	24.80	7.70	-	-
G1390	10/26/2009	OR	Oyster	10.10	24.80	7.70	-	-
G1391	10/26/2009	OR	Oyster	10.10	24.80	7.70	-	-
G1393	10/26/2009	OR	Oyster	10.10	24.80	7.70	-	-
G1394	10/26/2009	OR	Oyster	10.10	24.80	7.70	-	-
G1395	10/26/2009	OR	Oyster	10.10	24.80	7.70	-	-
G1397	10/26/2009	NI	Sediment	10.10	26.30	7.22	-	-
G1399	10/26/2009	NI	Sediment	10.10	26.30	7.22	-	-
G1400	10/26/2009	NI	Sediment	10.10	26.30	7.22	-	-
G1404	10/26/2009	NI	Sediment	10.10	26.30	7.22	-	-
G1405	10/26/2009	NI	Sediment	10.10	26.30	7.22	-	-
G1418	10/26/2009	OR	Sediment	10.10	24.80	7.90	-	-

G1425	10/26/2009	OR	Sediment	10.10	24.80	7.90	-	-
G1440	11/19/2009	NI	Oyster	8.50	19.90	7.28	-	-
G1444	11/19/2009	OR	Oyster	7.90	15.70	8.10	-	-
G1445	11/19/2009	OR	Oyster	7.90	15.70	8.10	-	-
G1449	11/19/2009	NI	Sediment	8.50	19.90	6.70	-	-
G1458	11/19/2009	OR	Sediment	7.90	15.70	6.51	-	-
G1463	11/19/2009	OR	Sediment	7.90	15.70	6.51	-	-
G1465	11/19/2009	OR	Sediment	7.90	15.70	6.51	-	-
G1474	12/7/2009	NI	Oyster	5.00	11.8	6.63	-	-
G1476	12/7/2009	NI	Oyster	5.00	11.8	6.63	-	-
G1477	12/7/2009	NI	Oyster	5.00	11.8	6.63	-	-
G1478	12/7/2009	NI	Oyster	5.00	11.8	6.63	-	-
G1479	12/7/2009	NI	Oyster	5.00	11.8	6.63	-	-
G1480	12/7/2009	OR	Oyster	5.00	10.2	6.56	-	-
G1481	12/7/2009	OR	Oyster	5.00	10.2	6.56	-	-
G1487	12/7/2009	OR	Oyster	5.00	10.2	6.56	-	-
G1488	12/7/2009	NI	Sediment	5.00	11.8	7.00	-	-
G1489	12/7/2009	NI	Sediment	5.00	11.8	7.00	-	-
G1490	12/7/2009	NI	Sediment	5.00	11.8	7.00	-	-
G1491	12/7/2009	NI	Sediment	5.00	11.8	7.00	-	-
G1493	12/7/2009	NI	Sediment	5.00	11.8	7.00	-	-
G1494	12/7/2009	NI	Sediment	5.00	11.8	7.00	-	-
G1503	12/7/2009	OR	Sediment	5.00	10.2	6.56	-	-
G1504	12/7/2009	OR	Sediment	5.00	10.2	6.56	-	-
G1508	12/7/2009	OR	Sediment	5.00	10.2	6.56	-	-

^a NI = Nannie Island; OR = Oyster River; FP = Fox Point

^b Phenotypes were measured at the source of isolation.

Table S2: Sources and virulence characteristics of *V. parahaemolyticus* clinical strains used in this study.

Strain(s)	Taxon Object ID ^a	Source	Serotype	trh	tdh	Reference
RIMD 2210633	637000335	Patient, 1996 (Japan)	O3:K6	-	+	Makino et al., 2003
AQ3810	640963009	Patient, 1983 (Japan)	O3:K6	-	+	Boyd et al., 2008
AN-5034	648276755	Patient, 1998 (Bangladesh)	O4:K68	-	+	Matsumoto et al., 2000
AQ4037	648276756	Patient, 1985 (Maldives)	O3:K6	+	-	Chen et al., 2011

^a Accessed at Integrated Microbial Genomes from JGI (<http://img.jgi.doe.gov/cgi-bin/w/main.cgi>)

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Table S3: Comparison of the GBE *V. parahaemolyticus* populations to other populations worldwide. MLSA details and sequence information was obtained from pubMLST (<http://pubmlst.org/vparahaemolyticus/>).

	Total Isolates	Number of Environmental, Clinical Isolates ^a	Total STs ^b	Number of Clonal Complexes	Number of Unique Isolates	Unique Isolates (%)	Overall Diversity ^c
GBE	192	192, 0	159	15	150	78.13	0.017 (0.002)
<u>Worldwide collection:</u>	806	485, 428	357	12	622	77.17	0.018 (0.002)
China	198	135, 98	142	14	129	65.15	0.016 (0.002)
Thailand	133	96, 49	71	22	49	36.84	0.022 (0.002)
<u>USA:</u>	200	210, 48	99	27	72	36.00	0.016 (0.002)
AK	14	14, 0	11	3	8	57.14	0.015 (0.002)
AL	11	11, 0	9	2	7	63.64	0.008 (0.001)
LA	34	34, 0	27	2	25	73.53	0.012 (0.001)
MS	29	29, 0	17	6	11	37.93	0.012 (0.001)
WA (statewide)	76	44, 32	27	9	18	23.68	0.016 (0.002)
WA (Hood's Canal)	21	12, 8	4	2	3	14.29	0.015 (0.002)

^a Environmental, Clinical

^b ST = sequence type

^c Parentheses are standard error calculated using the Nei-Gojobori method and Jukes-Cantor correction with 500 bootstrap replications.

Table S4: Population details of *V. parahaemolyticus* isolates in the GBE.

Collection Factor	Number of Isolates	Number of STs ^a	Number of Clonal Complexes	Overall Diversity ^b
Year: 2007	29	27	2	0.014 (0.001)
Year: 2008	94	77	10	0.013 (0.001)
Year: 2009	69	54	9	0.013 (0.001)
Site: Nannie Island (NI)	95	81	9	0.013 (0.001)
Site: Oyster River (OR)	95	84	7	0.013 (0.001)
Source: Water	52	47	3	0.014 (0.001)
Source: Sediment	61	49	8	0.013 (0.001)
Source: Oyster	79	73	4	0.013 (0.001)

^a ST = sequence type

^b Parentheses are standard error calculated using the Nei-Gojobori method and Jukes-Cantor correction with 500 bootstrap replications.