

NELHA Water Quality Laboratory

Seawater Return Trench 5

6/24/1992 - 6/30/2025

Site ID	Date (M/D/Y)	Time (2400)	Tide (ft) (cycle)	PO ₄ ³⁻ (μM) (μg P/L)	NO ₃ ⁻ & NO ₂ ⁻ (μM) (μg N/L)	NH ₄ ⁺ & NH ₃ (μM) (μg N/L)	Si (μM) (μg Si/L)	TDP (μM) (μg P/L)	TDN (μM) (μg N/L)	Turbidity (NTU)	Salinity (PSU)	Chloride (mg/L)	Temp. (°C)	pH (unit)	DO (ppm)	Chl a (μg/L)	ORP (mV)
SRT-5s	6/24/92	1150	1.4 High	3.0 92	77.9 1091	0.4 6.2	729 20474	3.0 94	82 1151	0.91	8.36	4625	25.3	8.18		0.1	
SRT-5s	7/31/92	918	0.4 Ebb	3.0 94	73.5 1029		680 19093	3.2 98	76 1067	0.17	10.09	5584	22.7	7.98	8.06	0.1	
SRT-5s	8/31/92	1101	0.8 Ebb	3.7 115	12.7 177	35.2 493.4	79 2229	5.0 155	71 987	0.94	32.33	17898	27.0	7.97	6.54	12.8	
SRT-5s	9/23/92	1138	1.5 Flood	12.9 400	17.1 240	91.6 1283.0	79 2218	13.3 412	122 1704	4.30	34.12	18884	26.7	8.00	5.76	0.6	
SRT-5s	10/28/92	1156	0.6 Low							9.90	27.18	15045	25.8	7.76	1.40	0.6	
SRT-5s	11/18/92	1212	1.5 High	13.0 403	31.7 443	36.5 511.0	169 4746	16.3 505	155 2167	4.20	29.78	16485	26.8	8.24	9.98	22.6	
SRT-5s	12/9/92	1047	0.4 Low	4.5 140	64 895	22.5 315.2	39 1104	6.3 196	62 866	7.30	34.80	19263	23.5	7.94	4.30	11.9	
SRT-5s	1/27/93		NO SAMPLES TAKEN, UNFILTERABLE														
SRT-5s	2/24/93		NO SAMPLES TAKEN, UNFILTERABLE														
SRT-5s	3/22/93	1312	0.8 Flood	1.9 59	3.2 45	5.2 73.0	53 1480	3.8 118	77 1083	4.10	34.62	19165	27.6	8.26	3.45	60.9	
SRT-5s	4/28/93	1027	0.5 High	3.7 113	11.4 159	10.6 147.8	59 1650	4.8 149	51 708	2.00	32.90	18210	24.3	8.30	7.25	22.0	
SRT-5s	5/26/93	1041	0.9 Flood	TAKEN, UNFILTERABLE													
SRT-5s	6/29/93	1036	1.3 Flood	TAKEN, UNFILTERABLE													
SRT-5s	9/20/93	822	2.1 High	4.7 144	106.0 1485	36.0 504.0	54 1512	6.1 190	215 3011	3.20	33.83	18725	19.9	7.67	7.71	78.4	
SRT-5s	10/27/93	1034	0.7 Flood	3.7 114	26.5 371	1.0 13.4	129 3623	4.6 142	63 884	2.50	30.09	16653	25.0	8.14	7.45	2.0	
SRT-5s	2/8/94	1057	0.2 Low	3.6 112	68.7 962	12.6 176.5	151 4241	4.9 152	115 1610	16.90	29.25	16188	20.7	8.03	8.77	20.7	
SRT-5s	6/22/94	1026	0.0 Flood	1.3 39	63.5 889	1.9 26.2	30 840	8.0 248	236 3311	3.90	34.31	18993	22.9	8.38	10.69	126.3	
SRT-5s	8/24/94	1009	0.8 Ebb	4.9 151	77.3 1082	12.5 175.6	101 2840	6.0 184	118 1649	1.22	30.37	16811	24.5	8.08	10.02	12.1	
SRT-5s	10/26/94	944	1.8 High	2.3 72	303.8 4255	34.3 480.3	86 2429	6.2 192	368 5158	3.90	33.06	18298	23.1	8.22	10.98	179.5	
SRT-5s	3/29/95	1124	0.2 Flood	15.0 465	454.8 6370	32.9 461.1	76 2126	16.2 502	494 6918	1.07	33.34	18457	21.9	7.88	8.59	42.6	
SRT-5s	5/10/95	724	-0.2 Low	4.7 146	68.5 959	44.7 625.8	23 652	8.0 248	161 2259	6.50	34.72	19218	22.4	7.82	3.05	152.5	
SRT-5s	9/13/95	732	1.8 High	1.0 32	10.9 152	26.5 371.2	45 1264	3.7 115	102 1427	8.10	34.35	19011	23.2	7.74	2.56	134.6	
SRT-5s	11/6/95	1003	0.4 Low	5.8 181	166.0 2326	40.2 563.6	48 1361	8.6 265	250 3508	5.10	32.91	18214	23.2	7.94	7.74	147.0	
SRT-5s	1/31/96	1013	0.5 Flood	7.7 238	42.3 592	33.5 468.8	34 964	8.7 271	45 623	3.60	31.13	17233	20.8	7.83	6.73	26.9	
SRT-5s	6/17/96	1330	1.0 Flood	3.0 92	46.0 645	5.1 70.9	150 4223	3.4 107	106 1490	1.56	24.91	13787	24.4	8.22	7.08	4.1	
SRT-5s	8/5/96	1253	1.2 Ebb	2.8 86	28.3 396	2.1 29.7	105 2953	3.2 100	34 477	1.20	30.88	17093	25.0	8.49	10.57	10.6	
SRT-5s	10/7/96	1153	1.7 Flood	6.3 195	309.8 4339	4.4 62.0	44 1246	6.6 206	311 4357	1.64	34.50	19096	22.4	8.31	7.36	87.7	
SRT-5s	1/15/97	940	1.3 High	15.5 480	361.7 5066	24.2 339.0	48 1348	17.0 527	405 5676	5.50	34.41	19047	21.9	8.03	7.26	207.0	
SRT-5s	4/30/97	1008	0.7 Flood	0.5 15	0.3 5	0.4 5.6	68 1904	3.1 96	42 590	8.60	24.71	13677	26.5	8.59	10.06	216.0	
SRT-5s	7/14/97	1120	1.6 Flood	0.0 1	0.3 4	0.7 9.1	12 333	0.9 28	23 326	4.10	34.45	19067	27.4	8.66	8.15	172.2	
SRT-5s	10/13/97	1215	1.5 Flood	0.2 6	0 4	0.9 11.9	114 3202	1.3 40	38 535	4.70	34.72	19217	27.6	8.90	9.15	218.5	
SRT-5s			NO SAMPLES TAKEN DUE TO SITE QUARANTINE														
SRT-5s	4/15/98	1118	0.0 Low	1.1 33	5.6 79	6.2 86.1	49 1387	2.1 65	36 510	0.44	33.50	18544	24.6	8.14	6.29	0.8	
SRT-5s	7/15/98	1128	1.2 High	5.0 154	19 268	4.8 67.5	89 2505	6.7 207	59 825	3.10	32.22	17833	25.0	8.39	7.54	24.4	
SRT-5s	10/14/98	1105	1.8 Flood	2.4 74	4.0 55	0.4 5.2	21 598	5.2 161	31 439	1.67	34.89	19313	26.4	8.35	8.41	22.7	
SRT-5s	3/3/99	1045	0.1 Ebb	4.0 123	1.1 16	0.3 4.2	12 339	4.8 150	23 327	2.40	35.12	19440	23.3	8.30	10.99	84.2	
SRT-5s	4/14/99	1028	-0.1 Flood	6.6 204	32.8 459	0.7 9.1	262 7358	14.6 452	151 2114	4.30	24.10	13337	25.0	8.17	8.20	12.8	
SRT-5s	8/24/99	1044	1.0 Flood	1.4 42	2.2 31	2.0 27.5	11 320	2.7 84	32 452	1.86	35.03	19391	27.9	8.31	8.35	10.1	
SRT-5s	10/12/99	1040	0.8 Ebb	1.4 44	0.1 1	0.4 4.9	21 594	5.9 182	33 457	2.10	35.16	19460	25.8	8.32	8.50	10.1	
SRT-5s	3/1/00	1040	0.4 Flood	0.3 8	0.1 1	0.4 5.6	52 1466	2.0 62	22 303	4.40	33.56	18574	23.1	8.29	8.30	10.4	
SRT-5s	4/24/00	1109	0.3 Ebb	0.6 20	0.2 2	0.1 1.7	47 1306	1.7 51	19 262	4.70	33.52	18553	22.6	8.36	8.73	70.4	

NELHA Water Quality Laboratory

Seawater Return Trench 5

6/24/1992 - 6/30/2025

Site ID	Date (M/D/Y)	Time (2400)	Tide (ft) (cycle)	PO ₄ ³⁻ (μM) (μg P/L)	NO ₃ ⁻ & NO ₂ ⁻ (μM) (μg N/L)	NH ₄ ⁺ & NH ₃ (μM) (μg N/L)	Si (μM) (μg Si/L)	TDP (μM) (μg P/L)	TDN (μM) (μg N/L)	Turbidity (NTU)	Salinity (PSU)	Chloride (mg/L)	Temp. (°C)	pH (unit)	DO (ppm)	Chl a (μg/L)	ORP (mV)
SRT-5s	8/1/00	1031	0.0 Low	3.7 116	4.7 66	1.1 15.1	44 1241	5.5 172	32 453	6.40	34.00	18818	25.3	8.08	5.71	107.0	
SRT-5s	12/20/00	1005	1.0 Flood	3.7 114	9.3 130	4.5 63.3	42 1174	6.8 211	54 762	9.20	33.54	18565	22.0	7.89	3.78	201.0	
SRT-5s	2/27/01	1037	0.4 Ebb	3.8 119	11.8 165	5.4 75.4	56 1570	5.9 183	44 622	2.60	33.21	18383	22.5	8.07	7.11	40.0	
SRT-5s	5/9/01	1038	-0.2 Low	3.7 115	8.3 117	0.4 6.0	75 2106	6.1 189	45 633	6.90	32.44	17954	23.5	8.14	8.45	135.9	
SRT-5s	9/11/01	1100	2.1 High	3.3 103	0 1	0.1 1.1	27 768	4.8 149	34 476	7.40	34.48	19088	26.0	8.37	6.53	76.5	
SRT-5s	10/31/01	1137	0.7 Flood	8.8 271	4.4 61	6.2 87.0	31 857	10.8 335	56 783	3.30	34.62	19164	27.3	8.10	7.13	59.2	
SRT-5s	1/15/02	1056	0.4 Ebb	4.0 125	1.9 27	32.0 448.2	33 913	7.7 238	45 626	3.60	34.23	18944	21.8	8.08	6.57	98.0	
SRT-5s	5/28/02	1041	-0.2 Low	6.9 212	5.5 77	0.4 6.0	58 1632	9.1 282	50 698	13.20	33.26	18410	25.8	7.77	2.31	169.4	
SRT-5s	9/17/02	1113	1.6 Flood	3.3 103	10.5 147	7.3 102.2	46 1292	4.7 144	44 610	5.70	33.66	18629	21.6	8.03	7.54	143.1	
SRT-5s	12/16/02	1129	0.6 Flood	2.2 69	6 89	3.5 49.4	58 1623	4.0 123	42 588	6.10	33.59	18595	23.8	8.07	9.45	34.2	
SRT-5s	1/30/03	1130	0.2 Flood	0.6 19	0.6 9	1.1 15.4	61 1713	1.5 45	20 281	7.60	33.61	18601	23.9	8.29	8.64	117.0	
SRT-5s	5/28/03	1035	0.4 Flood	1.0 30	1 14	0.2 2.8	44 1230	3.7 115	33 463	10.50	34.02	18829	21.8	8.12	6.53	98.8	
SRT-5s	9/18/03	1047	1.7 Ebb	4.8 149	13.9 195	7.4 102.9	32 899	6.2 191	41 576	1.01	34.49	19093	23.8	8.07	7.65	13.0	
SRT-5s	11/6/03	1035	0.7 Flood	6.5 201	10 140	12.4 173.4	38 1061	8.3 258	53 741	2.20	34.03	18835	24.2	7.78		22.0	
SRT-5s	11/14/03	1355	0.6 Ebb										24.2		9.42		
SRT-5s	1/29/04	1019	0.9 Ebb	0.1 2	0 1	0.2 2.8	38 1080	1.0 30	16 224	7.70	33.53	18559	22.6	8.23	7.18	128.2	
SRT-5s	6/1/04	959	-0.1 Flood	8.5 263	25 344	3.7 51.1	80 2255	11.0 339	55 770	5.80	31.32	17336	26.2	7.85	5.43	7.5	
SRT-5s	9/29/04	958	0.5 Ebb	3.3 102	6.7 94	10.5 147.1	31 868	4.7 146	36 507	3.76	33.33	18449	24.9	8.13	6.12	45.3	
SRT-5s	12/2/04	1045	1.6 Ebb	1.2 37	2 25	0.7 9.9	32 896	2.5 77	18 258	11.20	33.06	18300	22.7	8.12	4.71	68.1	
SRT-5s	1/19/05	1020	0.6 Flood	7.4 230	17 242	9.1 127.5	55 1532	8.7 271	45 624	4.56	33.52	18552	20.6	7.92	5.63	22.6	
SRT-5s	5/31/05	1015	0.9 Flood	2.9 90	15 207	9.8 136.7	97 2713	4.3 134	46 641	4.8+/-	31.51	17440	23.5	8.18		0.2	
SRT-5s	6/16/05	1000	1.0 Flood	7.4 230	17 242	9.1 127.5	55 1532	8.7 271	44 616				24.2		6.97		
SRT-5s	8/2/05	945	0.4 Flood	4.9 152	15 215	12.3 172.7	96 2688	6.7 209	52 731	4.54+/-	31.58	17479	25.2	8.08	7.12	26.3	
SRT-5s	8/8/05	1010											25.0				
SRT-5s	11/1/05	939	0.9 Flood	5.1 159	6 88	38.6 540.2	23 652	8.1 251	72 1012	12.80	34.70	19205	24.0	7.42	2.45	40.3	
SRT-5s	1/30/06	938	0.5 Ebb	1.4 43	12 170	1.9 27	28 772	1.8 56	18 248	1.33	34.78	19253	19.9	8.08	7.39	3.7	
SRT-5s	5/25/06	950	0.0 Flood	3.4 106	7 102	1.8 25	23 652	5.1 158	33 465	7.29	34.42	19054	25.2	8.07	5.71	110.0	
SRT-5s	7/27/06	1104	0.2 Low	0.4 11	0 3	0.3 4	20 565	1.3 39	12 170	2.52	34.50	19098	25.7	8.29	8.55	27.0	
SRT-5s	10/31/06	940	1.6 Flood	0.8 24	19 263	0.5 7	72 2011	2.1 64	39 549	6.00	32.86	18186	23.0	7.86	5.50	16.5	
SRT-5s	1/17/07	1138	0.3 Flood	2.6 80	16 228	8.2 115	40 1118	3.6 110	36 504	3.10	34.12	18889	22.1	8.03	7.24	14.3	
SRT-5s	6/26/07	1111	1.6 Flood	0.1 5	12 170	4.4 61	45 1261	0.7 23	n/a n/a	5.76	34.17	18916	22.3	7.95	6.85	35.3	
SRT-5s	9/24/07	1307	1.8 Flood	3.6 111	16 219	10.1 141	45 1275	4.6 141	50 704	4.53	34.71	19213	21.2	8.02	8.00	8.2	
SRT-5s	12/11/07	1105	0.8 Ebb	0.7 21	9 120	13.6 190	18 500	2.3 71	44 618	4.23	34.46	19075	21.2	8.04	5.62	35.5	
SRT-5s	1/29/08	1339	0.2 Ebb	0.7 22	5 64	3.6 50	17 466	2.5 78	41 573	3.37	34.75	19235	18.7	7.98	8.83	85.4	
SRT-5s	2/28/08	1023	0.4 Ebb	0.7 23	11 152	5.6 79	45 1255	1.8 57	40 562	3.12	34.88	19307	18.6	7.81	6.16	114.8	
SRT-5s	4/2/08	1345	1.1 High	1.7 52	10 143	0.2 3	41 1147	2.7 84	113 1588	1.59	34.86	19296	20.7	8.10	8.40	28.2	
SRT-5s	4/16/08	1415	1.3 Flood	1.7 53	20 273	0.2 3	46 1283	2.3 70	48 676	2.19	34.77	19246	18.2	7.97	9.15	34.9	
SRT-5s	5/23/08	1050	enched Dry														
SRT-5s	6/12/08	1100	enched Dry														
SRT-5s	7/18/08	958	enched Dry														
SRT-5s	8/13/08	1101	1.2 Flood	2.5 77	33 464	4.2 59	81 2274			1.09	34.85	19290	23.6	7.97	5.08	7.0	

NELHA Water Quality Laboratory

Seawater Return Trench 5

6/24/1992 - 6/30/2025

Site ID	Date (M/D/Y)	Time (2400)	Tide (ft) (cycle)	PO ₄ ³⁻ (μM) (μg P/L)	NO ₃ ⁻ & NO ₂ ⁻ (μM) (μg N/L)	NH ₄ ⁺ & NH ₃ (μM) (μg N/L)	Si (μM) (μg Si/L)	TDP (μM) (μg P/L)	TDN (μM) (μg N/L)	Turbidity (NTU)	Salinity (PSU)	Chloride (mg/L)	Temp. (°C)	pH (unit)	DO (ppm)	Chl a (μg/L)	ORP (mV)
SRT-5s	9/4/08	1151	1.0 Ebb	2.1 65	31 440	4.1 57	76 2138	1.6 51	22 314	1.22	34.67	19191	13.8	7.67	8.15	6.9	
SRT-5s	10/20/08	1144	1.8 Ebb	1.4 42	7 105	10.6 148	21 600			1.76	35.06	19407	24.9	7.83	7.10	38.0	
SRT-5s	11/6/08	1055	1.8 High	0.4 11	7 95	0.1 2	22 622	0.8 24	26 369	1.37	35.25	19512	22.6	8.27	7.21	6.8	
SRT-5s	1/2/09	1115	0.7 Ebb	1.4 44	2 27	21.3 299	7 185	4.0 125	60 835	4.63	35.34	19562	25.7	8.12	4.75	89.3	
SRT-5s	1/12/09	1057	0.6 Ebb	0.3 9	1 13	13.5 189	2 67	0.3 8	42 584	2.13	34.82	19274	25.3	8.34	5.94	28.7	
SRT-5s	2/20/09	1005	0.3 Low	0.2 6	38 526	3.2 46	4 101	1.2 38	42 591	5.20	35.83	19833	22.3	8.17	6.86	17.7	
SRT-5s	3/30/09	1412	0.1 Flood	0.4 13	2 31	8.2 115	16 440	23.8 736	29 403	1.97	34.83	19279	25.0	8.12	6.26	19.9	
SRT-5s	4/27/09	1441	0.3 Flood	0.2 5	4 58	3.9 54	30 854	1.6 51	44 614	4.12	35.42	19606	28.0	8.61	5.92	20.9	
SRT-5s	5/14/09	1048	0.4 Flood	0.8 26	2 25	6.2 86	6 173	1.3 40	25 347	0.31	35.26	19517	26.2	8.15	4.82	2.1	
SRT-5s	6/10/09	912	0.2 Ebb	0.7 21	10 142	5.7 80	7 204	1.5 47	31 428	3.08	35.39	19589	27.5	9.09	4.33	4.6	
SRT-5s	7/10/09	845	0.5 Ebb	1.4 42	1 13	11.1 155	8 214	2.5 76	20 278	6.36	35.61	19711	26.4	8.16	5.33	2.3	
SRT-5s	8/27/09	1036	1.8 Flood	2.1 64	2 26	1.4 20	21 583	4.3 132	45 626	8.47	35.50	19650	28.1	8.32	7.50	3.9	
SRT-5s	9/17/09	1043	0.3 Flood	1.6 50	10 134	0.3 5	40 1128	2.9 90	42 591	5.98	35.45	19622	22.2	7.73	6.73	6.3	
SRT-5s	10/22/09	940	1.6 Ebb	1.0 32	24 332	1.6 22	47 1309	1.6 49	34 472	3.64	35.19	19479	17.5	7.75	7.48	33.7	
SRT-5s	11/19/09	918	1.7 Ebb	2.8 86	23 321	23.6 330	54 1529	3.0 93	59 824	5.72	34.98	19362	17.9	7.62	6.55	4.9	
SRT-5s	12/7/09	810	2.0 High	1.0 32	22 308	12.4 174	68 1923	1.8 55	48 666	2.92	34.88	19307	17.4	7.83	6.41	135.4	
SRT-5s	1/4/10	1353	0.0 Low	5.8 181	26 365	25.4 356	58 1637	6.7 207	66 923	19.90	34.70	19207	15.9	7.91	8.19	137.0	
SRT-5s	2/2/10	1310	-0.2 Low	1.1 35	27 375	9.4 132	51 1419	1.6 49	43 599	3.50	34.62	19163	20.3	7.92	9.31	134.6	
SRT-5s	3/10/10	1230	0.7 High	1.3 41	7 93	13.4 188	16 446	1.9 60	36 503	4.49	35.34	19562	24.7	8.16	6.95	89.8	
SRT-5s	4/5/10	930	0.4 High	0.7 21	9 125	9.7 136	43 1212	1.2 38	31 435	3.45	35.17	19468	22.1	8.10	4.95	92.8	
SRT-5s	5/12/10	1210	1.5 Flood	0.5 17	10 141	11.7 164	41 1143	2.1 66	45 632	6.63	34.63	19169	25.2	8.29	6.94	77.0	
SRT-5s	6/21/10	930	1.3 Flood	1.2 39	14 203	15.8 221	82 2315	2.6 80	49 686	6.42	32.75	18128	23.0	7.94	5.56	101.8	
SRT-5s	7/12/10	917	-0.1 Low	2.0 63	8 118	19.6 274	23 644	4.4 135	57 794	7.86	35.00	19373	23.8	7.53	3.72	114.4	
SRT-5s	8/2/10	1150	1.3 Ebb	1.0 32	10 146	26.6 372	39 1103	3.6 112	68 949	7.13	34.84	19285	24.5	7.74	6.94	132.9	
SRT-5s	9/2/10	1028	1.7 Flood	1.6 51	6 81	0.7 10	25 703	3.2 98	34 469	8.15	35.24	19506	25.6	7.99	3.81	93.0	
SRT-5s	10/19/10	1039	1.0 Flood	1.4 44	11 160	13.6 190.0	30 834	4.4 135	57 804	6.04	34.96	19351	23.0	7.81	7.07	40.1	
SRT-5s	11/3/10	919	0.5 Low	0.1 3	9 120	11.4 160.0	33 913	1.6 48	37 517	5.55	34.74	19229	21.2	7.78	6.56	93.1	
SRT-5s	12/6/10	907	0.9 Ebb	1.0 31	7 97	15.8 221.0	31 861	3.0 92	44 622	3.13	34.64	19174	21.4	8.05	6.89	63.0	
SRT-5s	1/26/11	931	0.9 High	2.8 86	13 183	27.3 383.0	31 858	3.3 101	56 778	4.10	34.96	19351	27.0	7.71	5.07	29.8	
SRT-5s	4/13/11	955	0.3 Flood	3.2 98	7 95	55.5 777.1	47 1308	4.6 143	80 1123	5.31	33.38	18477	26.4	7.59	0.53	18.8	
SRT-5s	7/18/11	842	0.8 Ebb	2.9 89	0 6	24.7 346.6	38 1078	7.2 222	66 921	6.81	34.74	19229	22.6	7.15	0.11	27.9	
SRT-5s	10/5/11	930	1.4 Flood	2.5 77	7 98	50.4 706.6	38 1059	4.5 139	82 1142	5.71	35.14	19451	22.6	7.14	1.01	46.2	
SRT-5s	1/17/12	803	0.7 Flood	3.2 100	9 122	55.8 781.8	25 712	5.0 154	89 1243	4.7	34.95	19346	23.2	7.52	0.05	49.0	
SRT-5s	4/19/12	1019	0.3 Flood	4.2 131	0 6	60.5 846.9	16 446	6.1 190	85 1189	6.32	35.21	19490	26.2	7.45	0.02	71.6	
SRT-5s	7/9/12	1140	1.1 Ebb	3.7 116	2 32	39.0 546.7	32 906	3.3 103	98 1376	9.67	35.34	19562	26.7	7.54	0.09	32.8	
SRT-5s	7/16/12	1354	2.1 Flood	3.7 115	14 197	46.7 654.0	42 1180	21.1 652	170 2388	36.20	34.48	19086	27.9	7.76	5.42	50.1	
SRT-5s	9/26/12	1103	1.2 Flood	3.8 118	3 38	47.0 658.6	17 485	17.8 551	148 2073	9.93	35.25	19512	25.2	7.47	5.32	53.0	
SRT-5s	10/8/12	1018	1.7 Flood	2.3 70	4 52	47.1 660.0	23 644	3.9 122	70 984	7.76	35.17	19468	25.0	7.55	7.98	98.1	
SRT-5s	1/3/13	1020	1.2 Ebb	13.2 408	0 7	136.6 1913.0	10 284	15.5 479	167 2337	14.40	35.89	19866	24.5	7.07	0.51	53.7	
SRT-5s	4/1/13	1002	0.4 Ebb	4.4 136	8 106	31.6 442.9	61 1716	5.8 181	69 966	12.90	33.74	18676	23.3	7.51	6.76	81.6	
SRT-5s	7/8/13	926	-0.1 Low	0.5 14	6 78	19.2 269.3	41 1165	2.2 68	73 1024	9.63	34.85	19290	23.9	7.60	7.06	52.7	

NELHA Water Quality Laboratory

Seawater Return Trench 5

6/24/1992 - 6/30/2025

Site ID	Date (M/D/Y)	Time (2400)	Tide (ft) (cycle)	PO ₄ ³⁻ (μM) (μg P/L)	NO ₃ ⁻ & NO ₂ ⁻ (μM) (μg N/L)	NH ₄ ⁺ & NH ₃ (μM) (μg N/L)	Si (μM) (μg Si/L)	TDP (μM) (μg P/L)	TDN (μM) (μg N/L)	Turbidity (NTU)	Salinity (PSU)	Chloride (mg/L)	Temp. (°C)	pH (unit)	DO (ppm)	Chl a (μg/L)	ORP (mV)
SRT-5s	10/10/13	1030	1.8 Ebb	3.0 92	14 191	39.3 550.6	42 1166	5.0 156	83 1165	6.06	34.90	19318	21.8	7.64	7.12	64.0	
SRT-5s	1/22/14	838	0.7 High	13.0 404	10 143	26.5 371.0	37 1028	14.5 449	52 724	1.36	35.03	19390	20.2	7.38	6.90	67.3	
SRT-5s	4/9/14	1031	0.7 Flood	3.2 99	16 227	33.0 462.2	34 960	5.1 158	62 875	7.01	34.99	19368	21.7	7.37	6.62	48.8	
SRT-5s	7/16/14	1035	0.5 Ebb	1.8 57	13 187	47.8 669.4	34 953	3.0 94	72 1008	2.83	34.87	19301	23.1	7.41	6.54	38.5	
SRT-5s	10/15/14	1203	1.5 Ebb	4.4 136	28 386	67.8 949.3	371 10430	5.7 176	110 1545	3.60	35.33	19556	24.5	7.40	5.93	41.2	
SRT-5s	2/3/15	845	0.5 Ebb	16.9 522	175 2446	9.4 132.0	50 1414	8.1 250	0 3	31.20	35.09	19423	22.2	7.25	0.09	30.2	
SRT-5s	5/5/15	1621	2.0 High	13.8 428	73 1023	66.2 927.0	44 1233	14.1 438	176 2462	3.38	34.45	19069	20.9	7.28	6.34	24.7	
SRT-5s	7/10/15	1052	1.4 Flood	5.2 162	20 284	53.0 742.6	49 1362	13.1 404.5	137 1922	5.06	34.66	19185	21.3	7.35	7.01	42.9	
SRT-5s	11/5/15	958	1.4 Flood	6.8 212	22 307	48.6 681.0	55 1550	6.4 197	85 1186	4.34	33.75	18682	20.3	7.38	7.19	10.9	
SRT-5s	1/19/16	946	-0.2 Low	5.0 156	23 325	35.4 495.8	49 1375	5.7 177	90 1254	6.04	34.07	18859	19.7	7.43	6.82	41.6	
SRT-5s	4/12/16	1225	0.1 Low	3.1 95	19 259	41.1 575.8	44 1232	6.5 201	72 1013	9.31	34.88	19307	19.8	7.54	7.10	58.4	
SRT-5s	7/14/16	1105	1.4 Flood	3.3 103	26 361	37.7 527.8	51 1424	4.3 134	80 1125	8.18	34.62	19163	19.0	7.70	8.04	46.5	
SRT-5s	10/20/16	1025	1.3 Ebb	7.6 234	41 579	46.0 644.0	76 2132	8.4 259	121 1699	5.83	35.00	19373	19.5	7.71	7.46	41.6	
SRT-5s	2/23/17	1100	0.6 Flood	3.0 92	8 108	43.4 607.2	9 247	4.0 125	61 848	7.28	34.71	19213	24.3	7.52	5.94	86.7	
SRT-5s	4/10/17	1031	0.0 Flood	3.4 105	12 166	34.0 476.4	30 845	4.0 125	56 787	9.01	35.05	19401	21.2	7.47	6.66	23.5	
SRT-5s	7/13/17	1123	0.2 Low	4.2 130	13 180	65.8 922.2	34 954	8.6 266	108 1516	8.46	35.05	19401	22.6	7.63	5.19	47.4	
SRT-5s	10/12/17	1106	2.0 High	9.0 278	21 294	141.8 1986.0	44 1237	10.2 315	122 1716	10.20	34.51	19102	21.4	7.33	6.19	72.1	
SRT-5s	1/11/18	1141	1.2 High	6.5 202	52 722	71.1 995.3	41 1162	7.7 239	106 1482	6.96	34.12	18886	23.9	7.54	6.28	30.2	
SRT-5s	4/24/18	1109	0.9 Flood	3.0 93	5 67	47.9 671.4	37 1032	3.8 117	69 964	7.18	33.89	18759	24.8	7.55	6.06	40.0	
SRT-5s	7/12/18	1047	0.3 Flood	4.3 134	5 70	46.0 643.7	19 533	4.9 153	68 959	3.80	34.48	19086	25.5	7.63	6.51	68.1	
SRT-5s	10/11/18	1020	0.5 Low	4.2 131	5 73	51.1 715.8	20 564	5.6 172	75 1049	11.30	34.74	19229	26.6	7.43	4.80	82.9	
SRT-5s	1/15/19	1020	1.3 High	5.0 155	3 36	52.4 734.1	10 281	6.1 188	66 929	7.70	35.20	19484	24.2	7.59	6.22	68.6	
SRT-5s	4/25/19	917	0.6 High	4.3 133	3 45	44.5 623.0	25 689	5.3 164	61 857	8.78	34.99	19368	25.3	7.39	6.41	51.0	
SRT-5s	7/17/19	1006	0.0 Low	2.9 90	8 118	23.9 334.6	37 1028	3.5 110	37 517	4.04	35.74	19783	22.4	7.74	6.97	32.7	
SRT-5s	10/8/19	1041	1.6 Flood	4.8 148	29 410	38.8 543.6	28 800	5.7 177	81 1141	8.08	34.78	19252	25.9	7.71	7.21	56.5	
SRT-5s	1/9/20	1027	0.4 Low	6.5 200	37 522	45.0 630.0	20 570	7.2 224	95 1328	6.14	34.97	19357	23.0	7.56	6.55	19.6	
SRT-5s	5/21/20	1150	0.7 Flood	0.8 25	7 102	14.0 196.0	23 635	1.4 44.4	35 496	7.44	65.95	36505	25.5	7.81	6.30	148.8	
SRT-5s	7/14/20	1104	0.4 High	2.5 77	21 293	44.2 619.0	17 471	3.5 108	72 1005	7.94	34.20	18931	26.2	7.51	5.98	68.0	
SRT-5s	10/14/20	1053	0.4 Flood	2.8 86	28 387	16.4 229.9	37 1029	3.1 95	59 829	3.16	35.05	19401	21.7	7.64	7.54	38.6	
SRT-5s	1/14/21	1009	0.6 Ebb	0.9 26	15 213	26.4 369.4	13 367	1.6 50	72 1006	7.33	35.47	19634	24.5	7.47	6.74	119.6	
SRT-5s	4/13/21	1155	0.1 Flood	1.2 36	9 119	15.3 214.4	5 146	1.6 49.2	49 682	4.13	35.67	19744	24.8	7.69	7.07	49.3	
SRT-5s	7/1/21	1453	0.7 Low	1.4 43	9 127	19.2 268.7	16 453	2.1 64	57 800	4.47	35.43	19611	27.0	7.73	6.31	74.5	
SRT-5s	10/19/21	1414	1.7 High	2.9 91	20 279	43.8 614.0	5 127	3.6 112	98 1374	11.3	35.68	19750	27.7	7.47	6.36	90.3	
SRT-5s	2/3/22	924	0.8 Ebb	1.9 59	8 113	36.7 514.0	7 185	3.2 98	80 1122	7.74	34.74	19229	23.9	7.21	5.22	48.7	
SRT-5s	4/12/22	1034	0.7 Flood	2.4 74	4 60	54.5 764.0	5 149	3.5 109.2	95 1330	7.46	35.13	19445	26.4	7.30	5.89	98.5	
SRT-5s	7/21/22	1113	1.5 High	0.5 17	3 43	25.8 362.0	9 262	1.2 39	53 748	10.90	35.05	19401	24.9	7.54	6.69	122	
SRT-5s	10/12/22	953	0.2 Low	7.1 221	5 68	72.6 1016.8	11 315	8.7 270	119 1670	2.87	35.00	19373	26.8	7.10	5.16	56.2	
SRT-5s	1/17/23	1010	1.0 High	3.9 121	11 156	28.9 405.3	5 127	4.4 136	59 830	5.10	35.10	19429	24.1	7.22	4.93	45.2	
SRT-5s	4/21/23	1023	-0.2 Flood	4.8 150	8 108	41.1 575.0	5 141	6.5 200.1	103 1442	4.48	34.58	19141	26.4	7.61	6.85	14.5	
SRT-5s	7/12/23	1554	1.5 Ebb	7.7 238	5 64	41.9 587.0	12 344	9.5 295	109 1526	3.46	34.94	19340	27.0	7.80	6.76	76.3	
SRT-5s	10/24/23	1524	1.5 Ebb	1.5 47	3 45	7.6 106.1	21 599	2.1 65	36 511	4.75	24.55	13589	26.2	7.88	7.42	45.4	

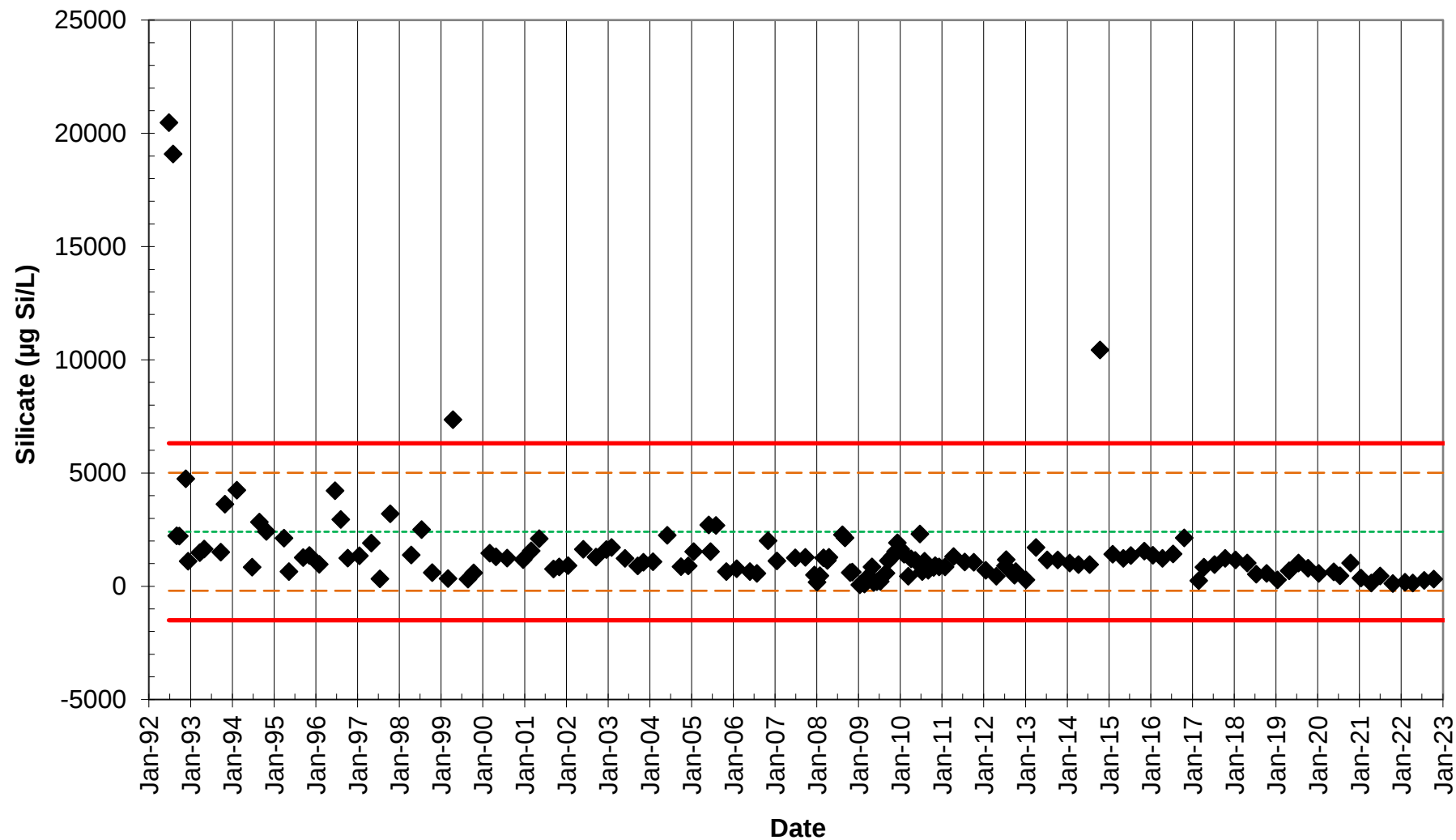
NELHA Water Quality Laboratory

Seawater Return Trench 5

6/24/1992 - 6/30/2025

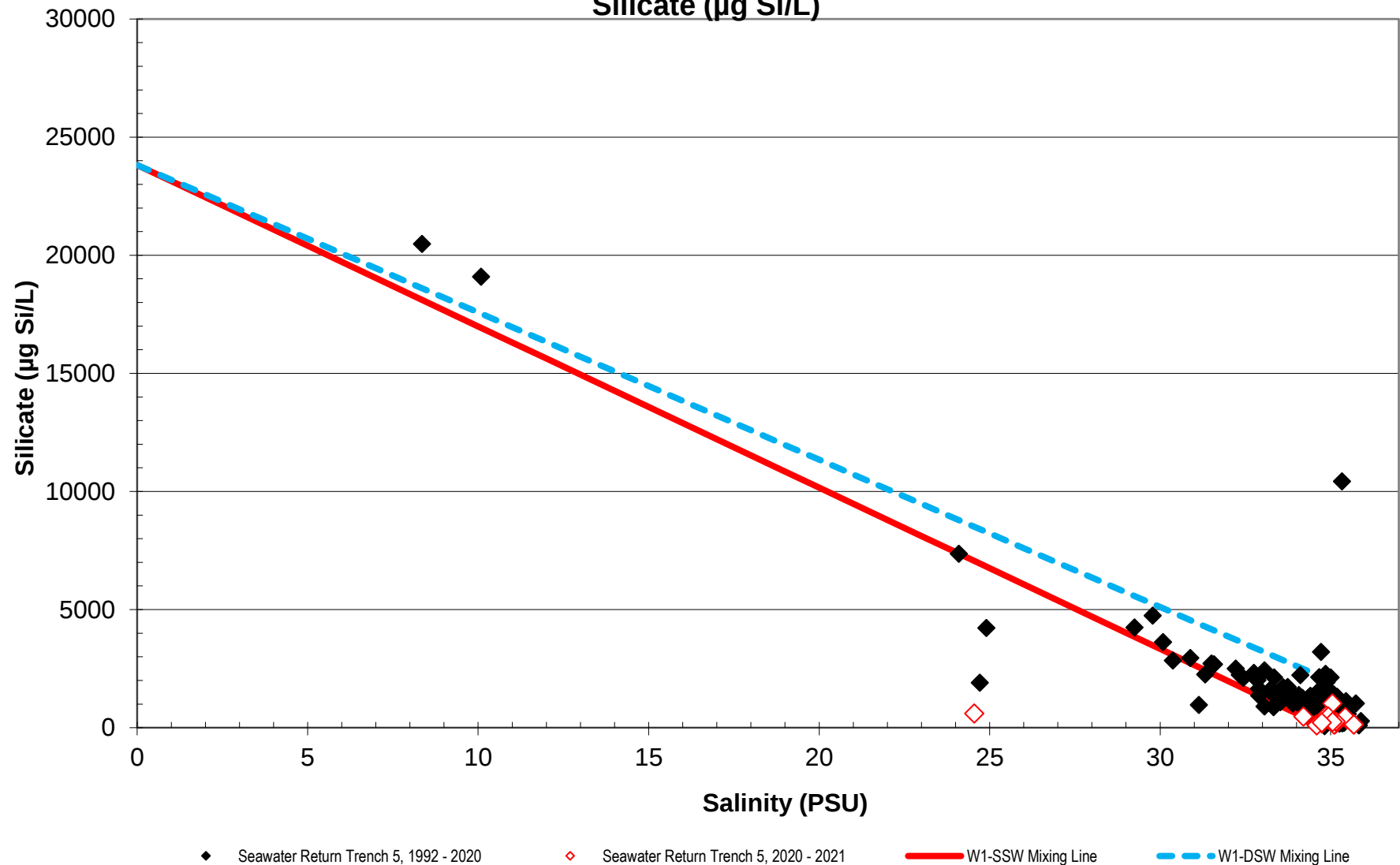
Site ID	Date (M/D/Y)	Time (2400)	Tide (ft) (cycle)	PO ₄ ³⁻ (μM) (μg P/L)	NO ₃ ⁻ & NO ₂ ⁻ (μM) (μg N/L)	NH ₄ ⁺ & NH ₃ (μM) (μg N/L)	Si (μM) (μg Si/L)	TDP (μM) (μg P/L)	TDN (μM) (μg N/L)	Turbidity (NTU)	Salinity (PSU)	Chloride (mg/L)	Temp. (°C)	pH (unit)	DO (ppm)	Chl a (μg/L)	ORP (mV)
SRT-5s	1/11/24	1501	1.0 High	1.3 41	3 37	15.4 215.7	4 103	2.1 66	40 563	4.21	34.59	19146	25.3	7.89	7.02	103.3	144.9
SRT-5s	4/2/24	1505	0.1 Low	1.4 43	5 76	3.6 51.0	9 256	3.0 93.3	55 773	6.03	35.15	19456	26.6	8.02	6.94	127.1	161.5
SRT-5s	7/24/24	1026	0.1 Low	0.7 21	3 36	2.5 35.3	18 501	1.1 34	32 445	4.93	34.87	19301	25.5	7.69	7.25	76.8	171.3
SRT-5s	10/4/24	1011	0.5 Low	1.0 30	4 58	18.2 255.3	17 474	1.4 44	43 605	4.31	34.93	19335	24.8	7.62	7.15	63.4	275.0
SRT-5s	1/7/25	935	1.4 High	0.4 13	1 13	2.3 32.2	9 248	0.9 29	23 318	2.68	35.06	19407	24.5	7.62	6.41	102.4	250.4
SRT-5s	4/1/24	1053	-0.3 Low	3.5 108	31 436	26.5 371.8	7 210	4.1 128.0	75 1045	2.45	34.74	19229	25.9	7.26	6.53	23.5	254.4
Mean			0.81	3.48 108	26.0 365	22.26 312	52 1467	5.24 162.4	74.2 1040	5.72	33.9	18766	23.7	7.88	6.50	59.6	209.6
Std. Dev.			1	3.23 100	59.8 837	23.96 336	85 2400	4.08 126.3	67.5 946	4.55	4.3	2356	2.57	0.37	2.18	49.4	56.42
Maximum			2.10	16.9 522	455 6370	141.8 1986	729 20474	23.8 736	494 6918	36.2	66.0	36505	28.1	9.09	11.2	218.5	275.0
Minimum			-0.32	0.03 1	0.04 1	0.08 1.12	2.40 67.3	0.3 8.0	0.21 3	0.17	8.4	4625	13.84	7.07	0.02	0.1	144.9
n			162	159 159	159 159	158 158	159 159	157 157	156 156	159	161.0	161	164	161	160	161	6

Seawater Return Trench 5 Silicate ($\mu\text{g Si/L}$)

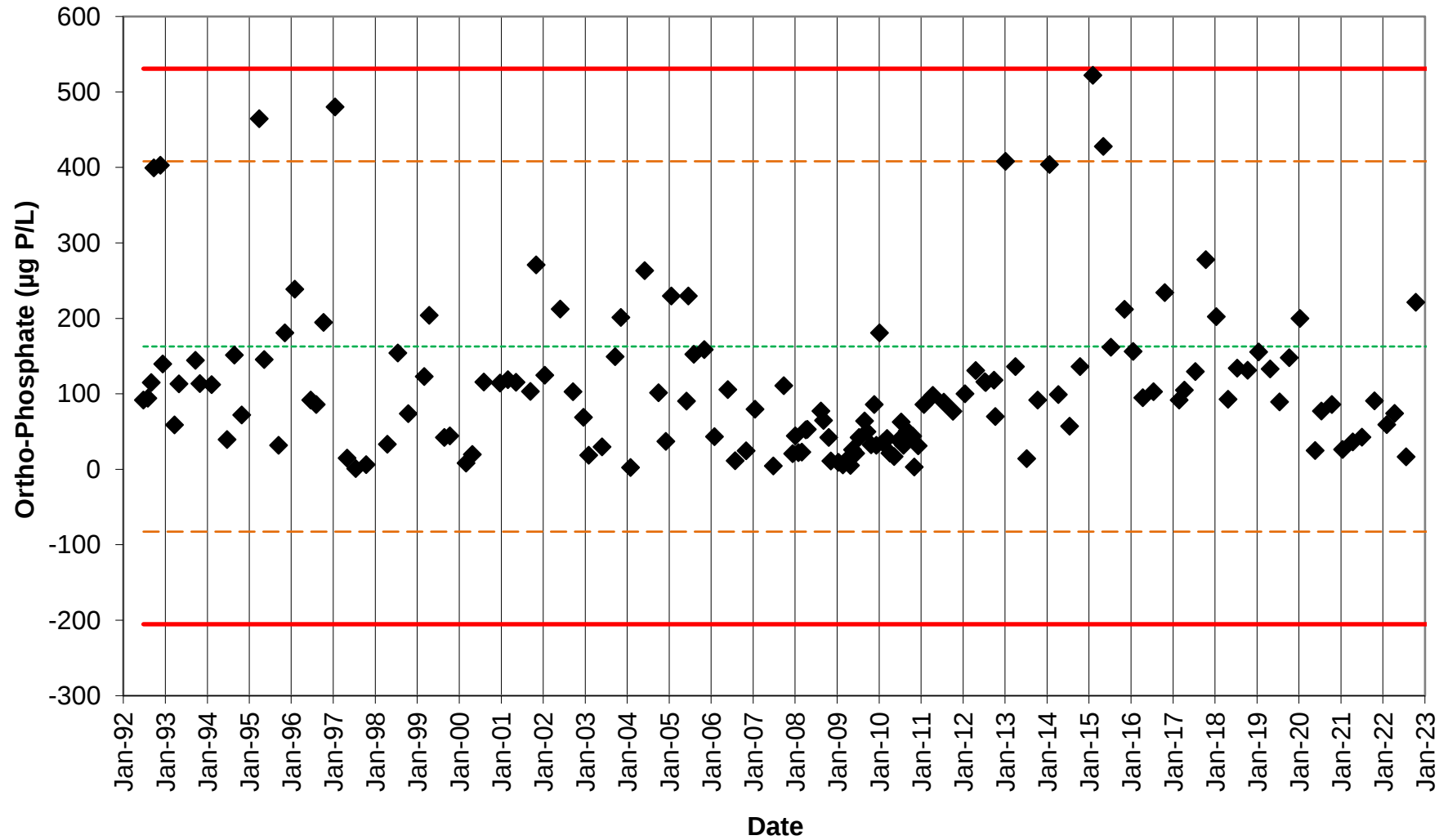


◆ SRT-5s (n=159, Control Chart 1997 - 2008) — +3s (6314 $\mu\text{g Si/L}$) - - +2s (5012 $\mu\text{g Si/L}$) - - - Mean (2407 $\mu\text{g Si/L}$) - - -2s (-197 $\mu\text{g Si/L}$) — -3s (-1499 $\mu\text{g Si/L}$)

Seawater Return Trench 5
Conservative Mixing Model
Silicate ($\mu\text{g Si/L}$)

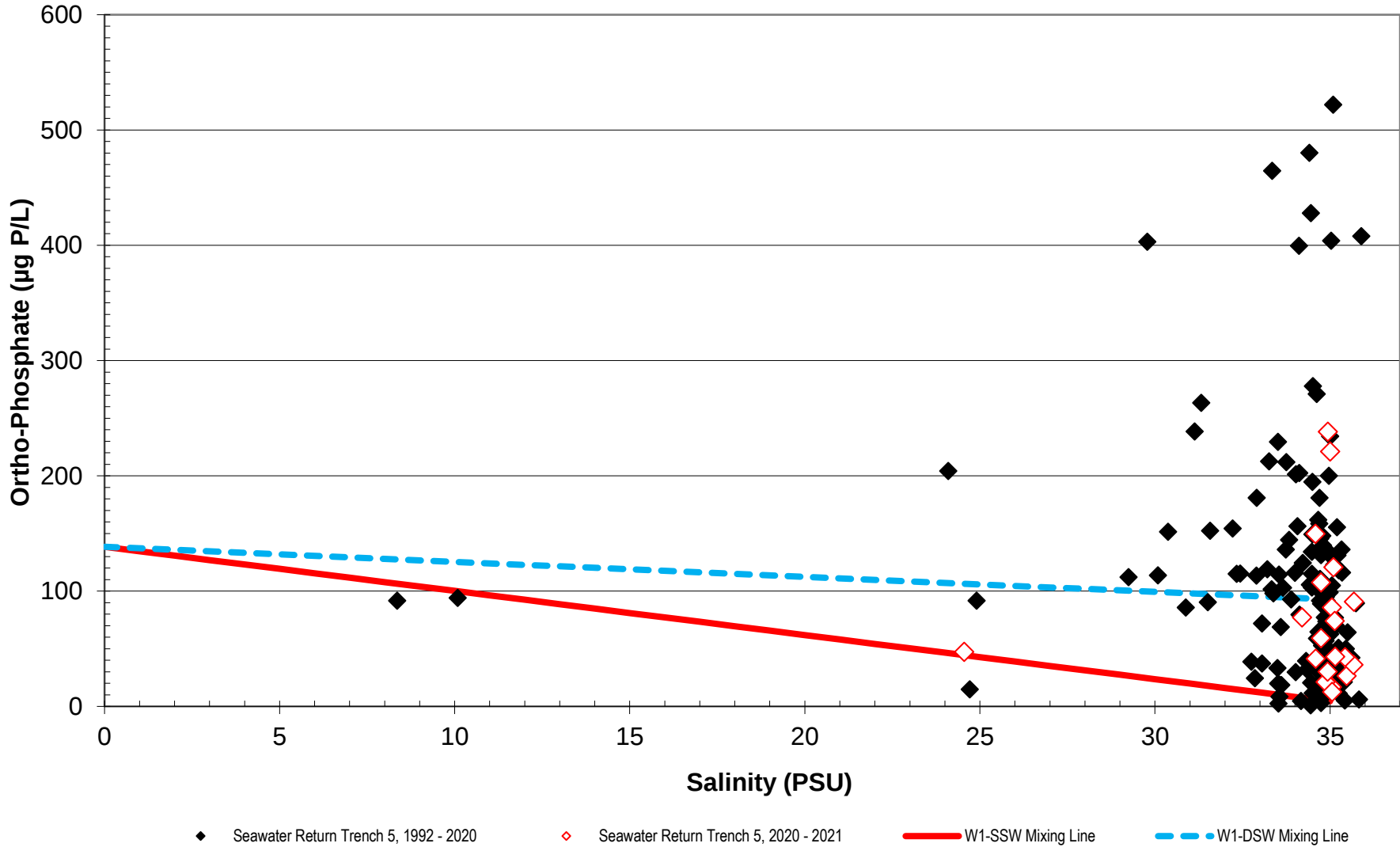


Seawater Return Trench 5 Ortho-Phosphate ($\mu\text{g P/L}$)

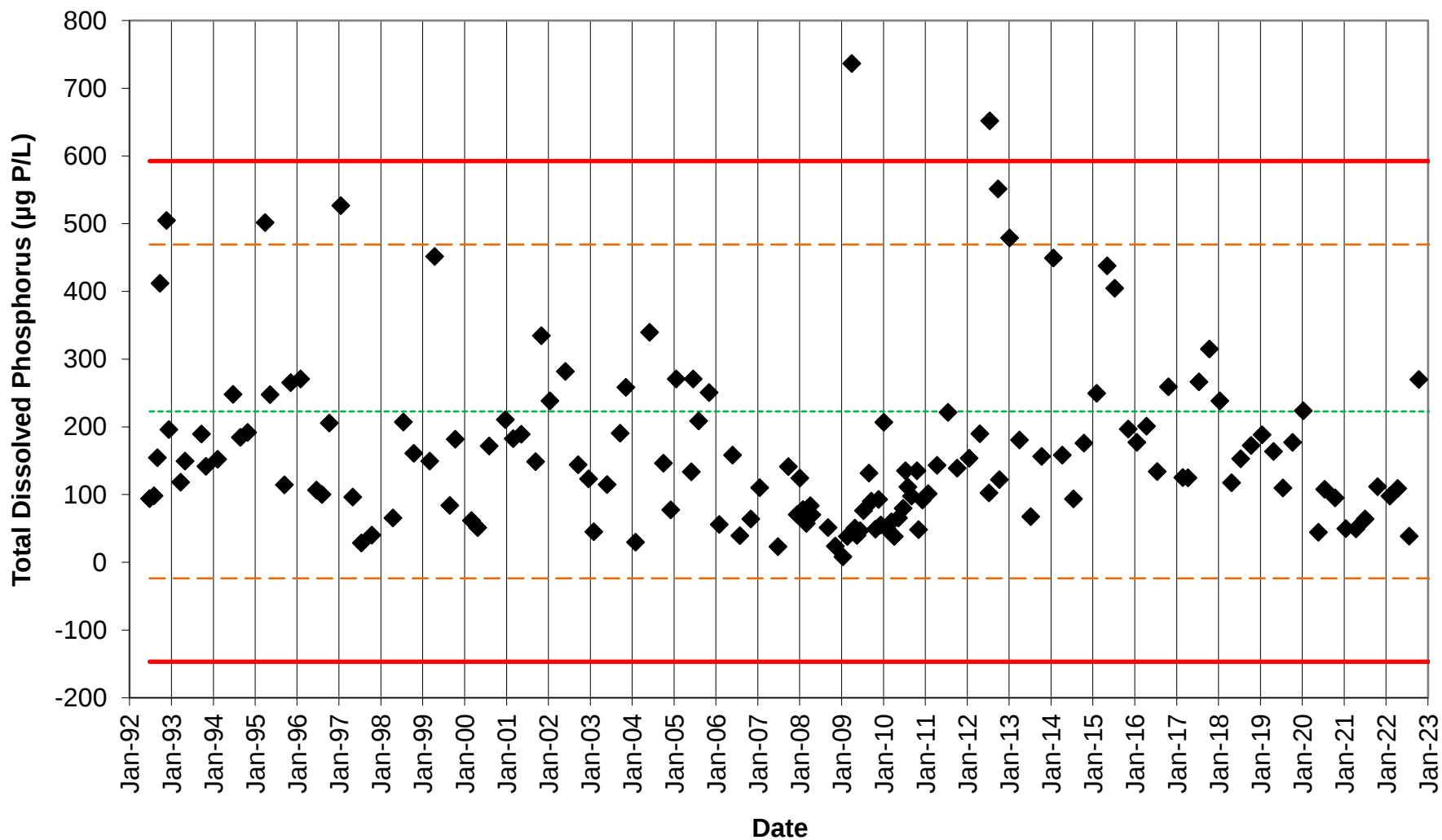


◆ SRT-5s (n=159, Control Chart 1997 - 2008) +3s (531 $\mu\text{g P/L}$) +2s (408 $\mu\text{g P/L}$) - - - - Mean (163 $\mu\text{g P/L}$) - - - - -2s (-83 $\mu\text{g P/L}$) - - - - -3s (-205 $\mu\text{g P/L}$)

Seawater Return Trench 5
Conservative Mixing Model
Ortho-Phosphate ($\mu\text{g P/L}$)

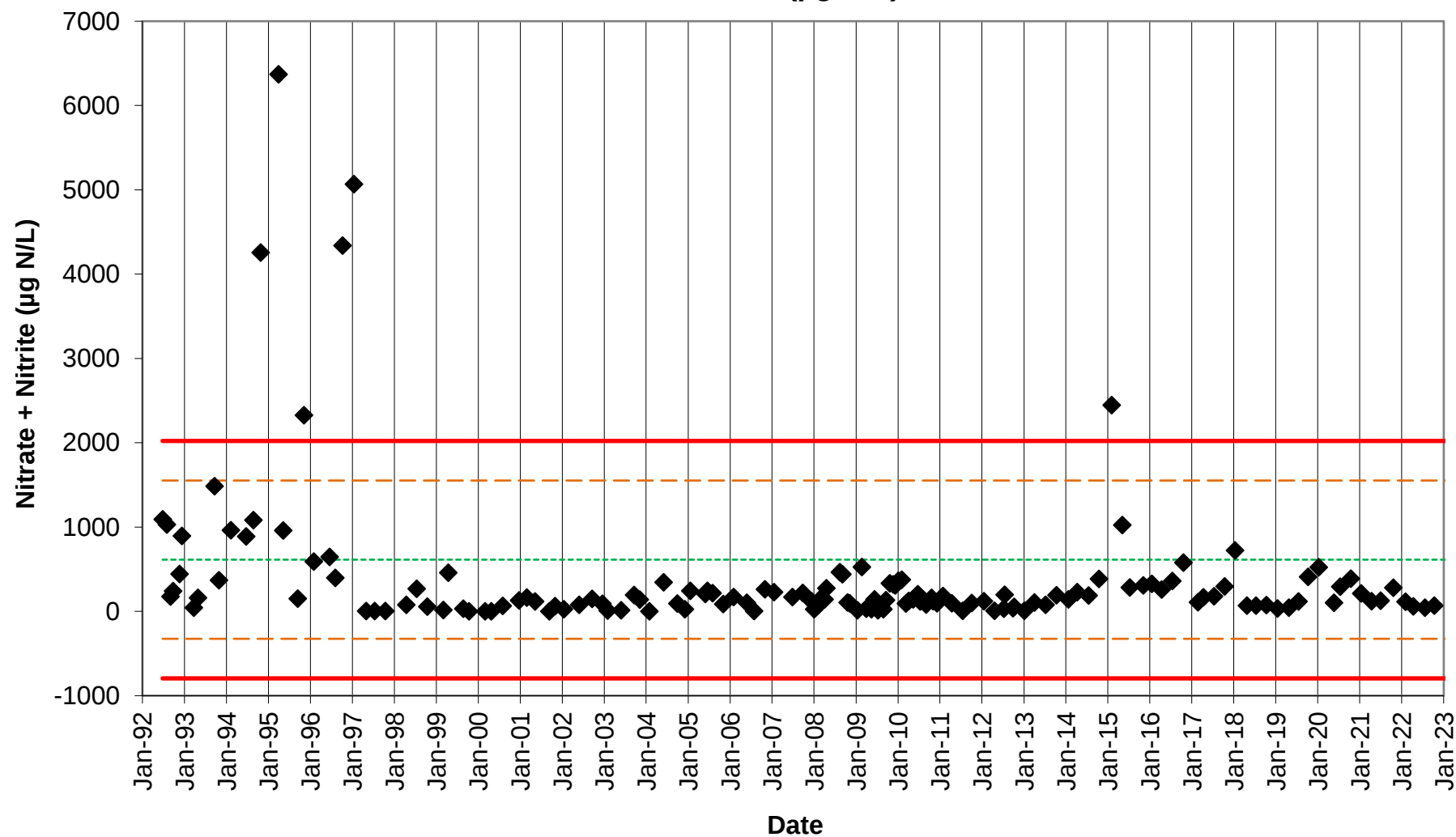


Seawater Return Trench 5 Total Dissolved Phosphorus (µg P/L)



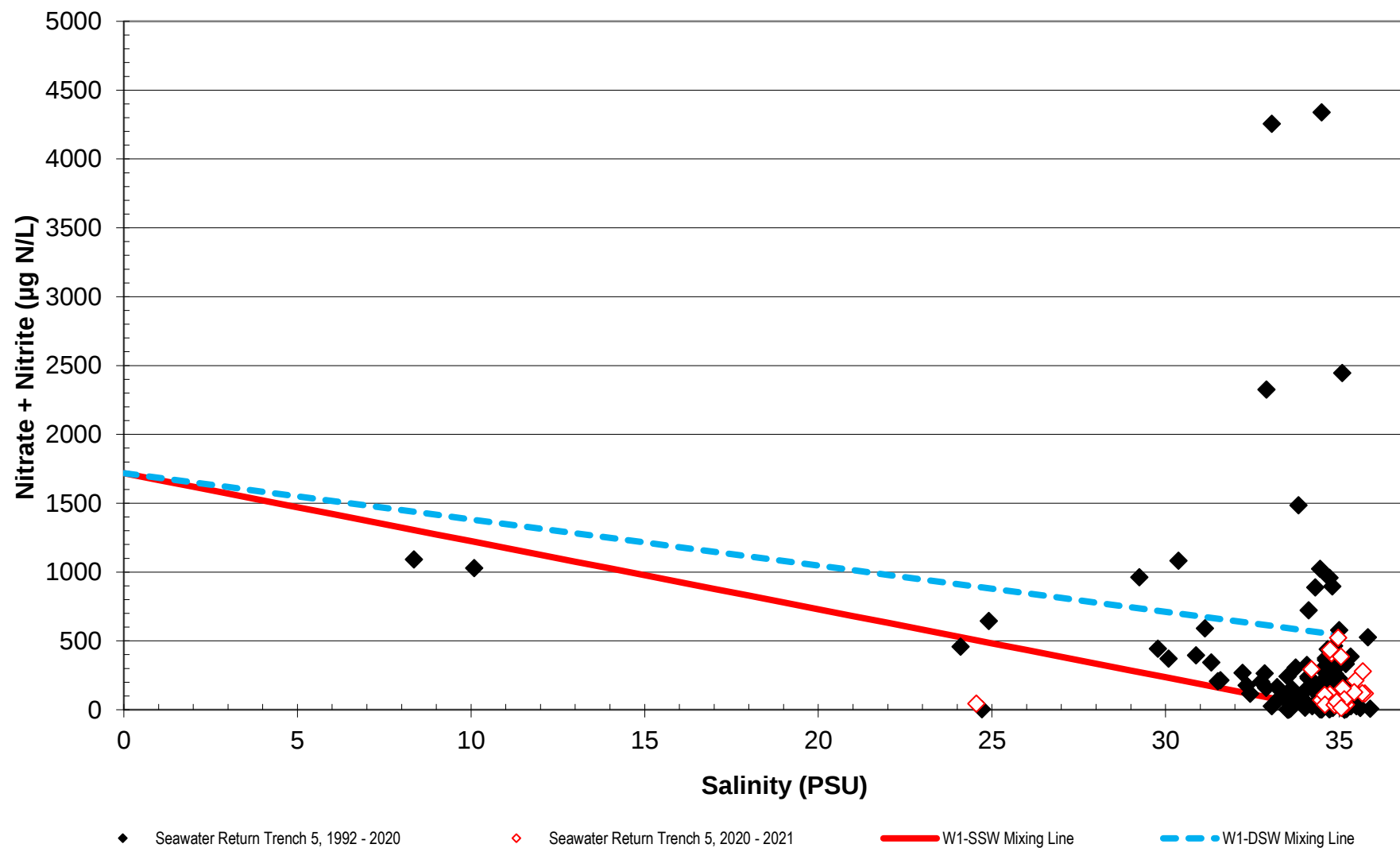
◆ SRT-5s (n=157, Control Chart 1997 - 2008) — -3s (-147 µg P/L) - -2s (-24 µg P/L) - - Mean (223 µg P/L) - - +2s (469 µg P/L) — +3s (592 µg P/L)

Seawater Return Trench 5 Nitrate + Nitrite ($\mu\text{g N/L}$)

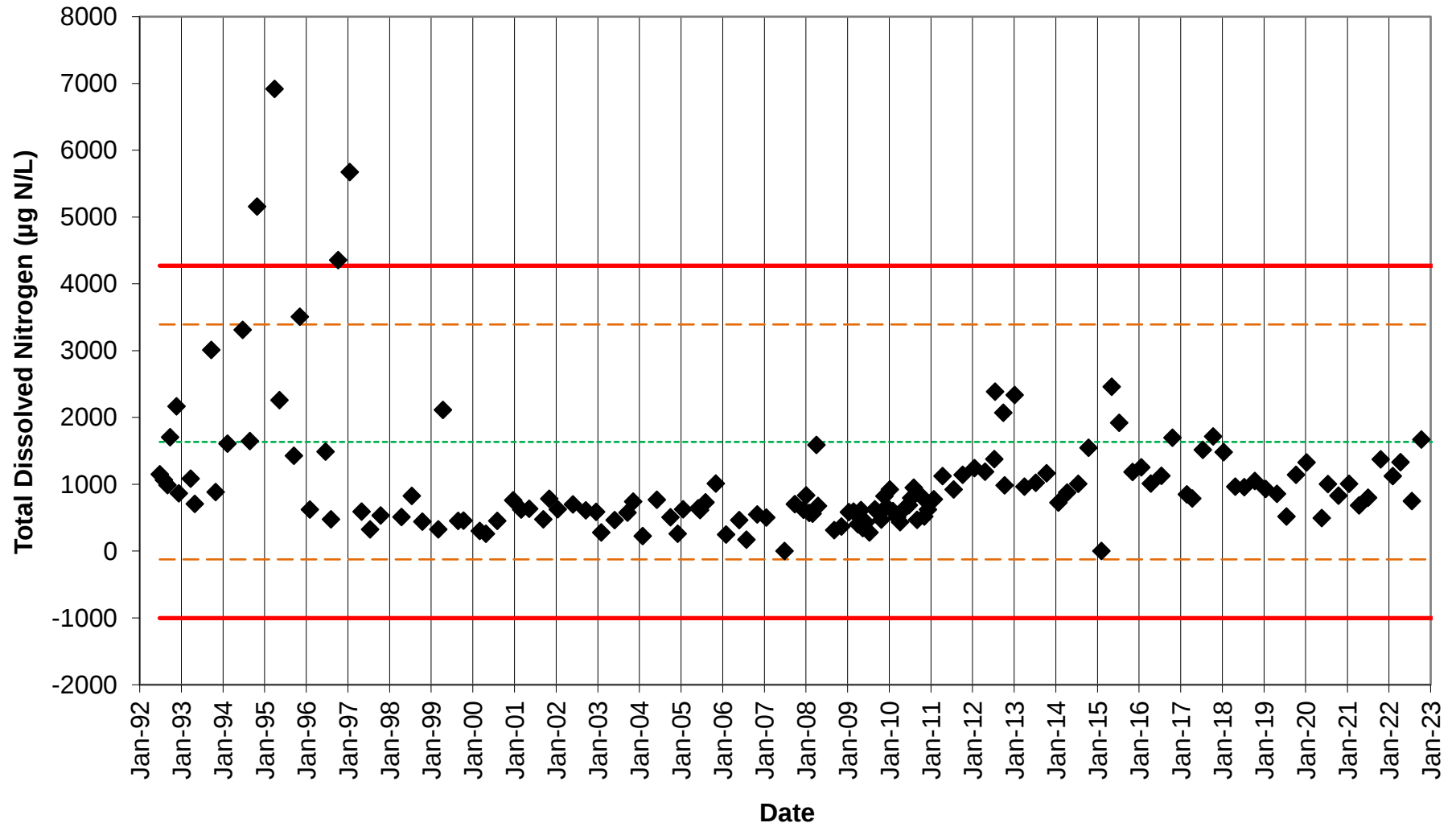


◆ SRT-5s (n=159, Control Chart 1997 - 2008) — +3s (2022 $\mu\text{g N/L}$) - - +2s (1552 $\mu\text{g N/L}$) - - - Mean (613 $\mu\text{g N/L}$) - - -2s (-325 $\mu\text{g N/L}$) — -3s (-795 $\mu\text{g N/L}$)

Seawater Return Trench 5
Conservative Mixing Model
Nitrate + Nitrite ($\mu\text{g N/L}$)

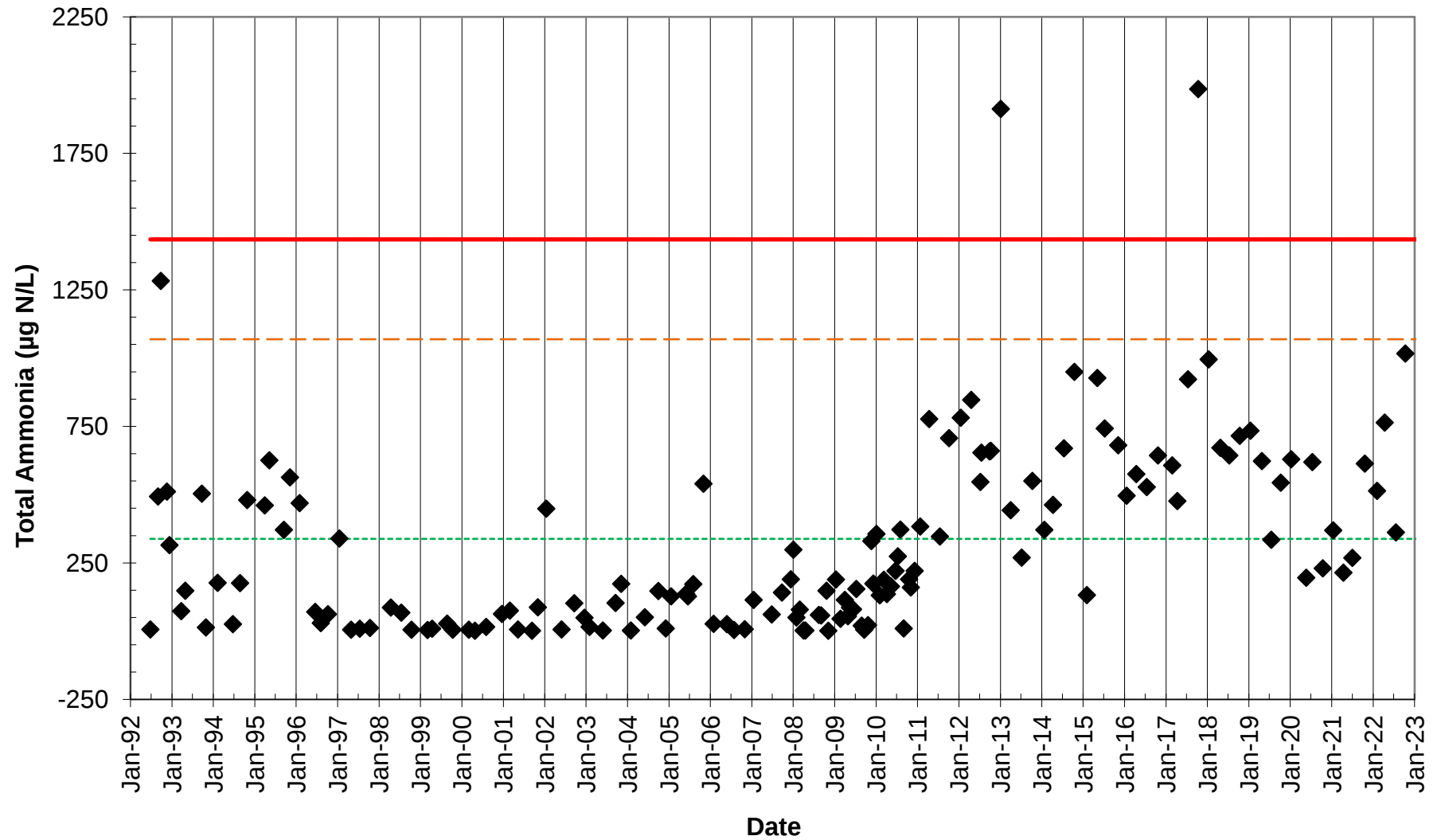


Seawater Return Trench 5 Total Dissolved Nitrogen ($\mu\text{g N/L}$)



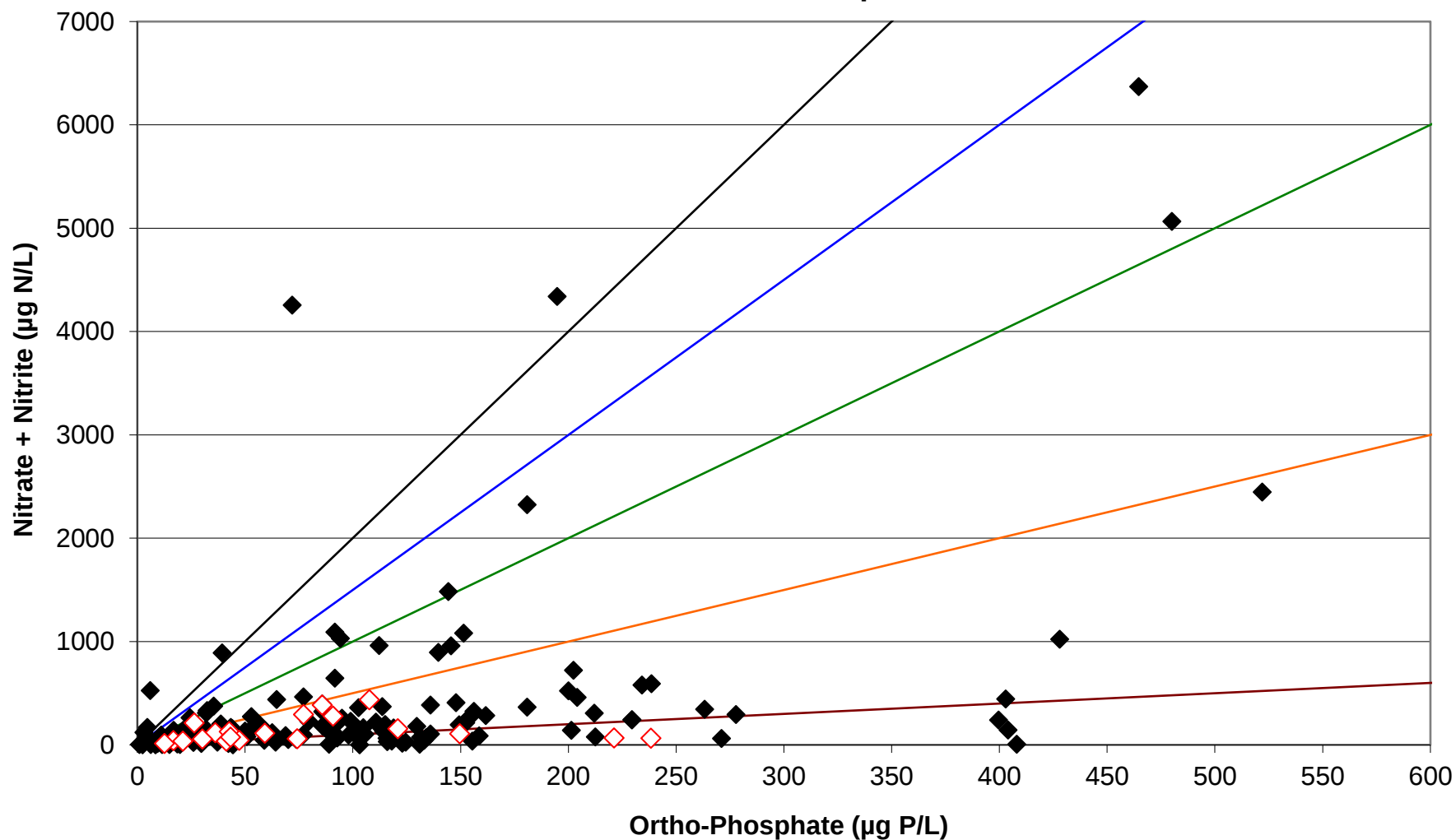
◆ SRT-5s (n=156, Control Chart 1997 - 2008) +3s (4272.1 $\mu\text{g N/L}$) +2s (3392.9 $\mu\text{g N/L}$) - - - - - Mean (1634.5 $\mu\text{g N/L}$) - - - - - -2s (-123.9 $\mu\text{g N/L}$) - - - - - -3s (-1003.1 $\mu\text{g N/L}$)

Seawater Return Trench 5 Total Ammonia (µg N/L)



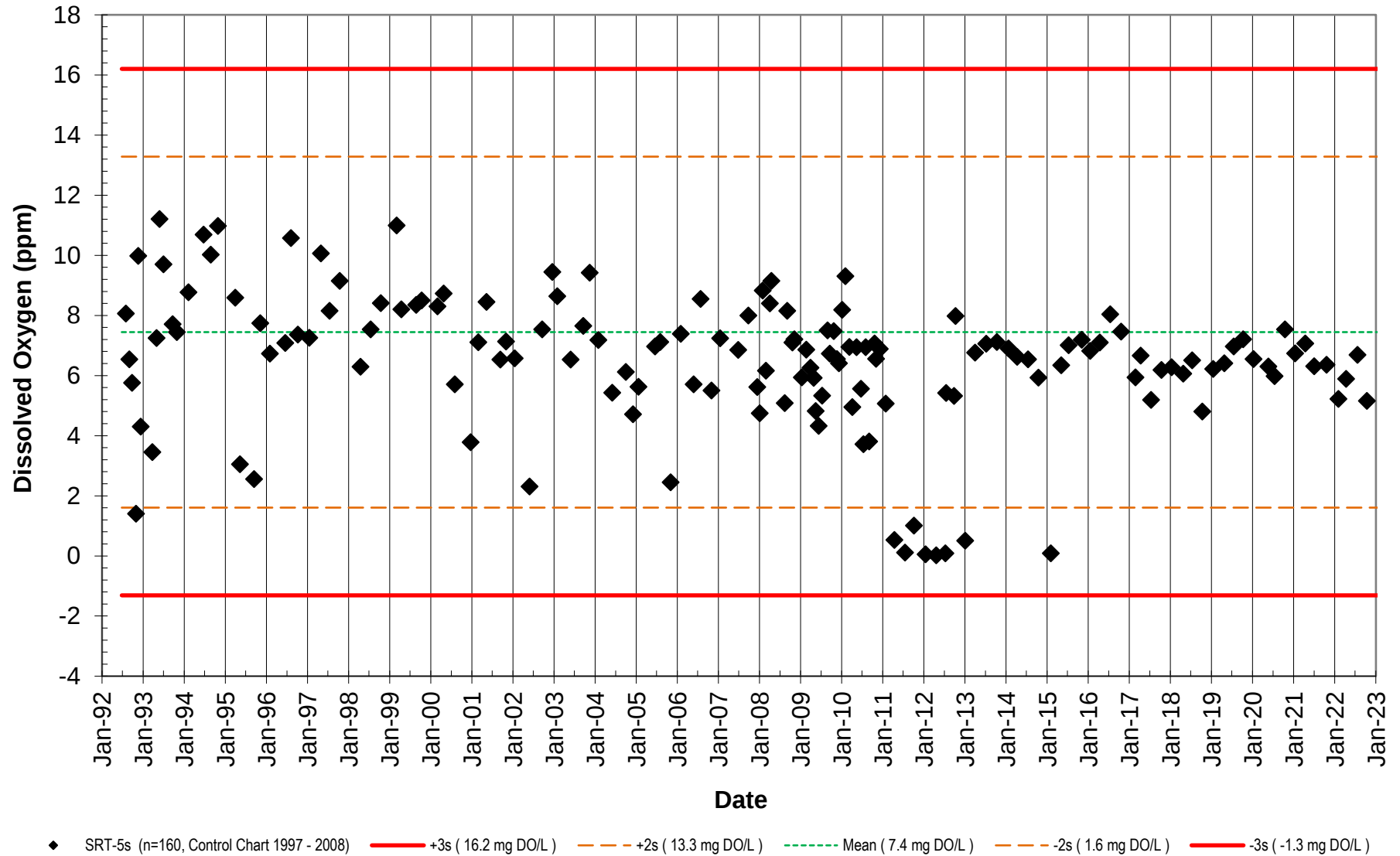
◆ SRT-5s (n=158, Control Chart 1997 - 2008) +3s (1434.9 µg N/L) +2s (1069.3 µg N/L) - - - - - Mean (338.1 µg N/L) - - - - - -2s (-393.1 µg N/L) - - - - - -3s (-758.7 µg N/L)

Seawater Return Trench 5 Nitrate + Nitrite to Ortho-Phosphate Ratio

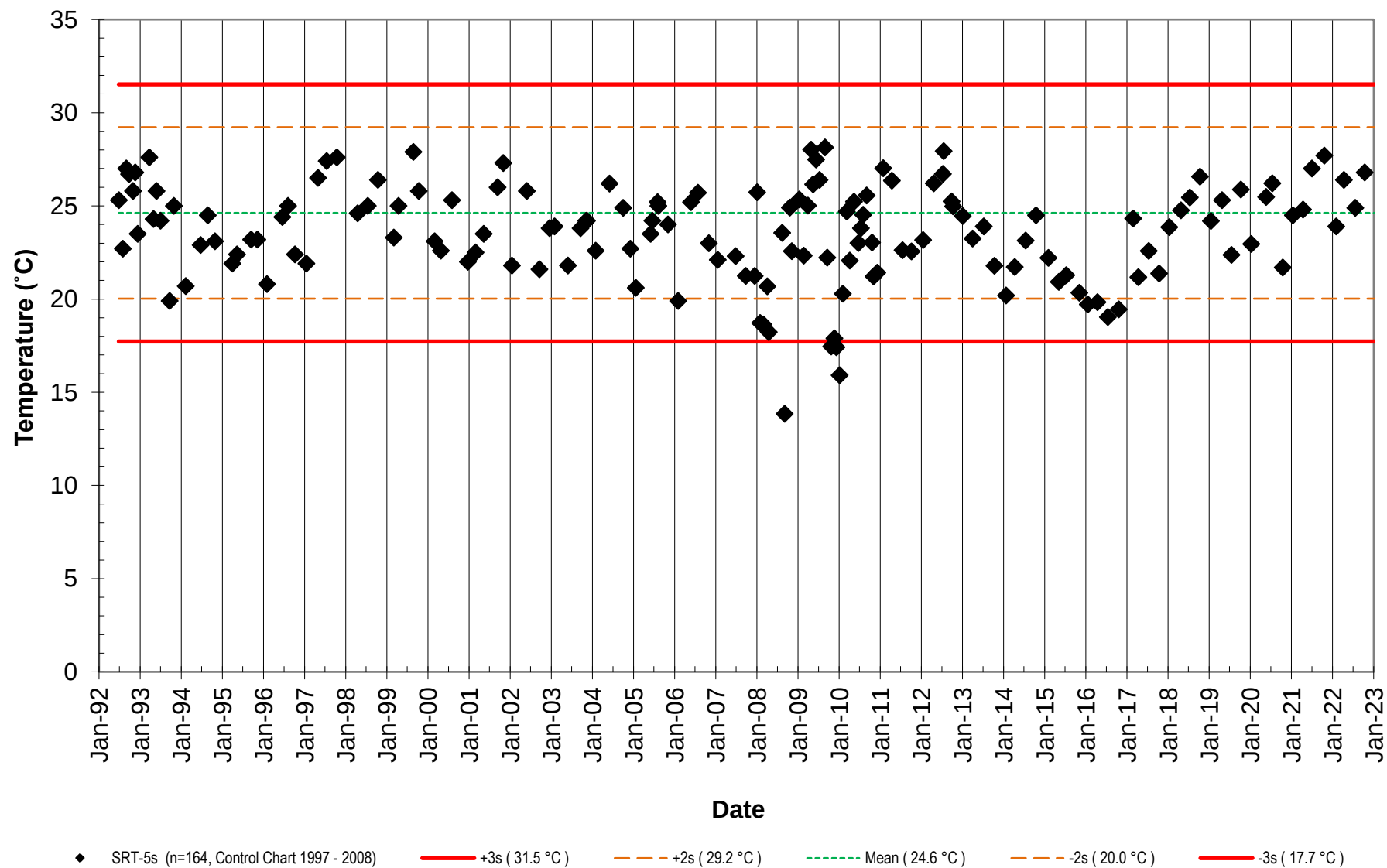


◆ Seawater Return Trench 5, 1992 - 2020 ◇ Seawater Return Trench 5, 2020 - 2021 — 1:1 — 5:1 — 10:1 — 15:1 — 20:1

Seawater Return Trench 5 Dissolved Oxygen (ppm)



Seawater Return Trench 5 Temperature (°C)



Salinity (PSU)

Date

◆ SRT-5s (n=161, Control Chart 1997 - 2008)

— +3s (39.4 PSU)

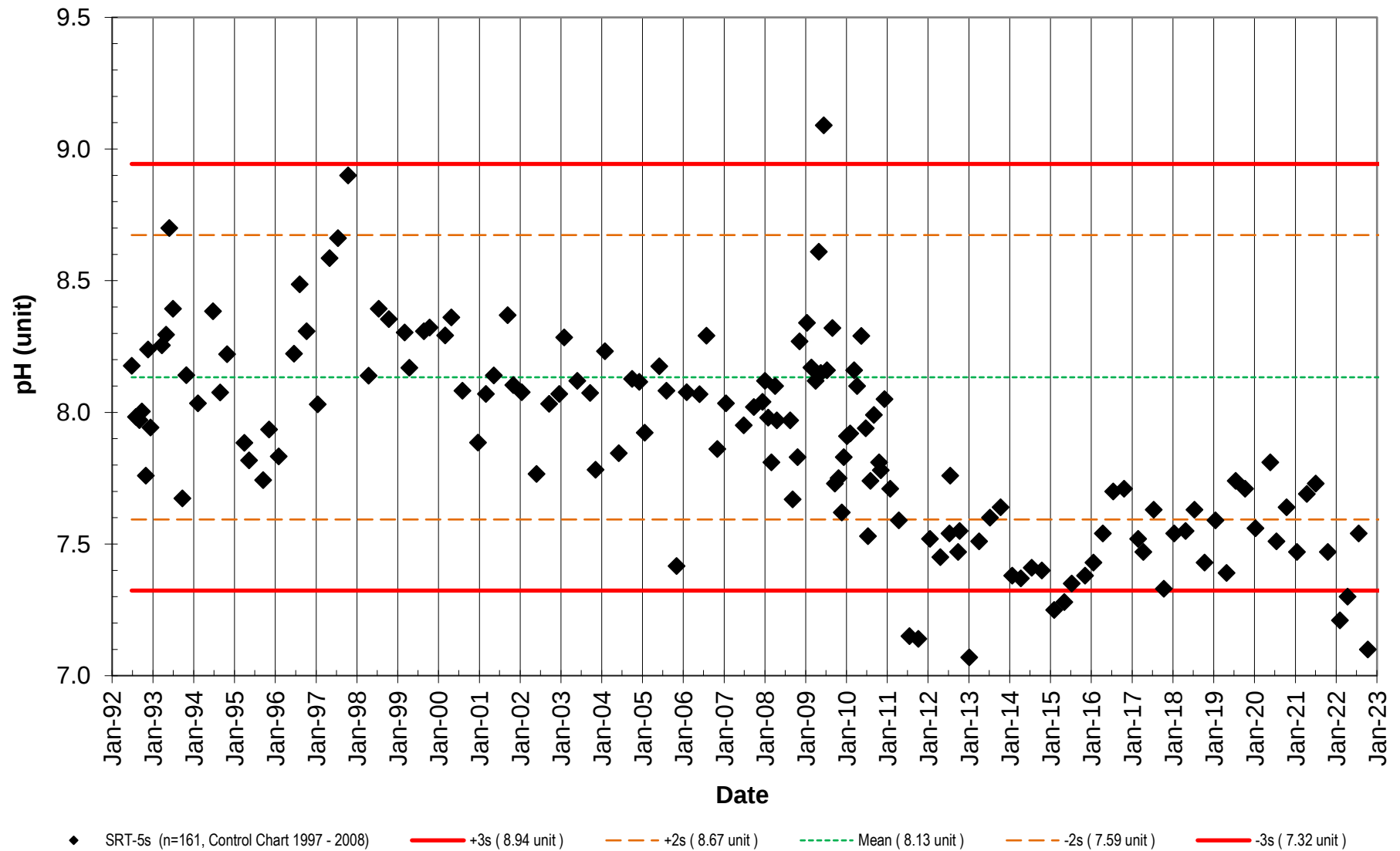
- - - +2s (36.9 PSU)

- - - Mean (32.0 PSU)

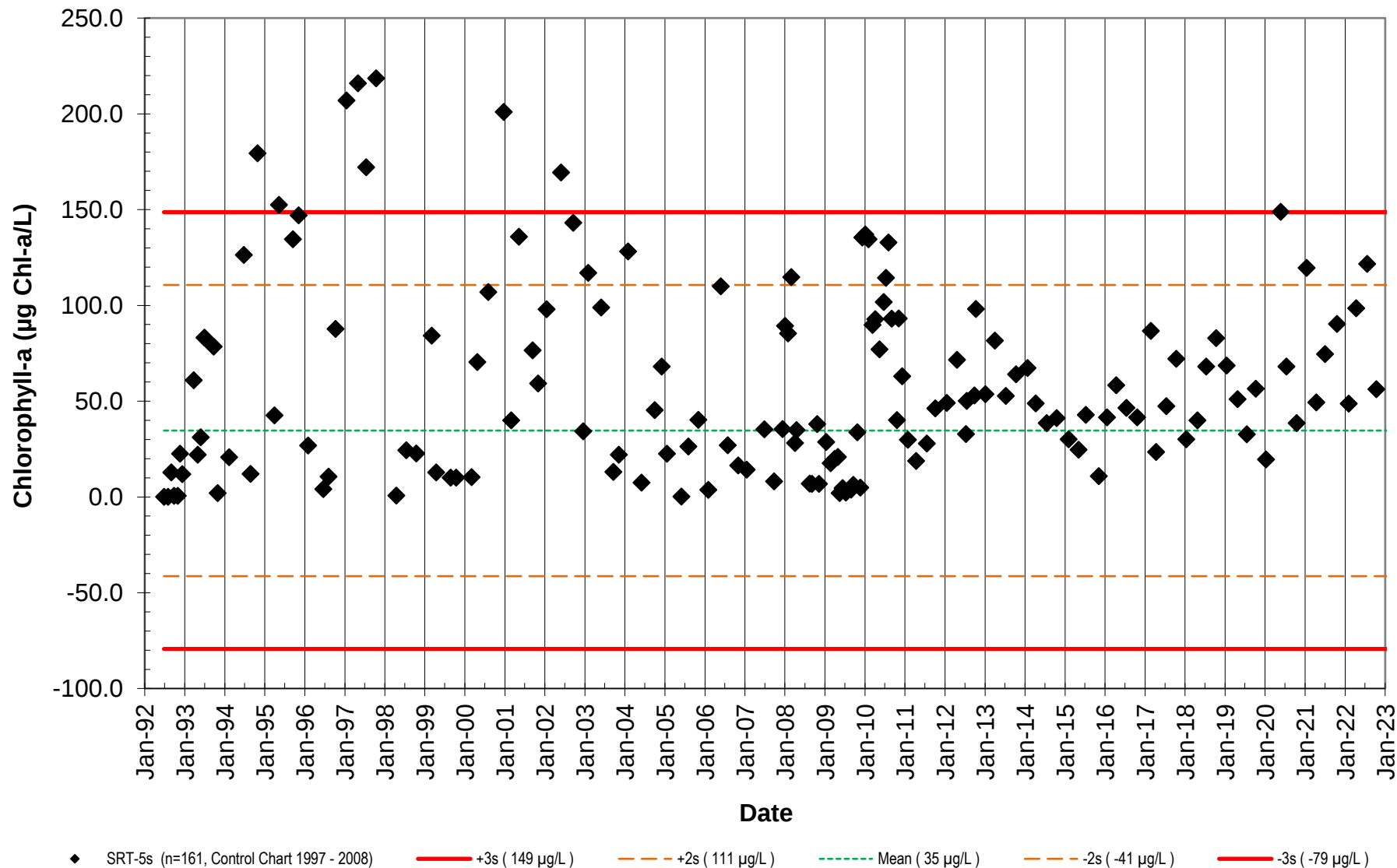
- - - -2s (27.1 PSU)

— -3s (24.6 PSU)

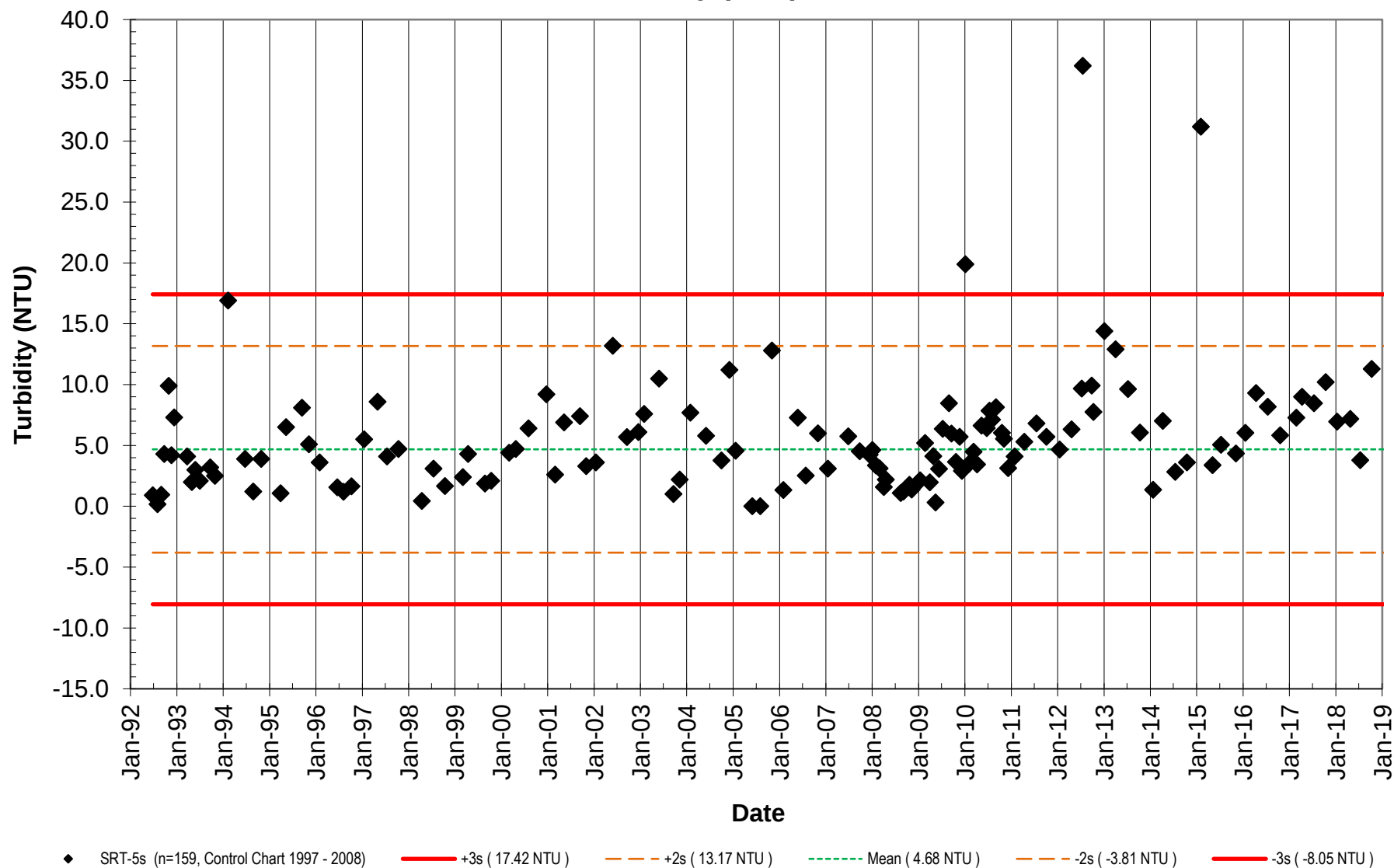
Seawater Return Trench 5 pH (unit)



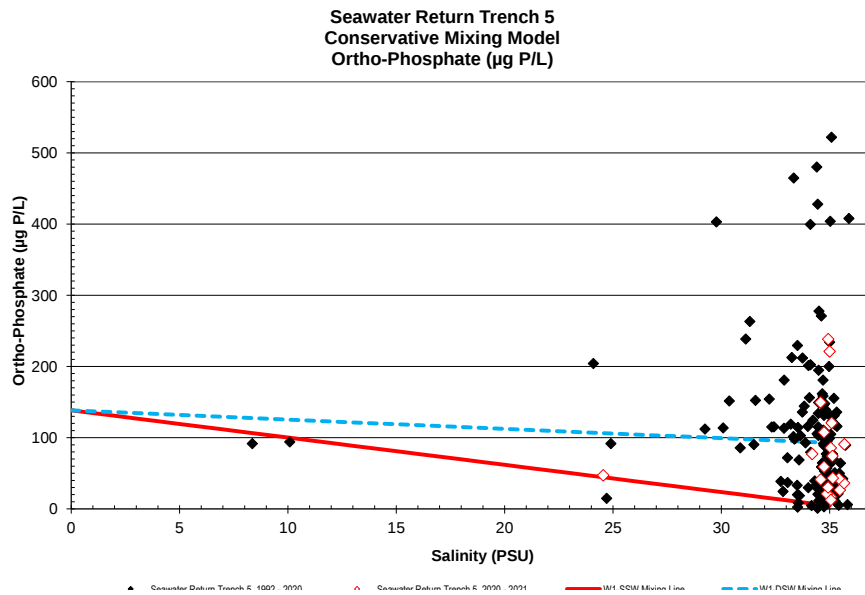
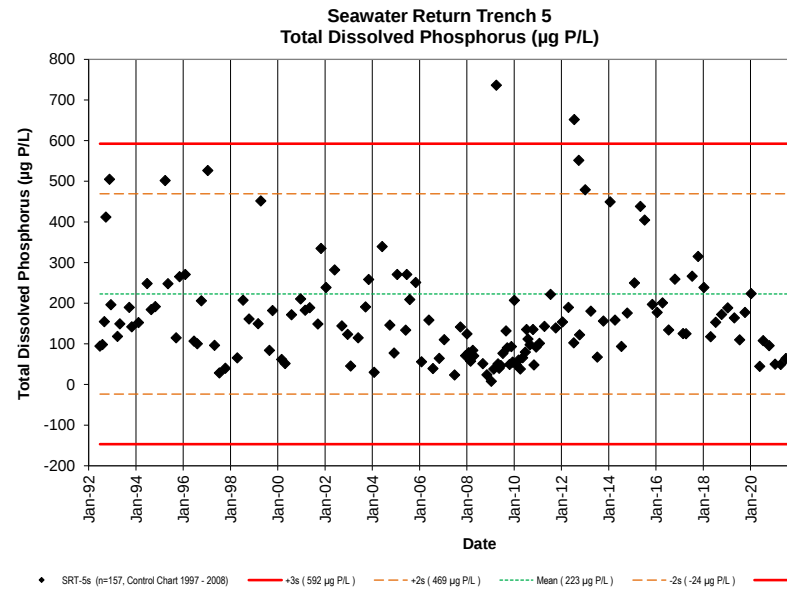
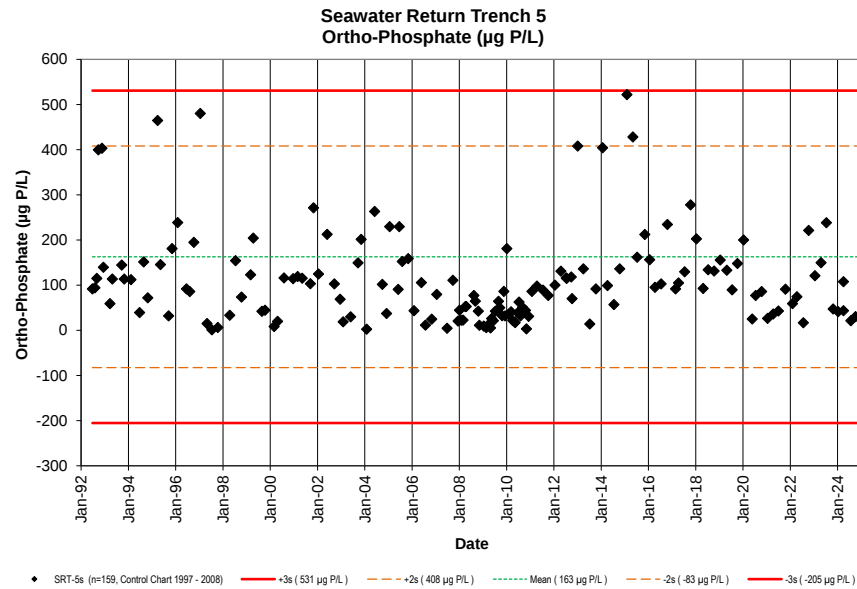
Seawater Return Trench 5 Chlorophyll-a ($\mu\text{g Chl-a/L}$)

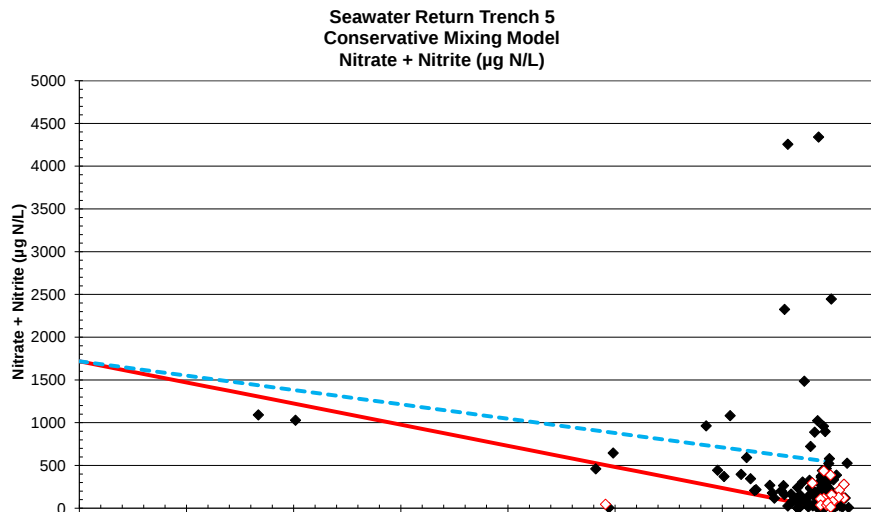
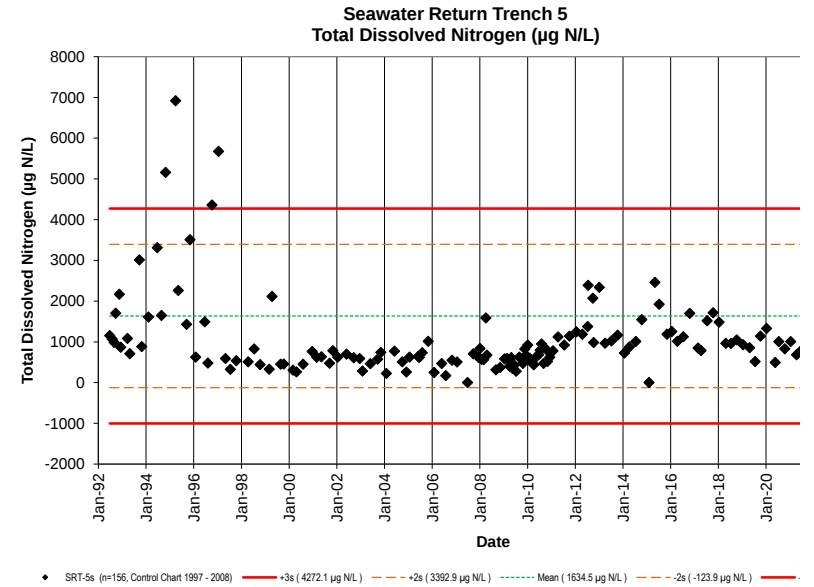
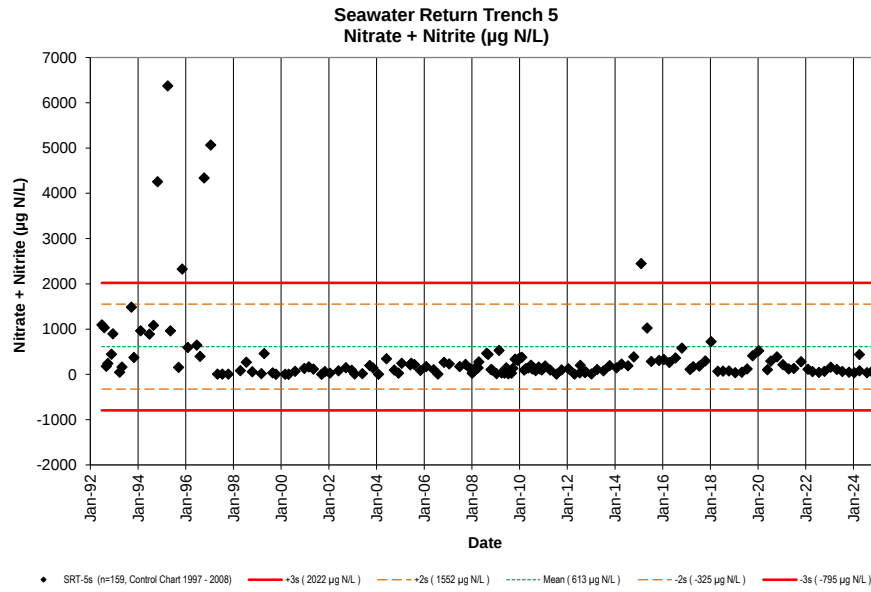


Seawater Return Trench 5 Turbidity (NTU)



NELHA Water Quality Laboratory
Seawater Return Trench 5 Charts
6/24/1992 - 6/30/2025

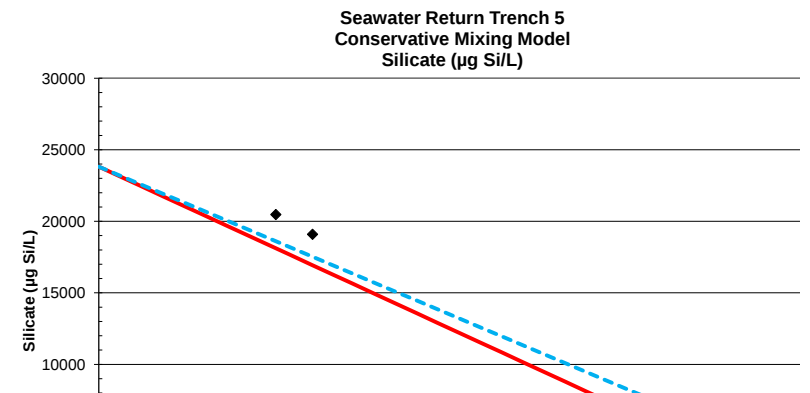
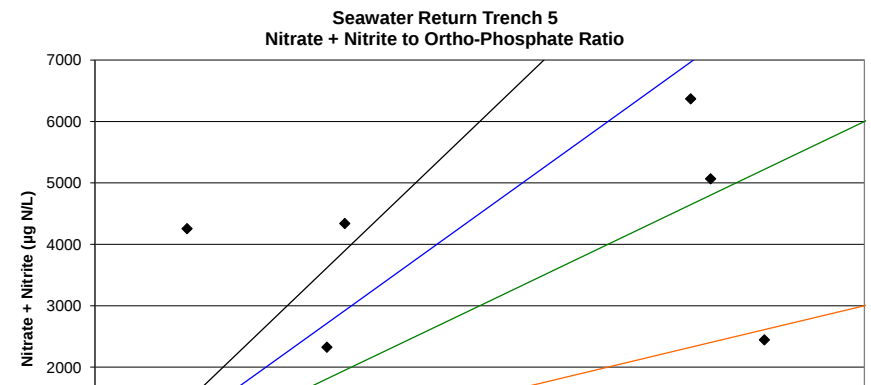
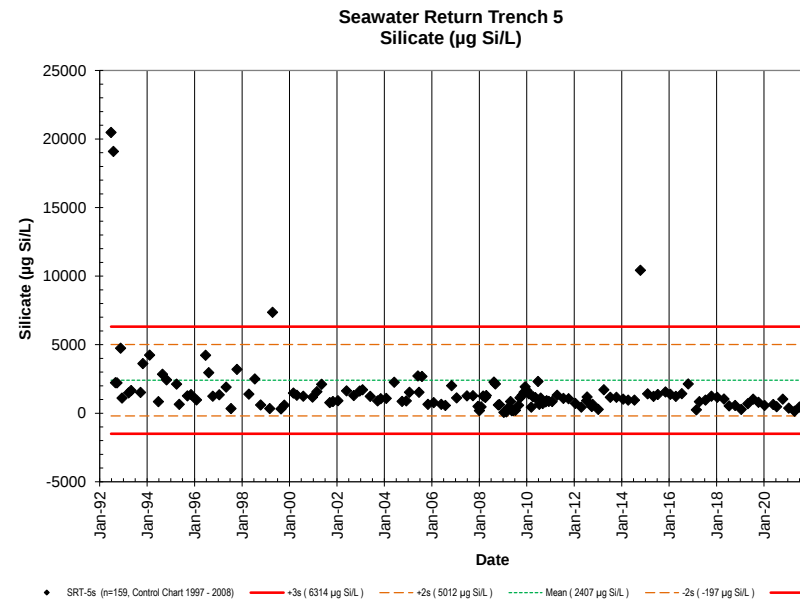
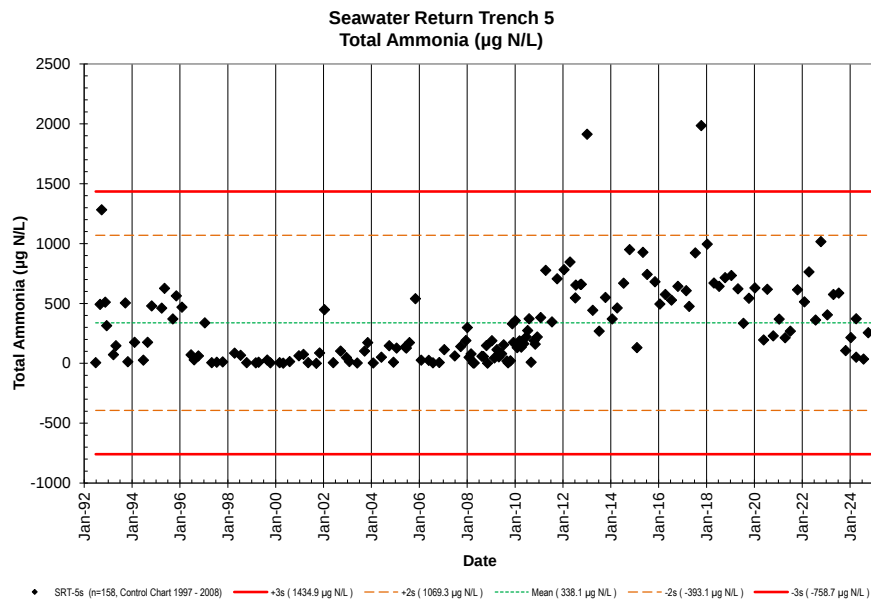
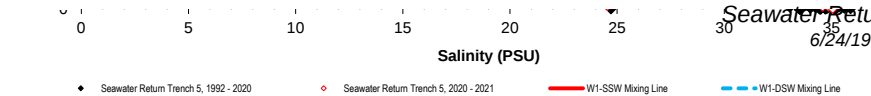




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Seawater Return Trench 5 Charts

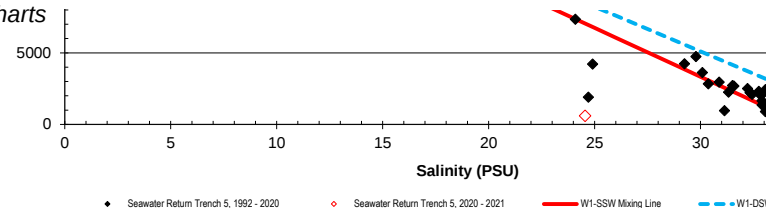
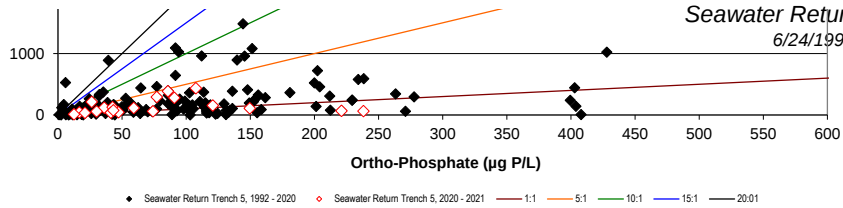
6/24/1992 - 6/30/2025



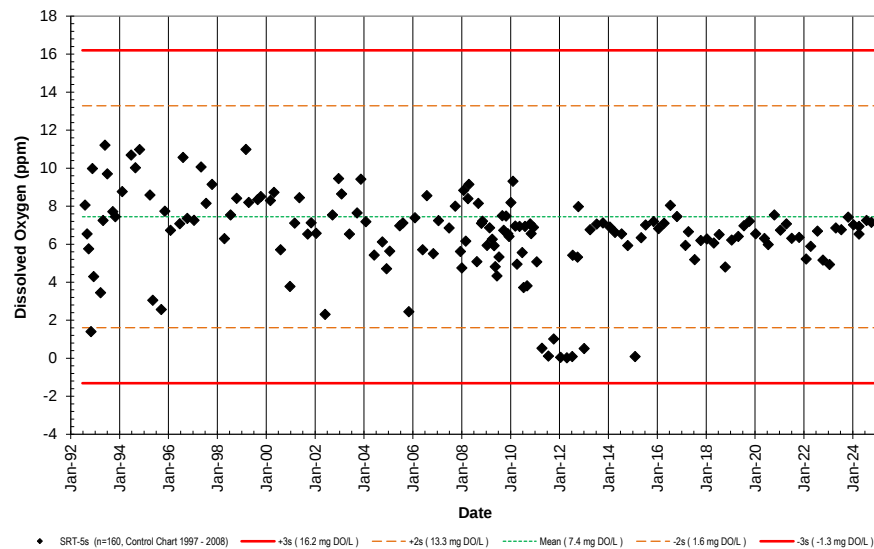
NELHA Water Quality Laboratory

Seawater Return Trench 5 Charts

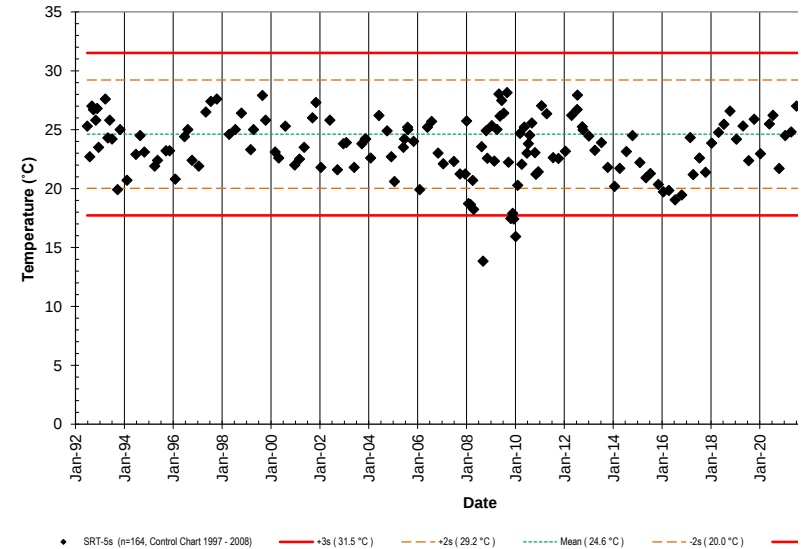
6/24/1992 - 6/30/2025



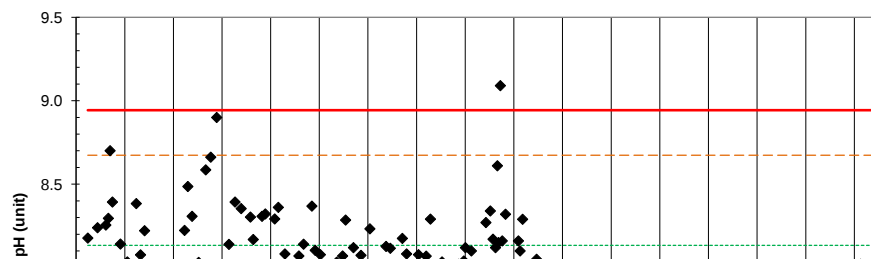
Seawater Return Trench 5 Dissolved Oxygen (ppm)



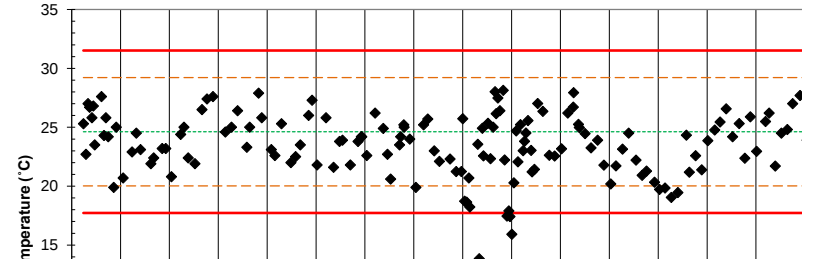
Seawater Return Trench 5 Temperature (°C)



Seawater Return Trench 5 pH (unit)



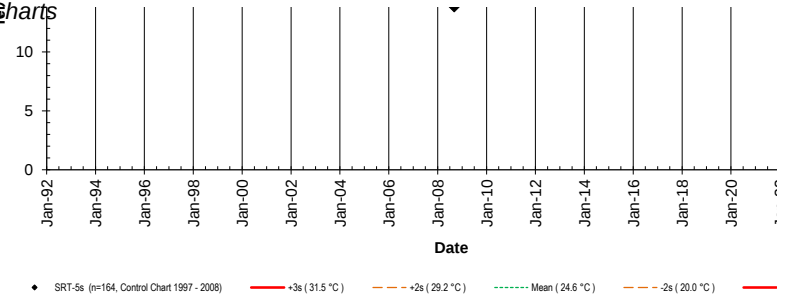
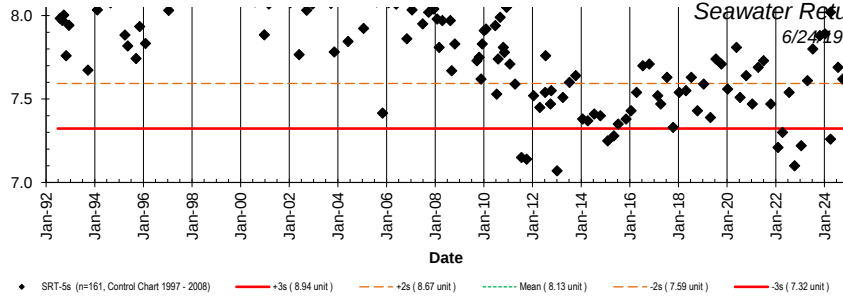
Seawater Return Trench 5 Temperature (°C)



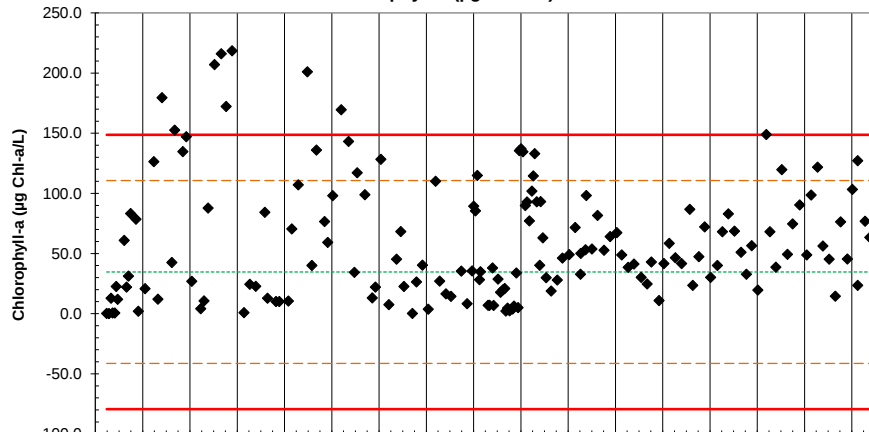
NELHA Water Quality Laboratory

Seawater Return Trench 5 Charts

6/24/1992 - 6/30/2025



Seawater Return Trench 5 Chlorophyll-a (µg Chl-a/L)



Seawater Return Trench 5 Turbidity (NTU)

