NELHA Water Quality Laboratory

Seawater Return Trench 4

1/28/1992 - 4/2/2024

Site ID	Date	Time	Tide		PO_4^{3-}		NO_3^- & NO_2^-		NH_4^+ & NH_3		Si		TDP		TDN		Turbidity	Salinity	Chloride	Temp.	pH	DO	Chl a	ORP
	(M/D/Y)	(2400)	(ft)	(cycle)	(µM)	(µg P/L)	(µM)	(µg N/L)	(µM)	(µg N/L)	(µM)	(µg Si/L)	(µM)	(µg P/L)	(µM)	(µg N/L)	(NTU)	(PSU)	(mg/L)	(˚C)	(unit)	(ppm)	(µg/L)	(mV)
SRT 4s	1/28/92	705	0.6	Low	1.8	54	60.2	843	0.1	0.7	478	13425	1.9	59	63	880		15.51	8584	19.8	8.21		6.57	
SRT 4s	4/20/92	1146	-0.1	Low	2.6	82	56.3	789	0.1	0.7	508	14267	2.9	91	61	853	TSS 1.36 mg/L	14.86	8225	24.1	8.03		2.39	
SRT 4s	5/20/92	1059	0.1	Low	0.6	20	31.6	443	0.3	4.6	601	16879	1.0	30	39	550	TSS 5.31 mg/L	15.67	8672	25.5	8.50		30.0	
SRT 4s	6/24/92	1053	1.3	Flood	2.1	64	50.3	705	0.5	7.3	586	16458	2.3	72	59	831	TSS 0.57 mg/L	14.42	7981	24.9	8.06		3.50	
SRT 4s	7/30/92	1000	-0.1	Low	2.0	62	50.4	706	1.3	18.8	525	14731	2.2	68	55	767	0.38*	16.31	9027	24.5	8.02	7.70	6.55	
SRT 4s	8/31/92	1005	1.2	Ebb	2.0	62	44.0	616	1.1	14.9	570	16009	2.2	67	48	674	0.55	16.58		24.6	8.06	8.48	5.27	
SRT 4s	9/23/92	1041	1.0	Flood	2.0	61	303	4243	46.5	651.3	585	16430	2.0	62	403	5639	1.64	15.57	8616	24.9	7.59	ND	1.13	
SRT 4s	10/28/92	1059	0.8	Ebb													0.94	15.95	8829	24.1	8.10	8.19	3.84	
SRT 4s	11/18/92	1121	1.6	High	2.0	63	61.0	855	0.2	2.2	577	16205	2.5	76	137	1919	0.75	15.23	8431	23.9	8.15	9.11	13.1	
SRT 4s	12/28/92	811	1.7	High	2.9	90	60.6	849	0.3	4.6	654	18368	3.5	107	75	1056	0.84	13.78	7627	20.5	8.02	7.71	0.21	
SRT 4s	1/27/93	1013	0.7	Ebb	2.5	78	69.6	975	0.4	5.7	637	17901	2.7	83	78	1093	1.08	11.46	6345	20.8	7.87	5.95	0.26	
SRT 4s	2/24/93	945	0.4	Ebb	2.7	83	66.8	936	0.2	3.4	615	17284	2.8	85	69	968	0.37	13.53	7487	19.1	7.98	7.29	0.40	
SRT 4s	3/17/93	1010	0.4	Flood	2.5	77	67.6	946	0.3	4.8	642	18028	2.5	79	72	1002	4.0	11.56	6399	21.9	8.06	7.78	1.68	
SRT 4s	4/28/93	938	0.5	High	2.6	82	70.7	990	1.5	20.7	638	17919	2.8	87	77	1080	0.54	11.55	6391	22.3	8.05	7.74	0.28	
SRT 4s	5/26/93	947	0.6	High	1.5	46	20.9	292	0.5	6.4	725	20362	1.7	51	26	365	0.14	34.43	19060	16.0	7.96	6.83	0.24	
SRT 4s	6/29/93	949	0.8	Flood	2.7	84	71.3	998	1.5	21.3	655	18396	2.9	90	78	1095	0.77	11.58	6411	22.9	8.08	7.79	0.36	
SRT 4s	9/1/93	952	0.3	Low	2.8	86	68.1	954	0.1	1.5	660	18536	2.9	90	90	1256	0.29	11.61	6425	23.9	8.08	7.31	0.10	
SRT 4s	10/27/93	941	0.6	Low	2.8	88	73.2	1025	0.8	10.6	610	17132	2.9	90	76	1071	0.98	10.59	5860	22.5	8.00	6.73	0.08	
SRT 4s	2/8/94	945	0.2	Low	3.0	93	68.9	965	0.5	7.3	580	16290	3.0	94	80	1116	0.15	12.70	7028	21.7	8.00	7.55	0.09	
SRT 4s	6/22/94	939	-0.2	Low	2.4	75	63.8	894	0.8	10.8	568	15939	2.5	77	69	963	0.88	12.84	7105	23.5	8.09	8.21	7.72	
SRT 4s	7/26/94	1043	0.7	Ebb	1.3	42	19.2	269	0.3	3.9	43	1202	1.6	49	25	347	0.07	34.48	19084	17.4	7.98	1.60	0.00	
SRT 4s	10/26/94	857	1.8	High	2.9	91	75.4	1056	1.0	13.6	589	16537	3.1	96	80	1114	0.25	11.50	6366	22.7	8.05	7.30	1.26	
SRT 4s	1/25/95	1048	0.8	High	3.4	105	76.8	1076	0.0	0.0	535	15017	3.4	105	56	786	0.06	13.65	7557	20.7	8.08	7.74	0.00	
SRT 4s	5/10/95	630	-0.1	Low	3.3	102	99.0	1387	0.2	3.1	543	15259	3.3	102	88	1233	0.16	12.70	7027	19.6	8.07	7.08	0.14	
SRT 4s	9/13/95	710	1.8	High	3.3	103	74.6	1045	0.4	5.7	539	15124	3.4	106	78	1093	0.19	13.90	7696	20.8	7.99	6.72	0.04	
SRT 4s	11/7/95	1131	0.5	Flood	1.2	36	16.5	231	0.6	8.0	48	1344	1.3	40	23	315	0.09	34.23	18948	19.3	8.09	2.56	0.03	
SRT 4s	1/31/96	956	0.4	Flood	3.1	95	94.0	1317	0.9	11.9	473	13276	3.1	97	98	1379	1.83	12.68	7018	23.4	8.06	6.77	0.36	
SRT 4s	6/18/96	1221	0.3	Flood	2.6	81	58.7	823	8.7	122.1	370	10386	2.8	85	65	911	0.16	31.38	17370	23.0	8.03	8.13	0.18	
SRT 4s	8/6/96	1226	1.6	Ebb	2.1	65	68.8	963	0.3	4.2	499	14019	2.5	77	72	1010	0.63	14.58	8073	29.3	8.32	9.89	2.63	
SRT 4s	10/7/96	903	1.1	Flood	2.9	91	88.5	1239	0.6	8.3	598	16809	3.1	95	93	1308	0.12	11.17	6181	23.5	7.96	6.97	0.00	
SRT 4s	1/15/97	1103	1.0	Ebb	3.8	116	179	2510	0.3	3.9	513	14411	3.8	116	182	2551	0.10	12.64	6996	22.4	7.99	7.05	0.13	
SRT 4s	4/30/97	912	0.5	Flood	1.5	46	17.7	248	0.4	5.9	42	1168	2.5	77	21	290	0.13	34.22	18943	17.8	8.05	3.39	0.08	
SRT 4s	7/14/97	1047	1.4	Flood	1.0	31	87.2	1221	0.1	0.7	574	16132	1.7	53	97	1354	0.77	11.16	6175	25.5	8.43	10.86	13.7	
SRT 4s	10/14/97	1112	0.8	Flood	3.0	93	111	1551	0.1	1.0	597	16761	3.3	102	112	1564	0.65	10.39	5751	26.2	8.42	9.12	7.49	
SRT 4s	3/11/98	1304	0.6	Flood	3.4	104	84.5	1184	0.1	2.0	576	16183	3.6	110	89	1243	0.25	12.25	6782	26.3	8.18	8.93	6.67	
SRT 4s	4/15/98	1152	0.0	Low	2.8	85	77.2	1081	0.2	2.2	563	15812	3.0	93	82	1154	0.42	12.95	7167	24.8	8.23	9.44	7.47	
SRT 4s	7/15/98	945	1.3	High	1.7	54	67.8	950	0.2	2.1	562	15781	2.0	61	71	1000	0.94	13.84	7658	24.5	8.40	10.25	11.2	
SRT 4s	10/14/98	954	1.6	Flood	3.1	97	92.5	1296	0.1	0.7	571	16037	3.3	103	94	1310	0.27	12.54	6943	24.9	8.39	9.76	8.34	
SRT 4s	3/3/99	954	0.3	Ebb	3.4	105	77.1	1080	0.6	8.1	533	14970	3.5	107	85	1191	0.15	14.46	8003	22.3	8.00	8.74	1.04	
SRT 4s	4/14/99	947	-0.2	Flood	3.1	97	65.1	912	0.6	7.7	423	11869	3.3	101	68	954	0.10	19.24	10650	19.7	7.94	6.55	0.09	

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1/28/1992 - 4/2/2024

Site ID	Date	Time	Tide		PO_4^{3-}		NO_3^- & NO_2^-		NH_4^+ & NH_3		Si		TDP		TDN		Turbidity	Salinity	Chloride	Temp.	pH	DO	Chl a	ORP
	(M/D/Y)	(2400)	(ft)	(cycle)	(µM)	(µg P/L)	(µM)	(µg N/L)	(µM)	(µg N/L)	(µM)	(µg Si/L)	(µM)	(µg P/L)	(µM)	(µg N/L)	(NTU)	(PSU)	(mg/L)	(˚C)	(unit)	(ppm)	(µg/L)	(mV)
SRT 4s	8/24/99	950	0.7	Flood	2.6	81	68.9	965	0.2	2.4	645	18118	2.9	90	71	1001	0.45	12.93	7158	25.2	8.28	8.78	8.37	
SRT 4s	10/12/99	1011	0.9	Ebb	3.4	106	77.5	1085	0.6	8.7	549	15422	3.6	112	81	1136	0.15	12.79	7081	24.3	8.10	7.67	0.29	
SRT 4s	3/1/00	1015	0.4	Flood	3.6	113	81.5	1142	0.3	4.8	564	15837	3.6	112	85	1192	0.24	19.49	10787	23.1	8.22	7.78	0.46	
SRT 4s	4/24/00	1039	0.3	Ebb	3.0	94	78.1	1094	0.1	1.7	564	15835	3.1	96	79	1108	0.15	13.40	7419	24.0	8.15	8.14	3.39	
SRT 4s	8/1/00	1000	0.0	Low	2.9	90	76.3	1069	0.1	1.3	536	15043	3.1	96	80	1121	0.26	15.03	8321	26.1	8.16	8.21	4.41	
SRT 4s	12/20/00	935	0.9	Flood	3.8	116	104	1452	1.1	15.7	571	16048	4.0	122	111	1561	0.22	11.90	6584	22.7	8.11	7.17	0.38	
SRT 4s	2/27/01	958	0.6	Ebb	2.9	90	85.6	1199	0.1	1.7	542	15211	3.1	96	87	1215	0.24	13.19	7303	23.4	8.17	8.35	1.16	
SRT 4s	5/9/01	1006	-0.2	Low	2.9	90	82.7	1158	0.4	4.9	504	14152	3.2	99	85	1188	0.22	14.72	8146	24.3	8.12	8.12	4.81	
SRT 4s	9/11/01	1050	2.1	High	2.9	91	87.8	1230	0.3	3.8	544	15284	3.0	92	93	1300	0.22	12.77	7070	26.7	8.14	7.99	3.25	
SRT 4s	10/31/01	1009	0.4	Low	3.3	103	89.3	1250	1.0	13.7	577	16205	3.5	107	87	1218	0.12	12.52	6932	24.9	8.07	7.84	1.24	
SRT 4s	1/15/02	958	0.7	Ebb	3.6	113	105	1472	1.3	18.5	536	15054	3.7	113	107	1497	0.10	14.04	7773	21.9	8.06	7.39	0.99	
SRT 4s	5/28/02	1022	-0.2	Low	4.3	133	57.9	810	0.8	11.8	406	11391	4.6	143	64	889	0.79	17.70	9796	26.3	8.37	11.38	7.21	
SRT 4s	9/17/02	1025	1.2	Flood	4.5	138	108	1509	0.3	3.8	568	15961	4.8	147	98	1369	0.15	12.91	7148	25.5	8.08	7.68	1.72	
SRT 4s	12/16/02	1105	0.6	Flood	4.7	145	99.9	1399	0.3	4.1	548	15396	5.3	163	109	1525	0.21	12.47	6901	24.3	8.14	7.47	1.28	
SRT 4s	1/30/03	1040	0.1	Flood	4.8	148	122	1709	0.7	9.1	516	14498	5.0	155	152	2133	0.17	14.57	8065	24.2	8.08	7.17	3.85	
SRT 4s	5/28/03	948	0.3	Flood	5.4	168	114	1591	0.2	3.2	524	14720	5.6	174	126	1758	0.30	13.50	7471	25.4	8.25	8.25	2.83	
SRT 4s	9/18/03	1016	1.7	Flood	6.7	207	140	1965	0.7	9.9	522	14672	7.1	220	146	2041	0.10	12.41	6871	26.4	8.11	7.19	0.18	
SRT 4s	11/6/03	936	0.6	Flood	7.3	225	134	1878	1.2	16.4	549	15405	7.5	232	172	2412	0.11	12.63	6993	24.4	8.23		1.24	
SRT 4s	11/14/03	1007	1.7	Ebb																23.8		6.84		
SRT 4s	1/29/04	951	0.9	Ebb	12.5	387	465	6515	1.7	23.8	704	19758	12.2	378	477	6677	0.24	12.04	6664	22.4	8.40	6.87	0.47	
SRT 4s	6/1/04	822	-0.2	Flood	6.1	189	140	1965	0.1	0.8	534	15003	6.6	206	147	2065	0.51	11.42	6321	24.5	8.20	7.48	0.11	
SRT 4s	9/29/04	906	0.7	Ebb	9.2	285	129	1807	0.5	7.1	508	14276	9.8	302	142	1986	0.26	12.85	7113	24.4	8.10	7.04	2.23	
SRT 4s	12/2/04	929	1.9	Ebb	9.2	286	165	2308	0.4	5.9	534	15006	9.5	295	176	2465	0.58	11.82	6543	23.8	8.12	6.71	2.42	
SRT 4s	1/19/05	920	0.5	Flood	10.3	318	247	3462	0.2	2.1	497	13970	10.7	330	275	3846	0.17	11.82	6544	22.9	8.40	6.56	1.89	
SRT 4s	5/31/05	912	0.5	Flood	5.7	175	114	1594	0.2	3.2	507	14234	5.6	174	118	1646	0.25	12.45	6891	23.6	8.27	7.67	1.14	
SRT 4s	8/2/05	1013	0.6	Flood	11.4	353	159	2233	0.1	1.0	510	14324	11.8	366	163	2287	0.21	14.69	8129	24.9	8.27	7.29	1.49	
SRT 4s	11/1/05	845	0.7	Ebb	4.8	149	105	1467	1.6	22	474	13321	5.1	158	112	1567	0.46	11.36	6290	25.2	8.15	6.71	0.38	
SRT 4s	1/30/06	850	0.9	Ebb	2.4	73	36	502	19.8	277	175	4926	2.7	84	53	743	0.41	27.93	15458	23.1	7.77	5.72	0.34	
SRT 4s	5/25/06	1042	0.5	Flood	1.1	33	3	42	16.8	235	4	112	1.6	50	29	412	0.45	34.73	19224	26.8	7.95	7.22	0.96	
SRT 4s	7/27/06	1010	0.2	Low	0.9	28	3	41	13.5	189	17	486	2.0	61	34	480	1.29	34.47	19082	26.8	8.29	10.23	3.37	
SRT 4s	10/31/06	1041	1.8	Flood	2.0	62	9	124	36.5	511	3	88	2.9	89	63	879	0.47	34.86	19296	28.2	7.71	8.65	1.10	
SRT 4s	1/17/07	1017	0.2	Low	1.0	32	3	44	15.3	214	3	96	1.8	55	29	412	1.36	34.77	19247	25.7	8.04	7.73	4.90	
SRT 4s	6/26/07	942	0.8	Flood	1.3	40	7	99	15.1	212	6	158	2.3	72	32	453	0.33	34.65	19177	26.7	7.92	6.87	0.87	
SRT 4s	9/24/07	1348	2.0	Flood	3.2	98	51	718	7.3	103	441	12380	3.4	106	75	1056	1.01	33.58	18587	27.0	8.12	4.27	2.75	
SRT 4s	12/11/07	1048	0.8	Ebb	2.5	78	84	1182	1.2	16	299	8401	3.2	100	112	1563	0.84	13.71	7589	26.1	8.97	11.24	6.40	
SRT 4s	1/29/08	1101	0.6	Ebb	1.9	58	58	815	1.2	16	231	6479	2.7	85	80	1118	n/a	19.91	11021	26.7	8.36	13.67	21.89	
SRT 4s	2/28/08	951	0.4	Ebb	1.5	48	70	976	1.6	23	402	11286	2.0	61	76	1068	1.04	20.71	11464	26.7	8.36	11.84	38.44	
SRT 4s	2/28/08	2259	1.5	Ebb	2.4	74	85	1190	2.2	31	451	12673	2.4	73	88	1232	1.44	17.24	9543	26.1	8.48	15.07	39.93	
SRT 4s	4/2/08	1023	0.2	Flood	2.9	90	36	502	4.0	56	476	13380	2.0	61	94	1321	1.26	15.34	8491	24.6	8.28	8.40	20.13	
SRT 4s	4/16/08	1351	1.3	Flood	1.1	35	43	602	0.2	3	445	12493	2.7	83	64	893	0.99	15.45	8552	28.5	8.47	11.32	10.32	

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1/28/1992 - 4/2/2024

Site ID	Date	Time	Tide		PO_4^{3-}		$NO_3^- \& NO_2^-$		$NH_4^+ \& NH_3$		Si		TDP		TDN		Turbidity	Salinity	Chloride	Temp.	pH	DO	Chl a	ORP
	(M/D/Y)	(2400)	(ft)	(cycle)	(µM)	(µg P/L)	(µM)	(µg N/L)	(µM)	(µg N/L)	(µM)	(µg Si/L)	(µM)	(µg P/L)	(µM)	(µg N/L)	(NTU)	(PSU)	(mg/L)	(˚C)	(unit)	(ppm)	(µg/L)	(mV)
SRT 4s	5/23/08	1012	0.0	Ebb	3.0	94	69	962	1.0	14	641	17990	3.1	95	80	1123	0.64	15.44	8546	25.1	8.37	7.92	0.11	
SRT 4s	6/12/08	1022	1.0	Flood	2.8	88	68	948	3.2	46	487	13688	2.9	89	77	1076	0.38	14.05	7777	24.5	7.91	7.22	5.45	
SRT 4s	7/18/08	935	-0.1	Low	3.1	97	69	967	1.1	15	494	13886	3.0	92	84	1182	0.52	17.32	9587	25.4	7.97	5.72	1.25	
SRT 4s	8/13/08	1039	0.7	Flood	3.6	111	73	1016	0.7	10	435	12231					1.68	14.74	8159	26.3	8.08	7.40	11.48	
SRT 4s	9/4/08	1045	1.3	Ebb	3.0	93	69	964	0.6	8	409	11501	5.1	157	103	1445	1.40	15.26	8447	25.8	8.15	6.42	1.53	
SRT 4s	10/20/08	1054	2.0	Ebb	4.2	129	85	1187	0.4	6	425	11927					0.87	16.85	9327	26.7	7.84	6.86	0.78	
SRT 4s	11/6/08	1039	1.8	High	5.8	180	135	1894	1.3	18	498	13990	9.3	288	287	4017	0.54	15.41	8530	25.7	8.28	8.06	0.69	
SRT 4s	1/2/08	1053	1.0	Ebb	2.7	83	40	566	0.1	2	72	2015	2.4	76	39	550	0.16	34.72	19218	11.7	7.85	9.51	0.98	
SRT 4s	1/12/09	1033	0.3	Ebb	2.8	87	40	557	0.1	2	71	1983	0.4	12	41	578	0.18	34.73	19224	11.3	7.84	9.03	0.06	
SRT 4s	2/20/09	941	0.3	Low	2.5	77	47	659	0.4	6	77	2162	2.3	72	41	575	0.15	34.62	19163	9.9	7.57	9.18	0.38	
SRT 4s	3/30/09	1440	0.3	Flood	2.1	65	41	571	0.5	8	75	2116	12.7	393	198	2775	0.24	34.49	19091	11.3	7.52	9.49	0.19	
SRT 4s	4/27/09	1109	-0.2	Flood	2.5	77	39	543	1.7	24	74	2076	3.3	102	53	736	0.07	34.37	19025	12.1	7.97	9.25	0.07	
SRT 4s	5/14/09	1432	0.5	Flood	3.0	93	40	554	1.9	26	67	1875	2.8	85	43	600	0.31	34.73	19224	11.9	7.40	8.81	0.08	
SRT 4s	6/10/09	840	0.2	Ebb	2.5	78	37	516	1.9	26	65	1830	3.1	96	47	657	0.09	34.45	19069	11.9	7.48	8.58	0.03	
SRT 4s	7/10/09	845	0.5	Ebb	2.7	83	39	541	1.9	26	72	2008	3.2	101	22	314	0.13	34.91	19324	10.1	7.68	9.58	0.17	
SRT 4s	8/27/09	909	1.8	Flood	2.2	67	30	419	1.3	19	52	1471	2.0	62	33	456	0.11	34.52	19108	11.0	7.66	6.70	0.10	
SRT 4s	9/17/09	1225	0.3	Flood	3.0	92	38	528	0.5	7	63	1758	2.9	90	42	591	0.54	34.59	19146	8.7	7.55	9.98	0.06	
SRT 4s	10/22/09	908	1.8	Ebb	2.4	75	42	588	1.0	15	184	5158	2.6	82	47	655	0.47	18.96	10495	25.8	7.65	3.09	5.91	
SRT 4s	11/19/09	856	1.7	Ebb	5.1	158	93	1309	4.6	64	356	9994	5.0	154	102	1431	0.50	16.47	9117	24.3	7.72	3.50	2.00	
SRT 4s	12/7/09	830	2.0	High	7.2	224	61	854	5.6	78	334	9367	7.0	218	71	996	0.52	23.33	12914	23.9	7.75	1.75	2.47	
SRT 4s	1/4/10	1416	0.0	Low	1.1	33	12	169	0.6	8	32	894	2.3	70	16	231	0.29	34.88	19307	19.4	8.16	9.61	0.60	
SRT 4s	2/2/10	1353	-0.2	Low	1.7	52	24	339	1.4	20	49	1388	2.0	61	27	384	0.33	34.65	19180	16.7	8.01	8.43	0.34	
SRT 4s	3/10/10	1308	0.7	High	1.7	53	25	344	0.2	3	51	1445	1.9	59	28	397	0.11	32.55	18017	16.8	7.96	7.84	0.89	
SRT 4s	4/5/10	958	0.4	High	1.9	58	24	340	2.2	31	74	2084	2.0	63	28	388	0.15	34.66	19185	15.5	8.08	7.94	0.15	
SRT 4s	5/12/10	1252	1.5	Flood	4.6	141	98	1372	1.5	21	454	12757	4.2	129	98	1371	0.30	17.55	9714	22.6	8.13	7.43	0.15	
SRT 4s	6/21/10	1018	1.3	Flood	1.7	52	24	334	0.7	10	55	1551	2.0	61	28	396	0.30	34.61	19158	16.0	7.92	7.45	1.07	
SRT 4s	7/12/10	1011	-0.1	Low	1.8	57	24	333	0.9	13	55	1554	2.0	62	27	384	0.90	34.81	19268	17.3	7.91	7.74	7.24	
SRT 4s	8/2/10	1219	1.3	Ebb	1.5	47	16	223	0.4	5.8	51	1434	1.5	47	20	281	0.13	34.53	19113	17.6	8.13	12.71	0.14	
SRT 4s	9/2/10	1143	1.9	Flood	1.7	52	22	313	0.4	6.2	44	1237	1.9	60	26	366	0.11	34.05	18848	17.3	7.99	8.39	0.24	
SRT 4s	10/19/10	1123	1.2	Flood	1.3	40	22	302	0.0	0.3	45	1250	1.4	45	24	341	0.21	34.69	19202	17.3	8.02	8.05	0.07	
SRT 4s	11/3/10	1001	0.6	Flood	1.8	56	21	300	1.1	15.5	48	1337	2.0	61	26	369	0.86	34.63	19169	17.4	7.98	7.52	5.50	
SRT 4s	12/6/10	937	0.7	Ebb	1.4	42	23	317	0.7	9.8	50	1392	1.8	57	27	381	0.13	34.47	19080	16.6	7.93	7.74	0.17	
SRT 4s	1/26/11	1014	0.8	Ebb	2.4	73	31	430	0.2	3.1	65	1833	2.6	82	37	515	0.16	34.54	19119	14.7	7.78	7.13	0.25	
SRT 4s	4/13/11	1014	0.4	Flood	1.7	52	24	331	0.4	5.0	53	1493	1.6	50	27	380	0.16	34.67	19191	16.3	7.93	7.26	0.14	
SRT 4s	7/18/11	935	0.6	Ebb	1.6	49	17	240	0.5	7.2	42	1185	1.7	52	23	327	25.6	34.45	19069	18.5	7.86	9.08	5.76	
SRT 4s	10/5/11	956	1.6	Flood	2.5	77	44	615	0.4	5.5	211	5925	3.1	96	52	723	1.25	27.78	15377	19.7	7.95	9.31	2.45	
SRT 4s	1/17/12	830	0.7	Flood	1.4	44	18	256	0.4	5.0	39	1088	1.7	54	23	315	0.29	34.54	19119	16.8	7.93	7.20	0.15	
SRT 4s	4/19/12	1043	0.3	Flood	1.7	53	22	310	0.7	9.7	45	1265	1.9	59	25	355	0.46	34.57	19135	15.5	7.94	8.22	0.08	
SRT 4s	7/9/12	1140	1.1	Ebb	1.8	55	28	386	0.3	3.7	59	1662	3.3	101	137	1915	1.50	35.29	19534	15.2	7.90	9.26	0.58	
SRT 4s	10/8/12	1047	1.8	High	0.8	26	11	148	0.2	3.2	33	918	1.2	39	18	257	0.26	35.05	19401	22.0	8.22	10.20	1.67	

NELHA Water Quality Laboratory

Seawater Return Trench 4

1/28/1992 - 4/2/2024

Site ID	Date	Time	Tide		PO_4^{3-}		$NO_3^- \& NO_2^-$		$NH_4^+ \& NH_3$		Si		TDP		TDN		Turbidity	Salinity	Chloride	Temp.	pH	DO	Chl a	ORP
	(M/D/Y)	(2400)	(ft)	(cycle)	(µM)	(µg P/L)	(µM)	(µg N/L)	(µM)	(µg N/L)	(µM)	(µg Si/L)	(µM)	(µg P/L)	(µM)	(µg N/L)	(NTU)	(PSU)	(mg/L)	(˚C)	(unit)	(ppm)	(µg/L)	(mV)
SRT 4s	1/3/13	1020	1.2	Ebb	1.2	37	16	227	0.6	7.8	31	877	1.5	46	23	329	0.18	34.87	19301	17.5	8.25	11.23	0.85	
SRT 4s	4/1/13	1031	0.4	Ebb	1.3	40	17	240	0.4	5.4	37	1034	1.6	51	21	299	0.67	34.68	19196	19.1	8.06	7.90	0.65	
SRT 4s	7/8/13	1004	-0.1	Low	1.7	53	22	313	1.3	18.0	46	1285	1.9	58	35	486	0.48	34.87	19301	17.9	7.87	6.96	0.03	
SRT 4s	10/10/13	1119	1.7	Ebb	2.0	62	26	360	0.6	8.9	51	1432	2.2	67	30	420	0.72	34.77	19246	14.8	7.90	6.62	0.25	
SRT 4s	1/22/14	910	0.7	High	1.3	41	20	275	0.9	12.2	43	1211	1.6	50	30	417	0.61	34.95	19346	16.2	7.89	6.26	38.89	
SRT 4s	4/9/14	1057	0.7	Flood	1.4	44	22	306	1.3	18.1	49	1371	1.7	52	27	373	0.16	34.64	19174	16.4	7.85	6.20	0.15	
SRT 4s	7/16/14	1109	0.5	Ebb	1.5	47	24	337	1.8	24.6	39	1092	1.7	53	27	375	0.32	34.98	19362	17.4	7.92	7.25	0.08	
SRT 4s	10/15/14	1144	1.5	Ebb	1.5	46	32	450	1.9	26.1	40	1114	1.4	42	21	288	0.35	34.84	19285	18.0	7.93	6.24	0.12	
SRT 4s	2/3/15	812	0.5	Ebb	7.0	217	47	653	1.0	13.7	65	1832	6.0	187	23	326	8.22	34.88	19307	16.3	7.77	6.65	21.87	
SRT 4s	5/5/15	1709	2.0	High	1.3	41	19	270	1.9	27.0	32	906	1.7	52	30	418	0.61	34.57	19135	17.3	7.99	8.53	0.05	
SRT 4s	7/10/15	1016	1.4	Flood	1.5	46	25	350	0.5	7.1	39	1083	1.3	41.3	35	485	0.32	34.52	19108	19.7	8.06	9.95	1.18	
SRT 4s	11/5/15	1049	1.6	Flood	1.5	47	22	302	0.9	12.9	36	1014	1.8	56	31	436	0.24	34.35	19014	19.3	7.92	7.53	0.85	
SRT 4s	1/19/16	849	-0.2	Low	1.6	49	28	393	0.4	5.7	49	1378	2.1	64	39	553	0.61	34.24	18953	16.3	7.89	6.40	1.55	
SRT 4s	4/12/16	1053	0.2	Ebb	1.6	48	27	376	0.8	10.6	38	1069	2.2	67	30	417	1.19	34.69	19202	16.9	8.07	7.57	10.81	
SRT 4s	7/14/16	1045	1.4	Flood	1.2	37	16	229	0.6	8.0	32	913	1.7	53	24	343	0.38	34.52	19108	21.5	8.17	8.95	0.75	
SRT 4s	10/20/16	943	1.7	Ebb	1.8	56	29	399	0.5	7.1	59	1668	3.0	94	42	587	5.07	34.61	19158	19.4	8.08	7.11	4.05	
SRT 4s	2/23/17	1110	0.6	Flood	0.5	16	10	134	0.0	0.6	35	983	0.9	29	17	238	1.84	33.33	18449	21.1	8.13	8.45	23.19	
SRT 4s	4/10/17	1114	0.2	Flood	0.8	24	11	147	0.2	2.2	29	809	1.0	32	21	288	1.35	35.02	19384	20.4	8.21	9.67	49.71	
SRT 4s	7/13/17	957	0.4	Ebb	1.1	35	14	196	0.1	2.1	33	937	1.4	44	18	254	0.99	34.81	19268	19.5	7.99	6.46	9.76	
SRT 4s	10/12/17	905	2.0	High	1.3	40	18	250	0.2	3.5	39	1082	1.5	48	20	283	0.43	34.50	19097	19.5	7.92	6.95	0.38	
SRT 4s	1/11/18	940	1.0	Flood	1.7	53	28	394	0.0	0.3	61	1710	2.2	67	30	424	0.80	34.54	19119	11.8	7.78	8.04	11.01	
SRT 4s	4/24/18	946	0.7	Flood	2.0	62	29	401	5.2	72.2	62	1731	2.2	68	36	507	0.31	34.52	19108	14.5	7.77	8.19	0.20	
SRT 4s	7/12/18	1125	0.5	Flood	2.0	61	22	306	0.0	0.1	61	1719	2.2	69	29	411	0.29	33.26	18410	18.9	8.08	9.94	1.05	
SRT 4s	10/11/18	1052	0.4	Low	1.8	54	25	344	2.2	31.2	71	2000	2.3	72	35	490	0.69	32.74	18122	18.4	8.00	6.29	0.94	
SRT 4s	1/15/19	1056	1.2	High	2.2	69	28	393	0.1	1.1	69	1936	2.4	74	31	437	0.45	34.67	19191	13.6	7.80	9.13	1.38	
SRT 4s	4/25/19	1021	0.4	Ebb	2.2	68	31	437	7.1	99.6	67	1879	2.3	71	40	554	0.43	35.54	19672	13.4	7.39	9.69	0.10	
SRT 4s	7/17/19	1059	0.2	Flood	2.8	86	44	623	0.0	0.5	144	4052	3.1	97	47	657	0.50	31.48	17425	18.4	7.97	11.25	1.52	
SRT 4s	10/8/19	1400	1.9	High	4.1	127	99	1389	0.6	8.0	308	8642	4.3	132	104	1463	0.36	21.82	12078	23.9	7.92	8.06	0.16	
SRT 4s	1/9/20	1058	0.5	Low	5.3	163	120	1682	-0.2	-2.4	389	10937	5.5	172	121	1700	0.48	20.12	11137	21.4	7.91	6.76	0.46	
SRT 4s	5/21/20	1200	0.7	Flood	3.8	117	86	1208	1.4	20.2	341	9564	4.1	127.6	94	1323	0.63	17.86	9886	26.1	8.20	9.37	1.76	
SRT 4s	7/14/02	1132	0.4	High	4.1	128	88	1235	0.5	7.6	435	12231	4.0	125	84	1178	0.70	15.10	8358	27.3	8.43	12.85	3.23	
SRT 4s	10/14/20	1125	0.4	Flood	2.7	85	38	537	1.1	15.8	296	8326	2.9	90	60	843	3.00	16.18	8956	30.2	8.98	21.49	5.57	
SRT 4s	1/14/02	1115	0.3	Low	2.8	87	35	493	0.2	3.3	90	2531	2.5	78	42	583	2.72	34.26	18964	11.8	8.03	10.37	11.1	
SRT 4s	4/13/21	1136	0.0	Flood	4.1	128	83	1168	7.3	102.5	261	7344	4.4	137.4	110	1534	8.14	16.95	9382	27.8	8.98	23.02	4.84	
SRT 4s	7/1/21	1520	0.7	Low	3.2	98	53	744	1.8	25.0	245	6894	3.3	101	79	1101	1.81	18.16	10052	28.9	9.08	18.91	12.4	
SRT 4s	10/19/21	1424	1.7	High	5.8	180	97	1356	1.3	17.9	308	8654	5.7	177	115	1606	0.73	17.52	9698	28.0	8.56	16.19	0.82	
SRT 4s	2/3/22	1036	0.3	Ebb	6.1	189	116	1620	1.0	14.3	281	7899	6.4	198	138	1938	0.90	20.07	11109	21.7	8.17	8.66	4.73	
SRT 4s	4/12/22	1119	0.8	Flood	1.6	49	24	339	1.0	13.6	176	4934	2.2	68.3	46	648	2.64	25.01	13844	27.0	8.66	18.62	138	
SRT 4s	7/21/22	1130	1.5	High	1.4	42	20	285	0.5	7.4	46	1292	1.3	41.7	28	392	1.06	34.75	19235	17.3	8.10	11.10	3.84	
SRT 4s	10/12/22	1027	0.2	Low	3.4	107	55	777	1.5	20.4	352	9872	3.6	110.0	70	976	2.78	18.51	10246	26.2	8.36	13.95	11.9	

NELHA Water Quality Laboratory

Seawater Return Trench 4

1/28/1992 - 4/2/2024

Site ID	Date	Time	Tide		PO_4^{3-}		$NO_3^- \& NO_2^-$		$NH_4^+ \& NH_3$		Si		TDP		TDN		Turbidity	Salinity	Chloride	Temp.	pH	DO	Chl a	ORP
	(M/D/Y)	(2400)	(ft)	(cycle)	(µM)	(µg P/L)	(µM)	(µg N/L)	(µM)	(µg N/L)	(µM)	(µg Si/L)	(µM)	(µg P/L)	(µM)	(µg N/L)	(NTU)	(PSU)	(mg/L)	(˚C)	(unit)	(ppm)	(µg/L)	(mV)
SRT 4s	1/17/23	1038	1.0	High	0.8	24	5	76	0.5	7.6	61	1712	0.9	27.6	18	257	6.04	30.88	17093	22.2	8.66	17.64	18.0	
SRT 4s	4/21/23	1115	-0.1	Flood	0.9	28	9	130	1.7	23.9	244	6854	1.3	40.0	35	487	7.99	19.46	10772	29.8	8.92	21.85	23.20	
SRT 4s	7/12/23	1617	1.5	Ebb	2.1	64	38	530	0.8	10.6	149	4189	2.0	62	42	589	1.72	28.16	15587	22.2	8.12	9.66	1.54	
SRT 4s	10/24/23	1629	1.0	Ebb	3.4	104	82	1154	1.6	22.2	380	10666	3.5	108	102	1430	0.50	15.75	8718	28.4	8.59	16.00	0.31	
SRT 4s	1/11/24	1509	1.0	High	2.3	70	56	787	0.3	4.6	267	7509	2.3	70	64	892	0.52	20.00	11071	25.5	8.97	15.45	0.32	108.3
SRT 4s	4/2/24	1549	0.1	Low	2.9	88	85	1186	1.3	18.9	266	7476	2.9	91.1	96	1349	0.68	17.32	9587	28.4	9.05	22.90	0.53	125.8
Mean			0.77		2.88	89	61.8	866	1.95	27	307	8623	3.19	98.9	73.3	1027	0.97	23.3	12914	21.5	8.09	8.75	5.08	117.1
Std. Dev.			1		1.93	60	54.1	758	5.34	75	235	6605	2.09	64.7	61.6	863	2.36	9.9	5474	4.81	0.29	3.40	13.09	12.37
Maximum			2.10		12.5	387	465	6515	46.5	651	725	20362	12.7	393	477	6677	25.6	35.5	19672	30.2	9.08	23.0	138.0	125.8
Minimum			-0.20		0.52	16	2.90	41	-0.17	-2	3.12	87.6	0.4	11.9	16.49	231	0.06	10.4	5751	8.65	7.39	1.60	0.00	108.3
n			165		164	164	164	164	164	164	164	164	162	162	162	162	159	165.0	164	166	165	160	165	2