

SOUTH BAY OCEAN OUTFALL MONTHLY RECEIVING WATERS MONITORING REPORT

SOUTH BAY WATER RECLAMATION PLANT

NPDES Permit No. CA0109045
SDRWQCB Order No. R9-2013-0006

MARCH 2019

Environmental Monitoring and Technical Services
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April 30, 2019

Mr. David W. Gibson, Executive Officer
California Regional Water Quality Control Board
San Diego Region
2375 Northside Drive, Suite 100
San Diego, CA 92108

Attention: POTW Compliance Unit

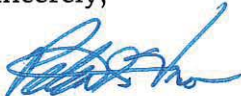
Dear Mr. Gibson:

Enclosed is the March 2019 Monthly Receiving Waters Monitoring Report for the South Bay Ocean Outfall, South Bay Water Reclamation Plant as required per Order No. R9-2013-0006 as amended by Order Nos. R9-2014-0071 and R9-2017-0023, NPDES Permit No. CA0109045.

This report includes raw ocean monitoring data and summaries of water quality parameters and ocean conditions measured during the month for the South Bay outfall region. Also included are summaries of compliance with the bacterial water-contact standards specified in the California Ocean Plan. These data are also presented in the monthly report submitted by the International Boundary and Water Commission, U.S. Section for discharge from the South Bay International Wastewater Treatment Plant (Order No. R9-2014-0009 as amended Order Nos. R9-2014-0094 and R9-2017-0024, NPDES Permit No. CA0108928).

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sincerely,



Peter S. Vroom, Ph.D.
Deputy Director, Public Utilities Department

TS/amw

cc: U.S. Environmental Protection Agency, Region 9

INTRODUCTION

Monthly reports of water quality and ocean conditions from Playa Blanco, Mexico to Coronado, USA are submitted to the San Diego Regional Water Quality Control Board and U.S. EPA Region 9 in accordance with Order No. R9-2013-0006 as amended by Order Nos. R9-2014-0071 and R9-2017-0023, NPDES Permit No. CA0109045, for the South Bay Water Reclamation Plant (SBWRP), South Bay Ocean Outfall (SBOO). This report includes receiving waters monitoring data collected from all shore, kelp and offshore stations specified in the above order. Data for influent and effluent monitoring activities for the SBWRP are presented in separate reports.

MATERIALS AND METHODS

Shore Stations

Water quality monitoring was conducted at 11 stations located along the shore from Playa Blanca, Mexico to Coronado, USA (see station locations map). Three sites are located south of the international border (stations S0, S2, S3), while eight sites are in the United States (stations S4–S6 and S8–S12).

Seawater samples were collected from the surf zone at each station on a weekly basis. These samples were subsequently transported to the City's Marine Microbiology Laboratory and analyzed for the presence of total coliform, fecal coliform, and *Enterococcus* bacteria. Visual observations of water color and clarity, surf height, human or animal activity, and weather conditions were recorded at the time of sample collection. Wind speed and direction were measured using a hand-held anemometer with a compass.

Kelp Bed Stations

Seven kelp bed and other nearshore stations (I19, I24, I25, I26, I32, I39, I40; collectively referred to as “kelp” stations herein) were sampled four times during the month according to NPDES permit specifications. Six stations (I19, I24, I25, I26, I32, I40) are located along the 9- m depth contour, and one (I39) is located along the 18-m depth contour. Three of these stations, I25, I26, and I39, were selected based on their proximity to suitable substrates for the Imperial Beach kelp bed (see station locations map); however, this kelp bed has been historically transient and variable in terms of size and density. Thus, these three stations are only occasionally located within an area where kelp is actually found.

The seven kelp stations are sampled on a weekly basis during the month. Routine monitoring at each kelp site consists of collecting seawater samples at three discrete depths for bacteriological analyses (total coliforms, fecal coliforms, and *Enterococcus* bacteria) and generating water column profiles of various physical/chemical parameters, including water temperature, salinity, density, dissolved oxygen, pH, chlorophyll *a*, and transmissivity. Visual observations of weather and water conditions are also recorded at all stations.

Seawater samples at the kelp bed stations are primarily collected using a CTD-integrated rosette sampler with Niskin bottles. Aliquots for bacteriological analyses were drawn from these bottles into sterile sample bottles for processing at the City's Marine Microbiology Laboratory. Water column profiles of the various physical/chemical parameters were taken using a CTD. The CTD collected these physical/chemical data at a rate ≥ 4 scans per second. The data were then internally averaged using the CTD proprietary software, Seasoft, to create water column profiles equivalent

to one reading per meter. Additionally, CTD profile data for each water sample depth are presented with the bacteriological data.

Offshore Stations

Quarterly offshore water quality sampling is typically conducted over three days during February, May, August, and November for a total of 40 stations during each month (see station locations map). These offshore stations (I1–I40) are arranged in a grid surrounding the discharge site, and are generally located along the 9, 19, 28, 38, and 55-m depth contours. The seven offshore sites designated as kelp bed stations (described above) are included as part of the monthly offshore water quality sampling, however the data from these seven stations are reported within the kelp bed station section of the report with the other four days of kelp bed water quality sampling. Monitoring at all sites included measurements of various physical/chemical parameters, including water temperature, salinity, density, dissolved oxygen, pH, chlorophyll *a*, transmissivity, and chromomorphous dissolved organic matter (CDOM). Visual observations of weather and water conditions were also recorded at all stations. Seawater samples for the analysis of indicator bacteria, suspended solids, and oil and grease concentrations were collected at 28 of the stations.

At these offshore stations, water samples for bacteriological analyses were collected using a rosette sampler with Niskin bottles. Measurements of the physical/chemical parameters listed above were taken using a Sea-Bird CTD. Additionally, CTD profile data for depths closest to those at which bacteriological samples were collected were extracted from the CTD profiles and are presented with the bacteriological data.

Bacteriological Reporting and Quality Assurance

Estimated values for bacteriological analyses are denoted by greater than (>), less than (<), or estimated (e) qualifiers and result from plates with colony counts above or below the permissible counting limits established in Bordner et al. (1978)^[1]. This document defines membrane filtration limits of 20–80 colonies per plate for total coliforms and 20–60 colonies per plate for fecal coliforms and *Enterococcus*. No Data (ND) is reported if plate counts from all dilutions have a total colony count of >200 per plate.

Results of the bacteriological analysis of seawater samples collected from each of the shore, kelp bed, and offshore stations located within State waters are assessed relative to the geometric mean and single sample maximum water-contact standards specified in the California Ocean Plan (Ocean Plan). The seven standards are defined as follows:

30-day Geometric Mean: The following standards are based on the geometric mean of the five most recent samples from each site.

- (1) Total coliform density shall not exceed 1000 CFU/100 mL;
- (2) Fecal coliform density shall not exceed 200 CFU/100 mL;
- (3) *Enterococcus* density shall not exceed 35 CFU/100 mL.

^[1]Bordner, R., J. Winter, and P. Scarpino (eds.). (1978). Microbiological Methods for Monitoring the Environment: Water and Wastes, EPA Research and Development, EPA-600/8-78-017. 337 p.

Single Sample Maximums:

- (1) Total coliform density shall not exceed 10,000 CFU/100 mL;
- (2) Fecal coliform density shall not exceed 400 CFU/100 mL;
- (3) *Enterococcus* density shall not exceed 104 CFU/100 mL;
- (4) Total coliform density shall not exceed 1,000 CFU/100 mL when the fecal coliform/total coliform ratio exceeds 0.1.

Compliance with the seven Ocean Plan standards are summarized below for the stations located in USA waters. In contrast, no such compliance summaries are presented for the three shore stations located in Mexican waters south of the International Border (i.e., S0, S2, and S3) since this region is not subject to the Ocean Plan standards.

Quality controls of bacteriological data include laboratory and field duplicate analyses. Laboratory duplicates are performed on approximately 10% of the water quality samples, while field duplicates are performed six times a month (see Appendix A). Laboratory duplicates represent two aliquots of the original sample that are split in the laboratory and analyzed by the same analyst using identical procedures within the same analytical run. The results of these analyses provide a measure of intra-analyst precision. In contrast, field duplicates represent two separate samples collected at the same time from the same site, which are handled under identical circumstances and treated exactly the same throughout field and lab procedures. The results of these analyses provide a measure of precision associated with sample collection, preservation, storage, and lab procedures. The sign test (see Gilbert, 1987) is used to statistically compare both the results from the laboratory duplicates, as well as the results from the field duplicates. These data will be further analyzed in the City's 2019 Quality Assurance Report, which will be completed in March 2020.

SUMMARY OF RESULTS

➤ **Shoreline Water Quality Sampling**

- Because of site access restrictions in Mexico, the South Bay shoreline sampling is typically carried out on the same day each week (i.e., Tuesday) in order to coordinate sampling between the Mexican and USA based stations. Seawater samples at the three shore stations located south of the USA/Mexico border (i.e., stations S0, S2 and S3) are presently collected by the Comisión Internacional de Límites y Aguas (CILA) and transported to the IBWC for subsequent delivery to the City's Marine Microbiology Lab, while samples from the eight stations located in USA waters are sampled by City staff.
- During March, seven of the eight shore stations located north of the border were out of compliance with various California Ocean Plan (Ocean Plan) water contact standards on one or more days as follows (these standards do not apply to stations located in Mexican waters):
 - The 30-day geometric mean standard for total coliform densities was exceeded at stations S4, S5, S10, and S11.
 - The 30-day geometric mean standard for fecal coliform densities was exceeded at stations S4, S5, S10, and S11.
 - The 30-day geometric mean standard for *Enterococcus* bacteria was exceeded at stations S4, S5, S6, S10, and S11.

- The single sample maximum (SSM) standard for total coliform densities was exceeded at stations S4, S5, S6, S10, S11, and S12.
- The SSM standard for fecal coliform densities was exceeded at stations S4, S5, S6, S10, S11, and S12.
- The SSM standard for *Enterococcus* bacteria was exceeded at stations S4, S5, S6, S9, S10, S11, and S12.
- The SSM standard that states total coliform densities shall not exceed 1000 CFU/100 mL when the fecal:total ratio exceeds 0.1 was exceeded at stations S4, S5, S6, S10, S11, and S12.
- Per permit requirements, resamples were collected in response to these SSM exceedances (see Table 2.8 for details).
- Although the Ocean Plan standards do not apply to these stations, bacteria densities exceeded one or more benchmark levels (i.e., total coliforms >10,000 CFU/100mL; fecal coliforms >400 CFU/100 mL; *Enterococcus* >104 CFU/100 mL; total >1000 CFU/100 mL & F:T ratio >0.1) in seawater samples collected at stations S0, S2, and S3 on one or more days during March.
- Historical analyses of Ocean Plan compliance rates for the South Bay outfall shore and kelp monitoring stations, combined with the results of satellite imagery data, suggest that outflows from the Tijuana River and Los Buenos Creek, as well as surface runoff during or after rain events (storms), are likely to be the cause of impacted water quality along the shore and in near shore recreational waters in the South Bay region. See the City of San Diego’s most recent *Biennial Receiving Waters Monitoring and Assessment Report for the Point Loma and South Bay Ocean Outfalls* for details (<https://www.sandiego.gov/public-utilities/sustainability/ocean-monitoring/reports>).
- Notable observations for March included a sewage-like odor at station S4 on March 12, and 14, station S5 on March 1, 5, 10, 12, 14, 16, 18, 28, and 29, station S10 on March 12, and 14, and station S11 on March 10.

➤ **Kelp Bed Water Quality Sampling**

- The seven kelp bed water quality stations (I19, I24, I25, I26, I32, I39, I40) were sampled four times during the month (i.e. March 4, 11, 18, 25).
- During March, five of seven stations were out of compliance with various Ocean Plan water contact standards on one or more days as follows:
 - The 30-day geometric mean standard for total coliform densities was exceeded at stations I19 and I40.
 - The 30-day geometric mean standard for fecal coliform densities was exceeded at stations I19 and I40.
 - The 30-day geometric mean standard for *Enterococcus* bacteria was exceeded at stations I19, and I40.
 - The single sample maximum (SSM) standard for total coliform densities was exceeded at stations I19, I24, I25, and I40.
 - The SSM standard for fecal coliform densities was exceeded at stations I19, I24, I25, I39 and I40.
 - The SSM standard for *Enterococcus* bacteria was exceeded at stations I19, I24, I25, and I40.

- The SSM standard that states total coliform densities shall not exceed 1000 CFU/100 mL when the fecal:total ratio exceeds 0.1 was exceeded at stations I19, I24, I25, and I40.
 - Water column temperatures ranged from 12.44 to 15.81°C. The difference between surface and bottom waters ranged from 0.32 to 3.34°C, indicating the water column was stratified at some of these sites during the month.
 - Chlorophyll *a* concentrations ranged from 0.46 to 6.83 µg/L at the kelp bed stations, suggesting the presence of phytoplankton blooms during the month.
 - Nothing of sewage origin was observed at any of the kelp stations.
- **Offshore Water Quality Sampling**
- Quarterly offshore water quality sampling was not conducted during March. The next quarterly sampling is scheduled for May 2019.



TABLES AND FIGURES

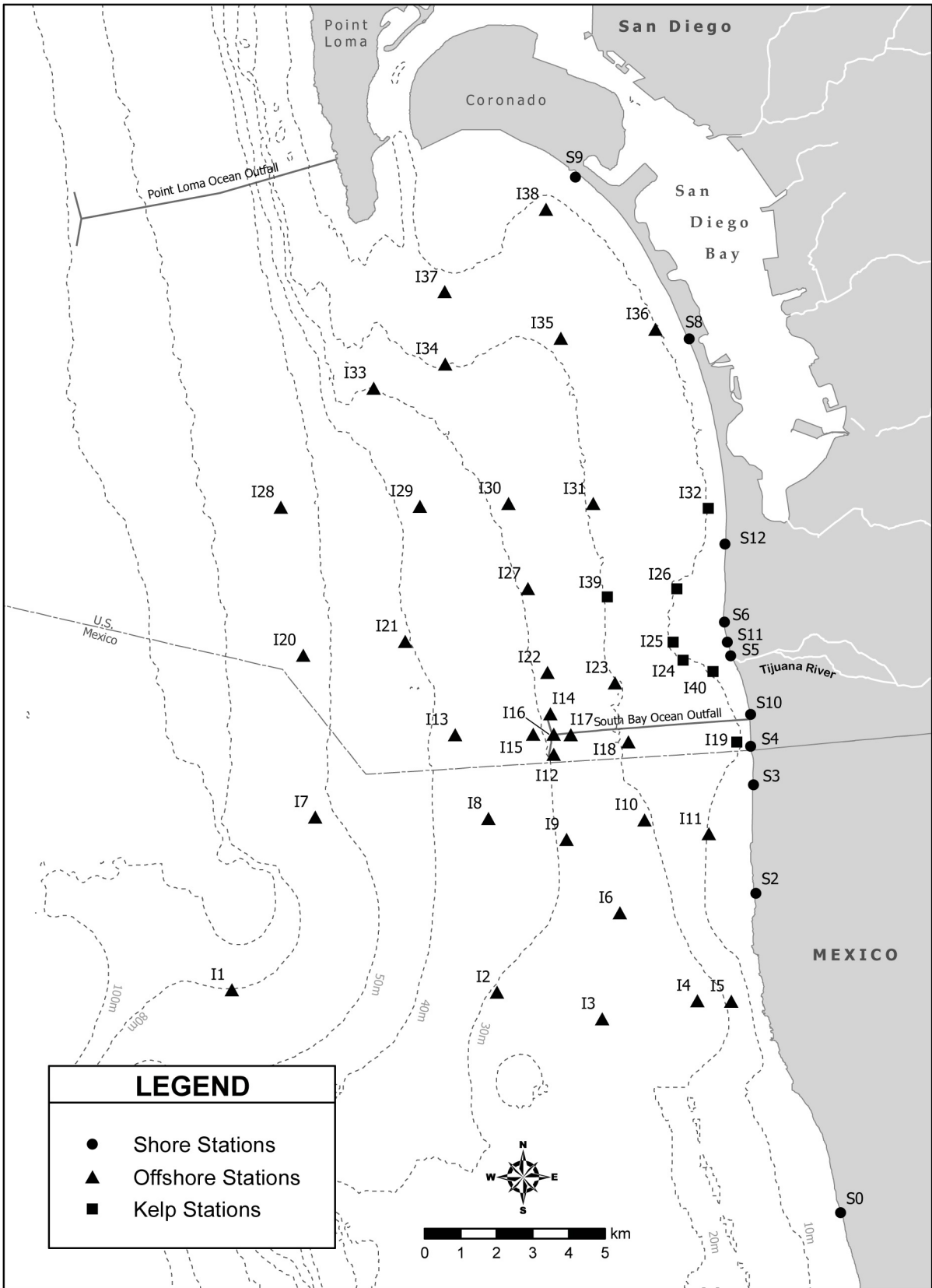


Figure 1.1 Station Map

Shore Stations

Table 2.1

Summary of compliance with the Ocean Plan's 30-day Geometric Mean standard for total coliform bacteria at the SBOO shore stations. Data are based on the geometric mean of the five most recent samples from each site over the previous 30 days unless otherwise noted (*). Values >1,000 CFU/100 mL exceed the standard.

Date	S4	S5	S6	S8	S9	S10	S11	S12
01 Mar 2019	2410	7399	710	18*	18*	5885	4006	23*
02 Mar 2019	2410	8185	710	18*	18*	6633	4006	23*
03 Mar 2019	2410	8185	710	18*	18*	6633	3488	23*
04 Mar 2019	2410	8185	710	18*	18*	6633	3488	23*
05 Mar 2019	2560	8185	493	12	12	6040	3162	22
06 Mar 2019	2560	8185	493	12	12	6040	3162	22
07 Mar 2019	2654	7386	493	12	12	6040	2876	22
08 Mar 2019	2785	7583	481	10*	10*	6040	3082	13*
09 Mar 2019	2785	7583	481	10*	10*	6040	3082	13*
10 Mar 2019	2935	7618	481	10*	10*	6040	2664	13*
11 Mar 2019	2935	7618	481	10*	10*	6040	2664	13*
12 Mar 2019	4069	7618	355	7	11	6040	1900	11
13 Mar 2019	4069	7618	355	7	11	6040	1900	11
14 Mar 2019	5078	7618	286	6*	9*	7125	1679	17*
15 Mar 2019	5078	7618	286	6*	9*	7125	1679	17*
16 Mar 2019	3201	7618	146	6*	9*	5143	1340	17*
17 Mar 2019	3201	7618	146	6*	9*	5143	1340	17*
18 Mar 2019	2805	7067	57	6*	9*	4639	1017	17*
19 Mar 2019	2805	7067	57	6*	9*	4639	1017	17*
20 Mar 2019	1479	7330	152	11	11	3095	1454	62
21 Mar 2019	1390	9283	150*	10*	16*	2626	1842	48*
22 Mar 2019	1390	9283	250	10*	16*	2626	1972	66
23 Mar 2019	1390	9283	250	10*	16*	2944	1954	66
24 Mar 2019	1390	9283	164	10*	16*	2944	1720	66
25 Mar 2019	1390	9283	164	10*	16*	2944	1720	66
26 Mar 2019	1537	9651	306	21	17	3487	2007	37
27 Mar 2019	1537	9651	306	21	17	3487	2007	37
28 Mar 2019	1228	9651	463	21*	10	4257	2007	58
29 Mar 2019	1228	9982	463	21*	10	3822	1384	58
30 Mar 2019	1228	9651	463	21*	10	3822	1391	58
31 Mar 2019	1228	7971	463	21*	10	3822	1391	58

* Geometric mean calculated using n<5

Table 2.2

Summary of compliance with the Ocean Plan's 30-day Geometric Mean standard for fecal coliform bacteria at the SBOO shore stations. Data are based on the geometric mean of the five most recent samples from each site over the previous 30 days unless otherwise noted (*). Values >200 CFU/100 mL exceed the standard.

Date	S4	S5	S6	S8	S9	S10	S11	S12
01 Mar 2019	238	3085	104	5*	2*	987	1099	8*
02 Mar 2019	238	3545	104	5*	2*	1149	1099	8*
03 Mar 2019	238	3734	104	5*	2*	1149	866	8*
04 Mar 2019	238	3734	104	5*	2*	1149	866	8*
05 Mar 2019	275	3734	69	4	2	1128	722	7
06 Mar 2019	275	3734	69	4	2	1128	722	7
07 Mar 2019	309	2976	69	4	2	1020	561	7
08 Mar 2019	350	3144	69	3*	2*	1134	635	5*
09 Mar 2019	350	3144	69	3*	2*	1134	635	5*
10 Mar 2019	399	3675	69	3*	2*	1220	536	5*
11 Mar 2019	399	3675	69	3*	2*	1220	536	5*
12 Mar 2019	680	3675	45	3	2	1316	336	4
13 Mar 2019	680	3675	45	3	2	1316	336	4
14 Mar 2019	963	3675	32	2*	2*	1690	271	5*
15 Mar 2019	963	3675	32	2*	2*	1690	271	5*
16 Mar 2019	638	3675	12	2*	2*	1229	186	5*
17 Mar 2019	638	3675	12	2*	2*	1229	186	5*
18 Mar 2019	582	2994	4	2*	2*	999	132	5*
19 Mar 2019	582	2994	4	2*	2*	999	132	5*
20 Mar 2019	400	2909	15	4	2	827	198	16
21 Mar 2019	461	4015	15*	4*	2*	815	275	14*
22 Mar 2019	461	4015	29	4*	2*	815	298	16
23 Mar 2019	461	4015	29	4*	2*	1081	289	16
24 Mar 2019	461	4015	21	4*	2*	1081	247	16
25 Mar 2019	461	4015	21	4*	2*	1081	247	16
26 Mar 2019	498	4342	41	9	2	1303	306	11
27 Mar 2019	498	4342	41	9	2	1303	306	11
28 Mar 2019	446	4342	57	13*	3	1678	296	16
29 Mar 2019	446	4646	57	13*	3	1298	202	16
30 Mar 2019	446	4342	57	13*	3	1298	238	16
31 Mar 2019	446	3217	57	13*	3	1298	238	16

* Geometric mean calculated using n<5

Table 2.3

Summary of compliance with the Ocean Plan's 30-day Geometric Mean standard for *Enterococcus* at the SBOO shore stations. Data are based on the geometric mean of the five most recent samples from each site over the previous 30 days unless otherwise noted (*). Values >35 CFU/100 mL exceed the standard.

Date	S4	S5	S6	S8	S9	S10	S11	S12
01 Mar 2019	283	3520	181	7*	3*	874	623	17*
02 Mar 2019	283	4143	206	7*	3*	1018	699	17*
03 Mar 2019	283	4270	206	7*	3*	929	775	17*
04 Mar 2019	283	4270	206	7*	3*	929	775	17*
05 Mar 2019	210	4270	130	6	3	570	429	11
06 Mar 2019	210	4270	130	6	3	570	429	11
07 Mar 2019	210	3303	130	6	3	428	338	11
08 Mar 2019	180	3063	127	4*	2*	381	353	7*
09 Mar 2019	180	3063	127	4*	2*	381	353	7*
10 Mar 2019	148	2943	117	4*	2*	327	380	7*
11 Mar 2019	148	2943	117	4*	2*	327	380	7*
12 Mar 2019	287	2943	73	4	3	446	264	5
13 Mar 2019	287	2943	73	4	3	446	264	5
14 Mar 2019	403	2943	65	3*	2*	708	233	5*
15 Mar 2019	403	2943	65	3*	2*	708	233	5*
16 Mar 2019	253	2943	27	3*	2*	450	133	5*
17 Mar 2019	253	2943	27	3*	2*	450	133	5*
18 Mar 2019	253	2380	10	3*	2*	450	71	5*
19 Mar 2019	253	2380	10	3*	2*	450	71	5*
20 Mar 2019	209	2222	8	3	4	330	89	12
21 Mar 2019	210	2528	5*	3*	5*	326	89	7*
22 Mar 2019	210	2528	5	3*	5*	326	110	10
23 Mar 2019	209	2974	5	3*	5*	339	94	10
24 Mar 2019	117	2907	5	3*	5*	204	69	10
25 Mar 2019	117	2907	5	3*	5*	204	69	10
26 Mar 2019	103	2927	15	6	11	239	96	7
27 Mar 2019	103	2927	15	6	11	239	96	7
28 Mar 2019	76	2927	27	8*	11	353	91	10
29 Mar 2019	76	3237	27	8*	11	358	62	10
30 Mar 2019	76	2927	27	8*	11	358	61	10
31 Mar 2019	76	2054	27	8*	11	265	61	10

* Geometric mean calculated using n<5

Table 2.4

Summary of compliance at the SBOO shore stations with the Ocean Plan's Single Sample Maximum standard for total coliform bacteria, which states that total coliform density shall not exceed 10,000 CFU/100 mL.

Date	S4	S5	S6	S8	S9	S10	S11	S12
01 Mar 2019	ns	E	ns	ns	ns	ns	ns	ns
03 Mar 2019	ns	E	ns	ns	ns	ns	ns	ns
05 Mar 2019	IC	E	IC	IC	IC	IC	IC	IC
07 Mar 2019	IC	IC	ns	ns	ns	E	IC	ns
08 Mar 2019	E	IC	ns	ns	ns	E	IC	ns
10 Mar 2019	E	E	ns	ns	ns	E	IC	ns
12 Mar 2019	E	E	IC	IC	IC	E	IC	IC
14 Mar 2019	E	E	ns	ns	ns	E	ns	ns
16 Mar 2019	IC	E	ns	ns	ns	IC	ns	ns
18 Mar 2019	ns	IC	ns	ns	ns	ns	ns	ns
20 Mar 2019	IC	IC	E	IC	IC	IC	IC	E
22 Mar 2019	ns	ns	IC	ns	ns	ns	IC	IC
23 Mar 2019	ns	ns	ns	ns	ns	ns	IC	ns
24 Mar 2019	ns	ns	IC	ns	ns	ns	IC	ns
26 Mar 2019	IC	E	E	IC	IC	E	E	IC
28 Mar 2019	IC	E	IC	ns	ns	IC	E	ns
29 Mar 2019	ns	E	ns	ns	ns	IC	IC	ns
31 Mar 2019	ns	IC	ns	ns	ns	ns	ns	ns

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 2.5

Summary of compliance at the SBOO shore stations with the Ocean Plan's Single Sample Maximum standard for fecal coliform bacteria, which states that fecal coliform density shall not exceed 400 CFU/100 mL.

Date	S4	S5	S6	S8	S9	S10	S11	S12
01 Mar 2019	ns	E	ns	ns	ns	ns	ns	ns
03 Mar 2019	ns	E	ns	ns	ns	ns	ns	ns
05 Mar 2019	E	E	IC	IC	IC	E	E	IC
07 Mar 2019	E	E	ns	ns	ns	E	E	ns
08 Mar 2019	E	E	ns	ns	ns	E	IC	ns
10 Mar 2019	E	E	ns	ns	ns	E	IC	ns
12 Mar 2019	E	E	IC	IC	IC	E	IC	IC
14 Mar 2019	E	E	ns	ns	ns	E	ns	ns
16 Mar 2019	IC	E	ns	ns	ns	IC	ns	ns
18 Mar 2019	ns	E	ns	ns	ns	ns	ns	ns
20 Mar 2019	IC	IC	E	IC	IC	IC	E	E
22 Mar 2019	ns	ns	IC	ns	ns	ns	E	IC
23 Mar 2019	ns	ns	ns	ns	ns	ns	IC	ns
24 Mar 2019	ns	ns	IC	ns	ns	ns	IC	ns
26 Mar 2019	E	E	E	IC	IC	E	E	IC
28 Mar 2019	IC	E	IC	ns	ns	E	E	ns
29 Mar 2019	ns	E	ns	ns	ns	IC	IC	ns
31 Mar 2019	ns	IC	ns	ns	ns	ns	ns	ns

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 2.6

Summary of compliance at the SBOO shore stations with the Ocean Plan's Single Sample Maximum standard for *Enterococcus* bacteria, which states that *Enterococcus* density shall not exceed 104 CFU/100 mL.

Date	S4	S5	S6	S8	S9	S10	S11	S12
01 Mar 2019	ns	E	ns	ns	ns	ns	ns	ns
03 Mar 2019	ns	E	ns	ns	ns	ns	ns	ns
05 Mar 2019	IC	E	IC	IC	IC	IC	IC	IC
07 Mar 2019	ns	E	ns	ns	ns	ns	ns	ns
08 Mar 2019	ns	IC	ns	ns	ns	ns	ns	ns
10 Mar 2019	ns	ns	ns	ns	ns	ns	ns	ns
12 Mar 2019	E	E	IC	IC	IC	E	IC	IC
14 Mar 2019	E	E	ns	ns	ns	E	ns	ns
16 Mar 2019	IC	E	ns	ns	ns	IC	ns	ns
18 Mar 2019	ns	E	ns	ns	ns	ns	ns	ns
20 Mar 2019	IC	IC	IC	IC	IC	IC	E	E
22 Mar 2019	ns	ns	ns	ns	ns	ns	E	IC
23 Mar 2019	ns	ns	ns	ns	ns	ns	IC	ns
24 Mar 2019	ns	ns	ns	ns	ns	ns	IC	ns
26 Mar 2019	E	E	E	IC	E	E	E	IC
28 Mar 2019	IC	E	IC	ns	IC	E	E	ns
29 Mar 2019	ns	E	ns	ns	ns	E	IC	ns
31 Mar 2019	ns	E	ns	ns	ns	IC	ns	ns

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 2.7

Summary of compliance at the SBOO shore stations with the Ocean Plan's Single Sample Maximum standard for total coliform bacteria and the fecal/total coliform ratio (F:T), which states that total coliform density shall not exceed 1,000 CFU/100 mL when F:T > 0.1.

Date	S4	S5	S6	S8	S9	S10	S11	S12
01 Mar 2019	ns	E	ns	ns	ns	ns	ns	ns
03 Mar 2019	ns	E	ns	ns	ns	ns	ns	ns
05 Mar 2019	E	E	IC	IC	IC	E	E	IC
07 Mar 2019	E	E	ns	ns	ns	E	E	ns
08 Mar 2019	E	E	ns	ns	ns	E	E	ns
10 Mar 2019	E	E	ns	ns	ns	E	IC	ns
12 Mar 2019	E	E	IC	IC	IC	E	IC	IC
14 Mar 2019	E	E	ns	ns	ns	E	ns	ns
16 Mar 2019	IC	E	ns	ns	ns	IC	ns	ns
18 Mar 2019	ns	E	ns	ns	ns	ns	ns	ns
20 Mar 2019	IC	IC	E	IC	IC	IC	E	E
22 Mar 2019	ns	ns	E	ns	ns	ns	E	IC
23 Mar 2019	ns	ns	ns	ns	ns	ns	E	ns
24 Mar 2019	ns	ns	IC	ns	ns	ns	IC	ns
26 Mar 2019	E	E	E	IC	IC	E	E	IC
28 Mar 2019	IC	E	IC	ns	ns	E	E	ns
29 Mar 2019	ns	E	ns	ns	ns	IC	IC	ns
31 Mar 2019	ns	E	ns	ns	ns	ns	ns	ns

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 2.8

Summary of water quality parameters at the SBOO shore stations for each sample date. Densities of total coliform (Total), fecal coliform (Fecal), and *Enterococcus* (Entero) are reported as CFU/100 mL. The fecal:total coliform ratio (F:T) is unitless. Comments follow the data summary.

Station	Date	Time	Total	Fecal	Entero	F:T
S0	05 Mar 2019	1050	48	8e	2e	0.17
S0	12 Mar 2019	1100	14000	1300e	2200e	0.09
S0	20 Mar 2019	1040	220e	42	100	0.19
S0	26 Mar 2019	1100	1000	100e	62	0.10
S2	05 Mar 2019	1025	1100	160e	2e	0.15
S2	12 Mar 2019	1225	120e	28e	8e	0.23
S2	20 Mar 2019	1130	140	20e	20e	0.14
S2	26 Mar 2019	1240	520	12e	<2	0.02
S3	05 Mar 2019	950	4000	320e	4e	0.08
S3	12 Mar 2019	1145	2600e	320e	100	0.12
S3	20 Mar 2019	1200	560	40	50	0.07
S3	26 Mar 2019	1210	130	74	12e	0.57
S4	05 Mar 2019	858	4400	1000	14e	0.23
S4	07 Mar 2019	716	3800e	1000	ns	0.26
S4	08 Mar 2019	902	15000	3600e	ns	0.24
S4	10 Mar 2019	822	>16000	5000	ns	0.31
S4	12 Mar 2019	949	>16000	14000e	8200	0.88
S4	14 Mar 2019	857	>16000	>12000	1200e	0.75
S4	16 Mar 2019	830	100e	26e	6e	0.26
S4	20 Mar 2019	1235	2e	<2	38e	1.00
S4	26 Mar 2019	900	3800e	1000	240e	0.26
S4	28 Mar 2019	1023	10e	<2	2e	0.20
S5	01 Mar 2019	906	>16000	>12000	>12000	0.75
S5	03 Mar 2019	837	>16000	>12000	>12000	0.75
S5	05 Mar 2019	1013	>16000	>12000	>12000	0.75
S5	07 Mar 2019	844	3800e	500	140e	0.13
S5	08 Mar 2019	1032	2600e	820	100	0.32
S5	10 Mar 2019	926	>16000	9800	ns	0.61
S5	12 Mar 2019	1052	>16000	>12000	>12000	0.75
S5	14 Mar 2019	848	>16000	>12000	>12000	0.75
S5	16 Mar 2019	938	>16000	>12000	>12000	0.75
S5	18 Mar 2019	831	5600	680	400	0.12
S5	20 Mar 2019	1026	1000	60e	40e	0.06
S5	26 Mar 2019	1021	>16000	>12000	>12000	0.75
S5	28 Mar 2019	903	>16000	>12000	>12000	0.75
S5	29 Mar 2019	937	>16000	>12000	>12000	0.75
S5	31 Mar 2019	839	1100	180e	120	0.16
S6	05 Mar 2019	1024	38e	4e	<2	0.11
S6	12 Mar 2019	1111	42	<2	4e	0.05
S6	20 Mar 2019	1048	>16000	3200e	40	0.20
S6	22 Mar 2019	824	1900e	400	ns	0.21
S6	24 Mar 2019	843	20e	4e	ns	0.20
S6	26 Mar 2019	1053	13000	2400e	1100	0.18
S6	28 Mar 2019	915	360e	20e	38e	0.06

Station	Date	Time	Total	Fecal	Entero	F:T
S8	05 Mar 2019	1152	<2	<2	<2	1.00
S8	12 Mar 2019	1207	<2	<2	6e	1.00
S8	20 Mar 2019	917	140e	38	4e	0.27
S8	26 Mar 2019	1230	360e	200e	66	0.56
S9	05 Mar 2019	1230	<2	<2	<2	1.00
S9	12 Mar 2019	1240	12e	<2	4e	0.17
S9	20 Mar 2019	855	20e	2e	52	0.10
S9	26 Mar 2019	1310	<20	6e	220e	0.30
S9	28 Mar 2019	817	ns	ns	2e	ns
S10	05 Mar 2019	852	5200	720	24e	0.14
S10	07 Mar 2019	738	>16000	3600e	ns	0.22
S10	08 Mar 2019	850	>16000	6400	ns	0.40
S10	10 Mar 2019	811	>16000	>12000	ns	0.75
S10	12 Mar 2019	942	>16000	>12000	>12000	0.75
S10	14 Mar 2019	853	>16000	>12000	4000	0.75
S10	16 Mar 2019	818	320e	44	12e	0.14
S10	20 Mar 2019	1226	14e	<20	20e	1.43
S10	26 Mar 2019	836	>16000	7000	3400e	0.44
S10	28 Mar 2019	1018	5000	1000e	720	0.20
S10	29 Mar 2019	1100	1300	100e	400	0.08
S10	31 Mar 2019	740	ns	ns	24e	ns
S11	05 Mar 2019	1019	6000	1800e	10e	0.30
S11	07 Mar 2019	915	6200	960	ns	0.15
S11	08 Mar 2019	1020	1200e	380e	ns	0.32
S11	10 Mar 2019	940	620	98	ns	0.16
S11	12 Mar 2019	1102	46	2e	6e	0.04
S11	20 Mar 2019	1036	5000	760	280e	0.15
S11	22 Mar 2019	819	3400e	560	320e	0.16
S11	23 Mar 2019	857	1800e	220e	36e	0.12
S11	24 Mar 2019	822	480	52	8e	0.11
S11	26 Mar 2019	1036	11000	3200e	1400e	0.29
S11	28 Mar 2019	910	>16000	8200	2600e	0.51
S11	29 Mar 2019	956	16e	<2	2e	0.12
S12	05 Mar 2019	1036	20e	4e	2e	0.20
S12	12 Mar 2019	1121	6e	<2	2e	0.33
S12	20 Mar 2019	956	11000	2200e	380e	0.20
S12	22 Mar 2019	832	240e	32e	26e	0.13
S12	26 Mar 2019	1124	<2	<2	<2	1.00

ns = not sampled

ND = no data

Comments

Station	Date	Depth	Parameter	Comments
S5	01 Mar 2019			Resample
S5	03 Mar 2019			Resample
S4	07 Mar 2019			Resample
S5	07 Mar 2019			Resample
S10	07 Mar 2019			Resample
S11	07 Mar 2019			Resample
S4	08 Mar 2019			Resample
S5	08 Mar 2019			Resample
S10	08 Mar 2019			Resample
S11	08 Mar 2019			Resample
S4	10 Mar 2019			Resample
S5	10 Mar 2019			Resample
S10	10 Mar 2019			Resample
S11	10 Mar 2019			Resample
S4	14 Mar 2019			Resample
S5	14 Mar 2019			Resample
S10	14 Mar 2019			Resample
S4	16 Mar 2019			Resample
S5	16 Mar 2019			Resample
S10	16 Mar 2019			Resample
S5	18 Mar 2019			Resample
S6	22 Mar 2019			Resample
S11	22 Mar 2019			Resample
S12	22 Mar 2019			Resample
S11	23 Mar 2019			Resample
S11	24 Mar 2019			Resample
S6	24 Mar 2019			Resample
S4	28 Mar 2019			Resample
S5	28 Mar 2019			Resample
S6	28 Mar 2019			Resample
S9	28 Mar 2019			Resample
S10	28 Mar 2019			Resample
S11	28 Mar 2019			Resample
S5	29 Mar 2019			Resample
S10	29 Mar 2019			Resample
S11	29 Mar 2019			Resample
S10	31 Mar 2019			Resample
S5	31 Mar 2019			Resample

Table 2.9

Summary of visual observations made during the month for each SBOO shore station by sample date.

Station	Date	Parameter	Value
S0	05 Mar 2019	Arrive Time	1050
S0	05 Mar 2019	Weather	Cloudy
S0	05 Mar 2019	Wind Speed (kts)	0.9
S0	05 Mar 2019	Wind Dir	SW
S0	05 Mar 2019	Animal Life	5 Birds
S0	05 Mar 2019	Floatables	None
S0	05 Mar 2019	Water Color	Green
S0	05 Mar 2019	Current Direction	N
S0	05 Mar 2019	Water Temp (C)	13
S0	05 Mar 2019	Wave Height Low (ft)	2
S0	05 Mar 2019	High Tide (ft)	5.3
S0	05 Mar 2019	High Tide Time	808
S0	05 Mar 2019	Low Tide (ft)	-0.5
S0	05 Mar 2019	Low Tide Time	1454
S0	05 Mar 2019	Comments	Kelp; Algae; Water clear; 1.5 L/s water flowing from storm drain
S0	12 Mar 2019	Arrive Time	1100
S0	12 Mar 2019	Weather	Sunny
S0	12 Mar 2019	Wind Speed (kts)	3.3
S0	12 Mar 2019	Wind Dir	NW
S0	12 Mar 2019	Animal Life	5 Birds
S0	12 Mar 2019	Floatables	None
S0	12 Mar 2019	Water Color	Green
S0	12 Mar 2019	Current Direction	N
S0	12 Mar 2019	Water Temp (C)	14
S0	12 Mar 2019	Wave Height Low (ft)	2
S0	12 Mar 2019	High Tide (ft)	2.8
S0	12 Mar 2019	High Tide Time	1349
S0	12 Mar 2019	Low Tide (ft)	1
S0	12 Mar 2019	Low Tide Time	754
S0	12 Mar 2019	Comments	Kelp; Algae; Water turbid; 0.5 L/s water flowing from storm drain
S0	20 Mar 2019	Arrive Time	1040
S0	20 Mar 2019	Weather	Cloudy
S0	20 Mar 2019	Wind Speed (kts)	3.8
S0	20 Mar 2019	Wind Dir	N
S0	20 Mar 2019	Animal Life	5 Shorebirds; 5 Dogs
S0	20 Mar 2019	Floatables	None
S0	20 Mar 2019	Water Color	Green
S0	20 Mar 2019	Current Direction	NW
S0	20 Mar 2019	Water Temp (C)	13
S0	20 Mar 2019	Wave Height Low (ft)	3
S0	20 Mar 2019	High Tide (ft)	6
S0	20 Mar 2019	High Tide Time	914
S0	20 Mar 2019	Low Tide (ft)	-1.1
S0	20 Mar 2019	Low Tide Time	1549
S0	20 Mar 2019	Comments	Kelp; Algae; 5 Persons; Water clear; 1 L/s water flowing from storm drain
S0	26 Mar 2019	Arrive Time	1100
S0	26 Mar 2019	Weather	Sunny

Station	Date	Parameter	Value
S0	26 Mar 2019	Wind Speed (kts)	4.8
S0	26 Mar 2019	Wind Dir	NW
S0	26 Mar 2019	Animal Life	2 Dogs; 5 Pelicans
S0	26 Mar 2019	Floatables	None
S0	26 Mar 2019	Water Color	Green
S0	26 Mar 2019	Current Direction	N
S0	26 Mar 2019	Water Temp (C)	15
S0	26 Mar 2019	Wave Height Low (ft)	3
S0	26 Mar 2019	High Tide (ft)	2.8
S0	26 Mar 2019	High Tide Time	1516
S0	26 Mar 2019	Low Tide (ft)	0.5
S0	26 Mar 2019	Low Tide Time	842
S0	26 Mar 2019	Comments	Kelp; Algae; 7 Persons; Water clear; 0.5 L/s water flowing from storm drain
S2	05 Mar 2019	Arrive Time	1025
S2	05 Mar 2019	Weather	Cloudy
S2	05 Mar 2019	Wind Speed (kts)	0.7
S2	05 Mar 2019	Wind Dir	SW
S2	05 Mar 2019	Animal Life	15 Birds; 5 Dogs
S2	05 Mar 2019	Floatables	None
S2	05 Mar 2019	Water Color	Green
S2	05 Mar 2019	Current Direction	N
S2	05 Mar 2019	Water Temp (C)	13
S2	05 Mar 2019	Wave Height Low (ft)	2
S2	05 Mar 2019	High Tide (ft)	5.3
S2	05 Mar 2019	High Tide Time	808
S2	05 Mar 2019	Low Tide (ft)	-0.5
S2	05 Mar 2019	Low Tide Time	1454
S2	05 Mar 2019	Comments	15 Persons; Water clear; No flow from storm drain
S2	12 Mar 2019	Arrive Time	1225
S2	12 Mar 2019	Weather	Sunny
S2	12 Mar 2019	Wind Speed (kts)	2.9
S2	12 Mar 2019	Wind Dir	NW
S2	12 Mar 2019	Animal Life	20 Shorebirds
S2	12 Mar 2019	Floatables	None
S2	12 Mar 2019	Water Color	Green
S2	12 Mar 2019	Current Direction	N
S2	12 Mar 2019	Water Temp (C)	14
S2	12 Mar 2019	Wave Height Low (ft)	3
S2	12 Mar 2019	High Tide (ft)	2.8
S2	12 Mar 2019	High Tide Time	1349
S2	12 Mar 2019	Low Tide (ft)	1
S2	12 Mar 2019	Low Tide Time	754
S2	12 Mar 2019	Comments	Kelp; Algae; 4 Persons; Water turbid; No flow from storm drain
S2	20 Mar 2019	Arrive Time	1130
S2	20 Mar 2019	Weather	Cloudy
S2	20 Mar 2019	Wind Speed (kts)	4.6
S2	20 Mar 2019	Wind Dir	N
S2	20 Mar 2019	Animal Life	15 Shorebirds
S2	20 Mar 2019	Floatables	None
S2	20 Mar 2019	Water Color	Green
S2	20 Mar 2019	Current Direction	NW

Station	Date	Parameter	Value
S2	20 Mar 2019	Water Temp (C)	13
S2	20 Mar 2019	Wave Height Low (ft)	3
S2	20 Mar 2019	High Tide (ft)	6
S2	20 Mar 2019	High Tide Time	914
S2	20 Mar 2019	Low Tide (ft)	-1.1
S2	20 Mar 2019	Low Tide Time	1549
S2	20 Mar 2019	Comments	Kelp; Algae; 20 Persons; Water clear; No flow from storm drain
S2	26 Mar 2019	Arrive Time	1240
S2	26 Mar 2019	Weather	Sunny
S2	26 Mar 2019	Wind Speed (kts)	4.8
S2	26 Mar 2019	Wind Dir	NW
S2	26 Mar 2019	Animal Life	5 Shorebirds
S2	26 Mar 2019	Floatables	None
S2	26 Mar 2019	Water Color	Green
S2	26 Mar 2019	Current Direction	N
S2	26 Mar 2019	Water Temp (C)	15
S2	26 Mar 2019	Wave Height Low (ft)	3
S2	26 Mar 2019	High Tide (ft)	2.8
S2	26 Mar 2019	High Tide Time	1516
S2	26 Mar 2019	Low Tide (ft)	0.5
S2	26 Mar 2019	Low Tide Time	842
S2	26 Mar 2019	Comments	Kelp; Algae; 3 Persons; Water clear; No flow from storm drain
S3	05 Mar 2019	Arrive Time	950
S3	05 Mar 2019	Weather	Cloudy
S3	05 Mar 2019	Wind Speed (kts)	0.8
S3	05 Mar 2019	Wind Dir	SW
S3	05 Mar 2019	Animal Life	5 Birds; 5 Dogs
S3	05 Mar 2019	Floatables	None
S3	05 Mar 2019	Water Color	Green
S3	05 Mar 2019	Current Direction	N
S3	05 Mar 2019	Water Temp (C)	13
S3	05 Mar 2019	Wave Height Low (ft)	2
S3	05 Mar 2019	High Tide (ft)	5.3
S3	05 Mar 2019	High Tide Time	808
S3	05 Mar 2019	Low Tide (ft)	-0.5
S3	05 Mar 2019	Low Tide Time	1454
S3	05 Mar 2019	Comments	15 Persons; Water clear; No flow from storm drain
S3	12 Mar 2019	Arrive Time	1145
S3	12 Mar 2019	Weather	Sunny
S3	12 Mar 2019	Wind Speed (kts)	2.5
S3	12 Mar 2019	Wind Dir	NW
S3	12 Mar 2019	Animal Life	20 Shorebirds
S3	12 Mar 2019	Floatables	None
S3	12 Mar 2019	Water Color	Green
S3	12 Mar 2019	Current Direction	N
S3	12 Mar 2019	Water Temp (C)	14
S3	12 Mar 2019	Wave Height Low (ft)	3
S3	12 Mar 2019	High Tide (ft)	2.8
S3	12 Mar 2019	High Tide Time	1349
S3	12 Mar 2019	Low Tide (ft)	1
S3	12 Mar 2019	Low Tide Time	754
S3	12 Mar 2019	Comments	Kelp; Algae; 5 Persons; Water turbid; 0.5 L/s water flowing from storm drain

Station	Date	Parameter	Value
S3	20 Mar 2019	Arrive Time	1200
S3	20 Mar 2019	Weather	Cloudy
S3	20 Mar 2019	Wind Speed (kts)	4.8
S3	20 Mar 2019	Wind Dir	N
S3	20 Mar 2019	Animal Life	20 Shorebirds; 1 Dog
S3	20 Mar 2019	Floatables	None
S3	20 Mar 2019	Water Color	Green
S3	20 Mar 2019	Current Direction	NW
S3	20 Mar 2019	Water Temp (C)	13
S3	20 Mar 2019	Wave Height Low (ft)	3
S3	20 Mar 2019	High Tide (ft)	6
S3	20 Mar 2019	High Tide Time	914
S3	20 Mar 2019	Low Tide (ft)	-1.1
S3	20 Mar 2019	Low Tide Time	1549
S3	20 Mar 2019	Comments	Kelp; Algae; 15 Persons; Water clear; No flow from storm drain
S3	26 Mar 2019	Arrive Time	1210
S3	26 Mar 2019	Weather	Sunny
S3	26 Mar 2019	Wind Speed (kts)	5
S3	26 Mar 2019	Wind Dir	NW
S3	26 Mar 2019	Animal Life	5 Shorebirds; 1 Dog
S3	26 Mar 2019	Floatables	None
S3	26 Mar 2019	Water Color	Green
S3	26 Mar 2019	Current Direction	N
S3	26 Mar 2019	Water Temp (C)	15
S3	26 Mar 2019	Wave Height Low (ft)	3
S3	26 Mar 2019	High Tide (ft)	2.8
S3	26 Mar 2019	High Tide Time	1516
S3	26 Mar 2019	Low Tide (ft)	0.5
S3	26 Mar 2019	Low Tide Time	842
S3	26 Mar 2019	Comments	Kelp; Algae; 6 Persons; Water clear; No flow from storm drain
S4	05 Mar 2019	Arrive Time	858
S4	05 Mar 2019	Weather	Sunny
S4	05 Mar 2019	Wind Speed (kts)	5
S4	05 Mar 2019	Wind Dir	W
S4	05 Mar 2019	Animal Life	None
S4	05 Mar 2019	Floatables	None
S4	05 Mar 2019	Water Color	Green
S4	05 Mar 2019	Current Direction	N
S4	05 Mar 2019	Water Temp (C)	14.6
S4	05 Mar 2019	Wave Height Low (ft)	3
S4	05 Mar 2019	High Tide (ft)	5.3
S4	05 Mar 2019	High Tide Time	808
S4	05 Mar 2019	Low Tide (ft)	-0.5
S4	05 Mar 2019	Low Tide Time	1454
S4	05 Mar 2019	Comments	Kelp; Seagrass; Water clear
S4	07 Mar 2019	Arrive Time	716
S4	07 Mar 2019	Weather	Overcast
S4	07 Mar 2019	Wind Speed (kts)	5.6
S4	07 Mar 2019	Wind Dir	E
S4	07 Mar 2019	Animal Life	10 Seagulls
S4	07 Mar 2019	Floatables	None

Station	Date	Parameter	Value
S4	07 Mar 2019	Water Color	Green
S4	07 Mar 2019	Current Direction	E
S4	07 Mar 2019	Water Temp (C)	16.9
S4	07 Mar 2019	Wave Height Low (ft)	2
S4	07 Mar 2019	High Tide (ft)	5.1
S4	07 Mar 2019	High Tide Time	908
S4	07 Mar 2019	Low Tide (ft)	0.8
S4	07 Mar 2019	Low Tide Time	311
S4	07 Mar 2019	Comments	Resample; Kelp; Seagrass; Debris; Water clear
S4	08 Mar 2019	Arrive Time	902
S4	08 Mar 2019	Weather	Partly Cloudy
S4	08 Mar 2019	Wind Speed (kts)	1.1
S4	08 Mar 2019	Wind Dir	N
S4	08 Mar 2019	Animal Life	None
S4	08 Mar 2019	Floatables	None
S4	08 Mar 2019	Water Color	Green
S4	08 Mar 2019	Current Direction	N
S4	08 Mar 2019	Water Temp (C)	17
S4	08 Mar 2019	Wave Height Low (ft)	3
S4	08 Mar 2019	High Tide (ft)	4.8
S4	08 Mar 2019	High Tide Time	939
S4	08 Mar 2019	Low Tide (ft)	0.8
S4	08 Mar 2019	Low Tide Time	344
S4	08 Mar 2019	Comments	Resample; Kelp; Seagrass; Debris; Water clear
S4	10 Mar 2019	Arrive Time	822
S4	10 Mar 2019	Weather	Partly Cloudy
S4	10 Mar 2019	Wind Speed (kts)	2.1
S4	10 Mar 2019	Wind Dir	W
S4	10 Mar 2019	Animal Life	100 Grebes
S4	10 Mar 2019	Floatables	Plastic buoy
S4	10 Mar 2019	Water Color	Green
S4	10 Mar 2019	Current Direction	W
S4	10 Mar 2019	Water Temp (C)	15.4
S4	10 Mar 2019	Wave Height Low (ft)	3
S4	10 Mar 2019	High Tide (ft)	3.9
S4	10 Mar 2019	High Tide Time	1149
S4	10 Mar 2019	Low Tide (ft)	0.8
S4	10 Mar 2019	Low Tide Time	559
S4	10 Mar 2019	Comments	Resample; Kelp; Seagrass; Debris; Water clear
S4	12 Mar 2019	Arrive Time	949
S4	12 Mar 2019	Weather	Cloudy
S4	12 Mar 2019	Wind Speed (kts)	2.1
S4	12 Mar 2019	Wind Dir	W
S4	12 Mar 2019	Animal Life	None
S4	12 Mar 2019	Floatables	None
S4	12 Mar 2019	Water Color	Green
S4	12 Mar 2019	Current Direction	N
S4	12 Mar 2019	Water Temp (C)	14.8
S4	12 Mar 2019	Wave Height Low (ft)	3
S4	12 Mar 2019	High Tide (ft)	2.8
S4	12 Mar 2019	High Tide Time	1349
S4	12 Mar 2019	Low Tide (ft)	1

Station	Date	Parameter	Value
S4	12 Mar 2019	Low Tide Time	754
S4	12 Mar 2019	Comments	Sewage-like odor; Water clear
S4	14 Mar 2019	Arrive Time	857
S4	14 Mar 2019	Weather	Sunny
S4	14 Mar 2019	Wind Speed (kts)	6.6
S4	14 Mar 2019	Wind Dir	E
S4	14 Mar 2019	Animal Life	6 Shorebirds
S4	14 Mar 2019	Floatables	None
S4	14 Mar 2019	Water Color	Green
S4	14 Mar 2019	Current Direction	N
S4	14 Mar 2019	Water Temp (C)	15.4
S4	14 Mar 2019	Wave Height Low (ft)	4
S4	14 Mar 2019	High Tide (ft)	4.4
S4	14 Mar 2019	High Tide Time	254
S4	14 Mar 2019	Low Tide (ft)	0.5
S4	14 Mar 2019	Low Tide Time	1106
S4	14 Mar 2019	Comments	Resample; Sewage-like odor; Water clear
S4	16 Mar 2019	Arrive Time	830
S4	16 Mar 2019	Weather	Sunny
S4	16 Mar 2019	Wind Speed (kts)	0
S4	16 Mar 2019	Wind Dir	
S4	16 Mar 2019	Animal Life	85 Cormorants; 1 Dolphin; 5 Pelicans
S4	16 Mar 2019	Floatables	None
S4	16 Mar 2019	Water Color	Green
S4	16 Mar 2019	Current Direction	
S4	16 Mar 2019	Water Temp (C)	16.2
S4	16 Mar 2019	Wave Height Low (ft)	3
S4	16 Mar 2019	High Tide (ft)	5
S4	16 Mar 2019	High Tide Time	544
S4	16 Mar 2019	Low Tide (ft)	-0.6
S4	16 Mar 2019	Low Tide Time	1311
S4	16 Mar 2019	Comments	Resample; Kelp; Seagrass; Debris; Water clear
S4	20 Mar 2019	Arrive Time	1235
S4	20 Mar 2019	Weather	Partly Cloudy
S4	20 Mar 2019	Wind Speed (kts)	6.3
S4	20 Mar 2019	Wind Dir	NE
S4	20 Mar 2019	Animal Life	7 Grebes
S4	20 Mar 2019	Floatables	Foam
S4	20 Mar 2019	Water Color	Green
S4	20 Mar 2019	Current Direction	NE
S4	20 Mar 2019	Water Temp (C)	16.6
S4	20 Mar 2019	Wave Height Low (ft)	3
S4	20 Mar 2019	High Tide (ft)	6
S4	20 Mar 2019	High Tide Time	914
S4	20 Mar 2019	Low Tide (ft)	-1.1
S4	20 Mar 2019	Low Tide Time	1549
S4	20 Mar 2019	Comments	Kelp; Seagrass; Debris; 3 Persons; Water clear
S4	26 Mar 2019	Arrive Time	900
S4	26 Mar 2019	Weather	Sunny
S4	26 Mar 2019	Wind Speed (kts)	4.6
S4	26 Mar 2019	Wind Dir	N

Station	Date	Parameter	Value
S4	26 Mar 2019	Animal Life	15 Birds
S4	26 Mar 2019	Floatables	None
S4	26 Mar 2019	Water Color	Green
S4	26 Mar 2019	Current Direction	N
S4	26 Mar 2019	Water Temp (C)	16.1
S4	26 Mar 2019	Wave Height Low (ft)	4
S4	26 Mar 2019	High Tide (ft)	2.8
S4	26 Mar 2019	High Tide Time	1516
S4	26 Mar 2019	Low Tide (ft)	0.5
S4	26 Mar 2019	Low Tide Time	842
S4	26 Mar 2019	Comments	Water clear
S4	28 Mar 2019	Arrive Time	1023
S4	28 Mar 2019	Weather	Sunny
S4	28 Mar 2019	Wind Speed (kts)	1.2
S4	28 Mar 2019	Wind Dir	NW
S4	28 Mar 2019	Animal Life	60 Birds
S4	28 Mar 2019	Floatables	None
S4	28 Mar 2019	Water Color	Green
S4	28 Mar 2019	Current Direction	N
S4	28 Mar 2019	Water Temp (C)	15.2
S4	28 Mar 2019	Wave Height Low (ft)	3
S4	28 Mar 2019	High Tide (ft)	4
S4	28 Mar 2019	High Tide Time	341
S4	28 Mar 2019	Low Tide (ft)	0.4
S4	28 Mar 2019	Low Tide Time	1145
S4	28 Mar 2019	Comments	Resample; Water clear
S5	01 Mar 2019	Arrive Time	906
S5	01 Mar 2019	Weather	Overcast
S5	01 Mar 2019	Wind Speed (kts)	4.3
S5	01 Mar 2019	Wind Dir	N
S5	01 Mar 2019	Animal Life	None
S5	01 Mar 2019	Floatables	None
S5	01 Mar 2019	Water Color	Brown
S5	01 Mar 2019	Current Direction	N
S5	01 Mar 2019	Water Temp (C)	14.1
S5	01 Mar 2019	Wave Height Low (ft)	2
S5	01 Mar 2019	High Tide (ft)	4.8
S5	01 Mar 2019	High Tide Time	544
S5	01 Mar 2019	Low Tide (ft)	-0.3
S5	01 Mar 2019	Low Tide Time	1304
S5	01 Mar 2019	Comments	Resample; Debris; Sewage-like odor; Water turbid
S5	03 Mar 2019	Arrive Time	837
S5	03 Mar 2019	Weather	Cloudy
S5	03 Mar 2019	Wind Speed (kts)	1.1
S5	03 Mar 2019	Wind Dir	N
S5	03 Mar 2019	Animal Life	None
S5	03 Mar 2019	Floatables	None
S5	03 Mar 2019	Water Color	Green
S5	03 Mar 2019	Current Direction	N
S5	03 Mar 2019	Water Temp (C)	15.1
S5	03 Mar 2019	Wave Height Low (ft)	2
S5	03 Mar 2019	High Tide (ft)	5.2

Station	Date	Parameter	Value
S5	03 Mar 2019	High Tide Time	705
S5	03 Mar 2019	Low Tide (ft)	-0.5
S5	03 Mar 2019	Low Tide Time	1404
S5	03 Mar 2019	Comments	Resample; Kelp; Debris; Water clear
S5	05 Mar 2019	Arrive Time	1013
S5	05 Mar 2019	Weather	Sunny
S5	05 Mar 2019	Wind Speed (kts)	5.8
S5	05 Mar 2019	Wind Dir	W
S5	05 Mar 2019	Animal Life	None
S5	05 Mar 2019	Floatables	None
S5	05 Mar 2019	Water Color	Green
S5	05 Mar 2019	Current Direction	N
S5	05 Mar 2019	Water Temp (C)	16.2
S5	05 Mar 2019	Wave Height Low (ft)	3
S5	05 Mar 2019	High Tide (ft)	5.3
S5	05 Mar 2019	High Tide Time	808
S5	05 Mar 2019	Low Tide (ft)	-0.5
S5	05 Mar 2019	Low Tide Time	1454
S5	05 Mar 2019	Comments	Debris; Sewage-like odor; Water clear
S5	07 Mar 2019	Arrive Time	844
S5	07 Mar 2019	Weather	Partly Cloudy
S5	07 Mar 2019	Wind Speed (kts)	5.8
S5	07 Mar 2019	Wind Dir	W
S5	07 Mar 2019	Animal Life	100 Cormorants
S5	07 Mar 2019	Floatables	None
S5	07 Mar 2019	Water Color	Green
S5	07 Mar 2019	Current Direction	W
S5	07 Mar 2019	Water Temp (C)	20.4
S5	07 Mar 2019	Wave Height Low (ft)	3
S5	07 Mar 2019	High Tide (ft)	5.1
S5	07 Mar 2019	High Tide Time	908
S5	07 Mar 2019	Low Tide (ft)	0.8
S5	07 Mar 2019	Low Tide Time	311
S5	07 Mar 2019	Comments	Resample; Kelp; Seagrass; Debris; Water clear
S5	08 Mar 2019	Arrive Time	1005
S5	08 Mar 2019	Weather	Partly Cloudy
S5	08 Mar 2019	Wind Speed (kts)	4.8
S5	08 Mar 2019	Wind Dir	E
S5	08 Mar 2019	Animal Life	None
S5	08 Mar 2019	Floatables	None
S5	08 Mar 2019	Water Color	Green
S5	08 Mar 2019	Current Direction	E
S5	08 Mar 2019	Water Temp (C)	19.1
S5	08 Mar 2019	Wave Height Low (ft)	3
S5	08 Mar 2019	High Tide (ft)	4.8
S5	08 Mar 2019	High Tide Time	939
S5	08 Mar 2019	Low Tide (ft)	0.1
S5	08 Mar 2019	Low Tide Time	1606
S5	08 Mar 2019	Comments	Resample; Kelp; Seagrass; Debris; Water clear
S5	10 Mar 2019	Arrive Time	926
S5	10 Mar 2019	Weather	Partly Cloudy

Station	Date	Parameter	Value
S5	10 Mar 2019	Wind Speed (kts)	5.8
S5	10 Mar 2019	Wind Dir	W
S5	10 Mar 2019	Animal Life	200 Cormorants
S5	10 Mar 2019	Floatables	None
S5	10 Mar 2019	Water Color	Green
S5	10 Mar 2019	Current Direction	W
S5	10 Mar 2019	Water Temp (C)	18
S5	10 Mar 2019	Wave Height Low (ft)	3
S5	10 Mar 2019	High Tide (ft)	3.9
S5	10 Mar 2019	High Tide Time	1149
S5	10 Mar 2019	Low Tide (ft)	0.8
S5	10 Mar 2019	Low Tide Time	559
S5	10 Mar 2019	Comments	Resample; Kelp; Seagrass; Debris; Sewage-like odor; 1 Person; Water clear
S5	12 Mar 2019	Arrive Time	1052
S5	12 Mar 2019	Weather	Partly Cloudy
S5	12 Mar 2019	Wind Speed (kts)	4.1
S5	12 Mar 2019	Wind Dir	W
S5	12 Mar 2019	Animal Life	None
S5	12 Mar 2019	Floatables	None
S5	12 Mar 2019	Water Color	Brown
S5	12 Mar 2019	Current Direction	N
S5	12 Mar 2019	Water Temp (C)	14.4
S5	12 Mar 2019	Wave Height Low (ft)	2
S5	12 Mar 2019	High Tide (ft)	2.8
S5	12 Mar 2019	High Tide Time	1349
S5	12 Mar 2019	Low Tide (ft)	1
S5	12 Mar 2019	Low Tide Time	754
S5	12 Mar 2019	Comments	Kelp; Seagrass; Sewage-like odor; Water turbid
S5	14 Mar 2019	Arrive Time	848
S5	14 Mar 2019	Weather	Sunny
S5	14 Mar 2019	Wind Speed (kts)	3.3
S5	14 Mar 2019	Wind Dir	NW
S5	14 Mar 2019	Animal Life	None
S5	14 Mar 2019	Floatables	None
S5	14 Mar 2019	Water Color	Green
S5	14 Mar 2019	Current Direction	N
S5	14 Mar 2019	Water Temp (C)	15.7
S5	14 Mar 2019	Wave Height Low (ft)	3
S5	14 Mar 2019	High Tide (ft)	4.4
S5	14 Mar 2019	High Tide Time	254
S5	14 Mar 2019	Low Tide (ft)	0.5
S5	14 Mar 2019	Low Tide Time	1106
S5	14 Mar 2019	Comments	Resample; Debris; Sewage-like odor; Water clear
S5	16 Mar 2019	Arrive Time	938
S5	16 Mar 2019	Weather	Sunny
S5	16 Mar 2019	Wind Speed (kts)	3.3
S5	16 Mar 2019	Wind Dir	N
S5	16 Mar 2019	Animal Life	None
S5	16 Mar 2019	Floatables	Foam; Film
S5	16 Mar 2019	Water Color	Green
S5	16 Mar 2019	Current Direction	N

Station	Date	Parameter	Value
S5	16 Mar 2019	Water Temp (C)	25.1
S5	16 Mar 2019	Wave Height Low (ft)	2
S5	16 Mar 2019	High Tide (ft)	5
S5	16 Mar 2019	High Tide Time	544
S5	16 Mar 2019	Low Tide (ft)	-0.6
S5	16 Mar 2019	Low Tide Time	1311
S5	16 Mar 2019	Comments	Resample; Kelp; Debris; Sewage-like odor; Water clear
S5	18 Mar 2019	Arrive Time	831
S5	18 Mar 2019	Weather	Sunny
S5	18 Mar 2019	Wind Speed (kts)	0
S5	18 Mar 2019	Wind Dir	
S5	18 Mar 2019	Animal Life	40 Shorebirds; 1 Pelican
S5	18 Mar 2019	Floatables	Foam; Film
S5	18 Mar 2019	Water Color	Brown
S5	18 Mar 2019	Current Direction	
S5	18 Mar 2019	Water Temp (C)	20
S5	18 Mar 2019	Wave Height Low (ft)	5
S5	18 Mar 2019	High Tide (ft)	5.8
S5	18 Mar 2019	High Tide Time	739
S5	18 Mar 2019	Low Tide (ft)	-1.3
S5	18 Mar 2019	Low Tide Time	1435
S5	18 Mar 2019	Comments	Resample; Kelp; Seagrass; Debris; Sewage-like odor; Water clear
S5	20 Mar 2019	Arrive Time	1026
S5	20 Mar 2019	Weather	Partly Cloudy
S5	20 Mar 2019	Wind Speed (kts)	5.8
S5	20 Mar 2019	Wind Dir	E
S5	20 Mar 2019	Animal Life	8 Birds; 40 Cormorants; 3 Pelicans
S5	20 Mar 2019	Floatables	None
S5	20 Mar 2019	Water Color	Green
S5	20 Mar 2019	Current Direction	E
S5	20 Mar 2019	Water Temp (C)	17.2
S5	20 Mar 2019	Wave Height Low (ft)	5
S5	20 Mar 2019	High Tide (ft)	6
S5	20 Mar 2019	High Tide Time	914
S5	20 Mar 2019	Low Tide (ft)	-1.1
S5	20 Mar 2019	Low Tide Time	1549
S5	20 Mar 2019	Comments	Kelp; Seagrass; Debris; Water clear
S5	26 Mar 2019	Arrive Time	1021
S5	26 Mar 2019	Weather	Partly Cloudy
S5	26 Mar 2019	Wind Speed (kts)	4.4
S5	26 Mar 2019	Wind Dir	N
S5	26 Mar 2019	Animal Life	None
S5	26 Mar 2019	Floatables	None
S5	26 Mar 2019	Water Color	Green
S5	26 Mar 2019	Current Direction	N
S5	26 Mar 2019	Water Temp (C)	17.1
S5	26 Mar 2019	Wave Height Low (ft)	2
S5	26 Mar 2019	High Tide (ft)	2.8
S5	26 Mar 2019	High Tide Time	1516
S5	26 Mar 2019	Low Tide (ft)	0.5
S5	26 Mar 2019	Low Tide Time	842
S5	26 Mar 2019	Comments	Seagrass; 2 Persons; Water clear

Station	Date	Parameter	Value
S5	28 Mar 2019	Arrive Time	903
S5	28 Mar 2019	Weather	Sunny
S5	28 Mar 2019	Wind Speed (kts)	4.4
S5	28 Mar 2019	Wind Dir	W
S5	28 Mar 2019	Animal Life	None
S5	28 Mar 2019	Floatables	Foam
S5	28 Mar 2019	Water Color	Brown
S5	28 Mar 2019	Current Direction	N
S5	28 Mar 2019	Water Temp (C)	17
S5	28 Mar 2019	Wave Height Low (ft)	3
S5	28 Mar 2019	High Tide (ft)	4
S5	28 Mar 2019	High Tide Time	341
S5	28 Mar 2019	Low Tide (ft)	0.4
S5	28 Mar 2019	Low Tide Time	1145
S5	28 Mar 2019	Comments	Resample; Sewage-like odor; Water turbid
S5	29 Mar 2019	Arrive Time	937
S5	29 Mar 2019	Weather	Sunny
S5	29 Mar 2019	Wind Speed (kts)	4.1
S5	29 Mar 2019	Wind Dir	N
S5	29 Mar 2019	Animal Life	3 Dogs
S5	29 Mar 2019	Floatables	Foam
S5	29 Mar 2019	Water Color	Green
S5	29 Mar 2019	Current Direction	N
S5	29 Mar 2019	Water Temp (C)	16.4
S5	29 Mar 2019	Wave Height Low (ft)	2
S5	29 Mar 2019	High Tide (ft)	4
S5	29 Mar 2019	High Tide Time	510
S5	29 Mar 2019	Low Tide (ft)	0.2
S5	29 Mar 2019	Low Tide Time	1245
S5	29 Mar 2019	Comments	Resample; Sewage-like odor; 1 Person; Water turbid
S5	31 Mar 2019	Arrive Time	839
S5	31 Mar 2019	Weather	Sunny
S5	31 Mar 2019	Wind Speed (kts)	5.3
S5	31 Mar 2019	Wind Dir	N
S5	31 Mar 2019	Animal Life	None
S5	31 Mar 2019	Floatables	None
S5	31 Mar 2019	Water Color	Green
S5	31 Mar 2019	Current Direction	N
S5	31 Mar 2019	Water Temp (C)	16.8
S5	31 Mar 2019	Wave Height Low (ft)	3
S5	31 Mar 2019	High Tide (ft)	4.5
S5	31 Mar 2019	High Tide Time	705
S5	31 Mar 2019	Low Tide (ft)	-0.1
S5	31 Mar 2019	Low Tide Time	1358
S5	31 Mar 2019	Comments	Resample; Water clear
S6	05 Mar 2019	Arrive Time	1024
S6	05 Mar 2019	Weather	Sunny
S6	05 Mar 2019	Wind Speed (kts)	4
S6	05 Mar 2019	Wind Dir	W
S6	05 Mar 2019	Animal Life	None
S6	05 Mar 2019	Floatables	None

Station	Date	Parameter	Value
S6	05 Mar 2019	Water Color	Green
S6	05 Mar 2019	Current Direction	N
S6	05 Mar 2019	Water Temp (C)	15.6
S6	05 Mar 2019	Wave Height Low (ft)	34
S6	05 Mar 2019	High Tide (ft)	5.3
S6	05 Mar 2019	High Tide Time	808
S6	05 Mar 2019	Low Tide (ft)	-0.5
S6	05 Mar 2019	Low Tide Time	1454
S6	05 Mar 2019	Comments	2 Persons; Water clear
S6	12 Mar 2019	Arrive Time	1111
S6	12 Mar 2019	Weather	Partly Cloudy
S6	12 Mar 2019	Wind Speed (kts)	3.3
S6	12 Mar 2019	Wind Dir	W
S6	12 Mar 2019	Animal Life	None
S6	12 Mar 2019	Floatables	None
S6	12 Mar 2019	Water Color	Green
S6	12 Mar 2019	Current Direction	N
S6	12 Mar 2019	Water Temp (C)	16.2
S6	12 Mar 2019	Wave Height Low (ft)	3
S6	12 Mar 2019	High Tide (ft)	2.8
S6	12 Mar 2019	High Tide Time	1349
S6	12 Mar 2019	Low Tide (ft)	1
S6	12 Mar 2019	Low Tide Time	754
S6	12 Mar 2019	Comments	Water clear
S6	20 Mar 2019	Arrive Time	1048
S6	20 Mar 2019	Weather	Partly Cloudy
S6	20 Mar 2019	Wind Speed (kts)	4.6
S6	20 Mar 2019	Wind Dir	NE
S6	20 Mar 2019	Animal Life	1 Cormorant; 1 Grebe
S6	20 Mar 2019	Floatables	None
S6	20 Mar 2019	Water Color	Green
S6	20 Mar 2019	Current Direction	NE
S6	20 Mar 2019	Water Temp (C)	17
S6	20 Mar 2019	Wave Height Low (ft)	5
S6	20 Mar 2019	High Tide (ft)	6
S6	20 Mar 2019	High Tide Time	914
S6	20 Mar 2019	Low Tide (ft)	-1.1
S6	20 Mar 2019	Low Tide Time	1549
S6	20 Mar 2019	Comments	Kelp; Seagrass; 2 Surfers; Water clear
S6	22 Mar 2019	Arrive Time	824
S6	22 Mar 2019	Weather	Sunny
S6	22 Mar 2019	Wind Speed (kts)	2.7
S6	22 Mar 2019	Wind Dir	W
S6	22 Mar 2019	Animal Life	1 Dog
S6	22 Mar 2019	Floatables	None
S6	22 Mar 2019	Water Color	Green
S6	22 Mar 2019	Current Direction	N
S6	22 Mar 2019	Water Temp (C)	16.4
S6	22 Mar 2019	Wave Height Low (ft)	3
S6	22 Mar 2019	High Tide (ft)	5.2
S6	22 Mar 2019	High Tide Time	1047
S6	22 Mar 2019	Low Tide (ft)	-0.3

Station	Date	Parameter	Value
S6	22 Mar 2019	Low Tide Time	447
S6	22 Mar 2019	Comments	Resample; 2 Persons; 4 Surfers; Water clear
S6	24 Mar 2019	Arrive Time	843
S6	24 Mar 2019	Weather	Sunny
S6	24 Mar 2019	Wind Speed (kts)	2.2
S6	24 Mar 2019	Wind Dir	NW
S6	24 Mar 2019	Animal Life	None
S6	24 Mar 2019	Floatables	None
S6	24 Mar 2019	Water Color	Green
S6	24 Mar 2019	Current Direction	N
S6	24 Mar 2019	Water Temp (C)	17
S6	24 Mar 2019	Wave Height Low (ft)	4
S6	24 Mar 2019	High Tide (ft)	3.9
S6	24 Mar 2019	High Tide Time	1229
S6	24 Mar 2019	Low Tide (ft)	-0.1
S6	24 Mar 2019	Low Tide Time	628
S6	24 Mar 2019	Comments	Resample; 8 Persons; 7 Surfers; Water clear
S6	26 Mar 2019	Arrive Time	1053
S6	26 Mar 2019	Weather	Partly Cloudy
S6	26 Mar 2019	Wind Speed (kts)	4.6
S6	26 Mar 2019	Wind Dir	N
S6	26 Mar 2019	Animal Life	None
S6	26 Mar 2019	Floatables	None
S6	26 Mar 2019	Water Color	Green
S6	26 Mar 2019	Current Direction	N
S6	26 Mar 2019	Water Temp (C)	16.9
S6	26 Mar 2019	Wave Height Low (ft)	5
S6	26 Mar 2019	High Tide (ft)	2.8
S6	26 Mar 2019	High Tide Time	1516
S6	26 Mar 2019	Low Tide (ft)	0.5
S6	26 Mar 2019	Low Tide Time	842
S6	26 Mar 2019	Comments	Seagrass; 4 Persons; 3 Surfers; Water clear
S6	28 Mar 2019	Arrive Time	915
S6	28 Mar 2019	Weather	Sunny
S6	28 Mar 2019	Wind Speed (kts)	3.1
S6	28 Mar 2019	Wind Dir	N
S6	28 Mar 2019	Animal Life	2 Birds
S6	28 Mar 2019	Floatables	None
S6	28 Mar 2019	Water Color	Green
S6	28 Mar 2019	Current Direction	N
S6	28 Mar 2019	Water Temp (C)	16.4
S6	28 Mar 2019	Wave Height Low (ft)	3
S6	28 Mar 2019	High Tide (ft)	4
S6	28 Mar 2019	High Tide Time	341
S6	28 Mar 2019	Low Tide (ft)	0.4
S6	28 Mar 2019	Low Tide Time	1145
S6	28 Mar 2019	Comments	Resample; 6 Persons; Water clear
S8	05 Mar 2019	Arrive Time	1152
S8	05 Mar 2019	Weather	Sunny
S8	05 Mar 2019	Wind Speed (kts)	6.6
S8	05 Mar 2019	Wind Dir	W

Station	Date	Parameter	Value
S8	05 Mar 2019	Animal Life	None
S8	05 Mar 2019	Floatables	None
S8	05 Mar 2019	Water Color	Green
S8	05 Mar 2019	Current Direction	N
S8	05 Mar 2019	Water Temp (C)	15.4
S8	05 Mar 2019	Wave Height Low (ft)	3
S8	05 Mar 2019	High Tide (ft)	5.3
S8	05 Mar 2019	High Tide Time	808
S8	05 Mar 2019	Low Tide (ft)	-0.5
S8	05 Mar 2019	Low Tide Time	1454
S8	05 Mar 2019	Comments	1 Fisherman; Water clear
S8	12 Mar 2019	Arrive Time	1207
S8	12 Mar 2019	Weather	Sunny
S8	12 Mar 2019	Wind Speed (kts)	3.3
S8	12 Mar 2019	Wind Dir	W
S8	12 Mar 2019	Animal Life	None
S8	12 Mar 2019	Floatables	None
S8	12 Mar 2019	Water Color	Green
S8	12 Mar 2019	Current Direction	N
S8	12 Mar 2019	Water Temp (C)	16.3
S8	12 Mar 2019	Wave Height Low (ft)	3
S8	12 Mar 2019	High Tide (ft)	2.8
S8	12 Mar 2019	High Tide Time	1349
S8	12 Mar 2019	Low Tide (ft)	1
S8	12 Mar 2019	Low Tide Time	754
S8	12 Mar 2019	Comments	Kelp; Seagrass; Water clear
S8	20 Mar 2019	Arrive Time	917
S8	20 Mar 2019	Weather	Partly Cloudy
S8	20 Mar 2019	Wind Speed (kts)	2.9
S8	20 Mar 2019	Wind Dir	N
S8	20 Mar 2019	Animal Life	None
S8	20 Mar 2019	Floatables	Foam
S8	20 Mar 2019	Water Color	Green
S8	20 Mar 2019	Current Direction	N
S8	20 Mar 2019	Water Temp (C)	16.8
S8	20 Mar 2019	Wave Height Low (ft)	3
S8	20 Mar 2019	High Tide (ft)	6
S8	20 Mar 2019	High Tide Time	914
S8	20 Mar 2019	Low Tide (ft)	0.2
S8	20 Mar 2019	Low Tide Time	315
S8	20 Mar 2019	Comments	Kelp; Seagrass; Debris; Water clear
S8	26 Mar 2019	Arrive Time	1230
S8	26 Mar 2019	Weather	Sunny
S8	26 Mar 2019	Wind Speed (kts)	4.2
S8	26 Mar 2019	Wind Dir	N
S8	26 Mar 2019	Animal Life	None
S8	26 Mar 2019	Floatables	None
S8	26 Mar 2019	Water Color	Green
S8	26 Mar 2019	Current Direction	N
S8	26 Mar 2019	Water Temp (C)	16.8
S8	26 Mar 2019	Wave Height Low (ft)	2
S8	26 Mar 2019	High Tide (ft)	2.8

Station	Date	Parameter	Value
S8	26 Mar 2019	High Tide Time	1516
S8	26 Mar 2019	Low Tide (ft)	0.5
S8	26 Mar 2019	Low Tide Time	842
S8	26 Mar 2019	Comments	Kelp; 9 Persons; Water clear
S9	05 Mar 2019	Arrive Time	1230
S9	05 Mar 2019	Weather	Sunny
S9	05 Mar 2019	Wind Speed (kts)	3.6
S9	05 Mar 2019	Wind Dir	W
S9	05 Mar 2019	Animal Life	None
S9	05 Mar 2019	Floatables	None
S9	05 Mar 2019	Water Color	Green
S9	05 Mar 2019	Current Direction	N
S9	05 Mar 2019	Water Temp (C)	16.1
S9	05 Mar 2019	Wave Height Low (ft)	2
S9	05 Mar 2019	High Tide (ft)	5.3
S9	05 Mar 2019	High Tide Time	808
S9	05 Mar 2019	Low Tide (ft)	-0.5
S9	05 Mar 2019	Low Tide Time	1454
S9	05 Mar 2019	Comments	16 Persons; Water clear
S9	12 Mar 2019	Arrive Time	1240
S9	12 Mar 2019	Weather	Sunny
S9	12 Mar 2019	Wind Speed (kts)	4.3
S9	12 Mar 2019	Wind Dir	W
S9	12 Mar 2019	Animal Life	None
S9	12 Mar 2019	Floatables	None
S9	12 Mar 2019	Water Color	Green
S9	12 Mar 2019	Current Direction	N
S9	12 Mar 2019	Water Temp (C)	16.8
S9	12 Mar 2019	Wave Height Low (ft)	2
S9	12 Mar 2019	High Tide (ft)	2.8
S9	12 Mar 2019	High Tide Time	1349
S9	12 Mar 2019	Low Tide (ft)	1
S9	12 Mar 2019	Low Tide Time	754
S9	12 Mar 2019	Comments	26 Persons; 5 Swimmers; Water clear
S9	20 Mar 2019	Arrive Time	855
S9	20 Mar 2019	Weather	Overcast
S9	20 Mar 2019	Wind Speed (kts)	2.9
S9	20 Mar 2019	Wind Dir	N
S9	20 Mar 2019	Animal Life	None
S9	20 Mar 2019	Floatables	Foam
S9	20 Mar 2019	Water Color	Green
S9	20 Mar 2019	Current Direction	N
S9	20 Mar 2019	Water Temp (C)	16.8
S9	20 Mar 2019	Wave Height Low (ft)	3
S9	20 Mar 2019	High Tide (ft)	6
S9	20 Mar 2019	High Tide Time	914
S9	20 Mar 2019	Low Tide (ft)	0.2
S9	20 Mar 2019	Low Tide Time	315
S9	20 Mar 2019	Comments	Kelp; Seagrass; 4 Persons; 4 Surfers; 1 Swimmer; Water clear
S9	26 Mar 2019	Arrive Time	1310
S9	26 Mar 2019	Weather	Sunny

Station	Date	Parameter	Value
S9	26 Mar 2019	Wind Speed (kts)	4.2
S9	26 Mar 2019	Wind Dir	N
S9	26 Mar 2019	Animal Life	None
S9	26 Mar 2019	Floatables	None
S9	26 Mar 2019	Water Color	Green
S9	26 Mar 2019	Current Direction	N
S9	26 Mar 2019	Water Temp (C)	17.6
S9	26 Mar 2019	Wave Height Low (ft)	3
S9	26 Mar 2019	High Tide (ft)	2.8
S9	26 Mar 2019	High Tide Time	1516
S9	26 Mar 2019	Low Tide (ft)	0.5
S9	26 Mar 2019	Low Tide Time	842
S9	26 Mar 2019	Comments	12 Persons; 3 Surfers; Water clear
S9	28 Mar 2019	Arrive Time	817
S9	28 Mar 2019	Weather	Overcast
S9	28 Mar 2019	Wind Speed (kts)	4.4
S9	28 Mar 2019	Wind Dir	N
S9	28 Mar 2019	Animal Life	None
S9	28 Mar 2019	Floatables	None
S9	28 Mar 2019	Water Color	Green
S9	28 Mar 2019	Current Direction	N
S9	28 Mar 2019	Water Temp (C)	14.9
S9	28 Mar 2019	Wave Height Low (ft)	2
S9	28 Mar 2019	High Tide (ft)	4
S9	28 Mar 2019	High Tide Time	341
S9	28 Mar 2019	Low Tide (ft)	0.4
S9	28 Mar 2019	Low Tide Time	1145
S9	28 Mar 2019	Comments	Resample; 2 Persons; 1 Surfer; Water clear
S10	05 Mar 2019	Arrive Time	852
S10	05 Mar 2019	Weather	Sunny
S10	05 Mar 2019	Wind Speed (kts)	3.8
S10	05 Mar 2019	Wind Dir	W
S10	05 Mar 2019	Animal Life	None
S10	05 Mar 2019	Floatables	None
S10	05 Mar 2019	Water Color	Green
S10	05 Mar 2019	Current Direction	N
S10	05 Mar 2019	Water Temp (C)	14.5
S10	05 Mar 2019	Wave Height Low (ft)	4
S10	05 Mar 2019	High Tide (ft)	5.3
S10	05 Mar 2019	High Tide Time	808
S10	05 Mar 2019	Low Tide (ft)	-0.5
S10	05 Mar 2019	Low Tide Time	1454
S10	05 Mar 2019	Comments	Kelp; Seagrass; Water clear
S10	07 Mar 2019	Arrive Time	738
S10	07 Mar 2019	Weather	Partly Cloudy
S10	07 Mar 2019	Wind Speed (kts)	5.3
S10	07 Mar 2019	Wind Dir	E
S10	07 Mar 2019	Animal Life	200 Cormorants; 4 Grebes
S10	07 Mar 2019	Floatables	None
S10	07 Mar 2019	Water Color	Green
S10	07 Mar 2019	Current Direction	E
S10	07 Mar 2019	Water Temp (C)	16.1

Station	Date	Parameter	Value
S10	07 Mar 2019	Wave Height Low (ft)	2
S10	07 Mar 2019	High Tide (ft)	5.1
S10	07 Mar 2019	High Tide Time	908
S10	07 Mar 2019	Low Tide (ft)	0.8
S10	07 Mar 2019	Low Tide Time	311
S10	07 Mar 2019	Comments	Resample; Kelp; Seagrass; Debris; Water clear
S10	08 Mar 2019	Arrive Time	850
S10	08 Mar 2019	Weather	Partly Cloudy
S10	08 Mar 2019	Wind Speed (kts)	1.9
S10	08 Mar 2019	Wind Dir	S
S10	08 Mar 2019	Animal Life	None
S10	08 Mar 2019	Floatables	None
S10	08 Mar 2019	Water Color	Green
S10	08 Mar 2019	Current Direction	S
S10	08 Mar 2019	Water Temp (C)	17.8
S10	08 Mar 2019	Wave Height Low (ft)	3
S10	08 Mar 2019	High Tide (ft)	4.8
S10	08 Mar 2019	High Tide Time	939
S10	08 Mar 2019	Low Tide (ft)	0.8
S10	08 Mar 2019	Low Tide Time	344
S10	08 Mar 2019	Comments	Resample; Kelp; Seagrass; Debris; Water clear
S10	10 Mar 2019	Arrive Time	811
S10	10 Mar 2019	Weather	Partly Cloudy
S10	10 Mar 2019	Wind Speed (kts)	5.8
S10	10 Mar 2019	Wind Dir	W
S10	10 Mar 2019	Animal Life	6 Grebes
S10	10 Mar 2019	Floatables	None
S10	10 Mar 2019	Water Color	Green
S10	10 Mar 2019	Current Direction	W
S10	10 Mar 2019	Water Temp (C)	16.1
S10	10 Mar 2019	Wave Height Low (ft)	2
S10	10 Mar 2019	High Tide (ft)	3.9
S10	10 Mar 2019	High Tide Time	1149
S10	10 Mar 2019	Low Tide (ft)	0.8
S10	10 Mar 2019	Low Tide Time	559
S10	10 Mar 2019	Comments	Resample; Kelp; Seagrass; Debris; Water clear
S10	12 Mar 2019	Arrive Time	942
S10	12 Mar 2019	Weather	Partly Cloudy
S10	12 Mar 2019	Wind Speed (kts)	2.1
S10	12 Mar 2019	Wind Dir	W
S10	12 Mar 2019	Animal Life	None
S10	12 Mar 2019	Floatables	None
S10	12 Mar 2019	Water Color	Green
S10	12 Mar 2019	Current Direction	N
S10	12 Mar 2019	Water Temp (C)	15.2
S10	12 Mar 2019	Wave Height Low (ft)	4
S10	12 Mar 2019	High Tide (ft)	2.8
S10	12 Mar 2019	High Tide Time	1349
S10	12 Mar 2019	Low Tide (ft)	1
S10	12 Mar 2019	Low Tide Time	754
S10	12 Mar 2019	Comments	Sewage-like odor; Water clear

Station	Date	Parameter	Value
S10	14 Mar 2019	Arrive Time	853
S10	14 Mar 2019	Weather	Sunny
S10	14 Mar 2019	Wind Speed (kts)	4
S10	14 Mar 2019	Wind Dir	NW
S10	14 Mar 2019	Animal Life	None
S10	14 Mar 2019	Floatables	None
S10	14 Mar 2019	Water Color	Green
S10	14 Mar 2019	Current Direction	N
S10	14 Mar 2019	Water Temp (C)	15.6
S10	14 Mar 2019	Wave Height Low (ft)	3
S10	14 Mar 2019	High Tide (ft)	4.4
S10	14 Mar 2019	High Tide Time	254
S10	14 Mar 2019	Low Tide (ft)	0.5
S10	14 Mar 2019	Low Tide Time	1106
S10	14 Mar 2019	Comments	Resample; Sewage-like odor; Water clear
S10	16 Mar 2019	Arrive Time	818
S10	16 Mar 2019	Weather	Sunny
S10	16 Mar 2019	Wind Speed (kts)	4.2
S10	16 Mar 2019	Wind Dir	W
S10	16 Mar 2019	Animal Life	1 Cormorant; 1 Pelican
S10	16 Mar 2019	Floatables	None
S10	16 Mar 2019	Water Color	Green
S10	16 Mar 2019	Current Direction	W
S10	16 Mar 2019	Water Temp (C)	16.9
S10	16 Mar 2019	Wave Height Low (ft)	3
S10	16 Mar 2019	High Tide (ft)	5
S10	16 Mar 2019	High Tide Time	544
S10	16 Mar 2019	Low Tide (ft)	-0.6
S10	16 Mar 2019	Low Tide Time	1311
S10	16 Mar 2019	Comments	Resample; Kelp; Seagrass; Debris; Water clear
S10	20 Mar 2019	Arrive Time	1226
S10	20 Mar 2019	Weather	Partly Cloudy
S10	20 Mar 2019	Wind Speed (kts)	6.3
S10	20 Mar 2019	Wind Dir	NE
S10	20 Mar 2019	Animal Life	7 Grebes
S10	20 Mar 2019	Floatables	Foam
S10	20 Mar 2019	Water Color	Green
S10	20 Mar 2019	Current Direction	NE
S10	20 Mar 2019	Water Temp (C)	16.6
S10	20 Mar 2019	Wave Height Low (ft)	3
S10	20 Mar 2019	High Tide (ft)	6
S10	20 Mar 2019	High Tide Time	914
S10	20 Mar 2019	Low Tide (ft)	-1.1
S10	20 Mar 2019	Low Tide Time	1549
S10	20 Mar 2019	Comments	Kelp; Seagrass; Debris; 3 Persons; Water clear
S10	26 Mar 2019	Arrive Time	836
S10	26 Mar 2019	Weather	Foggy
S10	26 Mar 2019	Wind Speed (kts)	4.4
S10	26 Mar 2019	Wind Dir	N
S10	26 Mar 2019	Animal Life	None
S10	26 Mar 2019	Floatables	None
S10	26 Mar 2019	Water Color	Green

Station	Date	Parameter	Value
S10	26 Mar 2019	Current Direction	N
S10	26 Mar 2019	Water Temp (C)	16.9
S10	26 Mar 2019	Wave Height Low (ft)	3
S10	26 Mar 2019	High Tide (ft)	2.8
S10	26 Mar 2019	High Tide Time	1516
S10	26 Mar 2019	Low Tide (ft)	0.5
S10	26 Mar 2019	Low Tide Time	842
S10	26 Mar 2019	Comments	Water clear
S10	28 Mar 2019	Arrive Time	1018
S10	28 Mar 2019	Weather	Sunny
S10	28 Mar 2019	Wind Speed (kts)	4.6
S10	28 Mar 2019	Wind Dir	N
S10	28 Mar 2019	Animal Life	3 Horses
S10	28 Mar 2019	Floatables	None
S10	28 Mar 2019	Water Color	Green
S10	28 Mar 2019	Current Direction	N
S10	28 Mar 2019	Water Temp (C)	15.8
S10	28 Mar 2019	Wave Height Low (ft)	3
S10	28 Mar 2019	High Tide (ft)	4
S10	28 Mar 2019	High Tide Time	341
S10	28 Mar 2019	Low Tide (ft)	0.4
S10	28 Mar 2019	Low Tide Time	1145
S10	28 Mar 2019	Comments	Resample; 3 Persons; Water clear
S10	29 Mar 2019	Arrive Time	1100
S10	29 Mar 2019	Weather	Sunny
S10	29 Mar 2019	Wind Speed (kts)	5.2
S10	29 Mar 2019	Wind Dir	N
S10	29 Mar 2019	Animal Life	2 Horses
S10	29 Mar 2019	Floatables	None
S10	29 Mar 2019	Water Color	Green
S10	29 Mar 2019	Current Direction	N
S10	29 Mar 2019	Water Temp (C)	17.2
S10	29 Mar 2019	Wave Height Low (ft)	3
S10	29 Mar 2019	High Tide (ft)	4
S10	29 Mar 2019	High Tide Time	510
S10	29 Mar 2019	Low Tide (ft)	0.2
S10	29 Mar 2019	Low Tide Time	1245
S10	29 Mar 2019	Comments	Resample; 5 Persons; Water clear
S10	31 Mar 2019	Arrive Time	740
S10	31 Mar 2019	Weather	Sunny
S10	31 Mar 2019	Wind Speed (kts)	4.4
S10	31 Mar 2019	Wind Dir	N
S10	31 Mar 2019	Animal Life	None
S10	31 Mar 2019	Floatables	None
S10	31 Mar 2019	Water Color	Green
S10	31 Mar 2019	Current Direction	N
S10	31 Mar 2019	Water Temp (C)	17.1
S10	31 Mar 2019	Wave Height Low (ft)	2
S10	31 Mar 2019	High Tide (ft)	4.5
S10	31 Mar 2019	High Tide Time	705
S10	31 Mar 2019	Low Tide (ft)	1.9
S10	31 Mar 2019	Low Tide Time	123

Station	Date	Parameter	Value
S10	31 Mar 2019	Comments	Resample; Water clear
S11	05 Mar 2019	Arrive Time	1019
S11	05 Mar 2019	Weather	Sunny
S11	05 Mar 2019	Wind Speed (kts)	5.6
S11	05 Mar 2019	Wind Dir	W
S11	05 Mar 2019	Animal Life	None
S11	05 Mar 2019	Floatables	None
S11	05 Mar 2019	Water Color	Green
S11	05 Mar 2019	Current Direction	N
S11	05 Mar 2019	Water Temp (C)	15.8
S11	05 Mar 2019	Wave Height Low (ft)	4
S11	05 Mar 2019	High Tide (ft)	5.3
S11	05 Mar 2019	High Tide Time	808
S11	05 Mar 2019	Low Tide (ft)	-0.5
S11	05 Mar 2019	Low Tide Time	1454
S11	05 Mar 2019	Comments	Water clear
S11	07 Mar 2019	Arrive Time	915
S11	07 Mar 2019	Weather	Partly Cloudy
S11	07 Mar 2019	Wind Speed (kts)	2.3
S11	07 Mar 2019	Wind Dir	E
S11	07 Mar 2019	Animal Life	20 Seagulls
S11	07 Mar 2019	Floatables	None
S11	07 Mar 2019	Water Color	Green
S11	07 Mar 2019	Current Direction	E
S11	07 Mar 2019	Water Temp (C)	19.9
S11	07 Mar 2019	Wave Height Low (ft)	3
S11	07 Mar 2019	High Tide (ft)	5.1
S11	07 Mar 2019	High Tide Time	908
S11	07 Mar 2019	Low Tide (ft)	0.8
S11	07 Mar 2019	Low Tide Time	311
S11	07 Mar 2019	Comments	Resample; Klep; Seagrass; Debris; Water clear
S11	08 Mar 2019	Arrive Time	1020
S11	08 Mar 2019	Weather	Partly Cloudy
S11	08 Mar 2019	Wind Speed (kts)	7.9
S11	08 Mar 2019	Wind Dir	E
S11	08 Mar 2019	Animal Life	None
S11	08 Mar 2019	Floatables	None
S11	08 Mar 2019	Water Color	Green
S11	08 Mar 2019	Current Direction	E
S11	08 Mar 2019	Water Temp (C)	17.4
S11	08 Mar 2019	Wave Height Low (ft)	3
S11	08 Mar 2019	High Tide (ft)	4.8
S11	08 Mar 2019	High Tide Time	939
S11	08 Mar 2019	Low Tide (ft)	0.1
S11	08 Mar 2019	Low Tide Time	1606
S11	08 Mar 2019	Comments	Resample; Kelp; Seagrass; Debris; Water clear
S11	10 Mar 2019	Arrive Time	940
S11	10 Mar 2019	Weather	Overcast
S11	10 Mar 2019	Wind Speed (kts)	4.2
S11	10 Mar 2019	Wind Dir	W
S11	10 Mar 2019	Animal Life	2 Dogs; 2 Pelicans

Station	Date	Parameter	Value
S11	10 Mar 2019	Floatables	None
S11	10 Mar 2019	Water Color	Green
S11	10 Mar 2019	Current Direction	W
S11	10 Mar 2019	Water Temp (C)	15.2
S11	10 Mar 2019	Wave Height Low (ft)	3
S11	10 Mar 2019	High Tide (ft)	3.9
S11	10 Mar 2019	High Tide Time	1149
S11	10 Mar 2019	Low Tide (ft)	0.8
S11	10 Mar 2019	Low Tide Time	559
S11	10 Mar 2019	Comments	Resample; Kelp; Seagrass; Debris; Sewage-like odor; 5 Persons; Water clear
S11	12 Mar 2019	Arrive Time	1102
S11	12 Mar 2019	Weather	Partly Cloudy
S11	12 Mar 2019	Wind Speed (kts)	4.3
S11	12 Mar 2019	Wind Dir	W
S11	12 Mar 2019	Animal Life	None
S11	12 Mar 2019	Floatables	None
S11	12 Mar 2019	Water Color	Green
S11	12 Mar 2019	Current Direction	N
S11	12 Mar 2019	Water Temp (C)	16.4
S11	12 Mar 2019	Wave Height Low (ft)	3
S11	12 Mar 2019	High Tide (ft)	2.8
S11	12 Mar 2019	High Tide Time	1349
S11	12 Mar 2019	Low Tide (ft)	1
S11	12 Mar 2019	Low Tide Time	754
S11	12 Mar 2019	Comments	Kelp; Water clear
S11	20 Mar 2019	Arrive Time	1036
S11	20 Mar 2019	Weather	Overcast
S11	20 Mar 2019	Wind Speed (kts)	5.2
S11	20 Mar 2019	Wind Dir	E
S11	20 Mar 2019	Animal Life	3 Shorebirds; 2 Pelicans
S11	20 Mar 2019	Floatables	None
S11	20 Mar 2019	Water Color	Green
S11	20 Mar 2019	Current Direction	E
S11	20 Mar 2019	Water Temp (C)	18.2
S11	20 Mar 2019	Wave Height Low (ft)	5
S11	20 Mar 2019	High Tide (ft)	6
S11	20 Mar 2019	High Tide Time	914
S11	20 Mar 2019	Low Tide (ft)	-1.1
S11	20 Mar 2019	Low Tide Time	1549
S11	20 Mar 2019	Comments	Kelp; Seagrass; Debris; 1 Person; Water clear
S11	22 Mar 2019	Arrive Time	819
S11	22 Mar 2019	Weather	Sunny
S11	22 Mar 2019	Wind Speed (kts)	1.8
S11	22 Mar 2019	Wind Dir	SE
S11	22 Mar 2019	Animal Life	None
S11	22 Mar 2019	Floatables	None
S11	22 Mar 2019	Water Color	Green
S11	22 Mar 2019	Current Direction	N
S11	22 Mar 2019	Water Temp (C)	16
S11	22 Mar 2019	Wave Height Low (ft)	3
S11	22 Mar 2019	High Tide (ft)	5.2

Station	Date	Parameter	Value
S11	22 Mar 2019	High Tide Time	1047
S11	22 Mar 2019	Low Tide (ft)	-0.3
S11	22 Mar 2019	Low Tide Time	447
S11	22 Mar 2019	Comments	Resample; Seagrass; Water clear
S11	23 Mar 2019	Arrive Time	857
S11	23 Mar 2019	Weather	Sunny
S11	23 Mar 2019	Wind Speed (kts)	5.4
S11	23 Mar 2019	Wind Dir	NW
S11	23 Mar 2019	Animal Life	5 Birds; 1 Dog
S11	23 Mar 2019	Floatables	None
S11	23 Mar 2019	Water Color	Green
S11	23 Mar 2019	Current Direction	N
S11	23 Mar 2019	Water Temp (C)	17
S11	23 Mar 2019	Wave Height Low (ft)	4
S11	23 Mar 2019	High Tide (ft)	4.6
S11	23 Mar 2019	High Tide Time	1135
S11	23 Mar 2019	Low Tide (ft)	-0.3
S11	23 Mar 2019	Low Tide Time	535
S11	23 Mar 2019	Comments	Resample; 6 Persons; Water clear
S11	24 Mar 2019	Arrive Time	822
S11	24 Mar 2019	Weather	Sunny
S11	24 Mar 2019	Wind Speed (kts)	2.1
S11	24 Mar 2019	Wind Dir	N
S11	24 Mar 2019	Animal Life	1 Dog
S11	24 Mar 2019	Floatables	None
S11	24 Mar 2019	Water Color	Green
S11	24 Mar 2019	Current Direction	N
S11	24 Mar 2019	Water Temp (C)	17.1
S11	24 Mar 2019	Wave Height Low (ft)	3
S11	24 Mar 2019	High Tide (ft)	3.9
S11	24 Mar 2019	High Tide Time	1229
S11	24 Mar 2019	Low Tide (ft)	-0.1
S11	24 Mar 2019	Low Tide Time	628
S11	24 Mar 2019	Comments	Resample; 3 Persons; Water clear
S11	26 Mar 2019	Arrive Time	1036
S11	26 Mar 2019	Weather	Partly Cloudy
S11	26 Mar 2019	Wind Speed (kts)	3.2
S11	26 Mar 2019	Wind Dir	NE
S11	26 Mar 2019	Animal Life	None
S11	26 Mar 2019	Floatables	None
S11	26 Mar 2019	Water Color	Colorless
S11	26 Mar 2019	Current Direction	N
S11	26 Mar 2019	Water Temp (C)	17.2
S11	26 Mar 2019	Wave Height Low (ft)	4
S11	26 Mar 2019	High Tide (ft)	2.8
S11	26 Mar 2019	High Tide Time	1516
S11	26 Mar 2019	Low Tide (ft)	0.5
S11	26 Mar 2019	Low Tide Time	842
S11	26 Mar 2019	Comments	7 Persons; Water clear
S11	28 Mar 2019	Arrive Time	910
S11	28 Mar 2019	Weather	Sunny

Station	Date	Parameter	Value
S11	28 Mar 2019	Wind Speed (kts)	1.9
S11	28 Mar 2019	Wind Dir	W
S11	28 Mar 2019	Animal Life	None
S11	28 Mar 2019	Floatables	None
S11	28 Mar 2019	Water Color	Green
S11	28 Mar 2019	Current Direction	N
S11	28 Mar 2019	Water Temp (C)	15.9
S11	28 Mar 2019	Wave Height Low (ft)	3
S11	28 Mar 2019	High Tide (ft)	4
S11	28 Mar 2019	High Tide Time	341
S11	28 Mar 2019	Low Tide (ft)	0.4
S11	28 Mar 2019	Low Tide Time	1145
S11	28 Mar 2019	Comments	Resample; 4 Persons; Water clear
S11	29 Mar 2019	Arrive Time	956
S11	29 Mar 2019	Weather	Sunny
S11	29 Mar 2019	Wind Speed (kts)	3.2
S11	29 Mar 2019	Wind Dir	N
S11	29 Mar 2019	Animal Life	2 Dogs
S11	29 Mar 2019	Floatables	None
S11	29 Mar 2019	Water Color	Green
S11	29 Mar 2019	Current Direction	N
S11	29 Mar 2019	Water Temp (C)	16.2
S11	29 Mar 2019	Wave Height Low (ft)	4
S11	29 Mar 2019	High Tide (ft)	4
S11	29 Mar 2019	High Tide Time	510
S11	29 Mar 2019	Low Tide (ft)	0.2
S11	29 Mar 2019	Low Tide Time	1245
S11	29 Mar 2019	Comments	Resample; 4 Persons; Water clear
S12	05 Mar 2019	Arrive Time	1036
S12	05 Mar 2019	Weather	Sunny
S12	05 Mar 2019	Wind Speed (kts)	5.3
S12	05 Mar 2019	Wind Dir	W
S12	05 Mar 2019	Animal Life	1 Whale
S12	05 Mar 2019	Floatables	None
S12	05 Mar 2019	Water Color	Green
S12	05 Mar 2019	Current Direction	N
S12	05 Mar 2019	Water Temp (C)	16.7
S12	05 Mar 2019	Wave Height Low (ft)	3
S12	05 Mar 2019	High Tide (ft)	5.3
S12	05 Mar 2019	High Tide Time	808
S12	05 Mar 2019	Low Tide (ft)	-0.5
S12	05 Mar 2019	Low Tide Time	1454
S12	05 Mar 2019	Comments	1 Person; Water clear
S12	12 Mar 2019	Arrive Time	1121
S12	12 Mar 2019	Weather	Sunny
S12	12 Mar 2019	Wind Speed (kts)	2.7
S12	12 Mar 2019	Wind Dir	W
S12	12 Mar 2019	Animal Life	None
S12	12 Mar 2019	Floatables	None
S12	12 Mar 2019	Water Color	Green
S12	12 Mar 2019	Current Direction	N
S12	12 Mar 2019	Water Temp (C)	16.5

Station	Date	Parameter	Value
S12	12 Mar 2019	Wave Height Low (ft)	3
S12	12 Mar 2019	High Tide (ft)	2.8
S12	12 Mar 2019	High Tide Time	1349
S12	12 Mar 2019	Low Tide (ft)	1
S12	12 Mar 2019	Low Tide Time	754
S12	12 Mar 2019	Comments	Water clear
S12	20 Mar 2019	Arrive Time	956
S12	20 Mar 2019	Weather	Partly Cloudy
S12	20 Mar 2019	Wind Speed (kts)	1.3
S12	20 Mar 2019	Wind Dir	N
S12	20 Mar 2019	Animal Life	14 Grebes
S12	20 Mar 2019	Floatables	None
S12	20 Mar 2019	Water Color	Green
S12	20 Mar 2019	Current Direction	N
S12	20 Mar 2019	Water Temp (C)	18.8
S12	20 Mar 2019	Wave Height Low (ft)	4
S12	20 Mar 2019	High Tide (ft)	6
S12	20 Mar 2019	High Tide Time	914
S12	20 Mar 2019	Low Tide (ft)	-1.1
S12	20 Mar 2019	Low Tide Time	1549
S12	20 Mar 2019	Comments	Kelp; Seagrass; 1 Person; Water clear
S12	22 Mar 2019	Arrive Time	832
S12	22 Mar 2019	Weather	Sunny
S12	22 Mar 2019	Wind Speed (kts)	1.6
S12	22 Mar 2019	Wind Dir	SW
S12	22 Mar 2019	Animal Life	None
S12	22 Mar 2019	Floatables	None
S12	22 Mar 2019	Water Color	Green
S12	22 Mar 2019	Current Direction	N
S12	22 Mar 2019	Water Temp (C)	16.4
S12	22 Mar 2019	Wave Height Low (ft)	2
S12	22 Mar 2019	High Tide (ft)	5.2
S12	22 Mar 2019	High Tide Time	1047
S12	22 Mar 2019	Low Tide (ft)	-0.3
S12	22 Mar 2019	Low Tide Time	447
S12	22 Mar 2019	Comments	Resample; 1 Jogger; 3 Persons; Water clear
S12	26 Mar 2019	Arrive Time	1124
S12	26 Mar 2019	Weather	Partly Cloudy
S12	26 Mar 2019	Wind Speed (kts)	5
S12	26 Mar 2019	Wind Dir	N
S12	26 Mar 2019	Animal Life	None
S12	26 Mar 2019	Floatables	None
S12	26 Mar 2019	Water Color	Colorless
S12	26 Mar 2019	Current Direction	N
S12	26 Mar 2019	Water Temp (C)	16.7
S12	26 Mar 2019	Wave Height Low (ft)	4
S12	26 Mar 2019	High Tide (ft)	2.8
S12	26 Mar 2019	High Tide Time	1516
S12	26 Mar 2019	Low Tide (ft)	0.5
S12	26 Mar 2019	Low Tide Time	842
S12	26 Mar 2019	Comments	4 Persons; Water clear

Kelp Stations

Table 3.8

Summary of water quality parameters at the SBOO kelp stations for each sample date. Densities of total coliform (Total), fecal coliform (Fecal) and *Enterococcus* (Entero) bacteria are reported as CFU/100 mL; the fecal:total coliform ratio (F:T) is unitless; values for temperature (Temp, °C), transmissivity (XMS, %), dissolved oxygen (DO, mg/L), salinity (Sal, ppt) and pH were extracted from CTD profile data for depths closest to those at which the bacteriological samples were collected. Comments follow the data summary.

Station	Date	Time	Depth	Total	Fecal	Entero	F:T	Temp	XMS	DO	Sal	pH
I19	04 Mar 2019	1048	2	3600e	340e	4e	0.094	14.5	64.76	8.4	33.39	8.2
I19	04 Mar 2019	1048	6	1500	680	14e	0.453	14.0	51.52	7.8	33.51	8.1
I19	04 Mar 2019	1048	11	180e	40e	6e	0.222	13.4	51.53	7.1	33.56	8.1
I19	11 Mar 2019	1018	2	>16000	2200e	680	0.138	14.2	64.20	8.3	33.47	8.1
I19	11 Mar 2019	1018	6	>16000	<20	100e	0.001	14.3	75.45	8.3	33.56	8.1
I19	11 Mar 2019	1018	11	120e	6e	2e	0.050	13.8	80.00	7.6	33.59	8.1
I19	18 Mar 2019	1052	2	620	110	14e	0.177	15.4	71.86	8.4	33.54	8.2
I19	18 Mar 2019	1052	6	200e	58	8e	0.290	15.3	73.14	8.4	33.55	8.2
I19	18 Mar 2019	1052	11	100e	12e	4e	0.120	14.0	56.33	7.2	33.57	8.1
I19	25 Mar 2019	1124	2	680	200e	56	0.294	14.8	46.01	8.0	33.45	8.0
I19	25 Mar 2019	1124	6	1000e	220e	40	0.220	14.2	45.68	7.8	33.55	8.0
I19	25 Mar 2019	1124	11	5400	840	140e	0.156	13.4	61.16	6.9	33.63	7.9
I24	04 Mar 2019	1113	2	28e	<2	<2	0.071	14.7	75.64	8.9	33.47	8.2
I24	04 Mar 2019	1113	6	14e	<2	4e	0.143	14.3	76.99	8.7	33.52	8.2
I24	04 Mar 2019	1113	11	10e	2e	<2	0.200	13.3	43.65	6.6	33.61	8.1
I24	11 Mar 2019	1042	2	>16000	6200	1000e	0.388	14.5	60.89	8.8	33.29	8.2
I24	11 Mar 2019	1042	6	720	94	28e	0.131	14.0	79.04	8.1	33.60	8.1
I24	11 Mar 2019	1042	11	700	70	14e	0.100	13.6	44.55	6.4	33.58	8.0
I24	18 Mar 2019	1112	2	6e	2e	<2	0.333	15.7	76.37	8.8	33.55	8.2
I24	18 Mar 2019	1112	6	70	10e	2e	0.143	15.5	76.62	8.8	33.55	8.2
I24	18 Mar 2019	1112	11	36e	8e	2e	0.222	14.4	60.49	7.8	33.59	8.2
I24	25 Mar 2019	1146	2	4200	140e	20e	0.033	15.7	58.92	8.4	33.44	8.0
I24	25 Mar 2019	1146	6	920	130e	4e	0.141	15.4	60.50	8.1	33.55	8.0
I24	25 Mar 2019	1146	11	300e	20e	2e	0.067	13.6	69.37	7.2	33.61	7.9
I25	04 Mar 2019	1122	2	2e	<2	<2	1.000	14.7	75.60	8.9	33.46	8.2
I25	04 Mar 2019	1122	6	2e	4e	<2	2.000	14.0	75.45	8.0	33.55	8.2
I25	04 Mar 2019	1122	9	8e	2e	<2	0.250	13.5	69.93	7.0	33.56	8.1
I25	11 Mar 2019	1101	2	>16000	2200e	580	0.138	14.6	65.54	8.9	33.28	8.2
I25	11 Mar 2019	1101	6	480	46	10e	0.096	14.1	77.72	8.1	33.59	8.2
I25	11 Mar 2019	1101	9	480	50	10e	0.104	13.8	73.47	6.9	33.58	8.0
I25	18 Mar 2019	1118	2	150	12e	<2	0.080	15.7	76.31	8.8	33.55	8.2
I25	18 Mar 2019	1118	6	780	80	6e	0.103	15.5	76.57	8.7	33.54	8.2
I25	18 Mar 2019	1118	9	280e	26e	4e	0.093	14.4	63.44	8.0	33.54	8.1
I25	25 Mar 2019	1154	2	18e	<2	<2	0.111	15.3	57.66	8.0	33.61	8.0
I25	25 Mar 2019	1154	6	<2	<2	<2	1.000	13.2	71.25	6.7	33.61	7.9
I25	25 Mar 2019	1154	9	4e	<2	<2	0.500	13.1	68.95	6.4	33.61	7.9

Station	Date	Time	Depth	Total	Fecal	Enteroc	F:T	Temp	XMS	DO	Sal	pH
I26	04 Mar 2019	1134	2	2e	<2	<2	1.000	14.6	76.46	8.9	33.50	8.2
I26	04 Mar 2019	1134	6	2e	<2	<2	1.000	13.9	73.50	8.3	33.54	8.2
I26	04 Mar 2019	1134	9	14e	2e	2e	0.143	13.7	64.25	7.6	33.54	8.1
I26	11 Mar 2019	1110	2	80	10e	2e	0.125	14.5	72.09	9.2	33.50	8.2
I26	11 Mar 2019	1110	6	4e	<2	<2	0.500	14.2	72.75	8.5	33.55	8.2
I26	11 Mar 2019	1110	9	8e	2e	<2	0.250	13.6	74.08	6.9	33.57	8.0
I26	18 Mar 2019	1127	2	100	<2	8e	0.020	15.6	73.19	8.5	33.52	8.2
I26	18 Mar 2019	1127	6	10e	<2	2e	0.200	14.8	73.69	8.2	33.58	8.2
I26	18 Mar 2019	1127	9	62	8e	<2	0.129	14.6	67.40	8.0	33.56	8.1
I26	25 Mar 2019	1203	2	<2	<2	<2	1.000	14.6	73.25	7.7	33.63	8.0
I26	25 Mar 2019	1203	6	2e	<2	<2	1.000	13.2	72.34	6.7	33.62	7.9
I26	25 Mar 2019	1203	9	8e	<2	<2	0.250	13.2	69.25	6.6	33.61	7.9
I32	04 Mar 2019	1155	2	2e	<2	<2	1.000	14.8	66.86	8.7	33.42	8.2
I32	04 Mar 2019	1155	6	<2	4e	2e	2.000	14.2	75.01	8.7	33.55	8.2
I32	04 Mar 2019	1155	9	16e	<2	14e	0.125	13.9	51.77	8.3	33.54	8.2
I32	11 Mar 2019	1122	2	4e	2e	2e	0.500	14.3	57.50	8.3	33.55	8.1
I32	11 Mar 2019	1122	6	2e	<2	2e	1.000	13.9	55.80	7.6	33.57	8.1
I32	11 Mar 2019	1122	9	<2	2e	10e	1.000	13.3	46.84	7.0	33.60	8.1
I32	18 Mar 2019	1139	2	6e	<2	2e	0.333	15.4	73.38	8.7	33.52	8.2
I32	18 Mar 2019	1139	6	14e	4e	<2	0.286	15.4	73.06	8.6	33.52	8.2
I32	18 Mar 2019	1139	9	22e	2e	<2	0.091	15.4	70.56	8.6	33.52	8.2
I32	25 Mar 2019	1217	2	<2	2e	<2	1.000	14.6	50.56	7.8	33.60	8.0
I32	25 Mar 2019	1217	6	<2	<2	4e	1.000	13.6	47.34	7.0	33.60	7.9
I32	25 Mar 2019	1217	9	<2	2e	<2	1.000	13.3	67.92	6.7	33.62	7.9
I39	04 Mar 2019	1027	2	<2	<2	<2	1.000	14.4	81.56	8.9	33.54	8.2
I39	04 Mar 2019	1027	12	2e	2e	<2	1.000	14.2	81.13	8.7	33.54	8.2
I39	04 Mar 2019	1027	18	6e	4e	<2	0.667	12.5	76.67	6.1	33.63	8.0
I39	11 Mar 2019	945	2	180e	22e	4e	0.122	14.5	73.76	8.9	33.50	8.2
I39	11 Mar 2019	945	12	<2	<2	<2	1.000	13.4	80.89	7.1	33.60	8.1
I39	11 Mar 2019	945	18	6e	<2	<2	0.333	13.1	74.87	6.4	33.60	8.0
I39	18 Mar 2019	1021	2	7600	740	80e	0.097	15.4	78.00	9.0	33.47	8.2
I39	18 Mar 2019	1021	12	44	6e	2e	0.136	13.7	75.16	7.3	33.59	8.1
I39	18 Mar 2019	1021	18	20e	4e	<2	0.200	13.5	71.88	6.6	33.60	8.0
I39	25 Mar 2019	1102	2	<2	<2	<2	1.000	15.6	79.18	8.4	33.59	8.1
I39	25 Mar 2019	1102	12	4e	<2	<2	0.500	13.7	80.27	7.5	33.62	8.0
I39	25 Mar 2019	1102	18	30e	10e	<2	0.333	12.5	70.79	5.9	33.63	7.8
I40	04 Mar 2019	1102	2	>16000	>12000	>12000	0.750	14.7	48.08	8.5	33.20	8.2
I40	04 Mar 2019	1102	6	14000	3600e	100e	0.257	14.1	68.97	8.4	33.53	8.2
I40	04 Mar 2019	1102	9	320e	72	12e	0.225	13.8	72.61	7.4	33.56	8.1
I40	11 Mar 2019	1033	2	>16000	5000	560	0.312	14.4	55.36	8.6	33.41	8.1
I40	11 Mar 2019	1033	6	120e	4e	6e	0.033	14.0	75.25	8.2	33.58	8.1

Station	Date	Time	Depth	Total	Fecal	Enteroc	F:T	Temp	XMS	DO	Sal	pH
I40	11 Mar 2019	1033	9	120e	12e	6e	0.100	13.8	66.58	7.1	33.58	8.1
I40	18 Mar 2019	1104	2	1600e	220e	16e	0.138	15.7	75.77	8.7	33.52	8.2
I40	18 Mar 2019	1104	6	1000	120e	22e	0.120	15.6	75.32	8.7	33.52	8.2
I40	18 Mar 2019	1104	9	320e	42	32e	0.131	14.5	55.80	8.2	33.59	8.2
I40	25 Mar 2019	1137	2	2800e	3000e	2000e	1.071	15.5	46.62	8.1	33.31	8.0
I40	25 Mar 2019	1137	6	9600	2600e	620	0.271	15.2	55.89	8.1	33.50	8.0
I40	25 Mar 2019	1137	9	700	100e	74	0.143	14.1	58.63	7.4	33.60	8.0

ns = not sampled

ND = no data

Table 3.2

Summary of compliance with the Ocean Plan's 30-day Geometric Mean standard for fecal coliform bacteria at the SBOO kelp stations. Data are based on the geometric mean of the five most recent samples from each site over the previous 30 days unless otherwise noted (*). Values >200 CFU/100 mL exceed the standard.

Date	I19	I24	I25	I26	I32	I39	I40
01 Mar 2019	81*	21*	15*	5*	5*	4*	78*
02 Mar 2019	81*	21*	15*	5*	5*	4*	78*
03 Mar 2019	81*	21*	15*	5*	5*	4*	78*
04 Mar 2019	109	13	10	4	4	3	181
05 Mar 2019	109	13	10	4	4	3	181
06 Mar 2019	109	13	10	4	4	3	181
07 Mar 2019	109	13	10	4	4	3	181
08 Mar 2019	109	13	10	4	4	3	181
09 Mar 2019	93*	8*	10*	3*	3*	4*	160*
10 Mar 2019	93*	8*	10*	3*	3*	4*	160*
11 Mar 2019	141	24	23	3	3	4	256
12 Mar 2019	141	24	23	3	3	4	256
13 Mar 2019	110*	36*	36*	4*	3*	5*	608*
14 Mar 2019	110*	36*	36*	4*	3*	5*	608*
15 Mar 2019	110*	36*	36*	4*	3*	5*	608*
16 Mar 2019	110*	36*	36*	4*	3*	5*	608*
17 Mar 2019	110*	36*	36*	4*	3*	5*	608*
18 Mar 2019	97	25	37	4	3	11	445
19 Mar 2019	97	25	37	4	3	11	445
20 Mar 2019	97	25	37	4	3	11	445
21 Mar 2019	106*	31*	58*	3*	3*	12*	432*
22 Mar 2019	106*	31*	58*	3*	3*	12*	432*
23 Mar 2019	106*	31*	58*	3*	3*	12*	432*
24 Mar 2019	106*	31*	58*	3*	3*	12*	432*
25 Mar 2019	140	39	30	3	2	10	581
26 Mar 2019	140	39	30	3	2	10	581
27 Mar 2019	285*	41*	20*	3*	2*	13*	1206*
28 Mar 2019	285*	41*	20*	3*	2*	13*	1206*
29 Mar 2019	285*	41*	20*	3*	2*	13*	1206*
30 Mar 2019	285*	41*	20*	3*	2*	13*	1206*
31 Mar 2019	285*	41*	20*	3*	2*	13*	1206*

* Geometric mean calculated using n<5

Table 3.3

Summary of compliance with the Ocean Plan's 30-day Geometric Mean standard for *Enterococcus* at the SBOO kelp stations. Data are based on the geometric mean of the five most recent samples from each site over the previous 30 days unless otherwise noted (*). Values >35 CFU/100 mL exceed the standard.

Date	I19	I24	I25	I26	I32	I39	I40
01 Mar 2019	61*	30*	24*	17*	13*	3*	72*
02 Mar 2019	61*	30*	24*	17*	13*	3*	72*
03 Mar 2019	61*	30*	24*	17*	13*	3*	72*
04 Mar 2019	41	19	14	11	11	2	160
05 Mar 2019	41	19	14	11	11	2	160
06 Mar 2019	41	19	14	11	11	2	160
07 Mar 2019	41	19	14	11	11	2	160
08 Mar 2019	41	19	14	11	11	2	160
09 Mar 2019	35*	11*	10*	6*	7*	3*	169*
10 Mar 2019	35*	11*	10*	6*	7*	3*	169*
11 Mar 2019	52	22	18	5	7	3	173
12 Mar 2019	52	22	18	5	7	3	173
13 Mar 2019	51*	24*	16*	3*	8*	3*	374*
14 Mar 2019	51*	24*	16*	3*	8*	3*	374*
15 Mar 2019	51*	24*	16*	3*	8*	3*	374*
16 Mar 2019	51*	24*	16*	3*	8*	3*	374*
17 Mar 2019	51*	24*	16*	3*	8*	3*	374*
18 Mar 2019	36	14	12	4	6	4	215
19 Mar 2019	36	14	12	4	6	4	215
20 Mar 2019	36	14	12	4	6	4	215
21 Mar 2019	29*	13*	13*	2*	4*	4*	172*
22 Mar 2019	29*	13*	13*	2*	4*	4*	172*
23 Mar 2019	29*	13*	13*	2*	4*	4*	172*
24 Mar 2019	29*	13*	13*	2*	4*	4*	172*
25 Mar 2019	35	12	9	2	4	4	239
26 Mar 2019	35	12	9	2	4	4	239
27 Mar 2019	35*	11*	8*	2*	3*	4*	356*
28 Mar 2019	35*	11*	8*	2*	3*	4*	356*
29 Mar 2019	35*	11*	8*	2*	3*	4*	356*
30 Mar 2019	35*	11*	8*	2*	3*	4*	356*
31 Mar 2019	35*	11*	8*	2*	3*	4*	356*

* Geometric mean calculated using n<5

Table 3.4

Summary of compliance at the SBOO kelp stations with the Ocean Plan's Single Sample Maximum standard for total coliform bacteria, which states that total coliform density shall not exceed 10,000 CFU/100 mL.

Date	I19	I24	I25	I26	I32	I39	I40
04 Mar 2019	IC	IC	IC	IC	IC	IC	E
11 Mar 2019	E	E	E	IC	IC	IC	E
18 Mar 2019	IC	IC	IC	IC	IC	IC	IC
25 Mar 2019	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 3.1

Summary of compliance with the Ocean Plan's 30-day Geometric Mean standard for total coliform bacteria at the SBOO kelp stations. Data are based on the geometric mean of the five most recent samples from each site over the previous 30 days unless otherwise noted (*). Values >1,000 CFU/100 mL exceed the standard.

Date	I19	I24	I25	I26	I32	I39	I40
01 Mar 2019	759*	126*	108*	24*	50*	10*	658*
02 Mar 2019	759*	126*	108*	24*	50*	10*	658*
03 Mar 2019	759*	126*	108*	24*	50*	10*	658*
04 Mar 2019	898	85	56	18	33	8	1136
05 Mar 2019	898	85	56	18	33	8	1136
06 Mar 2019	898	85	56	18	33	8	1136
07 Mar 2019	898	85	56	18	33	8	1136
08 Mar 2019	898	85	56	18	33	8	1136
09 Mar 2019	945*	47*	48*	12*	23*	11*	1004*
10 Mar 2019	945*	47*	48*	12*	23*	11*	1004*
11 Mar 2019	1536	124	125	14	15	16	1406
12 Mar 2019	1536	124	125	14	15	16	1406
13 Mar 2019	1256*	194*	174*	16*	15*	19*	2566*
14 Mar 2019	1256*	194*	174*	16*	15*	19*	2566*
15 Mar 2019	1256*	194*	174*	16*	15*	19*	2566*
16 Mar 2019	1256*	194*	174*	16*	15*	19*	2566*
17 Mar 2019	1256*	194*	174*	16*	15*	19*	2566*
18 Mar 2019	948	139	205	21	15	50	2114
19 Mar 2019	948	139	205	21	15	50	2114
20 Mar 2019	948	139	205	21	15	50	2114
21 Mar 2019	950*	183*	290*	14*	10*	47*	1622*
22 Mar 2019	950*	183*	290*	14*	10*	47*	1622*
23 Mar 2019	950*	183*	290*	14*	10*	47*	1622*
24 Mar 2019	950*	183*	290*	14*	10*	47*	1622*
25 Mar 2019	1139	290	141	11	7	36	1977
26 Mar 2019	1139	290	141	11	7	36	1977
27 Mar 2019	1922*	287*	92*	14*	5*	50*	3905*
28 Mar 2019	1922*	287*	92*	14*	5*	50*	3905*
29 Mar 2019	1922*	287*	92*	14*	5*	50*	3905*
30 Mar 2019	1922*	287*	92*	14*	5*	50*	3905*
31 Mar 2019	1922*	287*	92*	14*	5*	50*	3905*

* Geometric mean calculated using n<5

Table 3.5

Summary of compliance at the SBOO kelp stations with the Ocean Plan's Single Sample Maximum standard for fecal coliform bacteria, which states that fecal coliform density shall not exceed 400 CFU/100 mL.

Date	I19	I24	I25	I26	I32	I39	I40
04 Mar 2019	E	IC	IC	IC	IC	IC	E
11 Mar 2019	E	E	E	IC	IC	IC	E
18 Mar 2019	IC	IC	IC	IC	IC	E	IC
25 Mar 2019	E	IC	IC	IC	IC	IC	E

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 3.6

Summary of compliance at the SBOO kelp stations with the Ocean Plan's Single Sample Maximum standard for *Enterococcus* bacteria, which states that *Enterococcus* density shall not exceed 104 CFU/100 mL.

Date	I19	I24	I25	I26	I32	I39	I40
04 Mar 2019	IC	IC	IC	IC	IC	IC	E
11 Mar 2019	E	E	E	IC	IC	IC	E
18 Mar 2019	IC	IC	IC	IC	IC	IC	IC
25 Mar 2019	E	IC	IC	IC	IC	IC	E

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 3.7

Summary of compliance at the SBOO kelp stations with the Ocean Plan's Single Sample Maximum standard for total coliform bacteria and the fecal/total coliform ratio (F:T), which states that total coliform density shall not exceed 1,000 CFU/100 mL when F:T > 0.1.

Date	I19	I24	I25	I26	I32	I39	I40
04 Mar 2019	E	IC	IC	IC	IC	IC	E
11 Mar 2019	E	E	E	IC	IC	IC	E
18 Mar 2019	IC	IC	IC	IC	IC	IC	E
25 Mar 2019	E	IC	IC	IC	IC	IC	E

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 3.8

Summary of water quality parameters at the SBOO kelp stations for each sample date. Densities of total coliform (Total), fecal coliform (Fecal) and *Enterococcus* (Entero) bacteria are reported as CFU/100 mL; the fecal:total coliform ratio (F:T) is unitless; values for temperature (Temp, °C), transmissivity (XMS, %), dissolved oxygen (DO, mg/L), salinity (Sal, ppt) and pH were extracted from CTD profile data for depths closest to those at which the bacteriological samples were collected. Comments follow the data summary.

Station	Date	Time	Depth	Total	Fecal	Entero	F:T	Temp	XMS	DO	Sal	pH
I19	04 Mar 2019	1048	2	3600e	340e	4e	0.094	14.5	64.76	8.4	33.39	8.2
I19	04 Mar 2019	1048	6	1500	680	14e	0.453	14.0	51.52	7.8	33.51	8.1
I19	04 Mar 2019	1048	11	180e	40e	6e	0.222	13.4	51.53	7.1	33.56	8.1
I19	11 Mar 2019	1018	2	>16000	2200e	680	0.138	14.2	64.20	8.3	33.47	8.1
I19	11 Mar 2019	1018	6	>16000	<20	100e	0.001	14.3	75.45	8.3	33.56	8.1
I19	11 Mar 2019	1018	11	120e	6e	2e	0.050	13.8	80.00	7.6	33.59	8.1
I19	18 Mar 2019	1052	2	620	110	14e	0.177	15.4	71.86	8.4	33.54	8.2
I19	18 Mar 2019	1052	6	200e	58	8e	0.290	15.3	73.14	8.4	33.55	8.2
I19	18 Mar 2019	1052	11	100e	12e	4e	0.120	14.0	56.33	7.2	33.57	8.1
I19	25 Mar 2019	1124	2	680	200e	56	0.294	14.8	46.01	8.0	33.45	8.0
I19	25 Mar 2019	1124	6	1000e	220e	40	0.220	14.2	45.68	7.8	33.55	8.0
I19	25 Mar 2019	1124	11	5400	840	140e	0.156	13.4	61.16	6.9	33.63	7.9
I24	04 Mar 2019	1113	2	28e	<2	<2	0.071	14.7	75.64	8.9	33.47	8.2
I24	04 Mar 2019	1113	6	14e	<2	4e	0.143	14.3	76.99	8.7	33.52	8.2
I24	04 Mar 2019	1113	11	10e	2e	<2	0.200	13.3	43.65	6.6	33.61	8.1
I24	11 Mar 2019	1042	2	>16000	6200	1000e	0.388	14.5	60.89	8.8	33.29	8.2
I24	11 Mar 2019	1042	6	720	94	28e	0.131	14.0	79.04	8.1	33.60	8.1
I24	11 Mar 2019	1042	11	700	70	14e	0.100	13.6	44.55	6.4	33.58	8.0
I24	18 Mar 2019	1112	2	6e	2e	<2	0.333	15.7	76.37	8.8	33.55	8.2
I24	18 Mar 2019	1112	6	70	10e	2e	0.143	15.5	76.62	8.8	33.55	8.2
I24	18 Mar 2019	1112	11	36e	8e	2e	0.222	14.4	60.49	7.8	33.59	8.2
I24	25 Mar 2019	1146	2	4200	140e	20e	0.033	15.7	58.92	8.4	33.44	8.0
I24	25 Mar 2019	1146	6	920	130e	4e	0.141	15.4	60.50	8.1	33.55	8.0
I24	25 Mar 2019	1146	11	300e	20e	2e	0.067	13.6	69.37	7.2	33.61	7.9
I25	04 Mar 2019	1122	2	2e	<2	<2	1.000	14.7	75.60	8.9	33.46	8.2
I25	04 Mar 2019	1122	6	2e	4e	<2	2.000	14.0	75.45	8.0	33.55	8.2
I25	04 Mar 2019	1122	9	8e	2e	<2	0.250	13.5	69.93	7.0	33.56	8.1
I25	11 Mar 2019	1101	2	>16000	2200e	580	0.138	14.6	65.54	8.9	33.28	8.2
I25	11 Mar 2019	1101	6	480	46	10e	0.096	14.1	77.72	8.1	33.59	8.2
I25	11 Mar 2019	1101	9	480	50	10e	0.104	13.8	73.47	6.9	33.58	8.0
I25	18 Mar 2019	1118	2	150	12e	<2	0.080	15.7	76.31	8.8	33.55	8.2
I25	18 Mar 2019	1118	6	780	80	6e	0.103	15.5	76.57	8.7	33.54	8.2
I25	18 Mar 2019	1118	9	280e	26e	4e	0.093	14.4	63.44	8.0	33.54	8.1
I25	25 Mar 2019	1154	2	18e	<2	<2	0.111	15.3	57.66	8.0	33.61	8.0
I25	25 Mar 2019	1154	6	<2	<2	<2	1.000	13.2	71.25	6.7	33.61	7.9
I25	25 Mar 2019	1154	9	4e	<2	<2	0.500	13.1	68.95	6.4	33.61	7.9

Station	Date	Time	Depth	Total	Fecal	Enteroc	F:T	Temp	XMS	DO	Sal	pH
I26	04 Mar 2019	1134	2	2e	<2	<2	1.000	14.6	76.46	8.9	33.50	8.2
I26	04 Mar 2019	1134	6	2e	<2	<2	1.000	13.9	73.50	8.3	33.54	8.2
I26	04 Mar 2019	1134	9	14e	2e	2e	0.143	13.7	64.25	7.6	33.54	8.1
I26	11 Mar 2019	1110	2	80	10e	2e	0.125	14.5	72.09	9.2	33.50	8.2
I26	11 Mar 2019	1110	6	4e	<2	<2	0.500	14.2	72.75	8.5	33.55	8.2
I26	11 Mar 2019	1110	9	8e	2e	<2	0.250	13.6	74.08	6.9	33.57	8.0
I26	18 Mar 2019	1127	2	100	<2	8e	0.020	15.6	73.19	8.5	33.52	8.2
I26	18 Mar 2019	1127	6	10e	<2	2e	0.200	14.8	73.69	8.2	33.58	8.2
I26	18 Mar 2019	1127	9	62	8e	<2	0.129	14.6	67.40	8.0	33.56	8.1
I26	25 Mar 2019	1203	2	<2	<2	<2	1.000	14.6	73.25	7.7	33.63	8.0
I26	25 Mar 2019	1203	6	2e	<2	<2	1.000	13.2	72.34	6.7	33.62	7.9
I26	25 Mar 2019	1203	9	8e	<2	<2	0.250	13.2	69.25	6.6	33.61	7.9
I32	04 Mar 2019	1155	2	2e	<2	<2	1.000	14.8	66.86	8.7	33.42	8.2
I32	04 Mar 2019	1155	6	<2	4e	2e	2.000	14.2	75.01	8.7	33.55	8.2
I32	04 Mar 2019	1155	9	16e	<2	14e	0.125	13.9	51.77	8.3	33.54	8.2
I32	11 Mar 2019	1122	2	4e	2e	2e	0.500	14.3	57.50	8.3	33.55	8.1
I32	11 Mar 2019	1122	6	2e	<2	2e	1.000	13.9	55.80	7.6	33.57	8.1
I32	11 Mar 2019	1122	9	<2	2e	10e	1.000	13.3	46.84	7.0	33.60	8.1
I32	18 Mar 2019	1139	2	6e	<2	2e	0.333	15.4	73.38	8.7	33.52	8.2
I32	18 Mar 2019	1139	6	14e	4e	<2	0.286	15.4	73.06	8.6	33.52	8.2
I32	18 Mar 2019	1139	9	22e	2e	<2	0.091	15.4	70.56	8.6	33.52	8.2
I32	25 Mar 2019	1217	2	<2	2e	<2	1.000	14.6	50.56	7.8	33.60	8.0
I32	25 Mar 2019	1217	6	<2	<2	4e	1.000	13.6	47.34	7.0	33.60	7.9
I32	25 Mar 2019	1217	9	<2	2e	<2	1.000	13.3	67.92	6.7	33.62	7.9
I39	04 Mar 2019	1027	2	<2	<2	<2	1.000	14.4	81.56	8.9	33.54	8.2
I39	04 Mar 2019	1027	12	2e	2e	<2	1.000	14.2	81.13	8.7	33.54	8.2
I39	04 Mar 2019	1027	18	6e	4e	<2	0.667	12.5	76.67	6.1	33.63	8.0
I39	11 Mar 2019	945	2	180e	22e	4e	0.122	14.5	73.76	8.9	33.50	8.2
I39	11 Mar 2019	945	12	<2	<2	<2	1.000	13.4	80.89	7.1	33.60	8.1
I39	11 Mar 2019	945	18	6e	<2	<2	0.333	13.1	74.87	6.4	33.60	8.0
I39	18 Mar 2019	1021	2	7600	740	80e	0.097	15.4	78.00	9.0	33.47	8.2
I39	18 Mar 2019	1021	12	44	6e	2e	0.136	13.7	75.16	7.3	33.59	8.1
I39	18 Mar 2019	1021	18	20e	4e	<2	0.200	13.5	71.88	6.6	33.60	8.0
I39	25 Mar 2019	1102	2	<2	<2	<2	1.000	15.6	79.18	8.4	33.59	8.1
I39	25 Mar 2019	1102	12	4e	<2	<2	0.500	13.7	80.27	7.5	33.62	8.0
I39	25 Mar 2019	1102	18	30e	10e	<2	0.333	12.5	70.79	5.9	33.63	7.8
I40	04 Mar 2019	1102	2	>16000	>12000	>12000	0.750	14.7	48.08	8.5	33.20	8.2
I40	04 Mar 2019	1102	6	14000	3600e	100e	0.257	14.1	68.97	8.4	33.53	8.2
I40	04 Mar 2019	1102	9	320e	72	12e	0.225	13.8	72.61	7.4	33.56	8.1
I40	11 Mar 2019	1033	2	>16000	5000	560	0.312	14.4	55.36	8.6	33.41	8.1
I40	11 Mar 2019	1033	6	120e	4e	6e	0.033	14.0	75.25	8.2	33.58	8.1

Station	Date	Time	Depth	Total	Fecal	Enterococci	F:T	Temp	XMS	DO	Sal	pH
I40	11 Mar 2019	1033	9	120e	12e	6e	0.100	13.8	66.58	7.1	33.58	8.1
I40	18 Mar 2019	1104	2	1600e	220e	16e	0.138	15.7	75.77	8.7	33.52	8.2
I40	18 Mar 2019	1104	6	1000	120e	22e	0.120	15.6	75.32	8.7	33.52	8.2
I40	18 Mar 2019	1104	9	320e	42	32e	0.131	14.5	55.80	8.2	33.59	8.2
I40	25 Mar 2019	1137	2	2800e	3000e	2000e	1.071	15.5	46.62	8.1	33.31	8.0
I40	25 Mar 2019	1137	6	9600	2600e	620	0.271	15.2	55.89	8.1	33.50	8.0
I40	25 Mar 2019	1137	9	700	100e	74	0.143	14.1	58.63	7.4	33.60	8.0

ns = not sampled

ND = no data

Table 3.9

Summary of visual observations made during the month for each SBOO kelp station by sample date.

Station	Date	Parameter	Value
I19	04 Mar 2019	Depth (m)	12
I19	04 Mar 2019	Arrive Time	1048
I19	04 Mar 2019	Depart Time	1101
I19	04 Mar 2019	Air Temp (C)	14
I19	04 Mar 2019	Weather	Overcast
I19	04 Mar 2019	Visibility (mi)	10
I19	04 Mar 2019	Wind Speed (kts)	6
I19	04 Mar 2019	Wind Dir	N
I19	04 Mar 2019	Water Color	Green
I19	04 Mar 2019	Wave Ht Low (ft)	4
I19	04 Mar 2019	Wave Period (sec)	9
I19	04 Mar 2019	Sea State	Calm
I19	04 Mar 2019	High Tide (ft)	5.28
I19	04 Mar 2019	High Tide Time	737
I19	04 Mar 2019	Low Tide (ft)	-0.54
I19	04 Mar 2019	Low Tide Time	1429
I19	04 Mar 2019	Comments	none
I19	11 Mar 2019	Depth (m)	11
I19	11 Mar 2019	Arrive Time	1018
I19	11 Mar 2019	Depart Time	1021
I19	11 Mar 2019	Air Temp (C)	12
I19	11 Mar 2019	Weather	Rain
I19	11 Mar 2019	Visibility (mi)	14
I19	11 Mar 2019	Wind Speed (kts)	0
I19	11 Mar 2019	Wind Dir	
I19	11 Mar 2019	Water Color	Greenish-Blue
I19	11 Mar 2019	Wave Ht Low (ft)	4
I19	11 Mar 2019	Wave Period (sec)	13
I19	11 Mar 2019	Sea State	Calm
I19	11 Mar 2019	High Tide (ft)	3.3
I19	11 Mar 2019	High Tide Time	1236
I19	11 Mar 2019	Low Tide (ft)	0.88
I19	11 Mar 2019	Low Tide Time	648
I19	11 Mar 2019	Comments	none
I19	18 Mar 2019	Depth (m)	11
I19	18 Mar 2019	Arrive Time	1052
I19	18 Mar 2019	Depart Time	1054
I19	18 Mar 2019	Air Temp (C)	15
I19	18 Mar 2019	Weather	Clear
I19	18 Mar 2019	Visibility (mi)	12
I19	18 Mar 2019	Wind Speed (kts)	12
I19	18 Mar 2019	Wind Dir	S
I19	18 Mar 2019	Water Color	Green
I19	18 Mar 2019	Wave Ht Low (ft)	3
I19	18 Mar 2019	Wave Period (sec)	9
I19	18 Mar 2019	Sea State	Calm
I19	18 Mar 2019	High Tide (ft)	5.84
I19	18 Mar 2019	High Tide Time	739
I19	18 Mar 2019	Low Tide (ft)	-1.25

Station	Date	Parameter	Value
I19	18 Mar 2019	Low Tide Time	1435
I19	18 Mar 2019	Comments	Kelp
I19	25 Mar 2019	Depth (m)	11
I19	25 Mar 2019	Arrive Time	1124
I19	25 Mar 2019	Depart Time	1129
I19	25 Mar 2019	Air Temp (C)	15
I19	25 Mar 2019	Weather	Clear
I19	25 Mar 2019	Visibility (mi)	11
I19	25 Mar 2019	Wind Speed (kts)	6
I19	25 Mar 2019	Wind Dir	NW
I19	25 Mar 2019	Water Color	Brownish-Green
I19	25 Mar 2019	Wave Ht Low (ft)	4
I19	25 Mar 2019	Wave Period (sec)	11
I19	25 Mar 2019	Sea State	Calm
I19	25 Mar 2019	High Tide (ft)	3.22
I19	25 Mar 2019	High Tide Time	1335
I19	25 Mar 2019	Low Tide (ft)	0.2
I19	25 Mar 2019	Low Tide Time	728
I19	25 Mar 2019	Comments	none
I24	04 Mar 2019	Depth (m)	11
I24	04 Mar 2019	Arrive Time	1113
I24	04 Mar 2019	Depart Time	1116
I24	04 Mar 2019	Air Temp (C)	14
I24	04 Mar 2019	Weather	Overcast
I24	04 Mar 2019	Visibility (mi)	10
I24	04 Mar 2019	Wind Speed (kts)	8
I24	04 Mar 2019	Wind Dir	NW
I24	04 Mar 2019	Water Color	Green
I24	04 Mar 2019	Wave Ht Low (ft)	4
I24	04 Mar 2019	Wave Period (sec)	9
I24	04 Mar 2019	Sea State	Calm
I24	04 Mar 2019	High Tide (ft)	5.28
I24	04 Mar 2019	High Tide Time	737
I24	04 Mar 2019	Low Tide (ft)	-0.54
I24	04 Mar 2019	Low Tide Time	1429
I24	04 Mar 2019	Comments	none
I24	11 Mar 2019	Depth (m)	11
I24	11 Mar 2019	Arrive Time	1042
I24	11 Mar 2019	Depart Time	1055
I24	11 Mar 2019	Air Temp (C)	12
I24	11 Mar 2019	Weather	Drizzle
I24	11 Mar 2019	Visibility (mi)	14
I24	11 Mar 2019	Wind Speed (kts)	2
I24	11 Mar 2019	Wind Dir	NW
I24	11 Mar 2019	Water Color	Greenish-Brown
I24	11 Mar 2019	Wave Ht Low (ft)	4
I24	11 Mar 2019	Wave Period (sec)	13
I24	11 Mar 2019	Sea State	Calm
I24	11 Mar 2019	High Tide (ft)	3.3
I24	11 Mar 2019	High Tide Time	1236
I24	11 Mar 2019	Low Tide (ft)	0.88
I24	11 Mar 2019	Low Tide Time	648

Station	Date	Parameter	Value
I24	11 Mar 2019	Comments	none
I24	18 Mar 2019	Depth (m)	9
I24	18 Mar 2019	Arrive Time	1112
I24	18 Mar 2019	Depart Time	1115
I24	18 Mar 2019	Air Temp (C)	15
I24	18 Mar 2019	Weather	Clear
I24	18 Mar 2019	Visibility (mi)	10
I24	18 Mar 2019	Wind Speed (kts)	10
I24	18 Mar 2019	Wind Dir	S
I24	18 Mar 2019	Water Color	Green
I24	18 Mar 2019	Wave Ht Low (ft)	3
I24	18 Mar 2019	Wave Period (sec)	9
I24	18 Mar 2019	Sea State	Calm
I24	18 Mar 2019	High Tide (ft)	5.84
I24	18 Mar 2019	High Tide Time	739
I24	18 Mar 2019	Low Tide (ft)	-1.25
I24	18 Mar 2019	Low Tide Time	1435
I24	18 Mar 2019	Comments	none
I24	25 Mar 2019	Depth (m)	11
I24	25 Mar 2019	Arrive Time	1146
I24	25 Mar 2019	Depart Time	1151
I24	25 Mar 2019	Air Temp (C)	15
I24	25 Mar 2019	Weather	Clear
I24	25 Mar 2019	Visibility (mi)	11
I24	25 Mar 2019	Wind Speed (kts)	10
I24	25 Mar 2019	Wind Dir	NW
I24	25 Mar 2019	Water Color	Green
I24	25 Mar 2019	Wave Ht Low (ft)	4
I24	25 Mar 2019	Wave Period (sec)	11
I24	25 Mar 2019	Sea State	Calm
I24	25 Mar 2019	High Tide (ft)	3.22
I24	25 Mar 2019	High Tide Time	1335
I24	25 Mar 2019	Low Tide (ft)	0.2
I24	25 Mar 2019	Low Tide Time	728
I24	25 Mar 2019	Comments	none
I25	04 Mar 2019	Depth (m)	9
I25	04 Mar 2019	Arrive Time	1122
I25	04 Mar 2019	Depart Time	1127
I25	04 Mar 2019	Air Temp (C)	14
I25	04 Mar 2019	Weather	Overcast
I25	04 Mar 2019	Visibility (mi)	10
I25	04 Mar 2019	Wind Speed (kts)	7
I25	04 Mar 2019	Wind Dir	NW
I25	04 Mar 2019	Water Color	Green
I25	04 Mar 2019	Wave Ht Low (ft)	4
I25	04 Mar 2019	Wave Period (sec)	9
I25	04 Mar 2019	Sea State	Calm
I25	04 Mar 2019	High Tide (ft)	5.28
I25	04 Mar 2019	High Tide Time	737
I25	04 Mar 2019	Low Tide (ft)	-0.54
I25	04 Mar 2019	Low Tide Time	1429
I25	04 Mar 2019	Comments	none

Station	Date	Parameter	Value
I25	11 Mar 2019	Depth (m)	10
I25	11 Mar 2019	Arrive Time	1101
I25	11 Mar 2019	Depart Time	1103
I25	11 Mar 2019	Air Temp (C)	12
I25	11 Mar 2019	Weather	Drizzle
I25	11 Mar 2019	Visibility (mi)	14
I25	11 Mar 2019	Wind Speed (kts)	6
I25	11 Mar 2019	Wind Dir	W
I25	11 Mar 2019	Water Color	Green
I25	11 Mar 2019	Wave Ht Low (ft)	4
I25	11 Mar 2019	Wave Period (sec)	13
I25	11 Mar 2019	Sea State	Calm
I25	11 Mar 2019	High Tide (ft)	3.3
I25	11 Mar 2019	High Tide Time	1236
I25	11 Mar 2019	Low Tide (ft)	0.88
I25	11 Mar 2019	Low Tide Time	648
I25	11 Mar 2019	Comments	none
I25	18 Mar 2019	Depth (m)	9
I25	18 Mar 2019	Arrive Time	1118
I25	18 Mar 2019	Depart Time	1120
I25	18 Mar 2019	Air Temp (C)	15
I25	18 Mar 2019	Weather	Clear
I25	18 Mar 2019	Visibility (mi)	10
I25	18 Mar 2019	Wind Speed (kts)	9
I25	18 Mar 2019	Wind Dir	S
I25	18 Mar 2019	Water Color	Green
I25	18 Mar 2019	Wave Ht Low (ft)	3
I25	18 Mar 2019	Wave Period (sec)	9
I25	18 Mar 2019	Sea State	Calm
I25	18 Mar 2019	High Tide (ft)	5.84
I25	18 Mar 2019	High Tide Time	739
I25	18 Mar 2019	Low Tide (ft)	-1.25
I25	18 Mar 2019	Low Tide Time	1435
I25	18 Mar 2019	Comments	none
I25	25 Mar 2019	Depth (m)	10
I25	25 Mar 2019	Arrive Time	1154
I25	25 Mar 2019	Depart Time	1158
I25	25 Mar 2019	Air Temp (C)	15
I25	25 Mar 2019	Weather	Clear
I25	25 Mar 2019	Visibility (mi)	11
I25	25 Mar 2019	Wind Speed (kts)	9
I25	25 Mar 2019	Wind Dir	NW
I25	25 Mar 2019	Water Color	Green
I25	25 Mar 2019	Wave Ht Low (ft)	5
I25	25 Mar 2019	Wave Period (sec)	11
I25	25 Mar 2019	Sea State	Calm
I25	25 Mar 2019	High Tide (ft)	3.22
I25	25 Mar 2019	High Tide Time	1335
I25	25 Mar 2019	Low Tide (ft)	0.2
I25	25 Mar 2019	Low Tide Time	728
I25	25 Mar 2019	Comments	none

Station	Date	Parameter	Value
I26	04 Mar 2019	Depth (m)	10
I26	04 Mar 2019	Arrive Time	1134
I26	04 Mar 2019	Depart Time	1146
I26	04 Mar 2019	Air Temp (C)	14
I26	04 Mar 2019	Weather	Overcast
I26	04 Mar 2019	Visibility (mi)	10
I26	04 Mar 2019	Wind Speed (kts)	9
I26	04 Mar 2019	Wind Dir	NW
I26	04 Mar 2019	Water Color	Green
I26	04 Mar 2019	Wave Ht Low (ft)	4
I26	04 Mar 2019	Wave Period (sec)	9
I26	04 Mar 2019	Sea State	Calm
I26	04 Mar 2019	High Tide (ft)	5.28
I26	04 Mar 2019	High Tide Time	737
I26	04 Mar 2019	Low Tide (ft)	-0.54
I26	04 Mar 2019	Low Tide Time	1429
I26	04 Mar 2019	Comments	none
I26	11 Mar 2019	Depth (m)	11
I26	11 Mar 2019	Arrive Time	1110
I26	11 Mar 2019	Depart Time	1113
I26	11 Mar 2019	Air Temp (C)	12
I26	11 Mar 2019	Weather	Drizzle
I26	11 Mar 2019	Visibility (mi)	14
I26	11 Mar 2019	Wind Speed (kts)	5
I26	11 Mar 2019	Wind Dir	N
I26	11 Mar 2019	Water Color	Green
I26	11 Mar 2019	Wave Ht Low (ft)	4
I26	11 Mar 2019	Wave Period (sec)	13
I26	11 Mar 2019	Sea State	Calm
I26	11 Mar 2019	High Tide (ft)	3.3
I26	11 Mar 2019	High Tide Time	1236
I26	11 Mar 2019	Low Tide (ft)	0.88
I26	11 Mar 2019	Low Tide Time	648
I26	11 Mar 2019	Comments	none
I26	18 Mar 2019	Depth (m)	10
I26	18 Mar 2019	Arrive Time	1127
I26	18 Mar 2019	Depart Time	1130
I26	18 Mar 2019	Air Temp (C)	15
I26	18 Mar 2019	Weather	Clear
I26	18 Mar 2019	Visibility (mi)	10
I26	18 Mar 2019	Wind Speed (kts)	10
I26	18 Mar 2019	Wind Dir	S
I26	18 Mar 2019	Water Color	Green
I26	18 Mar 2019	Wave Ht Low (ft)	3
I26	18 Mar 2019	Wave Period (sec)	9
I26	18 Mar 2019	Sea State	Calm
I26	18 Mar 2019	High Tide (ft)	5.84
I26	18 Mar 2019	High Tide Time	739
I26	18 Mar 2019	Low Tide (ft)	-1.25
I26	18 Mar 2019	Low Tide Time	1435
I26	18 Mar 2019	Comments	none
I26	25 Mar 2019	Depth (m)	11

Station	Date	Parameter	Value
I26	25 Mar 2019	Arrive Time	1203
I26	25 Mar 2019	Depart Time	1206
I26	25 Mar 2019	Air Temp (C)	15
I26	25 Mar 2019	Weather	Clear
I26	25 Mar 2019	Visibility (mi)	11
I26	25 Mar 2019	Wind Speed (kts)	8
I26	25 Mar 2019	Wind Dir	NW
I26	25 Mar 2019	Water Color	Green
I26	25 Mar 2019	Wave Ht Low (ft)	5
I26	25 Mar 2019	Wave Period (sec)	11
I26	25 Mar 2019	Sea State	Calm
I26	25 Mar 2019	High Tide (ft)	3.22
I26	25 Mar 2019	High Tide Time	1335
I26	25 Mar 2019	Low Tide (ft)	0.2
I26	25 Mar 2019	Low Tide Time	728
I26	25 Mar 2019	Comments	none
I32	04 Mar 2019	Depth (m)	11
I32	04 Mar 2019	Arrive Time	1155
I32	04 Mar 2019	Depart Time	1158
I32	04 Mar 2019	Air Temp (C)	14
I32	04 Mar 2019	Weather	Overcast
I32	04 Mar 2019	Visibility (mi)	10
I32	04 Mar 2019	Wind Speed (kts)	7
I32	04 Mar 2019	Wind Dir	W
I32	04 Mar 2019	Water Color	Green
I32	04 Mar 2019	Wave Ht Low (ft)	4
I32	04 Mar 2019	Wave Period (sec)	9
I32	04 Mar 2019	Sea State	Calm
I32	04 Mar 2019	High Tide (ft)	5.28
I32	04 Mar 2019	High Tide Time	737
I32	04 Mar 2019	Low Tide (ft)	-0.54
I32	04 Mar 2019	Low Tide Time	1429
I32	04 Mar 2019	Comments	none
I32	11 Mar 2019	Depth (m)	11
I32	11 Mar 2019	Arrive Time	1122
I32	11 Mar 2019	Depart Time	1124
I32	11 Mar 2019	Air Temp (C)	12
I32	11 Mar 2019	Weather	Overcast
I32	11 Mar 2019	Visibility (mi)	14
I32	11 Mar 2019	Wind Speed (kts)	4
I32	11 Mar 2019	Wind Dir	NW
I32	11 Mar 2019	Water Color	Green
I32	11 Mar 2019	Wave Ht Low (ft)	4
I32	11 Mar 2019	Wave Period (sec)	13
I32	11 Mar 2019	Sea State	Calm
I32	11 Mar 2019	High Tide (ft)	3.3
I32	11 Mar 2019	High Tide Time	1236
I32	11 Mar 2019	Low Tide (ft)	0.88
I32	11 Mar 2019	Low Tide Time	648
I32	11 Mar 2019	Comments	none
I32	18 Mar 2019	Depth (m)	9
I32	18 Mar 2019	Arrive Time	1139

Station	Date	Parameter	Value
I32	18 Mar 2019	Depart Time	1142
I32	18 Mar 2019	Air Temp (C)	15
I32	18 Mar 2019	Weather	Clear
I32	18 Mar 2019	Visibility (mi)	5
I32	18 Mar 2019	Wind Speed (kts)	11
I32	18 Mar 2019	Wind Dir	SW
I32	18 Mar 2019	Water Color	Green
I32	18 Mar 2019	Wave Ht Low (ft)	3
I32	18 Mar 2019	Wave Period (sec)	9
I32	18 Mar 2019	Sea State	Calm
I32	18 Mar 2019	High Tide (ft)	5.84
I32	18 Mar 2019	High Tide Time	739
I32	18 Mar 2019	Low Tide (ft)	-1.25
I32	18 Mar 2019	Low Tide Time	1435
I32	18 Mar 2019	Comments	none
I32	25 Mar 2019	Depth (m)	12
I32	25 Mar 2019	Arrive Time	1217
I32	25 Mar 2019	Depart Time	1223
I32	25 Mar 2019	Air Temp (C)	15
I32	25 Mar 2019	Weather	Clear
I32	25 Mar 2019	Visibility (mi)	11
I32	25 Mar 2019	Wind Speed (kts)	9
I32	25 Mar 2019	Wind Dir	NW
I32	25 Mar 2019	Water Color	Green
I32	25 Mar 2019	Wave Ht Low (ft)	5
I32	25 Mar 2019	Wave Period (sec)	11
I32	25 Mar 2019	Sea State	Light chop
I32	25 Mar 2019	High Tide (ft)	3.22
I32	25 Mar 2019	High Tide Time	1335
I32	25 Mar 2019	Low Tide (ft)	0.2
I32	25 Mar 2019	Low Tide Time	728
I32	25 Mar 2019	Comments	
I39	04 Mar 2019	Depth (m)	20
I39	04 Mar 2019	Arrive Time	1027
I39	04 Mar 2019	Depart Time	1030
I39	04 Mar 2019	Air Temp (C)	14
I39	04 Mar 2019	Weather	Overcast
I39	04 Mar 2019	Visibility (mi)	10
I39	04 Mar 2019	Wind Speed (kts)	8
I39	04 Mar 2019	Wind Dir	NW
I39	04 Mar 2019	Water Color	Green
I39	04 Mar 2019	Wave Ht Low (ft)	4
I39	04 Mar 2019	Wave Period (sec)	9
I39	04 Mar 2019	Sea State	Calm
I39	04 Mar 2019	High Tide (ft)	5.28
I39	04 Mar 2019	High Tide Time	737
I39	04 Mar 2019	Low Tide (ft)	-0.54
I39	04 Mar 2019	Low Tide Time	1429
I39	04 Mar 2019	Comments	none
I39	11 Mar 2019	Depth (m)	20
I39	11 Mar 2019	Arrive Time	945
I39	11 Mar 2019	Depart Time	956

Station	Date	Parameter	Value
I39	11 Mar 2019	Air Temp (C)	12
I39	11 Mar 2019	Weather	Overcast
I39	11 Mar 2019	Visibility (mi)	14
I39	11 Mar 2019	Wind Speed (kts)	3
I39	11 Mar 2019	Wind Dir	NE
I39	11 Mar 2019	Water Color	Greenish-Blue
I39	11 Mar 2019	Wave Ht Low (ft)	4
I39	11 Mar 2019	Wave Period (sec)	13
I39	11 Mar 2019	Sea State	Calm
I39	11 Mar 2019	High Tide (ft)	3.3
I39	11 Mar 2019	High Tide Time	1236
I39	11 Mar 2019	Low Tide (ft)	0.88
I39	11 Mar 2019	Low Tide Time	648
I39	11 Mar 2019	Comments	none
I39	18 Mar 2019	Depth (m)	18
I39	18 Mar 2019	Arrive Time	1021
I39	18 Mar 2019	Depart Time	1030
I39	18 Mar 2019	Air Temp (C)	15
I39	18 Mar 2019	Weather	Clear
I39	18 Mar 2019	Visibility (mi)	12
I39	18 Mar 2019	Wind Speed (kts)	11
I39	18 Mar 2019	Wind Dir	S
I39	18 Mar 2019	Water Color	Green
I39	18 Mar 2019	Wave Ht Low (ft)	3
I39	18 Mar 2019	Wave Period (sec)	9
I39	18 Mar 2019	Sea State	Calm
I39	18 Mar 2019	High Tide (ft)	5.84
I39	18 Mar 2019	High Tide Time	739
I39	18 Mar 2019	Low Tide (ft)	-1.25
I39	18 Mar 2019	Low Tide Time	1435
I39	18 Mar 2019	Comments	Kelp
I39	25 Mar 2019	Depth (m)	19
I39	25 Mar 2019	Arrive Time	1102
I39	25 Mar 2019	Depart Time	1108
I39	25 Mar 2019	Air Temp (C)	15
I39	25 Mar 2019	Weather	Clear
I39	25 Mar 2019	Visibility (mi)	11
I39	25 Mar 2019	Wind Speed (kts)	9
I39	25 Mar 2019	Wind Dir	NW
I39	25 Mar 2019	Water Color	Brownish-Green
I39	25 Mar 2019	Wave Ht Low (ft)	4
I39	25 Mar 2019	Wave Period (sec)	11
I39	25 Mar 2019	Sea State	Calm
I39	25 Mar 2019	High Tide (ft)	3.22
I39	25 Mar 2019	High Tide Time	1335
I39	25 Mar 2019	Low Tide (ft)	0.2
I39	25 Mar 2019	Low Tide Time	728
I39	25 Mar 2019	Comments	none
I40	04 Mar 2019	Depth (m)	11
I40	04 Mar 2019	Arrive Time	1102
I40	04 Mar 2019	Depart Time	1107
I40	04 Mar 2019	Air Temp (C)	14

Station	Date	Parameter	Value
I40	04 Mar 2019	Weather	Overcast
I40	04 Mar 2019	Visibility (mi)	10
I40	04 Mar 2019	Wind Speed (kts)	8
I40	04 Mar 2019	Wind Dir	NW
I40	04 Mar 2019	Water Color	Green
I40	04 Mar 2019	Wave Ht Low (ft)	4
I40	04 Mar 2019	Wave Period (sec)	9
I40	04 Mar 2019	Sea State	Calm
I40	04 Mar 2019	High Tide (ft)	5.28
I40	04 Mar 2019	High Tide Time	737
I40	04 Mar 2019	Low Tide (ft)	-0.54
I40	04 Mar 2019	Low Tide Time	1429
I40	04 Mar 2019	Comments	TJ river plume present
I40	11 Mar 2019	Depth (m)	11
I40	11 Mar 2019	Arrive Time	1033
I40	11 Mar 2019	Depart Time	1037
I40	11 Mar 2019	Air Temp (C)	12
I40	11 Mar 2019	Weather	Drizzle
I40	11 Mar 2019	Visibility (mi)	14
I40	11 Mar 2019	Wind Speed (kts)	2
I40	11 Mar 2019	Wind Dir	NW
I40	11 Mar 2019	Water Color	Greenish-Brown
I40	11 Mar 2019	Wave Ht Low (ft)	4
I40	11 Mar 2019	Wave Period (sec)	13
I40	11 Mar 2019	Sea State	Calm
I40	11 Mar 2019	High Tide (ft)	3.3
I40	11 Mar 2019	High Tide Time	1236
I40	11 Mar 2019	Low Tide (ft)	0.88
I40	11 Mar 2019	Low Tide Time	648
I40	11 Mar 2019	Comments	none
I40	18 Mar 2019	Depth (m)	10
I40	18 Mar 2019	Arrive Time	1104
I40	18 Mar 2019	Depart Time	1106
I40	18 Mar 2019	Air Temp (C)	15
I40	18 Mar 2019	Weather	Clear
I40	18 Mar 2019	Visibility (mi)	10
I40	18 Mar 2019	Wind Speed (kts)	10
I40	18 Mar 2019	Wind Dir	S
I40	18 Mar 2019	Water Color	Green
I40	18 Mar 2019	Wave Ht Low (ft)	3
I40	18 Mar 2019	Wave Period (sec)	9
I40	18 Mar 2019	Sea State	Calm
I40	18 Mar 2019	High Tide (ft)	5.84
I40	18 Mar 2019	High Tide Time	739
I40	18 Mar 2019	Low Tide (ft)	-1.25
I40	18 Mar 2019	Low Tide Time	1435
I40	18 Mar 2019	Comments	none
I40	25 Mar 2019	Depth (m)	11
I40	25 Mar 2019	Arrive Time	1137
I40	25 Mar 2019	Depart Time	1143
I40	25 Mar 2019	Air Temp (C)	15
I40	25 Mar 2019	Weather	Clear

Station	Date	Parameter	Value
I40	25 Mar 2019	Visibility (mi)	11
I40	25 Mar 2019	Wind Speed (kts)	8
I40	25 Mar 2019	Wind Dir	NW
I40	25 Mar 2019	Water Color	Green
I40	25 Mar 2019	Wave Ht Low (ft)	4
I40	25 Mar 2019	Wave Period (sec)	11
I40	25 Mar 2019	Sea State	Calm
I40	25 Mar 2019	High Tide (ft)	3.22
I40	25 Mar 2019	High Tide Time	1335
I40	25 Mar 2019	Low Tide (ft)	0.2
I40	25 Mar 2019	Low Tide Time	728
I40	25 Mar 2019	Comments	none

Table 3.10

Summary of CTD profile data from the SBOO kelp stations for each sample date.

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
I19	04 Mar 2019	1	14.64	67.62	8.5	33.37	8.2	24.8	0.71
I19	04 Mar 2019	2	14.54	64.76	8.4	33.39	8.2	24.8	0.88
I19	04 Mar 2019	3	14.45	60.28	8.3	33.41	8.1	24.9	1.20
I19	04 Mar 2019	4	14.30	51.11	8.1	33.45	8.1	24.9	1.67
I19	04 Mar 2019	5	14.15	48.93	8.0	33.48	8.1	25.0	2.48
I19	04 Mar 2019	6	14.03	51.52	7.8	33.51	8.1	25.0	2.63
I19	04 Mar 2019	7	13.88	55.51	7.8	33.52	8.1	25.1	2.93
I19	04 Mar 2019	8	13.68	60.34	7.5	33.56	8.1	25.1	3.56
I19	04 Mar 2019	9	13.46	55.77	7.2	33.56	8.1	25.2	3.56
I19	04 Mar 2019	10	13.39	51.53	7.1	33.56	8.1	25.2	3.62
I19	11 Mar 2019	1	14.20	64.17	8.4	33.46	8.1	25.0	2.89
I19	11 Mar 2019	2	14.21	64.20	8.3	33.47	8.1	25.0	3.46
I19	11 Mar 2019	3	14.23	65.13	8.3	33.49	8.1	25.0	4.46
I19	11 Mar 2019	4	14.25	67.31	8.3	33.50	8.1	25.0	4.81
I19	11 Mar 2019	5	14.27	70.29	8.3	33.54	8.1	25.0	4.75
I19	11 Mar 2019	6	14.26	75.45	8.3	33.56	8.1	25.0	4.08
I19	11 Mar 2019	7	14.18	76.03	8.2	33.57	8.1	25.0	3.45
I19	11 Mar 2019	8	14.05	77.81	8.0	33.58	8.1	25.1	3.16
I19	11 Mar 2019	9	13.93	79.31	8.0	33.59	8.1	25.1	2.58
I19	11 Mar 2019	10	13.82	80.00	7.6	33.59	8.1	25.1	2.08
I19	18 Mar 2019	1	15.41	71.81	8.4	33.54	8.2	24.8	0.68
I19	18 Mar 2019	2	15.41	71.86	8.4	33.54	8.2	24.8	0.67
I19	18 Mar 2019	3	15.41	71.87	8.4	33.54	8.2	24.8	0.72
I19	18 Mar 2019	4	15.41	72.20	8.4	33.54	8.2	24.8	0.77
I19	18 Mar 2019	5	15.41	72.18	8.4	33.54	8.2	24.8	0.91
I19	18 Mar 2019	6	15.27	73.14	8.4	33.55	8.2	24.8	1.14
I19	18 Mar 2019	7	14.88	77.30	8.4	33.59	8.2	24.9	1.36
I19	18 Mar 2019	8	14.29	75.52	8.0	33.57	8.1	25.0	2.10
I19	18 Mar 2019	9	14.13	71.38	7.5	33.59	8.1	25.1	2.63
I19	18 Mar 2019	10	14.01	56.33	7.2	33.57	8.1	25.1	3.19
I19	25 Mar 2019	1	14.91	46.19	8.1	33.44	8.0	24.8	0.80
I19	25 Mar 2019	2	14.84	46.01	8.0	33.45	8.0	24.8	0.88
I19	25 Mar 2019	3	14.66	45.60	7.9	33.48	8.0	24.9	1.17
I19	25 Mar 2019	4	14.50	45.98	7.8	33.52	8.0	24.9	1.66
I19	25 Mar 2019	5	14.43	47.27	7.8	33.53	8.0	25.0	1.96
I19	25 Mar 2019	6	14.23	45.68	7.8	33.55	8.0	25.0	2.30
I19	25 Mar 2019	7	14.19	44.26	7.8	33.55	8.0	25.0	2.73
I19	25 Mar 2019	8	14.16	46.89	7.7	33.57	8.0	25.0	2.88
I19	25 Mar 2019	9	13.96	56.82	7.3	33.60	8.0	25.1	2.57
I19	25 Mar 2019	10	13.44	61.16	6.9	33.63	7.9	25.2	2.42
I24	04 Mar 2019	1	14.72	75.57	8.9	33.47	8.2	24.9	0.84
I24	04 Mar 2019	2	14.71	75.64	8.9	33.47	8.2	24.9	0.89
I24	04 Mar 2019	3	14.59	76.17	8.9	33.49	8.2	24.9	1.00
I24	04 Mar 2019	4	14.45	76.82	8.9	33.50	8.2	24.9	1.37
I24	04 Mar 2019	5	14.42	77.04	8.8	33.50	8.2	24.9	1.52
I24	04 Mar 2019	6	14.33	76.99	8.7	33.52	8.2	25.0	1.61
I24	04 Mar 2019	7	14.27	76.52	8.6	33.52	8.2	25.0	1.70

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
I24	04 Mar 2019	8	14.22	74.63	8.4	33.53	8.2	25.0	1.72
I24	04 Mar 2019	9	14.10	71.95	8.1	33.54	8.2	25.0	1.72
I24	04 Mar 2019	10	14.13	69.20	7.9	33.53	8.1	25.0	1.73
I24	04 Mar 2019	11	13.32	43.65	6.6	33.61	8.1	25.3	2.61
I24	11 Mar 2019	1	14.48	64.88	8.8	33.22	8.2	24.7	3.97
I24	11 Mar 2019	2	14.48	60.89	8.8	33.29	8.2	24.8	4.24
I24	11 Mar 2019	3	14.47	68.44	8.8	33.50	8.2	24.9	4.36
I24	11 Mar 2019	4	14.43	72.81	8.7	33.52	8.2	25.0	4.03
I24	11 Mar 2019	5	14.30	76.78	8.5	33.57	8.2	25.0	3.44
I24	11 Mar 2019	6	14.04	79.04	8.1	33.60	8.1	25.1	2.55
I24	11 Mar 2019	7	13.83	80.79	7.7	33.59	8.1	25.1	2.46
I24	11 Mar 2019	8	13.70	80.04	7.2	33.59	8.1	25.2	2.65
I24	11 Mar 2019	9	13.62	75.41	6.6	33.59	8.0	25.2	2.58
I24	11 Mar 2019	10	13.62	54.05	6.4	33.58	8.0	25.2	2.22
I24	11 Mar 2019	11	13.63	44.55	6.4	33.58	8.0	25.2	2.13
I24	18 Mar 2019	1	15.67	76.28	8.8	33.55	8.2	24.7	0.66
I24	18 Mar 2019	2	15.67	76.37	8.8	33.55	8.2	24.7	0.70
I24	18 Mar 2019	3	15.62	76.31	8.8	33.55	8.2	24.7	0.75
I24	18 Mar 2019	4	15.62	76.33	8.8	33.55	8.2	24.7	0.89
I24	18 Mar 2019	5	15.56	76.37	8.8	33.55	8.2	24.7	1.11
I24	18 Mar 2019	6	15.52	76.62	8.8	33.55	8.2	24.7	1.22
I24	18 Mar 2019	7	15.27	77.13	8.8	33.56	8.2	24.8	1.39
I24	18 Mar 2019	8	14.85	78.26	8.6	33.58	8.2	24.9	1.68
I24	18 Mar 2019	9	13.99	68.03	8.0	33.63	8.2	25.1	1.92
I24	18 Mar 2019	10	14.07	62.05	7.8	33.55	8.1	25.1	1.86
I24	18 Mar 2019	11	14.42	60.49	7.8	33.59	8.2	25.0	1.70
I24	25 Mar 2019	1	15.81	59.65	8.4	33.44	8.0	24.6	0.89
I24	25 Mar 2019	2	15.73	58.92	8.4	33.44	8.0	24.6	1.07
I24	25 Mar 2019	3	15.72	58.77	8.3	33.44	8.0	24.6	1.21
I24	25 Mar 2019	4	15.51	59.02	8.3	33.52	8.0	24.7	1.51
I24	25 Mar 2019	5	15.47	61.11	8.2	33.54	8.0	24.7	1.64
I24	25 Mar 2019	6	15.43	60.50	8.1	33.55	8.0	24.8	1.57
I24	25 Mar 2019	7	15.39	61.15	7.9	33.57	8.0	24.8	1.60
I24	25 Mar 2019	8	14.89	61.88	7.8	33.62	8.0	24.9	2.07
I24	25 Mar 2019	9	14.38	68.00	7.5	33.62	8.0	25.0	3.05
I24	25 Mar 2019	10	13.60	70.01	7.2	33.65	8.0	25.2	2.79
I24	25 Mar 2019	11	13.55	69.37	7.2	33.61	7.9	25.2	2.65
I25	04 Mar 2019	1	14.78	75.56	8.9	33.45	8.2	24.8	0.91
I25	04 Mar 2019	2	14.69	75.60	8.9	33.46	8.2	24.9	0.94
I25	04 Mar 2019	3	14.34	75.99	8.8	33.52	8.2	25.0	1.23
I25	04 Mar 2019	4	14.21	76.26	8.7	33.52	8.2	25.0	1.42
I25	04 Mar 2019	5	14.19	76.25	8.6	33.52	8.2	25.0	1.58
I25	04 Mar 2019	6	14.00	75.45	8.0	33.55	8.2	25.1	1.75
I25	04 Mar 2019	7	13.58	71.91	7.2	33.58	8.1	25.2	1.84
I25	04 Mar 2019	8	13.53	70.14	7.0	33.56	8.1	25.2	2.07
I25	04 Mar 2019	9	13.54	69.93	7.0	33.56	8.1	25.2	2.06
I25	11 Mar 2019	1	14.48	65.20	8.9	33.10	8.1	24.6	3.02
I25	11 Mar 2019	2	14.59	65.54	8.9	33.28	8.2	24.7	3.60
I25	11 Mar 2019	3	14.62	67.07	8.9	33.46	8.2	24.9	4.40
I25	11 Mar 2019	4	14.46	69.42	8.7	33.52	8.2	24.9	4.50

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
I25	11 Mar 2019	5	14.32	73.14	8.4	33.56	8.2	25.0	3.52
I25	11 Mar 2019	6	14.06	77.72	8.1	33.59	8.2	25.1	2.87
I25	11 Mar 2019	7	13.86	80.41	7.6	33.59	8.1	25.1	2.37
I25	11 Mar 2019	8	13.80	78.09	7.0	33.58	8.1	25.1	1.80
I25	11 Mar 2019	9	13.81	73.47	6.9	33.58	8.0	25.1	1.56
I25	18 Mar 2019	1	15.70	75.74	8.8	33.55	8.2	24.7	0.65
I25	18 Mar 2019	2	15.70	76.31	8.8	33.55	8.2	24.7	0.67
I25	18 Mar 2019	3	15.68	76.28	8.8	33.55	8.2	24.7	0.76
I25	18 Mar 2019	4	15.67	76.31	8.8	33.54	8.2	24.7	0.85
I25	18 Mar 2019	5	15.60	76.32	8.8	33.54	8.2	24.7	1.05
I25	18 Mar 2019	6	15.53	76.57	8.7	33.54	8.2	24.7	1.17
I25	18 Mar 2019	7	15.07	76.08	8.2	33.57	8.2	24.9	1.23
I25	18 Mar 2019	8	14.48	70.95	7.8	33.59	8.1	25.0	1.18
I25	18 Mar 2019	9	14.40	63.44	8.0	33.54	8.1	25.0	1.34
I25	25 Mar 2019	1	15.56	57.41	8.2	33.58	8.0	24.8	0.62
I25	25 Mar 2019	2	15.33	57.66	8.0	33.61	8.0	24.8	0.68
I25	25 Mar 2019	3	14.90	59.13	7.9	33.61	8.0	24.9	1.00
I25	25 Mar 2019	4	14.10	61.45	7.6	33.66	8.0	25.1	2.54
I25	25 Mar 2019	5	13.35	67.04	7.0	33.66	8.0	25.3	4.72
I25	25 Mar 2019	6	13.22	71.25	6.7	33.61	7.9	25.3	4.55
I25	25 Mar 2019	7	13.11	72.33	6.6	33.62	7.9	25.3	3.52
I25	25 Mar 2019	8	13.05	69.89	6.4	33.61	7.9	25.3	2.53
I25	25 Mar 2019	9	13.07	68.95	6.4	33.61	7.9	25.3	2.16
I26	04 Mar 2019	1	14.87	74.29	8.8	33.44	8.2	24.8	1.00
I26	04 Mar 2019	2	14.55	76.46	8.9	33.50	8.2	24.9	1.02
I26	04 Mar 2019	3	14.45	79.59	8.9	33.51	8.2	24.9	1.12
I26	04 Mar 2019	4	14.14	79.44	9.0	33.53	8.2	25.0	1.24
I26	04 Mar 2019	5	14.06	79.83	8.7	33.54	8.2	25.0	1.28
I26	04 Mar 2019	6	13.89	73.50	8.3	33.54	8.2	25.1	1.56
I26	04 Mar 2019	7	13.74	67.50	7.9	33.55	8.2	25.1	2.14
I26	04 Mar 2019	8	13.65	64.42	7.6	33.55	8.1	25.1	3.04
I26	04 Mar 2019	9	13.68	64.25	7.6	33.54	8.1	25.1	3.52
I26	11 Mar 2019	1	14.49	72.45	9.2	33.49	8.2	24.9	3.00
I26	11 Mar 2019	2	14.48	72.09	9.2	33.50	8.2	24.9	3.44
I26	11 Mar 2019	3	14.47	71.91	9.2	33.50	8.2	24.9	3.82
I26	11 Mar 2019	4	14.46	71.58	9.1	33.50	8.2	24.9	4.53
I26	11 Mar 2019	5	14.35	72.02	8.9	33.52	8.2	25.0	4.49
I26	11 Mar 2019	6	14.18	72.75	8.5	33.55	8.2	25.0	4.41
I26	11 Mar 2019	7	13.83	74.37	7.7	33.59	8.1	25.1	3.60
I26	11 Mar 2019	8	13.62	75.10	7.0	33.58	8.1	25.2	2.37
I26	11 Mar 2019	9	13.62	74.08	6.9	33.57	8.0	25.2	1.65
I26	18 Mar 2019	1	15.61	73.32	8.5	33.51	8.2	24.7	0.70
I26	18 Mar 2019	2	15.60	73.19	8.5	33.52	8.2	24.7	0.73
I26	18 Mar 2019	3	15.56	73.32	8.5	33.52	8.2	24.7	0.80
I26	18 Mar 2019	4	15.39	73.82	8.5	33.53	8.2	24.8	1.01
I26	18 Mar 2019	5	15.28	74.36	8.4	33.54	8.2	24.8	1.20
I26	18 Mar 2019	6	14.81	73.69	8.2	33.58	8.2	24.9	1.36
I26	18 Mar 2019	7	14.64	71.19	8.2	33.56	8.1	24.9	1.49
I26	18 Mar 2019	8	14.62	69.60	8.1	33.56	8.1	24.9	1.48
I26	18 Mar 2019	9	14.59	67.40	8.0	33.56	8.1	24.9	1.44

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
I26	25 Mar 2019	1	14.62	73.43	8.0	33.60	8.0	25.0	0.64
I26	25 Mar 2019	2	14.56	73.25	7.7	33.63	8.0	25.0	0.62
I26	25 Mar 2019	3	13.79	76.53	7.6	33.61	8.0	25.2	0.79
I26	25 Mar 2019	4	13.62	77.56	7.3	33.64	8.0	25.2	0.97
I26	25 Mar 2019	5	13.32	76.13	7.0	33.62	7.9	25.3	1.27
I26	25 Mar 2019	6	13.16	72.34	6.7	33.62	7.9	25.3	1.66
I26	25 Mar 2019	7	13.16	71.08	6.6	33.61	7.9	25.3	1.90
I26	25 Mar 2019	8	13.14	70.01	6.6	33.61	7.9	25.3	2.01
I26	25 Mar 2019	9	13.15	69.25	6.6	33.61	7.9	25.3	2.14
I32	04 Mar 2019	1	14.79	66.91	8.7	33.42	8.2	24.8	1.14
I32	04 Mar 2019	2	14.78	66.86	8.7	33.42	8.2	24.8	1.22
I32	04 Mar 2019	3	14.61	64.03	8.6	33.47	8.2	24.9	1.75
I32	04 Mar 2019	4	14.49	60.17	8.6	33.49	8.2	24.9	2.24
I32	04 Mar 2019	5	14.39	64.42	8.7	33.52	8.2	25.0	2.46
I32	04 Mar 2019	6	14.19	75.01	8.7	33.55	8.2	25.0	2.22
I32	04 Mar 2019	7	14.04	77.93	8.6	33.54	8.2	25.1	2.10
I32	04 Mar 2019	8	13.95	72.12	8.4	33.54	8.2	25.1	2.18
I32	04 Mar 2019	9	13.90	51.77	8.3	33.54	8.2	25.1	2.67
I32	04 Mar 2019	10	13.90	31.17	8.2	33.53	8.2	25.1	3.19
I32	11 Mar 2019	1	14.44	58.10	8.4	33.55	8.1	25.0	3.47
I32	11 Mar 2019	2	14.35	57.50	8.3	33.55	8.1	25.0	3.63
I32	11 Mar 2019	3	14.33	57.27	8.3	33.55	8.1	25.0	3.76
I32	11 Mar 2019	4	14.33	57.81	8.2	33.55	8.1	25.0	3.80
I32	11 Mar 2019	5	14.11	57.55	7.9	33.57	8.1	25.1	3.90
I32	11 Mar 2019	6	13.86	55.80	7.6	33.57	8.1	25.1	3.82
I32	11 Mar 2019	7	13.81	53.12	7.4	33.56	8.1	25.1	3.74
I32	11 Mar 2019	8	13.63	48.11	7.2	33.58	8.1	25.2	3.56
I32	11 Mar 2019	9	13.27	46.84	7.0	33.60	8.1	25.3	3.73
I32	11 Mar 2019	10	13.24	54.47	6.8	33.58	8.0	25.2	3.63
I32	18 Mar 2019	1	15.45	73.53	8.8	33.52	8.2	24.7	0.86
I32	18 Mar 2019	2	15.44	73.38	8.7	33.52	8.2	24.7	0.91
I32	18 Mar 2019	3	15.43	73.48	8.7	33.52	8.2	24.7	0.98
I32	18 Mar 2019	4	15.43	73.39	8.7	33.52	8.2	24.7	1.11
I32	18 Mar 2019	5	15.42	73.09	8.7	33.52	8.2	24.7	1.30
I32	18 Mar 2019	6	15.42	73.06	8.6	33.52	8.2	24.7	1.53
I32	18 Mar 2019	7	15.41	73.01	8.7	33.52	8.2	24.7	1.69
I32	18 Mar 2019	8	15.40	72.00	8.7	33.52	8.2	24.7	1.85
I32	18 Mar 2019	9	15.37	70.56	8.6	33.52	8.2	24.8	1.88
I32	18 Mar 2019	10	15.13	59.00	8.5	33.55	8.2	24.8	1.84
I32	25 Mar 2019	1	14.73	54.84	7.9	33.59	8.0	24.9	0.94
I32	25 Mar 2019	2	14.61	50.56	7.8	33.60	8.0	25.0	1.01
I32	25 Mar 2019	3	14.18	55.52	7.5	33.64	8.0	25.1	1.23
I32	25 Mar 2019	4	13.80	56.76	7.3	33.62	8.0	25.2	2.01
I32	25 Mar 2019	5	13.61	51.64	7.0	33.61	7.9	25.2	3.82
I32	25 Mar 2019	6	13.59	47.34	7.0	33.60	7.9	25.2	4.52
I32	25 Mar 2019	7	13.55	47.69	6.9	33.61	7.9	25.2	4.51
I32	25 Mar 2019	8	13.43	64.14	6.8	33.61	7.9	25.2	3.57
I32	25 Mar 2019	9	13.26	67.92	6.7	33.62	7.9	25.3	2.73
I32	25 Mar 2019	10	13.28	50.83	6.6	33.61	7.9	25.3	2.78

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
I39	04 Mar 2019	1	14.37	80.37	8.9	33.54	8.2	25.0	0.87
I39	04 Mar 2019	2	14.37	81.56	8.9	33.54	8.2	25.0	0.85
I39	04 Mar 2019	3	14.32	81.62	8.9	33.55	8.2	25.0	1.06
I39	04 Mar 2019	4	14.23	81.32	8.9	33.55	8.2	25.0	1.49
I39	04 Mar 2019	5	14.21	80.84	8.9	33.54	8.2	25.0	1.83
I39	04 Mar 2019	6	14.20	81.02	8.9	33.54	8.2	25.0	2.15
I39	04 Mar 2019	7	14.19	80.88	8.8	33.54	8.2	25.0	1.95
I39	04 Mar 2019	8	14.18	80.75	8.9	33.54	8.2	25.0	1.85
I39	04 Mar 2019	9	14.18	80.97	8.8	33.54	8.2	25.0	1.85
I39	04 Mar 2019	10	14.18	81.31	8.8	33.54	8.2	25.0	2.08
I39	04 Mar 2019	11	14.17	80.90	8.8	33.54	8.2	25.0	2.29
I39	04 Mar 2019	12	14.16	81.13	8.7	33.54	8.2	25.0	2.32
I39	04 Mar 2019	13	14.15	80.65	8.7	33.54	8.2	25.0	2.56
I39	04 Mar 2019	14	14.14	79.82	8.7	33.54	8.2	25.0	2.99
I39	04 Mar 2019	15	14.07	76.19	8.6	33.54	8.2	25.0	4.17
I39	04 Mar 2019	16	13.81	73.49	7.9	33.56	8.2	25.1	4.57
I39	04 Mar 2019	17	13.15	75.78	7.0	33.62	8.1	25.3	4.21
I39	04 Mar 2019	18	12.46	76.67	6.1	33.63	8.0	25.4	3.19
I39	11 Mar 2019	1	14.46	74.23	9.0	33.50	8.2	24.9	3.94
I39	11 Mar 2019	2	14.46	73.76	8.9	33.50	8.2	24.9	3.87
I39	11 Mar 2019	3	14.46	73.98	8.9	33.50	8.2	24.9	3.84
I39	11 Mar 2019	4	14.46	74.24	8.9	33.50	8.2	24.9	3.94
I39	11 Mar 2019	5	14.45	74.57	8.9	33.50	8.2	24.9	4.15
I39	11 Mar 2019	6	14.45	74.36	8.8	33.50	8.2	24.9	4.23
I39	11 Mar 2019	7	14.41	74.81	8.7	33.52	8.2	25.0	3.92
I39	11 Mar 2019	8	14.24	76.25	8.3	33.56	8.2	25.0	3.47
I39	11 Mar 2019	9	13.68	78.14	7.8	33.63	8.1	25.2	2.76
I39	11 Mar 2019	10	13.55	80.15	7.4	33.60	8.1	25.2	2.05
I39	11 Mar 2019	11	13.51	80.70	7.3	33.59	8.1	25.2	1.87
I39	11 Mar 2019	12	13.45	80.89	7.1	33.60	8.1	25.2	1.98
I39	11 Mar 2019	13	13.35	80.01	6.8	33.60	8.0	25.2	2.00
I39	11 Mar 2019	14	13.28	77.38	6.7	33.60	8.0	25.2	1.96
I39	11 Mar 2019	15	13.25	76.38	6.6	33.60	8.0	25.3	1.75
I39	11 Mar 2019	16	13.19	76.46	6.6	33.60	8.0	25.3	1.72
I39	11 Mar 2019	17	13.15	75.35	6.5	33.60	8.0	25.3	1.49
I39	11 Mar 2019	18	13.14	74.87	6.4	33.60	8.0	25.3	1.76
I39	18 Mar 2019	1	15.37	77.99	9.0	33.47	8.2	24.7	0.56
I39	18 Mar 2019	2	15.36	78.00	9.0	33.47	8.2	24.7	0.59
I39	18 Mar 2019	3	15.31	78.11	9.0	33.48	8.2	24.7	0.67
I39	18 Mar 2019	4	15.17	78.70	9.2	33.53	8.2	24.8	0.83
I39	18 Mar 2019	5	15.04	79.67	9.3	33.55	8.2	24.8	0.94
I39	18 Mar 2019	6	14.58	79.76	9.2	33.58	8.2	25.0	1.04
I39	18 Mar 2019	7	14.43	80.14	9.0	33.57	8.2	25.0	1.40
I39	18 Mar 2019	8	14.16	79.06	8.6	33.59	8.2	25.1	2.04
I39	18 Mar 2019	9	13.94	75.12	8.1	33.58	8.2	25.1	3.69
I39	18 Mar 2019	10	13.79	74.20	7.7	33.59	8.1	25.1	4.58
I39	18 Mar 2019	11	13.73	75.47	7.5	33.59	8.1	25.1	4.35
I39	18 Mar 2019	12	13.70	75.16	7.3	33.59	8.1	25.2	3.84
I39	18 Mar 2019	13	13.66	75.23	7.1	33.59	8.1	25.2	3.47
I39	18 Mar 2019	14	13.64	75.10	7.1	33.59	8.1	25.2	3.69
I39	18 Mar 2019	15	13.59	75.24	7.0	33.60	8.1	25.2	3.47
I39	18 Mar 2019	16	13.54	74.59	6.8	33.60	8.1	25.2	3.64
I39	18 Mar 2019	17	13.50	73.89	6.6	33.60	8.1	25.2	3.08

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
I39	18 Mar 2019	18	13.48	71.88	6.6	33.60	8.0	25.2	2.92
I39	25 Mar 2019	1	15.78	79.26	8.4	33.58	8.0	24.7	0.46
I39	25 Mar 2019	2	15.57	79.18	8.4	33.59	8.1	24.8	0.52
I39	25 Mar 2019	3	15.40	79.12	8.4	33.58	8.1	24.8	0.63
I39	25 Mar 2019	4	15.35	79.22	8.4	33.58	8.1	24.8	0.74
I39	25 Mar 2019	5	15.25	79.51	8.4	33.58	8.1	24.8	0.85
I39	25 Mar 2019	6	15.03	80.22	8.4	33.60	8.1	24.9	1.06
I39	25 Mar 2019	7	14.77	80.35	8.3	33.59	8.0	24.9	1.70
I39	25 Mar 2019	8	14.63	80.02	8.1	33.59	8.0	25.0	2.64
I39	25 Mar 2019	9	14.37	77.92	8.2	33.60	8.0	25.0	4.54
I39	25 Mar 2019	10	14.29	76.97	8.3	33.59	8.0	25.0	6.83
I39	25 Mar 2019	11	14.14	78.29	7.9	33.61	8.0	25.1	6.38
I39	25 Mar 2019	12	13.73	80.27	7.5	33.62	8.0	25.2	4.00
I39	25 Mar 2019	13	13.56	81.70	7.1	33.61	8.0	25.2	2.77
I39	25 Mar 2019	14	12.84	81.94	6.4	33.67	7.9	25.4	2.02
I39	25 Mar 2019	15	12.45	77.78	5.9	33.63	7.8	25.4	1.39
I39	25 Mar 2019	16	12.44	75.28	5.8	33.63	7.8	25.4	1.10
I39	25 Mar 2019	17	12.45	74.05	5.8	33.63	7.8	25.4	1.07
I39	25 Mar 2019	18	12.46	70.79	5.9	33.63	7.8	25.4	1.05
I40	04 Mar 2019	1	14.79	44.69	8.4	32.58	8.1	24.1	1.41
I40	04 Mar 2019	2	14.69	48.08	8.5	33.20	8.2	24.6	1.89
I40	04 Mar 2019	3	14.58	54.49	8.5	33.45	8.2	24.9	2.53
I40	04 Mar 2019	4	14.48	57.71	8.3	33.48	8.2	24.9	2.57
I40	04 Mar 2019	5	14.25	61.98	8.3	33.52	8.2	25.0	3.09
I40	04 Mar 2019	6	14.13	68.97	8.4	33.53	8.2	25.0	3.10
I40	04 Mar 2019	7	14.07	73.85	8.5	33.53	8.2	25.0	2.73
I40	04 Mar 2019	8	14.06	74.77	8.2	33.53	8.2	25.0	2.72
I40	04 Mar 2019	9	13.78	72.61	7.4	33.56	8.1	25.1	2.94
I40	04 Mar 2019	10	13.41	41.59	7.0	33.57	8.1	25.2	3.77
I40	11 Mar 2019	1	14.38	55.70	8.4	33.39	8.1	24.9	3.16
I40	11 Mar 2019	2	14.41	55.36	8.6	33.41	8.1	24.9	3.80
I40	11 Mar 2019	3	14.38	57.95	8.7	33.52	8.2	25.0	4.54
I40	11 Mar 2019	4	14.24	66.26	8.6	33.57	8.2	25.0	3.99
I40	11 Mar 2019	5	14.14	71.89	8.5	33.57	8.2	25.1	3.66
I40	11 Mar 2019	6	14.00	75.25	8.2	33.58	8.1	25.1	3.44
I40	11 Mar 2019	7	13.92	76.54	7.7	33.58	8.1	25.1	3.84
I40	11 Mar 2019	8	13.87	74.94	7.3	33.58	8.1	25.1	3.38
I40	11 Mar 2019	9	13.84	66.58	7.1	33.58	8.1	25.1	3.32
I40	11 Mar 2019	10	13.76	57.90	6.9	33.58	8.0	25.1	3.24
I40	18 Mar 2019	1	15.73	75.88	8.7	33.52	8.2	24.7	0.71
I40	18 Mar 2019	2	15.73	75.77	8.7	33.52	8.2	24.7	0.71
I40	18 Mar 2019	3	15.70	75.63	8.7	33.52	8.2	24.7	0.81
I40	18 Mar 2019	4	15.68	75.45	8.7	33.52	8.2	24.7	0.95
I40	18 Mar 2019	5	15.67	75.34	8.8	33.52	8.2	24.7	1.19
I40	18 Mar 2019	6	15.64	75.32	8.7	33.52	8.2	24.7	1.32
I40	18 Mar 2019	7	15.55	74.30	8.7	33.53	8.2	24.7	1.56
I40	18 Mar 2019	8	15.36	71.82	8.5	33.54	8.2	24.8	1.64
I40	18 Mar 2019	9	14.50	55.80	8.2	33.59	8.2	25.0	2.12
I40	18 Mar 2019	10	14.46	45.97	8.1	33.56	8.2	25.0	2.53
I40	25 Mar 2019	1	15.73	46.75	8.1	33.20	8.0	24.4	0.82

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
I40	25 Mar 2019	2	15.53	46.62	8.1	33.31	8.0	24.6	0.89
I40	25 Mar 2019	3	15.35	47.10	8.1	33.40	8.0	24.7	1.31
I40	25 Mar 2019	4	15.31	49.46	8.1	33.42	8.0	24.7	1.80
I40	25 Mar 2019	5	15.26	51.85	8.2	33.45	8.0	24.7	2.18
I40	25 Mar 2019	6	15.20	55.89	8.1	33.50	8.0	24.8	2.40
I40	25 Mar 2019	7	14.79	62.93	7.8	33.61	8.0	24.9	2.32
I40	25 Mar 2019	8	14.21	66.10	7.7	33.62	8.0	25.1	2.40
I40	25 Mar 2019	9	14.10	58.63	7.4	33.60	8.0	25.1	2.72
I40	25 Mar 2019	10	14.08	31.13	7.1	33.60	7.9	25.1	3.10

NA = not available

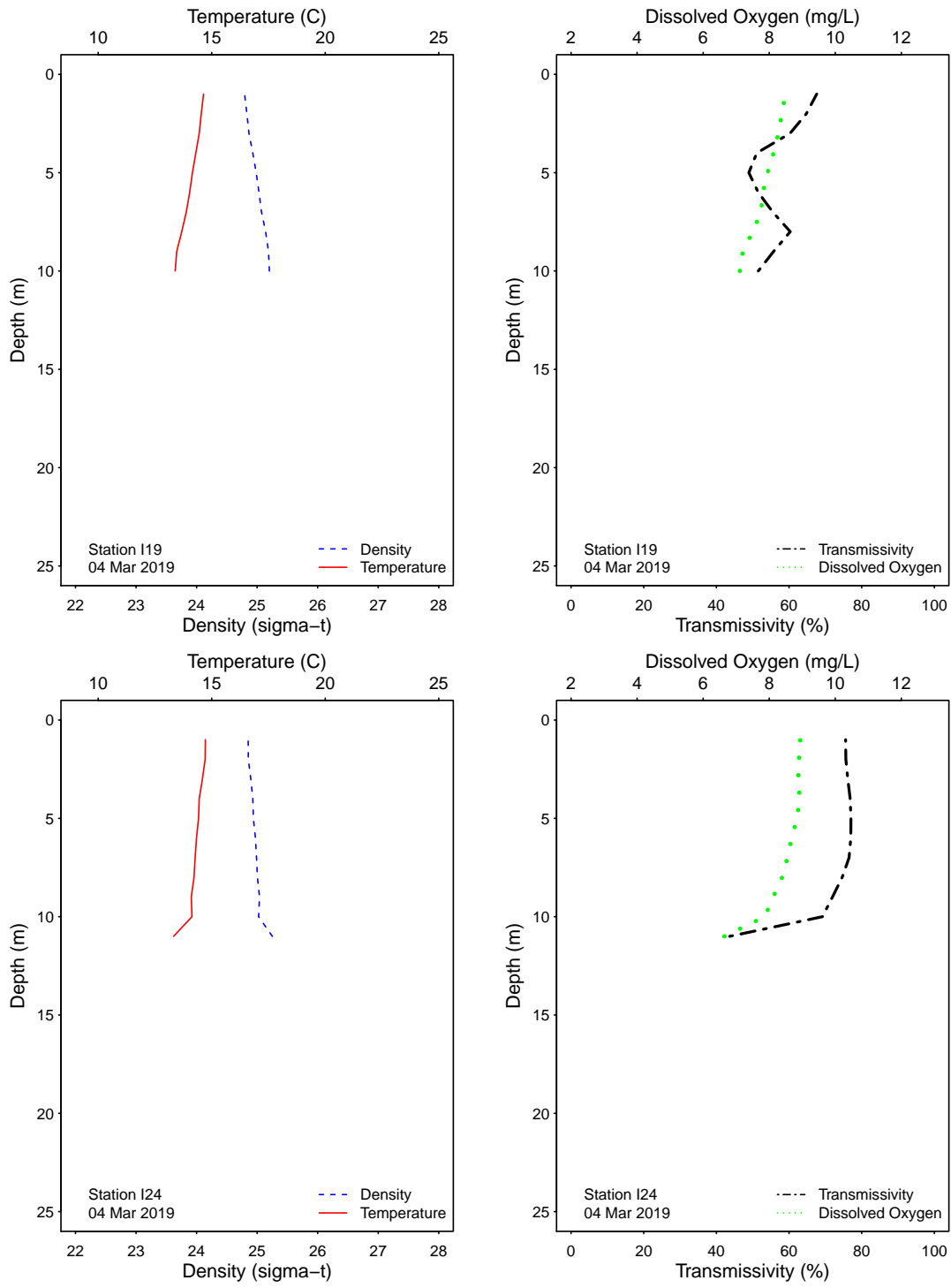


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

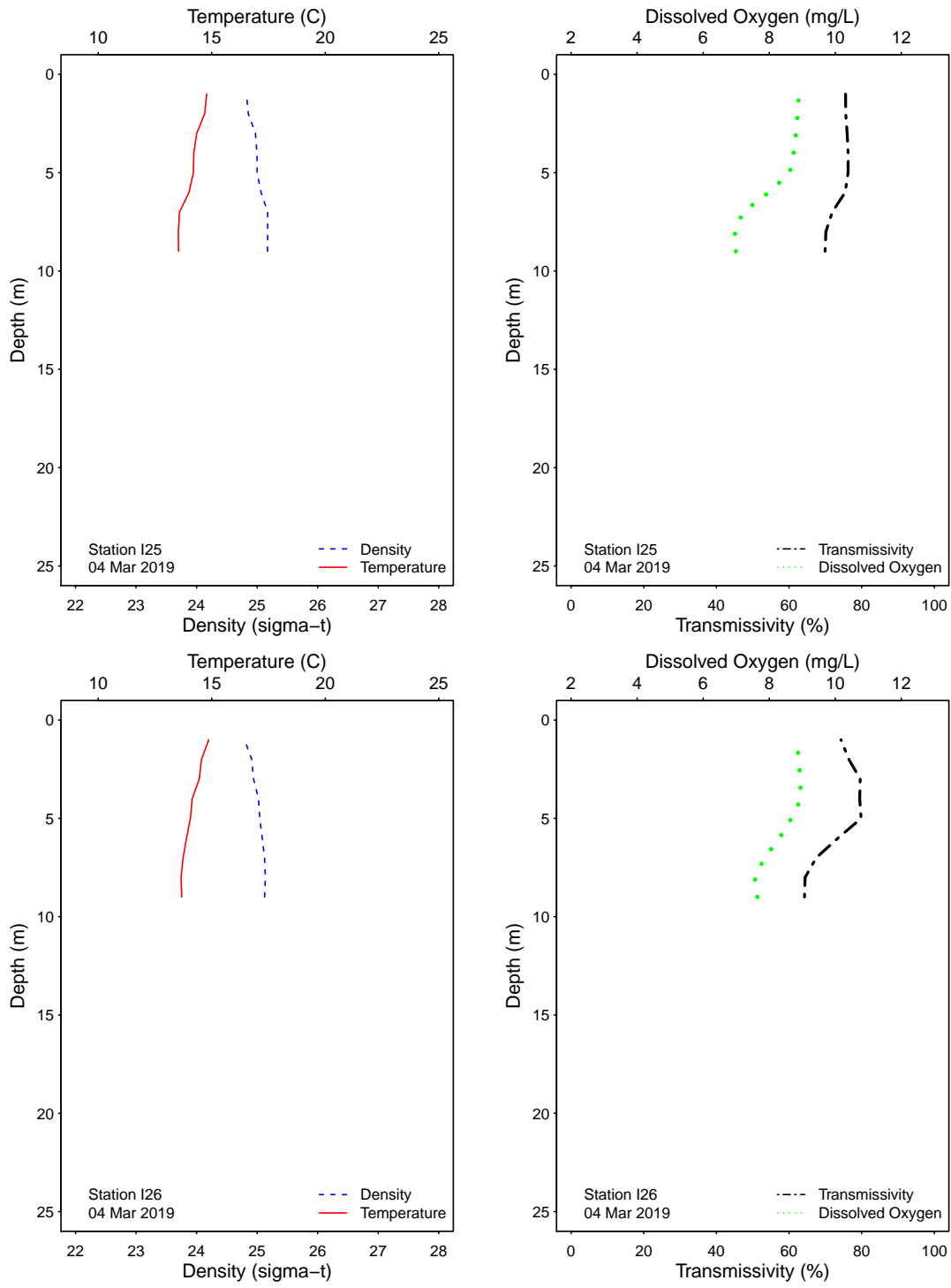


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

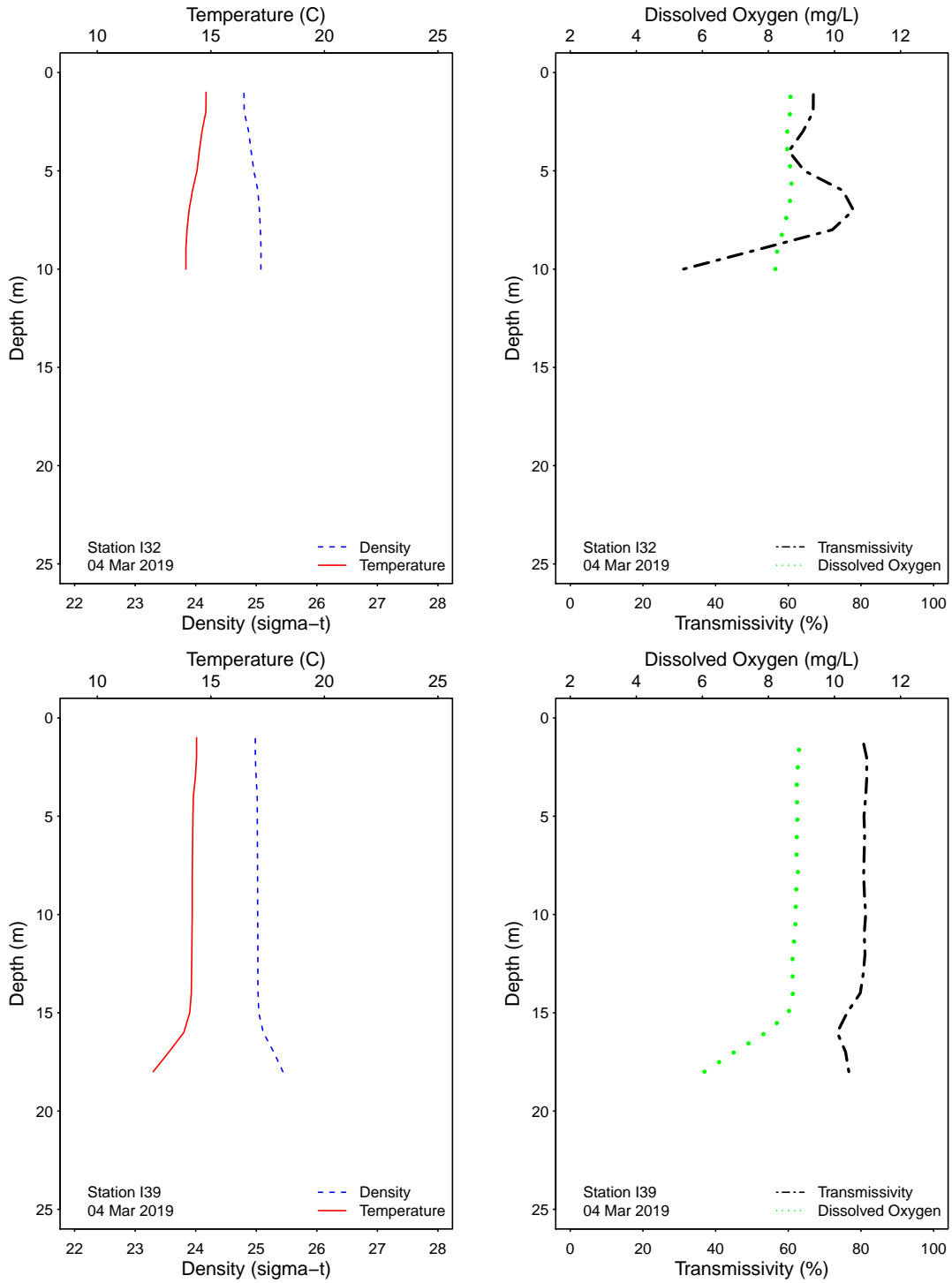


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

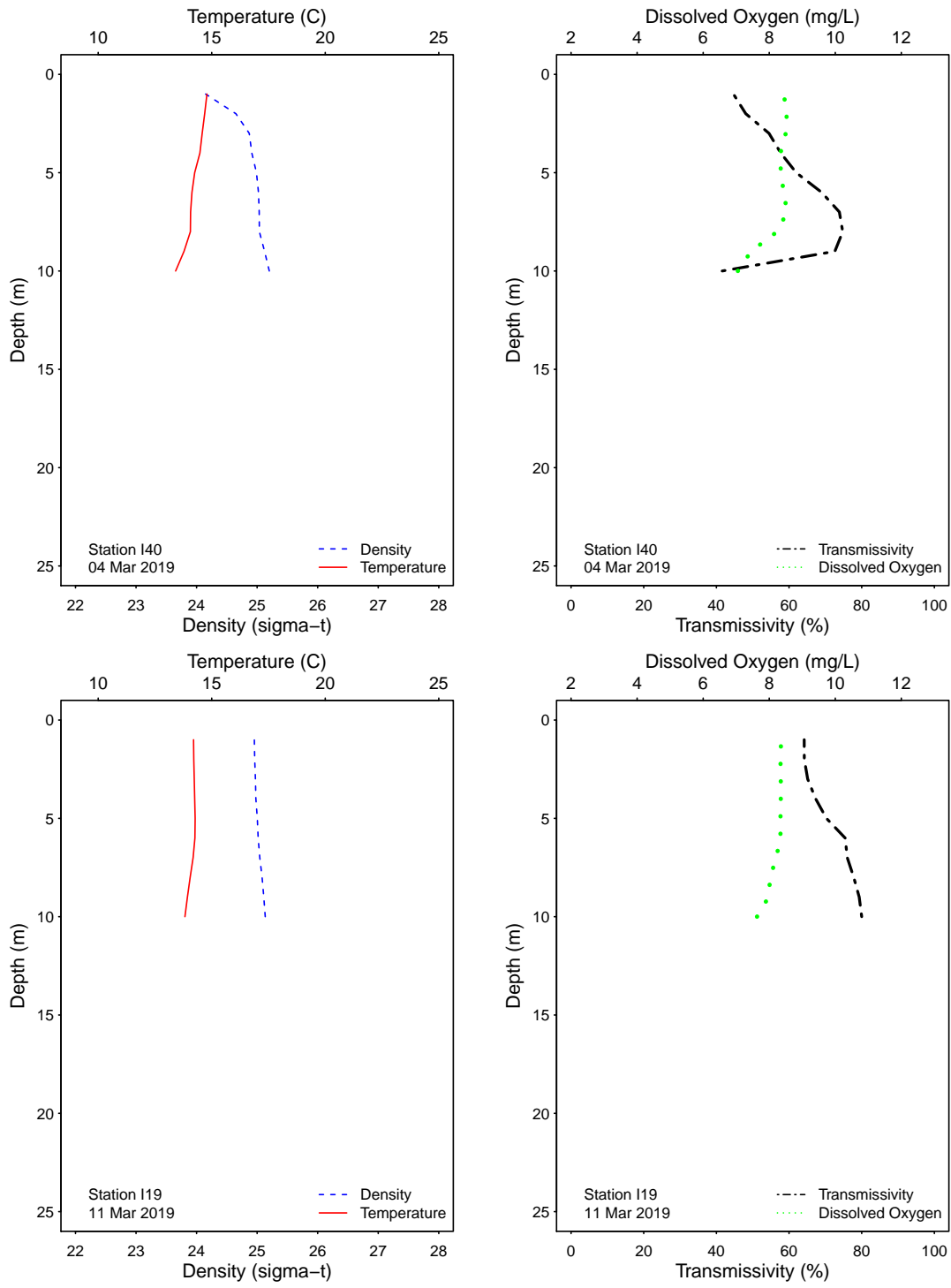


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

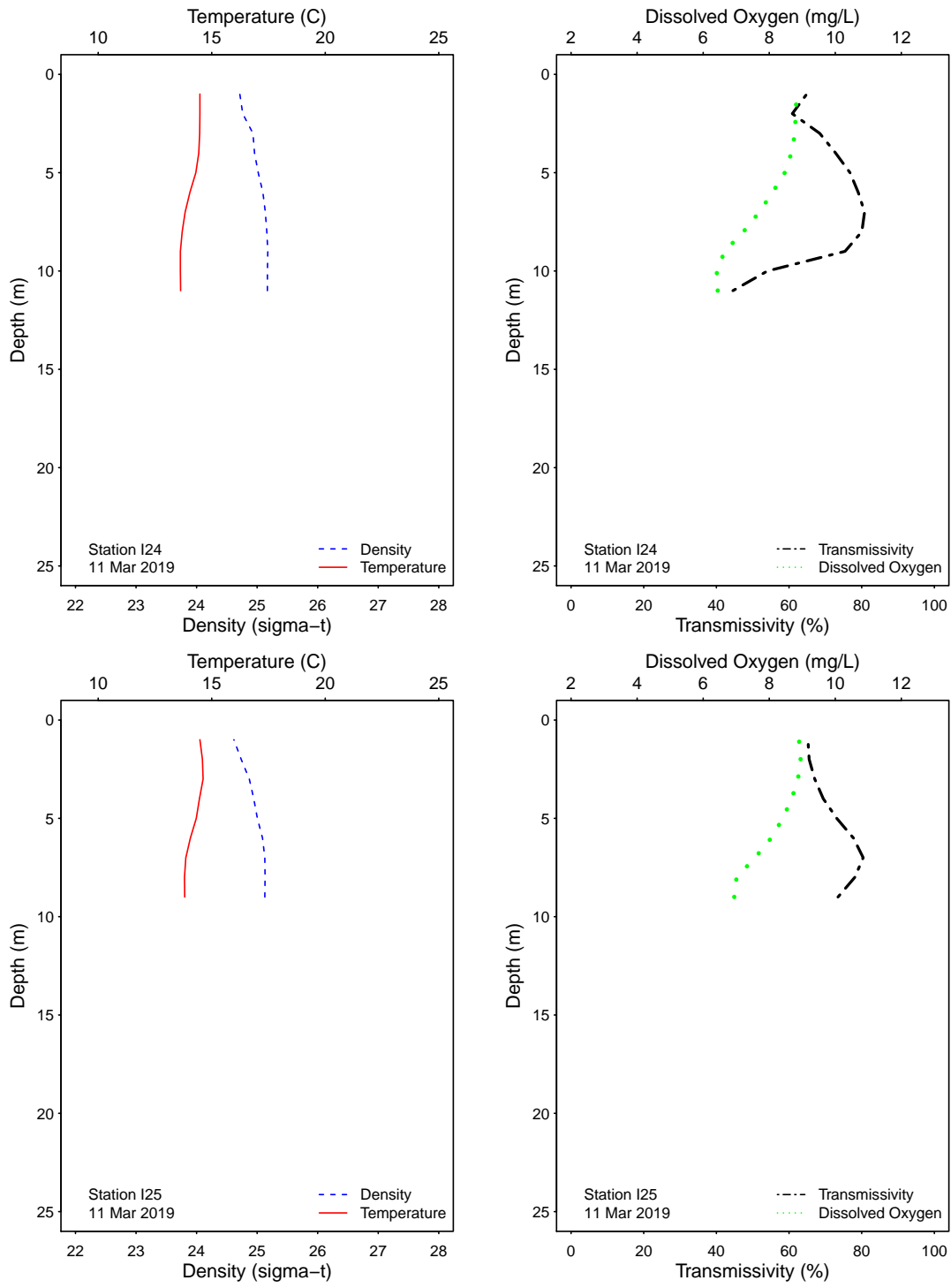


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

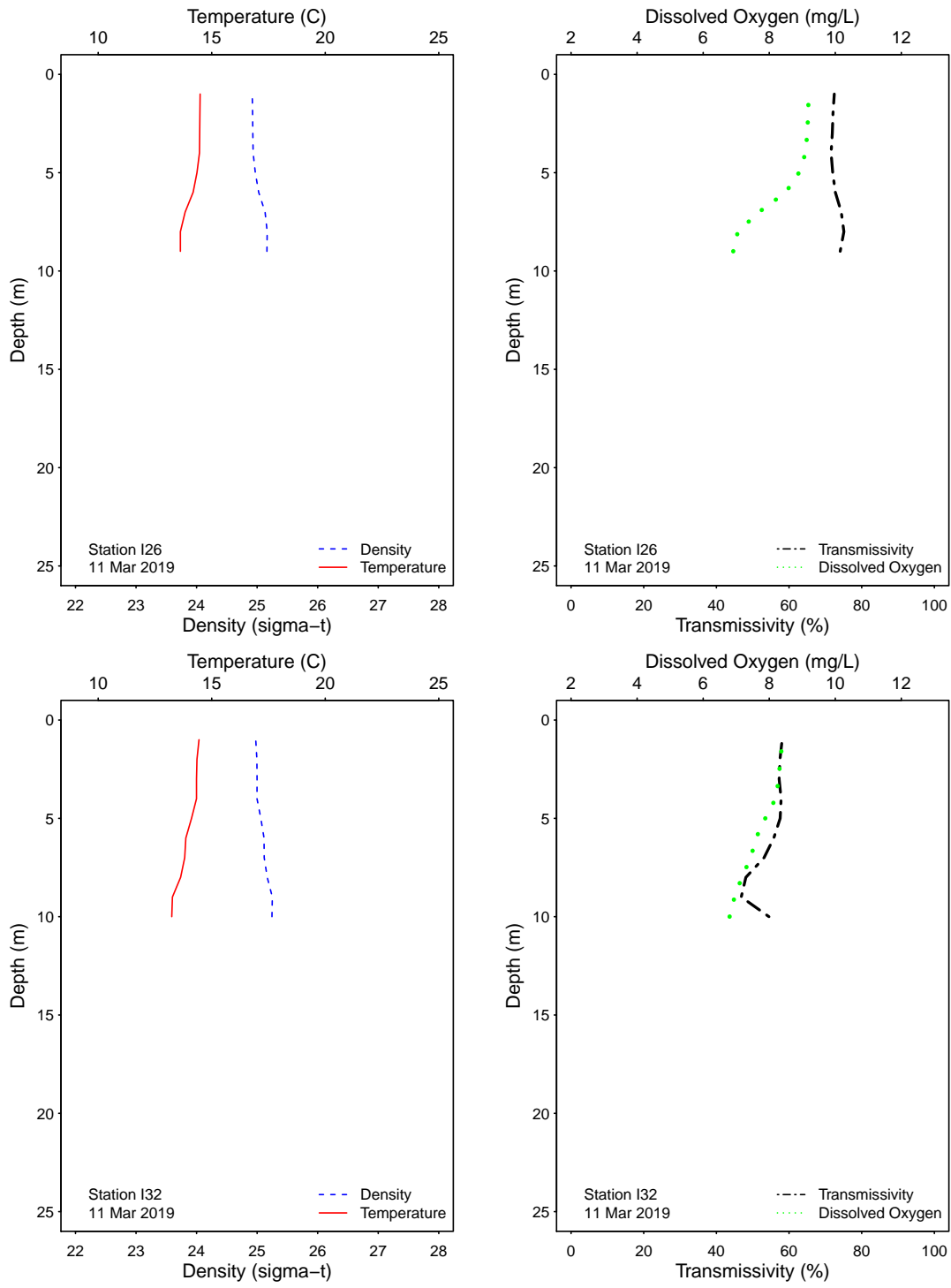


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

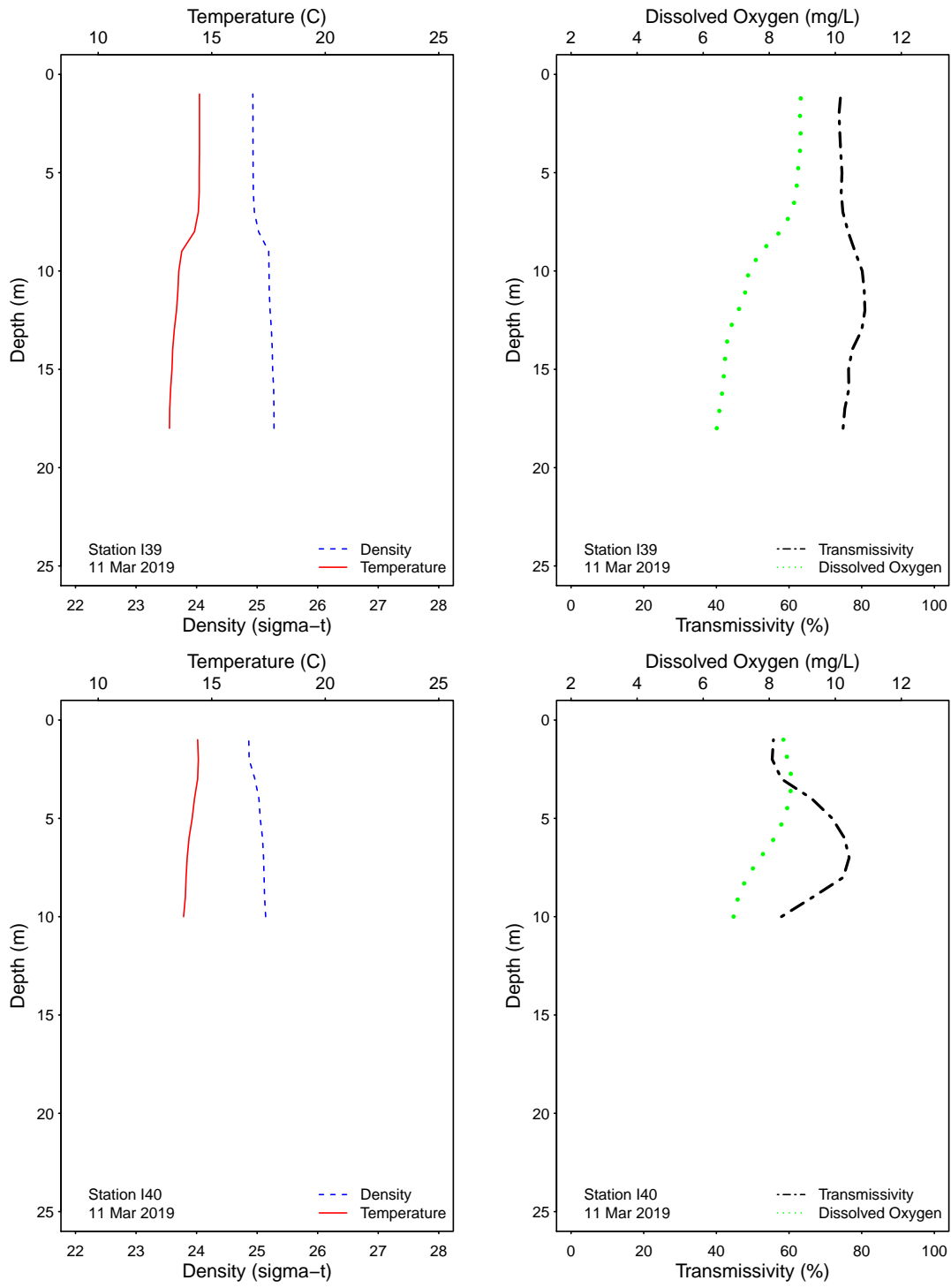


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

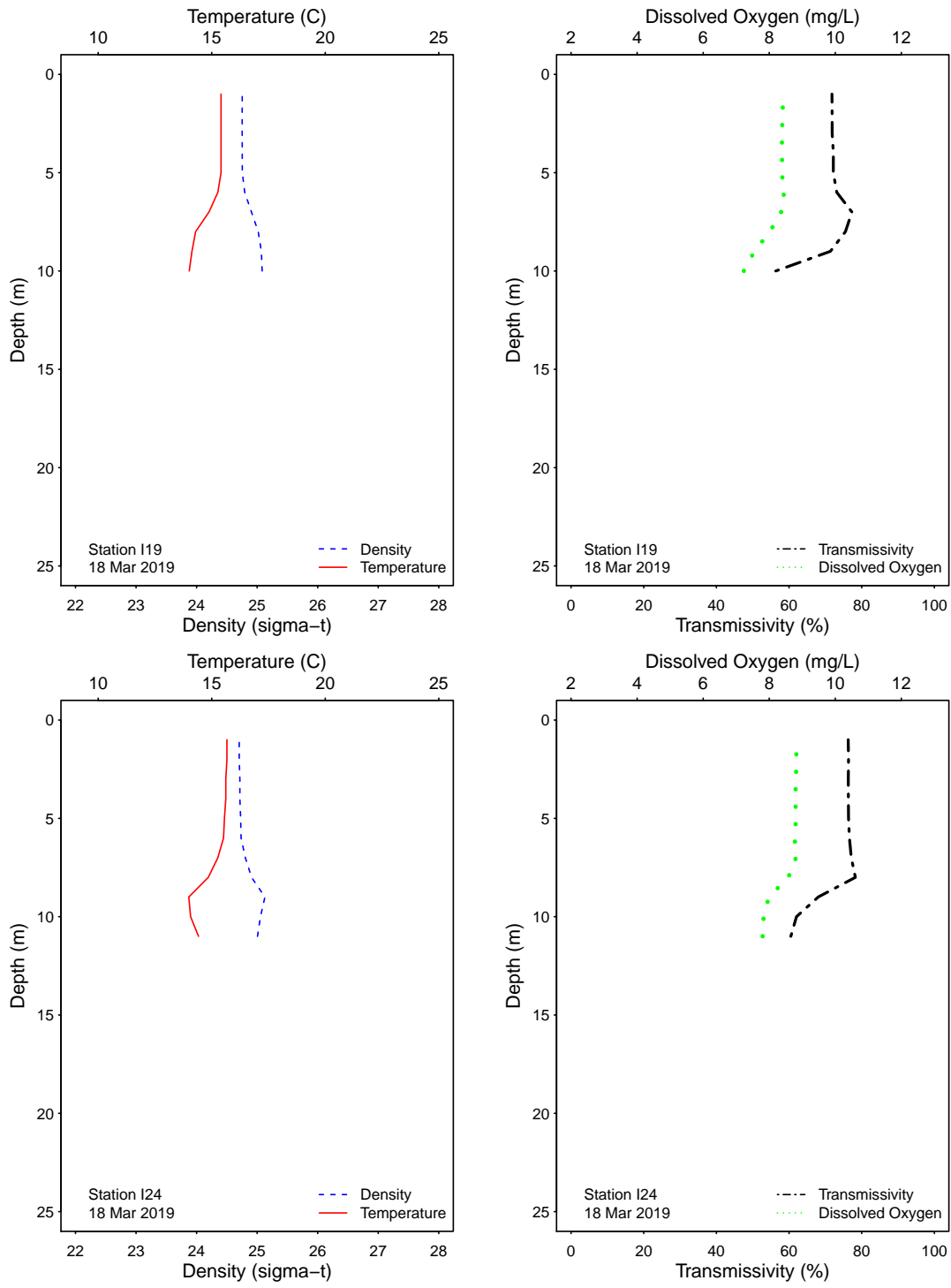


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

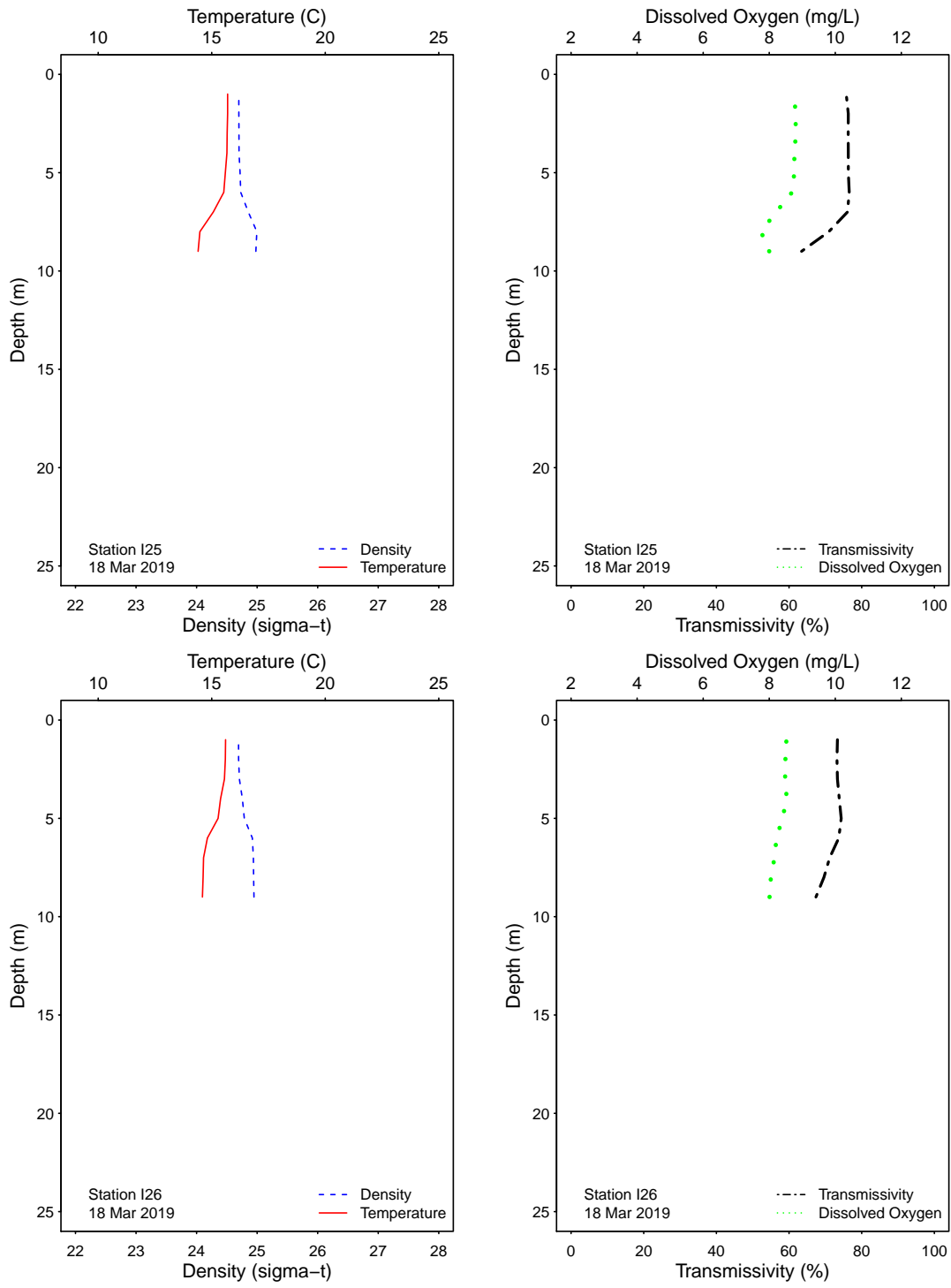


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

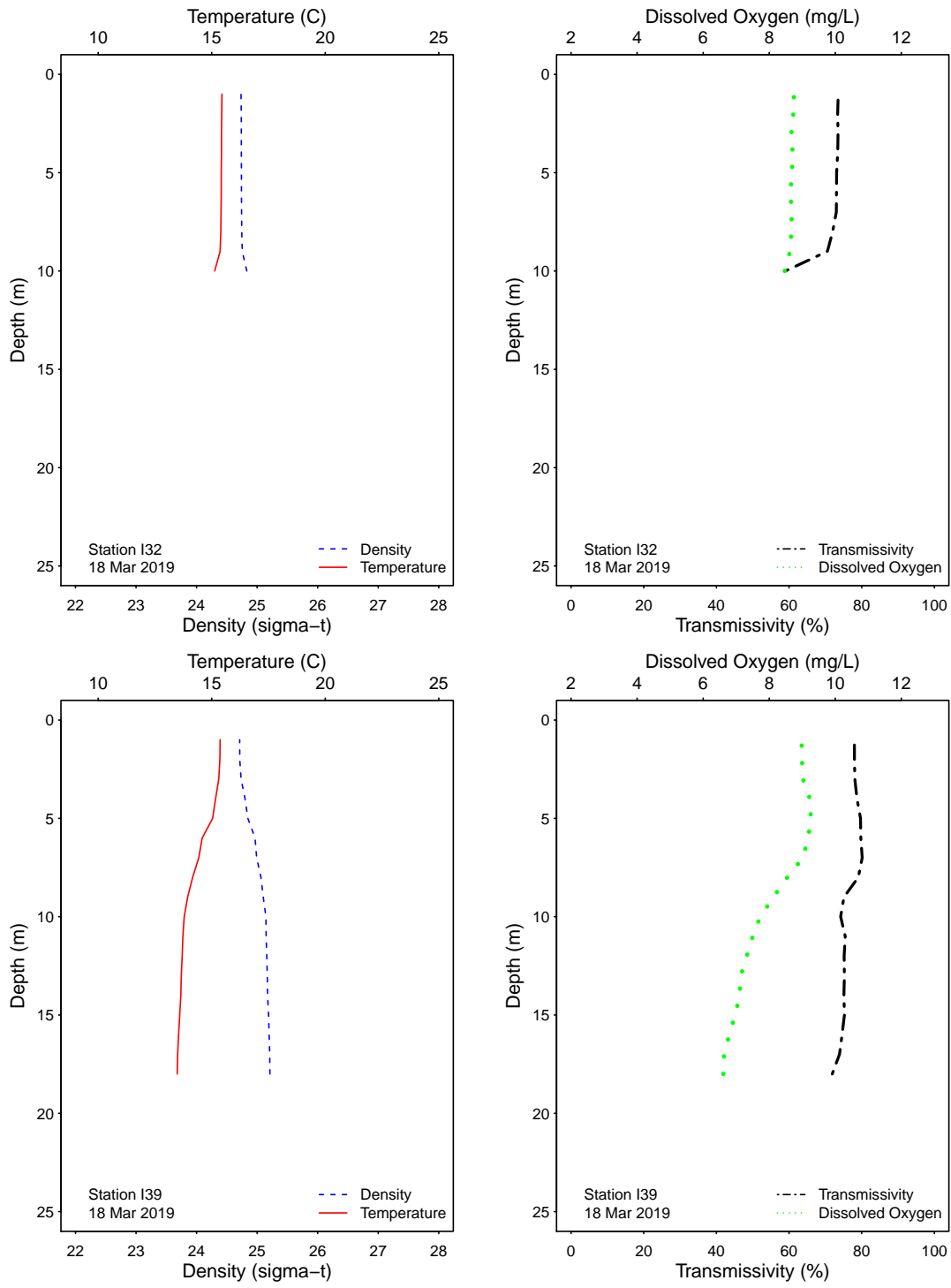


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

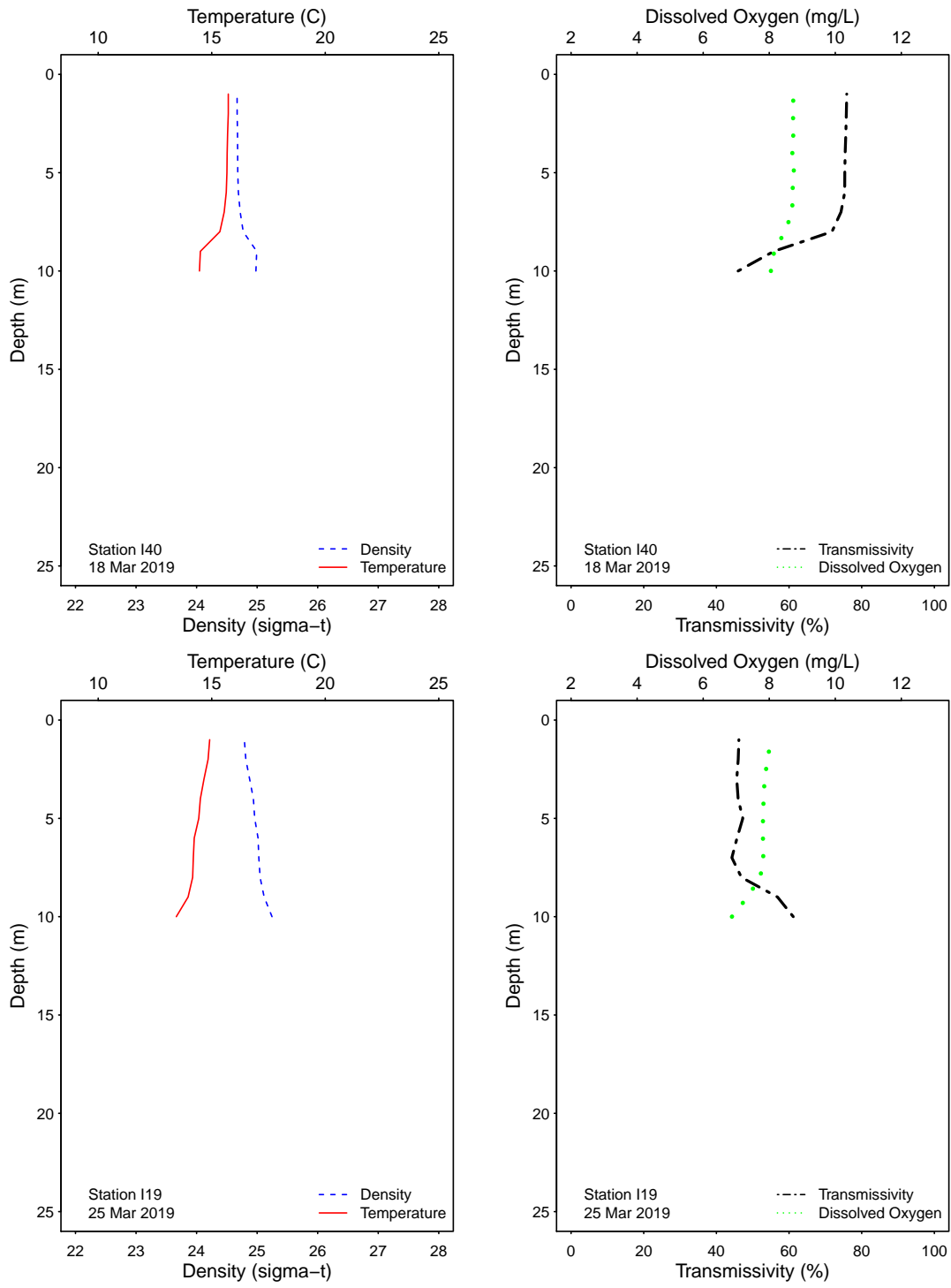


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

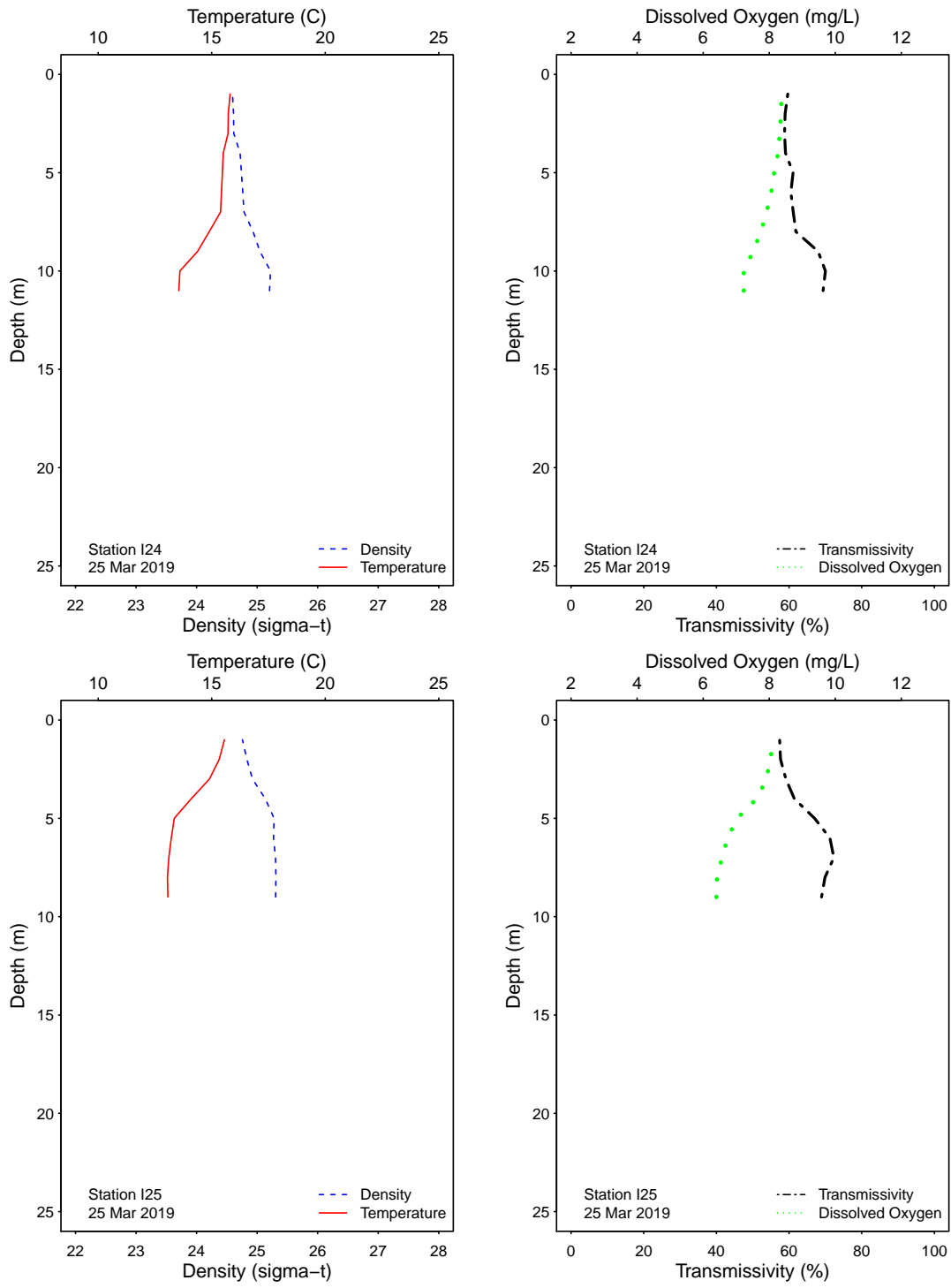


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

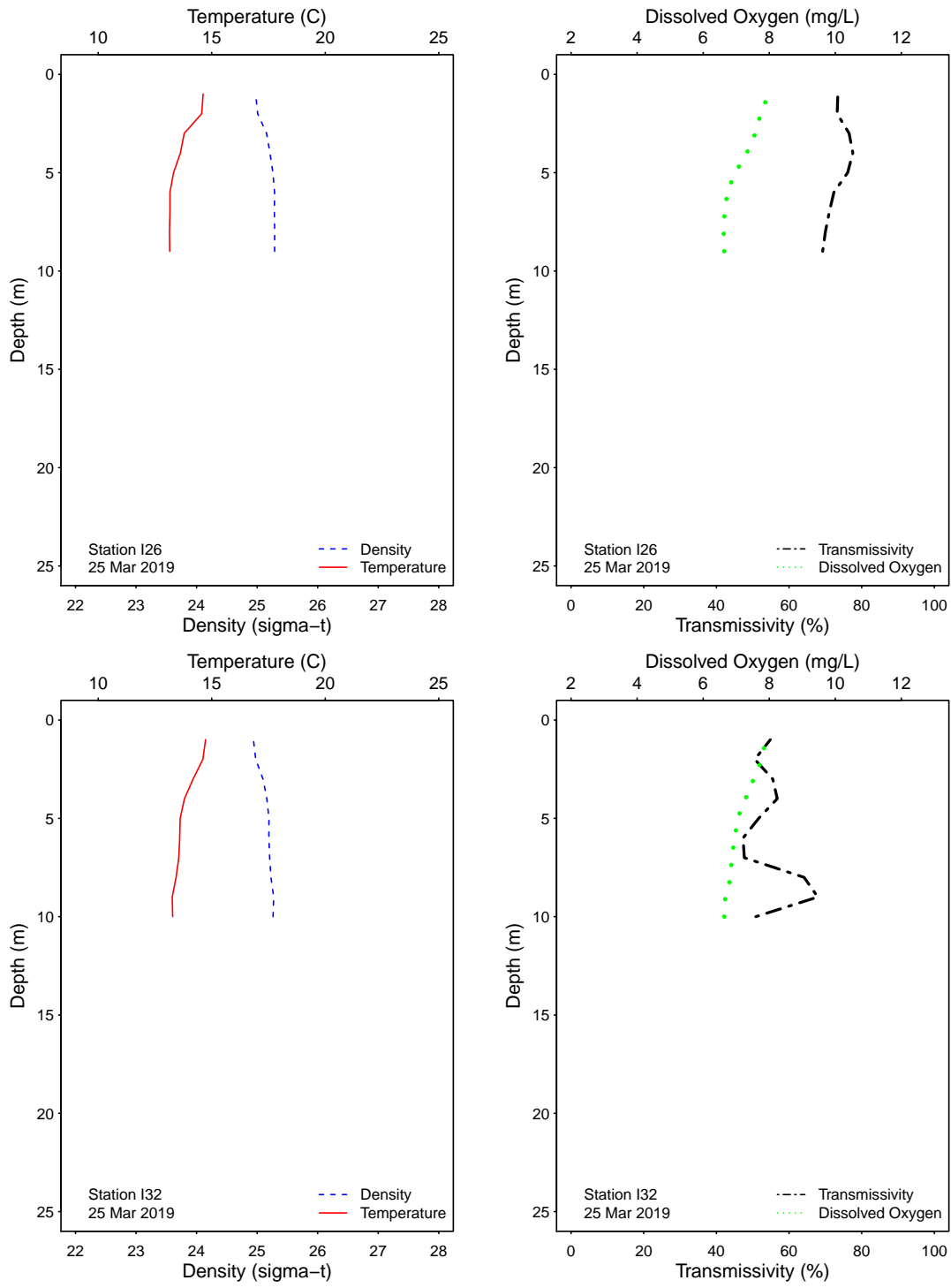


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

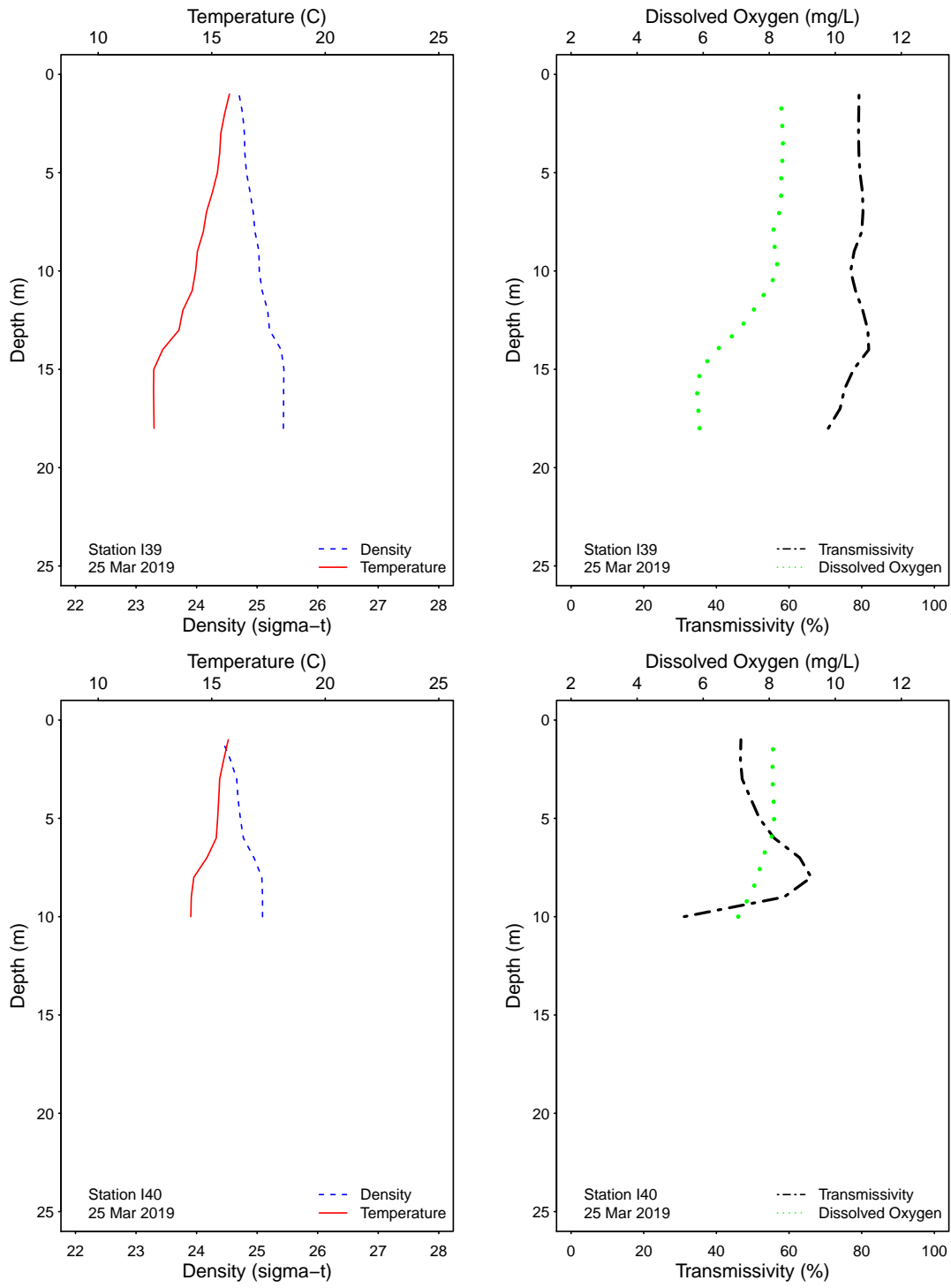


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

APPENDIX A

Quality Assurance

Table A.1

Summary of bacteriological quality assurance field and lab duplicate sample analyses at selected SBOO stations. Densities of total coliform (Total), fecal coliform (Fecal), and *Enterococcus* (Entero) are reported as CFU/100 mL.

Station	Date	Depth	Analyst	Procedure	Total	Fecal	Entero
I19	04 Mar 2019	6	AE	LAB DUPLICATE	2400e	340e	8e
I19	11 Mar 2019	6	JLT	LAB DUPLICATE	>16000	<20	94
I19	18 Mar 2019	6	AE	LAB DUPLICATE	100e	58	4e
I19	25 Mar 2019	6	JLT	LAB DUPLICATE	1400e	280e	56
I40	04 Mar 2019	6	JT	LAB DUPLICATE	>16000	3000e	200e
I40	11 Mar 2019	6	JLT	LAB DUPLICATE	200e	6e	<2
I40	18 Mar 2019	6	AR	LAB DUPLICATE	920e	200e	22e
I40	25 Mar 2019	6	JLT	LAB DUPLICATE	10000	1400e	720
S12	05 Mar 2019		JLT	FIELD DUPLICATE	6e	2e	<2
S12	05 Mar 2019		JLT	LAB DUPLICATE	<20	<2	2e
S12	12 Mar 2019		JLT	FIELD DUPLICATE	<20	2e	4e
S12	12 Mar 2019		JLT	LAB DUPLICATE	12e	<2	<2
S12	20 Mar 2019		AE	FIELD DUPLICATE	5000	1200	200e
S12	20 Mar 2019		AE	LAB DUPLICATE	9800	2600e	500
S12	26 Mar 2019		JLT	FIELD DUPLICATE	<2	<2	2e
S12	26 Mar 2019		JLT	LAB DUPLICATE	2e	<2	<2

ns = not sampled

ND = no data

