



SOUTH BAY OCEAN OUTFALL MONTHLY RECEIVING WATERS MONITORING REPORT

SOUTH BAY WATER RECLAMATION PLANT

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

JANUARY 2021

Environmental Monitoring and Technical Services
2392 Kincaid Road • Mail Station 45A • San Diego, CA 92101
Tel (619) 758-2300 Fax (619) 758-2309





Environmental Monitoring & Technical Services Division

February 28, 2021

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 January 2021 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 by Order Nos. R9-2014-0094, R9-2017-0024, R9-2019-0012, 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,

A handwritten signature in blue ink that appears to read "Peter S. Vroom".

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

PV/rk

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 \geq 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 chromomorphic 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, 1987²) 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 2021 Quality Assurance Report, which will be completed in March 2022.

SUMMARY OF RESULTS

As of October 2020, new 2019 Ocean Plan Water Quality Objectives are included for a six-week rolling geometric mean of *Enterococcus* density, which shall not exceed 30 cfu/100 ml, and a Statistical Threshold Value (STV) for *Enterococcus*, which shall not exceed 110 cfu/100 ml for more than 10% of samples per month (see Appendix B).

➤ Shoreline Water Quality Sampling

- Due to site access restrictions in Mexico, the South Bay shoreline sampling is typically carried out on the same day each week (i.e., Tuesday) 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 USIBWC 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 January, three of the eight shore stations located north of the border were out of compliance with 2015 California Ocean Plan (Ocean Plan) water contact standards on one or more days as follows:

2 Gilbert, R.O. (1987). Statistical Methods for Environmental Pollution Monitoring. Van Nostrand Reinhold Co., New York.

- The 30-day geometric mean standards for total coliform, fecal coliform and *Enterococcus* were exceeded at stations S4, S5, and S10.
 - The single sample maximum (SSM) standards for total coliform, fecal coliform and *Enterococcus* were exceeded at stations S4, S5, and S10.
 - 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, and S10.
 - 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 the seawater samples collected from stations S0, S2, and S3 on one or more days during January.
- Notable observations included a sewage-like odor at stations S4, S5, and S10 on one or more days during January.
- 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>).

➤ **Kelp Bed Water Quality Sampling**

- The seven kelp bed water quality stations (I19, I24, I25, I26, I32, I39, I40) were sampled on January 5, 13, 19, and 27.
- During January, five of the seven kelp stations were out of compliance with 2015 California Ocean Plan (Ocean Plan) water contact standards on one or more days as follows:
 - The 30-day geometric mean standards for total coliform, fecal coliform, and *Enterococcus* were exceeded at station I19.
 - The SSM standard for total coliform was exceeded at station I19.
 - The SSM standards for fecal coliform and *Enterococcus* were exceeded at stations I19, I24, I25, I26, 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, I26, and I40.
- Water column temperatures ranged from 12.81 to 14.92°C. The difference between surface and bottom waters ranged from 0.02 to 1.2°C.
- Concentrations of chlorophyll *a* ranged from 0.33 to 5.87 µg/L at the kelp bed stations.
- Nothing of sewage origin was observed at any of these kelp stations.

➤ **Offshore Water Quality Sampling**

Quarterly sampling was not conducted during January at the offshore stations. The next quarterly sampling is scheduled for February 2021.



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 Jan 2021	15	24	13	24	42	42	13	11
02 Jan 2021	15	24	13	24	42	42	13	11
03 Jan 2021	15	24	13	24	42	42	13	11
04 Jan 2021	15	24	13	24	42	42	13	11
05 Jan 2021	59	87	10	14	23	137	14	8
06 Jan 2021	59	87	10	14	23	137	14	8
07 Jan 2021	356	333	15	24	24	522	24	11
08 Jan 2021	672	635	15	24	24	924	24	11
09 Jan 2021	672	635	15	24	24	924	24	11
10 Jan 2021	1026	1007	15	24	24	1389	24	11
11 Jan 2021	1026	1007	15	24	24	1389	24	11
12 Jan 2021	872	1423	13	17	23	1228	23	9
13 Jan 2021	872	1423	13	17	23	1228	23	9
14 Jan 2021	1495	2314	8	9	13	2212	13	4
15 Jan 2021	1495	2314	8	9	13	2212	13	4
16 Jan 2021	1495	2314	8	9	13	2212	13	4
17 Jan 2021	1495	2314	8	9	13	2212	13	4
18 Jan 2021	1495	2314	8	9	13	2212	13	4
19 Jan 2021	872	1763	10	7	9	1228	13	6
20 Jan 2021	872	1763	10	7	9	1228	13	6
21 Jan 2021	2077	3086	15	5	8	2212	20	8
22 Jan 2021	2077	3086	15	5	8	2212	20	8
23 Jan 2021	2077	3086	15	5	8	2212	20	8
24 Jan 2021	2077	3086	15	5	8	2212	20	8
25 Jan 2021	2077	3086	15	5	8	2212	20	8
26 Jan 2021	1508	3705	25	7	9	2437	32	9
27 Jan 2021	1508	3705	25	7	9	2437	32	9
28 Jan 2021	1737	6512	19	4	6	3889	30	8
29 Jan 2021	1737	6512	19	4	6	3889	30	8
30 Jan 2021	1737	6342	19	4	6	4408	30	8
31 Jan 2021	1737	6342	19	4	6	4408	30	8

* 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 Jan 2021	4	3	5	2	7	4	3	3
02 Jan 2021	4	3	5	2	7	4	3	3
03 Jan 2021	4	3	5	2	7	4	3	3
04 Jan 2021	4	3	5	2	7	4	3	3
05 Jan 2021	22	17	4	3	6	20	3	2
06 Jan 2021	22	17	4	3	6	20	3	2
07 Jan 2021	116	86	5	3	4	112	3	3
08 Jan 2021	237	195	5	3	4	243	3	3
09 Jan 2021	237	195	5	3	4	243	3	3
10 Jan 2021	364	352	5	3	4	388	3	3
11 Jan 2021	364	352	5	3	4	388	3	3
12 Jan 2021	256	521	6	4	4	306	3	2
13 Jan 2021	256	521	6	4	4	306	3	2
14 Jan 2021	513	769	5	5	3	628	2	2
15 Jan 2021	513	769	5	5	3	628	2	2
16 Jan 2021	513	769	5	5	3	628	2	2
17 Jan 2021	513	769	5	5	3	628	2	2
18 Jan 2021	513	769	5	5	3	628	2	2
19 Jan 2021	314	620	4	4	3	306	2	2
20 Jan 2021	314	620	4	4	3	306	2	2
21 Jan 2021	646	1269	5	4	3	628	2	2
22 Jan 2021	646	1269	5	4	3	628	2	2
23 Jan 2021	646	1269	5	4	3	628	2	2
24 Jan 2021	646	1269	5	4	3	628	2	2
25 Jan 2021	646	1269	5	4	3	628	2	2
26 Jan 2021	440	1629	6	4	4	624	2	2
27 Jan 2021	440	1629	6	4	4	624	2	2
28 Jan 2021	600	2966	5	4	3	1136	2	2
29 Jan 2021	600	2966	5	4	3	1136	2	2
30 Jan 2021	600	2644	5	4	3	1306	2	2
31 Jan 2021	600	2644	5	4	3	1306	2	2

* 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 Jan 2021	5	18	8	5	12	6	10	5
02 Jan 2021	5	18	8	5	12	6	10	5
03 Jan 2021	5	18	8	5	12	6	10	5
04 Jan 2021	5	18	8	5	12	6	10	5
05 Jan 2021	20	45	6	4	8	29	8	4
06 Jan 2021	20	45	6	4	8	29	8	4
07 Jan 2021	85	258	8	5	8	114	10	5
08 Jan 2021	136	489	8	5	8	247	10	5
09 Jan 2021	136	489	8	5	8	247	10	5
10 Jan 2021	183	773	8	5	8	333	10	5
11 Jan 2021	183	773	8	5	8	333	10	5
12 Jan 2021	137	870	9	5	10	237	9	4
13 Jan 2021	137	870	9	5	10	237	9	4
14 Jan 2021	251	935	5	3	7	425	5	3
15 Jan 2021	251	935	5	3	7	425	5	3
16 Jan 2021	251	935	5	3	7	425	5	3
17 Jan 2021	251	935	5	3	7	425	5	3
18 Jan 2021	251	935	5	3	7	425	5	3
19 Jan 2021	157	647	4	3	5	259	4	3
20 Jan 2021	157	647	4	3	5	259	4	3
21 Jan 2021	294	817	5	3	7	518	5	3
22 Jan 2021	294	817	5	3	7	518	5	3
23 Jan 2021	294	817	5	3	7	518	5	3
24 Jan 2021	294	817	5	3	7	518	5	3
25 Jan 2021	294	817	5	3	7	518	5	3
26 Jan 2021	240	1101	6	4	10	499	8	3
27 Jan 2021	240	1101	6	4	10	499	8	3
28 Jan 2021	285	1422	5	4	8	834	7	2
29 Jan 2021	285	1422	5	4	8	834	7	2
30 Jan 2021	285	1358	5	4	8	937	7	2
31 Jan 2021	285	1358	5	4	8	937	7	2

* 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
05 Jan 2021	E	E	IC	IC	IC	E	IC	IC
07 Jan 2021	E	E	ns	ns	ns	E	ns	ns
08 Jan 2021	E	E	ns	ns	ns	E	ns	ns
10 Jan 2021	E	E	ns	ns	ns	E	ns	ns
12 Jan 2021	IC	E	IC	IC	IC	IC	IC	IC
14 Jan 2021	ns	IC	ns	ns	ns	ns	ns	ns
19 Jan 2021	IC	IC	IC	IC	IC	IC	IC	IC
26 Jan 2021	IC	E	IC	IC	IC	IC	IC	IC
28 Jan 2021	ns	IC	ns	ns	ns	E	ns	ns
30 Jan 2021	ns	IC	ns	ns	ns	E	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
05 Jan 2021	E	E	IC	IC	IC	E	IC	IC
07 Jan 2021	E	E	ns	ns	ns	E	ns	ns
08 Jan 2021	E	E	ns	ns	ns	E	ns	ns
10 Jan 2021	E	E	ns	ns	ns	E	ns	ns
12 Jan 2021	IC	E	IC	IC	IC	IC	IC	IC
14 Jan 2021	ns	IC	ns	ns	ns	ns	ns	ns
19 Jan 2021	IC	IC	IC	IC	IC	IC	IC	IC
26 Jan 2021	IC	E	IC	IC	IC	E	IC	IC
28 Jan 2021	ns	E	ns	ns	ns	E	ns	ns
30 Jan 2021	ns	E	ns	ns	ns	E	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
05 Jan 2021	E	E	IC	IC	IC	E	IC	IC
07 Jan 2021	E	E	ns	ns	ns	E	ns	ns
08 Jan 2021	E	E	ns	ns	ns	E	ns	ns
10 Jan 2021	E	E	ns	ns	ns	E	ns	ns
12 Jan 2021	IC	E	IC	IC	IC	IC	IC	IC
14 Jan 2021	ns	IC	ns	ns	ns	ns	ns	ns
19 Jan 2021	IC	IC	IC	IC	IC	IC	IC	IC
26 Jan 2021	IC	E	IC	IC	IC	E	IC	IC
28 Jan 2021	ns	E	ns	ns	ns	E	ns	ns
30 Jan 2021	ns	E	ns	ns	ns	E	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
05 Jan 2021	E	E	IC	IC	IC	E	IC	IC
07 Jan 2021	E	E	ns	ns	ns	E	ns	ns
08 Jan 2021	E	E	ns	ns	ns	E	ns	ns
10 Jan 2021	E	E	ns	ns	ns	E	ns	ns
12 Jan 2021	IC	E	IC	IC	IC	IC	IC	IC
14 Jan 2021	ns	IC	ns	ns	ns	ns	ns	ns
19 Jan 2021	IC	IC	IC	IC	IC	IC	IC	IC
26 Jan 2021	IC	E	IC	IC	IC	E	IC	IC
28 Jan 2021	ns	IC	ns	ns	ns	E	ns	ns
30 Jan 2021	ns	E	ns	ns	ns	E	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* (Enter) 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	Enter	F:T
S0	05 Jan 2021	1145	12000	1000e	1000	0.08
S0	12 Jan 2021	1140	6800	600	2800e	0.09
S0	19 Jan 2021	910	>16000	11000	4600	0.69
S0	26 Jan 2021	900	>16000	2800e	3000e	0.17
S2	05 Jan 2021	1230	12000	1800e	160e	0.15
S2	12 Jan 2021	1220	3000e	400	90	0.13
S2	19 Jan 2021	1015	460	54	110	0.12
S2	26 Jan 2021	1010	260e	22e	42	0.08
S3	05 Jan 2021	1250	>16000	10000	1000e	0.62
S3	12 Jan 2021	1245	460	80e	40e	0.17
S3	19 Jan 2021	945	240e	110	24e	0.46
S3	26 Jan 2021	935	2400e	180e	160e	0.07
S4	05 Jan 2021	1005	>16000	>12000	5600	0.75
S4	07 Jan 2021	1034	>16000	8800	2800e	0.55
S4	08 Jan 2021	1020	>16000	8400	1400e	0.52
S4	10 Jan 2021	1037	13000	4800	1100	0.37
S4	12 Jan 2021	950	280e	22e	18e	0.08
S4	19 Jan 2021	800	<20	10e	6e	0.50
S4	26 Jan 2021	823	160e	30e	58	0.19
S5	05 Jan 2021	840	>16000	12000	1800e	0.75
S5	07 Jan 2021	942	>16000	>12000	>12000	0.75
S5	08 Jan 2021	1100	>16000	>12000	>12000	0.75
S5	10 Jan 2021	1114	>16000	>12000	>12000	0.75
S5	12 Jan 2021	1048	>16000	8200	2000e	0.51
S5	14 Jan 2021	935	980	180e	78	0.18
S5	19 Jan 2021	855	<200	110	34e	0.55
S5	26 Jan 2021	930	>16000	>12000	>12000	0.75
S5	28 Jan 2021	945	6400	440	120	0.07
S5	30 Jan 2021	950	5000	940	900	0.19
S6	05 Jan 2021	905	4e	<2	<2	0.50
S6	12 Jan 2021	1105	8e	8e	16e	1.00
S6	19 Jan 2021	925	<20	2e	<2	0.10
S6	26 Jan 2021	1010	<200	14e	8e	0.07
S8	05 Jan 2021	1110	<2	4e	<2	2.00
S8	12 Jan 2021	822	4e	<20	8e	5.00
S8	19 Jan 2021	1000	<2	<2	<2	1.00
S8	26 Jan 2021	805	<20	2e	12e	0.10
S9	05 Jan 2021	1130	2e	<2	<2	1.00
S9	12 Jan 2021	800	20e	<2	24e	0.10
S9	19 Jan 2021	1020	<2	<2	<2	1.00
S9	26 Jan 2021	740	20e	8e	38e	0.40
S10	05 Jan 2021	955	>16000	>12000	11000	0.75
S10	07 Jan 2021	1017	>16000	>12000	>12000	0.75
S10	08 Jan 2021	1005	>16000	>12000	12000	0.75
S10	10 Jan 2021	1020	>16000	6400	2000e	0.40
S10	12 Jan 2021	930	520	58	22e	0.11

Station	Date	Time	Total	Fecal	Enter	F:T
S10	19 Jan 2021	815	20e	<2	8e	0.10
S10	26 Jan 2021	845	4800	600	380e	0.12
S10	28 Jan 2021	900	>16000	3600e	1100	0.22
S10	30 Jan 2021	905	12000	4000	2400e	0.33
S11	05 Jan 2021	855	<20	<2	4e	0.10
S11	12 Jan 2021	1058	<20	2e	8e	0.10
S11	19 Jan 2021	915	10e	2e	2e	0.20
S11	26 Jan 2021	1000	<200	2e	42	0.01
S12	05 Jan 2021	925	2e	<2	<2	1.00
S12	12 Jan 2021	1030	4e	<2	<2	0.50
S12	19 Jan 2021	940	20e	<2	<2	0.10
S12	26 Jan 2021	1025	20e	<2	4e	0.10

ns = not sampled

ND = no data

Comments

Station	Date	Depth	Parameter	Comments
S4	07 Jan 2021			Resample
S5	07 Jan 2021			Resample
S10	07 Jan 2021			Resample
S10	08 Jan 2021			Resample
S5	08 Jan 2021			Resample
S4	08 Jan 2021			Resample
S4	10 Jan 2021			Resample
S5	10 Jan 2021			Resample
S10	10 Jan 2021			Resample
S5	14 Jan 2021			Resample
S5	28 Jan 2021			Resample
S10	28 Jan 2021			Resample
S10	30 Jan 2021			Resample
S5	30 Jan 2021			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 Jan 2021	Arrive Time	1145
S0	05 Jan 2021	Weather	Sunny
S0	05 Jan 2021	Wind Speed (kts)	9.1
S0	05 Jan 2021	Wind Dir	NW
S0	05 Jan 2021	Animal Life	15 Shorebirds
S0	05 Jan 2021	Floatables	None
S0	05 Jan 2021	Water Color	Grey
S0	05 Jan 2021	Current Direction	S
S0	05 Jan 2021	Water Temp (C)	14
S0	05 Jan 2021	Wave Height Low (ft)	3
S0	05 Jan 2021	High Tide (ft)	3.85
S0	05 Jan 2021	High Tide Time	1313
S0	05 Jan 2021	Low Tide (ft)	2.19
S0	05 Jan 2021	Low Tide Time	754
S0	05 Jan 2021	Comments	Kelp; Water turbid; Stagnant black water on the beach; No flow from storm drain
S0	12 Jan 2021	Arrive Time	1140
S0	12 Jan 2021	Weather	Sunny
S0	12 Jan 2021	Wind Speed (kts)	3.4
S0	12 Jan 2021	Wind Dir	SW
S0	12 Jan 2021	Animal Life	15 Shorebirds
S0	12 Jan 2021	Floatables	None
S0	12 Jan 2021	Water Color	Green
S0	12 Jan 2021	Current Direction	S
S0	12 Jan 2021	Water Temp (C)	15
S0	12 Jan 2021	Wave Height Low (ft)	4
S0	12 Jan 2021	High Tide (ft)	6.6
S0	12 Jan 2021	High Tide Time	747
S0	12 Jan 2021	Low Tide (ft)	1.77
S0	12 Jan 2021	Low Tide Time	137
S0	12 Jan 2021	Comments	5.0 L/sec water flowing from storm drain; Kelp; Water turbid; Garbage on the beach
S0	19 Jan 2021	Arrive Time	910
S0	19 Jan 2021	Weather	Partly Cloudy
S0	19 Jan 2021	Wind Speed (kts)	2.1
S0	19 Jan 2021	Wind Dir	NE
S0	19 Jan 2021	Animal Life	20 Shorebirds; 3 Dogs
S0	19 Jan 2021	Floatables	None
S0	19 Jan 2021	Water Color	Green
S0	19 Jan 2021	Current Direction	N
S0	19 Jan 2021	Water Temp (C)	14
S0	19 Jan 2021	Wave Height Low (ft)	3
S0	19 Jan 2021	High Tide (ft)	3.25
S0	19 Jan 2021	High Tide Time	1304
S0	19 Jan 2021	Low Tide (ft)	2.14
S0	19 Jan 2021	Low Tide Time	751
S0	19 Jan 2021	Comments	0.5 L/sec water flowing from storm drain; Kelp; 10 Persons; 3 Surfers; 5 Boats; Water clear
S0	26 Jan 2021	Arrive Time	900
S0	26 Jan 2021	Weather	Cloudy
S0	26 Jan 2021	Wind Speed (kts)	10.5
S0	26 Jan 2021	Wind Dir	NE
S0	26 Jan 2021	Animal Life	20 Shorebirds

Station	Date	Parameter	Value
S0	26 Jan 2021	Floatables	None
S0	26 Jan 2021	Water Color	Green
S0	26 Jan 2021	Current Direction	S
S0	26 Jan 2021	Water Temp (C)	12
S0	26 Jan 2021	Wave Height Low (ft)	5
S0	26 Jan 2021	High Tide (ft)	5.72
S0	26 Jan 2021	High Tide Time	700
S0	26 Jan 2021	Low Tide (ft)	-0.88
S0	26 Jan 2021	Low Tide Time	1423
S0	26 Jan 2021	Comments	1.0 L/sec water flowing from storm drain; Kelp; Water clear
S2	05 Jan 2021	Arrive Time	1230
S2	05 Jan 2021	Weather	Cloudy
S2	05 Jan 2021	Wind Speed (kts)	5.2
S2	05 Jan 2021	Wind Dir	NW
S2	05 Jan 2021	Animal Life	20 Shorebirds
S2	05 Jan 2021	Floatables	None
S2	05 Jan 2021	Water Color	Green
S2	05 Jan 2021	Current Direction	S
S2	05 Jan 2021	Water Temp (C)	14
S2	05 Jan 2021	Wave Height Low (ft)	3
S2	05 Jan 2021	High Tide (ft)	3.85
S2	05 Jan 2021	High Tide Time	1313
S2	05 Jan 2021	Low Tide (ft)	2.19
S2	05 Jan 2021	Low Tide Time	754
S2	05 Jan 2021	Comments	Kelp; Water turbid; No flow from storm drain
S2	12 Jan 2021	Arrive Time	1220
S2	12 Jan 2021	Weather	Sunny
S2	12 Jan 2021	Wind Speed (kts)	3.8
S2	12 Jan 2021	Wind Dir	SW
S2	12 Jan 2021	Animal Life	20 Shorebirds; 3 Dogs
S2	12 Jan 2021	Floatables	None
S2	12 Jan 2021	Water Color	Green
S2	12 Jan 2021	Current Direction	S
S2	12 Jan 2021	Water Temp (C)	15
S2	12 Jan 2021	Wave Height Low (ft)	4
S2	12 Jan 2021	High Tide (ft)	6.6
S2	12 Jan 2021	High Tide Time	747
S2	12 Jan 2021	Low Tide (ft)	1.77
S2	12 Jan 2021	Low Tide Time	137
S2	12 Jan 2021	Comments	No flow from storm drain; Kelp; 2 Persons; Water turbid
S2	19 Jan 2021	Arrive Time	1015
S2	19 Jan 2021	Weather	Partly Cloudy
S2	19 Jan 2021	Wind Speed (kts)	2
S2	19 Jan 2021	Wind Dir	NE
S2	19 Jan 2021	Animal Life	10 Shorebirds
S2	19 Jan 2021	Floatables	None
S2	19 Jan 2021	Water Color	Green
S2	19 Jan 2021	Current Direction	N
S2	19 Jan 2021	Water Temp (C)	14
S2	19 Jan 2021	Wave Height Low (ft)	3
S2	19 Jan 2021	High Tide (ft)	3.25
S2	19 Jan 2021	High Tide Time	1304
S2	19 Jan 2021	Low Tide (ft)	2.14
S2	19 Jan 2021	Low Tide Time	751
S2	19 Jan 2021	Comments	No flow from storm drain; Kelp; 3 Persons; 5 Boats; Water clear
S2	26 Jan 2021	Arrive Time	1010

Station	Date	Parameter	Value
S2	26 Jan 2021	Weather	Cloudy
S2	26 Jan 2021	Wind Speed (kts)	10.5
S2	26 Jan 2021	Wind Dir	NE
S2	26 Jan 2021	Animal Life	20 Shorebirds
S2	26 Jan 2021	Floatables	None
S2	26 Jan 2021	Water Color	Green
S2	26 Jan 2021	Current Direction	S
S2	26 Jan 2021	Water Temp (C)	12
S2	26 Jan 2021	Wave Height Low (ft)	5
S2	26 Jan 2021	High Tide (ft)	5.72
S2	26 Jan 2021	High Tide Time	700
S2	26 Jan 2021	Low Tide (ft)	-0.88
S2	26 Jan 2021	Low Tide Time	1423
S2	26 Jan 2021	Comments	No flow from storm drain; Kelp; Water clear
S3	05 Jan 2021	Arrive Time	1250
S3	05 Jan 2021	Weather	Cloudy
S3	05 Jan 2021	Wind Speed (kts)	2.4
S3	05 Jan 2021	Wind Dir	NW
S3	05 Jan 2021	Animal Life	15 Shorebirds
S3	05 Jan 2021	Floatables	None
S3	05 Jan 2021	Water Color	Green
S3	05 Jan 2021	Current Direction	S
S3	05 Jan 2021	Water Temp (C)	14
S3	05 Jan 2021	Wave Height Low (ft)	3
S3	05 Jan 2021	High Tide (ft)	3.85
S3	05 Jan 2021	High Tide Time	1313
S3	05 Jan 2021	Low Tide (ft)	2.19
S3	05 Jan 2021	Low Tide Time	754
S3	05 Jan 2021	Comments	Kelp; Water turbid; Flow from storm drain is 0.5 L/sec
S3	12 Jan 2021	Arrive Time	1245
S3	12 Jan 2021	Weather	Sunny
S3	12 Jan 2021	Wind Speed (kts)	2.1
S3	12 Jan 2021	Wind Dir	SW
S3	12 Jan 2021	Animal Life	15 Shorebirds
S3	12 Jan 2021	Floatables	None
S3	12 Jan 2021	Water Color	Green
S3	12 Jan 2021	Current Direction	S
S3	12 Jan 2021	Water Temp (C)	15
S3	12 Jan 2021	Wave Height Low (ft)	3
S3	12 Jan 2021	High Tide (ft)	6.6
S3	12 Jan 2021	High Tide Time	747
S3	12 Jan 2021	Low Tide (ft)	1.77
S3	12 Jan 2021	Low Tide Time	137
S3	12 Jan 2021	Comments	0.5 L/sec water flowing from storm drain; Kelp; Water turbid
S3	19 Jan 2021	Arrive Time	945
S3	19 Jan 2021	Weather	Partly Cloudy
S3	19 Jan 2021	Wind Speed (kts)	2.5
S3	19 Jan 2021	Wind Dir	NE
S3	19 Jan 2021	Animal Life	10 Shorebirds
S3	19 Jan 2021	Floatables	None
S3	19 Jan 2021	Water Color	Green
S3	19 Jan 2021	Current Direction	N
S3	19 Jan 2021	Water Temp (C)	14
S3	19 Jan 2021	Wave Height Low (ft)	3
S3	19 Jan 2021	High Tide (ft)	3.25
S3	19 Jan 2021	High Tide Time	1304
S3	19 Jan 2021	Low Tide (ft)	2.14
S3	19 Jan 2021	Low Tide Time	751

Station	Date	Parameter	Value
S3	19 Jan 2021	Comments	No flow from storm drain; Kelp; 5 Boats; Water clear
S3	26 Jan 2021	Arrive Time	935
S3	26 Jan 2021	Weather	Cloudy
S3	26 Jan 2021	Wind Speed (kts)	10.3
S3	26 Jan 2021	Wind Dir	NE
S3	26 Jan 2021	Animal Life	20 Shorebirds
S3	26 Jan 2021	Floatables	None
S3	26 Jan 2021	Water Color	Green
S3	26 Jan 2021	Current Direction	S
S3	26 Jan 2021	Water Temp (C)	12
S3	26 Jan 2021	Wave Height Low (ft)	5
S3	26 Jan 2021	High Tide (ft)	5.72
S3	26 Jan 2021	High Tide Time	700
S3	26 Jan 2021	Low Tide (ft)	-0.88
S3	26 Jan 2021	Low Tide Time	1423
S3	26 Jan 2021	Comments	No flow from storm drain; Kelp; Water clear
S4	05 Jan 2021	Arrive Time	1005
S4	05 Jan 2021	Weather	Partly Cloudy
S4	05 Jan 2021	Wind Speed (kts)	4.6
S4	05 Jan 2021	Wind Dir	N
S4	05 Jan 2021	Animal Life	1 Cormorant
S4	05 Jan 2021	Floatables	None
S4	05 Jan 2021	Water Color	Green
S4	05 Jan 2021	Current Direction	S
S4	05 Jan 2021	Water Temp (C)	13.8
S4	05 Jan 2021	Wave Height Low (ft)	5
S4	05 Jan 2021	High Tide (ft)	3.85
S4	05 Jan 2021	High Tide Time	1313
S4	05 Jan 2021	Low Tide (ft)	2.19
S4	05 Jan 2021	Low Tide Time	754
S4	05 Jan 2021	Comments	Derbis-1; Water turbid
S4	07 Jan 2021	Arrive Time	1034
S4	07 Jan 2021	Weather	Partly Cloudy
S4	07 Jan 2021	Wind Speed (kts)	2.7
S4	07 Jan 2021	Wind Dir	W
S4	07 Jan 2021	Animal Life	2 Cormorants; 2 Seagulls
S4	07 Jan 2021	Floatables	Foam; Film; Laundry Detergent
S4	07 Jan 2021	Water Color	Brown
S4	07 Jan 2021	Current Direction	S
S4	07 Jan 2021	Water Temp (C)	14.9
S4	07 Jan 2021	Wave Height Low (ft)	3
S4	07 Jan 2021	High Tide (ft)	3.12
S4	07 Jan 2021	High Tide Time	1632
S4	07 Jan 2021	Low Tide (ft)	0.94
S4	07 Jan 2021	Low Tide Time	1054
S4	07 Jan 2021	Comments	Resample; Sewage-like odor; Water clear
S4	08 Jan 2021	Arrive Time	1020
S4	08 Jan 2021	Weather	Sunny
S4	08 Jan 2021	Wind Speed (kts)	4
S4	08 Jan 2021	Wind Dir	NW
S4	08 Jan 2021	Animal Life	3 Seagulls; 2 Godwits; 1 Cormorant
S4	08 Jan 2021	Floatables	None
S4	08 Jan 2021	Water Color	Brown
S4	08 Jan 2021	Current Direction	S
S4	08 Jan 2021	Water Temp (C)	14
S4	08 Jan 2021	Wave Height Low (ft)	3
S4	08 Jan 2021	High Tide (ft)	5.45

Station	Date	Parameter	Value
S4	08 Jan 2021	High Tide Time	441
S4	08 Jan 2021	Low Tide (ft)	0.12
S4	08 Jan 2021	Low Tide Time	1159
S4	08 Jan 2021	Comments	Resample; Water turbid
S4	10 Jan 2021	Arrive Time	1037
S4	10 Jan 2021	Weather	Sunny
S4	10 Jan 2021	Wind Speed (kts)	3.4
S4	10 Jan 2021	Wind Dir	NW
S4	10 Jan 2021	Animal Life	2 Seagulls; 4 Godwits; 8 Grebes
S4	10 Jan 2021	Floatables	Foam
S4	10 Jan 2021	Water Color	Green
S4	10 Jan 2021	Current Direction	S
S4	10 Jan 2021	Water Temp (C)	15.5
S4	10 Jan 2021	Wave Height Low (ft)	5
S4	10 Jan 2021	High Tide (ft)	6.27
S4	10 Jan 2021	High Tide Time	616
S4	10 Jan 2021	Low Tide (ft)	-1.19
S4	10 Jan 2021	Low Tide Time	1341
S4	10 Jan 2021	Comments	Resample; Debris-1; Water turbid
S4	12 Jan 2021	Arrive Time	950
S4	12 Jan 2021	Weather	Sunny
S4	12 Jan 2021	Wind Speed (kts)	7.1
S4	12 Jan 2021	Wind Dir	NE
S4	12 Jan 2021	Animal Life	1 Tern
S4	12 Jan 2021	Floatables	Foam
S4	12 Jan 2021	Water Color	Green
S4	12 Jan 2021	Current Direction	S
S4	12 Jan 2021	Water Temp (C)	13.8
S4	12 Jan 2021	Wave Height Low (ft)	6
S4	12 Jan 2021	High Tide (ft)	6.6
S4	12 Jan 2021	High Tide Time	747
S4	12 Jan 2021	Low Tide (ft)	1.77
S4	12 Jan 2021	Low Tide Time	137
S4	12 Jan 2021	Comments	Water turbid
S4	19 Jan 2021	Arrive Time	800
S4	19 Jan 2021	Weather	Hazy
S4	19 Jan 2021	Wind Speed (kts)	4.8
S4	19 Jan 2021	Wind Dir	NE
S4	19 Jan 2021	Animal Life	None
S4	19 Jan 2021	Floatables	Foam; Film
S4	19 Jan 2021	Water Color	Green
S4	19 Jan 2021	Current Direction	S
S4	19 Jan 2021	Water Temp (C)	14.6
S4	19 Jan 2021	Wave Height Low (ft)	6
S4	19 Jan 2021	High Tide (ft)	3.25
S4	19 Jan 2021	High Tide Time	1304
S4	19 Jan 2021	Low Tide (ft)	2.14
S4	19 Jan 2021	Low Tide Time	751
S4	19 Jan 2021	Comments	Water turbid
S4	26 Jan 2021	Arrive Time	823
S4	26 Jan 2021	Weather	Partly Cloudy
S4	26 Jan 2021	Wind Speed (kts)	6.9
S4	26 Jan 2021	Wind Dir	W
S4	26 Jan 2021	Animal Life	25 Plovers
S4	26 Jan 2021	Floatables	Extreme Foam; Film
S4	26 Jan 2021	Water Color	Brown
S4	26 Jan 2021	Current Direction	S

Station	Date	Parameter	Value
S4	26 Jan 2021	Water Temp (C)	13.9
S4	26 Jan 2021	Wave Height Low (ft)	8
S4	26 Jan 2021	High Tide (ft)	5.72
S4	26 Jan 2021	High Tide Time	700
S4	26 Jan 2021	Low Tide (ft)	-0.88
S4	26 Jan 2021	Low Tide Time	1423
S4	26 Jan 2021	Comments	Sewage-like odor; Debris-2; Water clear
S5	05 Jan 2021	Arrive Time	840
S5	05 Jan 2021	Weather	Cloudy
S5	05 Jan 2021	Wind Speed (kts)	5.6
S5	05 Jan 2021	Wind Dir	E
S5	05 Jan 2021	Animal Life	2 Terns; 5 Seagulls; 1 Godwit
S5	05 Jan 2021	Floatables	None
S5	05 Jan 2021	Water Color	Brown
S5	05 Jan 2021	Current Direction	S
S5	05 Jan 2021	Water Temp (C)	13.5
S5	05 Jan 2021	Wave Height Low (ft)	4
S5	05 Jan 2021	High Tide (ft)	3.85
S5	05 Jan 2021	High Tide Time	1313
S5	05 Jan 2021	Low Tide (ft)	2.19
S5	05 Jan 2021	Low Tide Time	754
S5	05 Jan 2021	Comments	Sewage-like odor; 1 Person; Water turbid
S5	07 Jan 2021	Arrive Time	942
S5	07 Jan 2021	Weather	Partly Cloudy
S5	07 Jan 2021	Wind Speed (kts)	0.5
S5	07 Jan 2021	Wind Dir	S
S5	07 Jan 2021	Animal Life	12 Seagulls; 6 Plovers; 2 Godwits
S5	07 Jan 2021	Floatables	Foam; Film; Laundry Detergent
S5	07 Jan 2021	Water Color	Green
S5	07 Jan 2021	Current Direction	S
S5	07 Jan 2021	Water Temp (C)	15.7
S5	07 Jan 2021	Wave Height Low (ft)	5
S5	07 Jan 2021	High Tide (ft)	3.12
S5	07 Jan 2021	High Tide Time	1632
S5	07 Jan 2021	Low Tide (ft)	0.94
S5	07 Jan 2021	Low Tide Time	1054
S5	07 Jan 2021	Comments	Resample; Debris-1; 6 Persons; Water clear
S5	08 Jan 2021	Arrive Time	1100
S5	08 Jan 2021	Weather	Sunny
S5	08 Jan 2021	Wind Speed (kts)	7.3
S5	08 Jan 2021	Wind Dir	NW
S5	08 Jan 2021	Animal Life	55 Seagulls; 4 Grebes; 3 Terns; 11 Pelicans
S5	08 Jan 2021	Floatables	None
S5	08 Jan 2021	Water Color	Brown
S5	08 Jan 2021	Current Direction	S
S5	08 Jan 2021	Water Temp (C)	16.4
S5	08 Jan 2021	Wave Height Low (ft)	2
S5	08 Jan 2021	High Tide (ft)	5.45
S5	08 Jan 2021	High Tide Time	441
S5	08 Jan 2021	Low Tide (ft)	0.12
S5	08 Jan 2021	Low Tide Time	1159
S5	08 Jan 2021	Comments	Resample; 3 Persons; Water turbid
S5	10 Jan 2021	Arrive Time	1114
S5	10 Jan 2021	Weather	Sunny
S5	10 Jan 2021	Wind Speed (kts)	5.2
S5	10 Jan 2021	Wind Dir	NW
S5	10 Jan 2021	Animal Life	25 Seagulls; 13 Pelicans

Station	Date	Parameter	Value
S5	10 Jan 2021	Floatables	Foam
S5	10 Jan 2021	Water Color	Brown
S5	10 Jan 2021	Current Direction	S
S5	10 Jan 2021	Water Temp (C)	16
S5	10 Jan 2021	Wave Height Low (ft)	3
S5	10 Jan 2021	High Tide (ft)	6.27
S5	10 Jan 2021	High Tide Time	616
S5	10 Jan 2021	Low Tide (ft)	-1.19
S5	10 Jan 2021	Low Tide Time	1341
S5	10 Jan 2021	Comments	Resample; Sewage-like odor; 3 Persons; Water turbid
S5	12 Jan 2021	Arrive Time	1048
S5	12 Jan 2021	Weather	Sunny
S5	12 Jan 2021	Wind Speed (kts)	6.4
S5	12 Jan 2021	Wind Dir	NE
S5	12 Jan 2021	Animal Life	1 Godwit; 12 Seagulls; 2 Pelicans; 125 Terns; 1 Seal
S5	12 Jan 2021	Floatables	Foam
S5	12 Jan 2021	Water Color	Green
S5	12 Jan 2021	Current Direction	S
S5	12 Jan 2021	Water Temp (C)	16
S5	12 Jan 2021	Wave Height Low (ft)	3
S5	12 Jan 2021	High Tide (ft)	6.6
S5	12 Jan 2021	High Tide Time	747
S5	12 Jan 2021	Low Tide (ft)	1.77
S5	12 Jan 2021	Low Tide Time	137
S5	12 Jan 2021	Comments	Water turbid
S5	14 Jan 2021	Arrive Time	935
S5	14 Jan 2021	Weather	Sunny
S5	14 Jan 2021	Wind Speed (kts)	3.3
S5	14 Jan 2021	Wind Dir	NW
S5	14 Jan 2021	Animal Life	24 Seagulls; 5 Terns; 32 Plovers
S5	14 Jan 2021	Floatables	Foam; Film
S5	14 Jan 2021	Water Color	Green
S5	14 Jan 2021	Current Direction	N
S5	14 Jan 2021	Water Temp (C)	14.3
S5	14 Jan 2021	Wave Height Low (ft)	6
S5	14 Jan 2021	High Tide (ft)	6.25
S5	14 Jan 2021	High Tide Time	912
S5	14 Jan 2021	Low Tide (ft)	1.74
S5	14 Jan 2021	Low Tide Time	308
S5	14 Jan 2021	Comments	Resample; Kelp; Seagrass; Debris-1; 2 Persons
S5	19 Jan 2021	Arrive Time	855
S5	19 Jan 2021	Weather	Hazy
S5	19 Jan 2021	Wind Speed (kts)	3.4
S5	19 Jan 2021	Wind Dir	E
S5	19 Jan 2021	Animal Life	4 Godwits; 1 Plover
S5	19 Jan 2021	Floatables	Foam; Film
S5	19 Jan 2021	Water Color	Green
S5	19 Jan 2021	Current Direction	N
S5	19 Jan 2021	Water Temp (C)	15
S5	19 Jan 2021	Wave Height Low (ft)	3
S5	19 Jan 2021	High Tide (ft)	3.25
S5	19 Jan 2021	High Tide Time	1304
S5	19 Jan 2021	Low Tide (ft)	2.14
S5	19 Jan 2021	Low Tide Time	751
S5	19 Jan 2021	Comments	Kelp; Seagrass; Water clear
S5	26 Jan 2021	Arrive Time	930
S5	26 Jan 2021	Weather	Partly Cloudy

Station	Date	Parameter	Value
S5	26 Jan 2021	Wind Speed (kts)	10.6
S5	26 Jan 2021	Wind Dir	NW
S5	26 Jan 2021	Animal Life	4 Plovers; 24 Seagulls; 1 Pelican
S5	26 Jan 2021	Floatables	Foam; Film
S5	26 Jan 2021	Water Color	Green
S5	26 Jan 2021	Current Direction	S
S5	26 Jan 2021	Water Temp (C)	14
S5	26 Jan 2021	Wave Height Low (ft)	10
S5	26 Jan 2021	High Tide (ft)	5.72
S5	26 Jan 2021	High Tide Time	700
S5	26 Jan 2021	Low Tide (ft)	-0.88
S5	26 Jan 2021	Low Tide Time	1423
S5	26 Jan 2021	Comments	Kelp; Sewage-like odor; 1 Person; Water turbid
S5	28 Jan 2021	Arrive Time	945
S5	28 Jan 2021	Weather	Sunny
S5	28 Jan 2021	Wind Speed (kts)	4.4
S5	28 Jan 2021	Wind Dir	SW
S5	28 Jan 2021	Animal Life	21 Seagulls; 21 Terns
S5	28 Jan 2021	Floatables	Foam; Film
S5	28 Jan 2021	Water Color	Green
S5	28 Jan 2021	Current Direction	N
S5	28 Jan 2021	Water Temp (C)	14.3
S5	28 Jan 2021	Wave Height Low (ft)	4
S5	28 Jan 2021	High Tide (ft)	6.15
S5	28 Jan 2021	High Tide Time	814
S5	28 Jan 2021	Low Tide (ft)	-1.23
S5	28 Jan 2021	Low Tide Time	1528
S5	28 Jan 2021	Comments	Resample; Kelp; Water clear
S5	30 Jan 2021	Arrive Time	950
S5	30 Jan 2021	Weather	Sunny
S5	30 Jan 2021	Wind Speed (kts)	6.2
S5	30 Jan 2021	Wind Dir	SE
S5	30 Jan 2021	Animal Life	32 Terns; 13 Seagulls
S5	30 Jan 2021	Floatables	Foam
S5	30 Jan 2021	Water Color	Green
S5	30 Jan 2021	Current Direction	S
S5	30 Jan 2021	Water Temp (C)	15.1
S5	30 Jan 2021	Wave Height Low (ft)	4
S5	30 Jan 2021	High Tide (ft)	5.98
S5	30 Jan 2021	High Tide Time	930
S5	30 Jan 2021	Low Tide (ft)	1.47
S5	30 Jan 2021	Low Tide Time	329
S5	30 Jan 2021	Comments	Resample; Kelp; Seagrass; Debris-1, 1 Person; Water turbid
S6	05 Jan 2021	Arrive Time	905
S6	05 Jan 2021	Weather	Cloudy
S6	05 Jan 2021	Wind Speed (kts)	1.9
S6	05 Jan 2021	Wind Dir	NE
S6	05 Jan 2021	Animal Life	2 Terns; 5 Seagulls
S6	05 Jan 2021	Floatables	None
S6	05 Jan 2021	Water Color	Gray
S6	05 Jan 2021	Current Direction	S
S6	05 Jan 2021	Water Temp (C)	13.6
S6	05 Jan 2021	Wave Height Low (ft)	4
S6	05 Jan 2021	High Tide (ft)	3.85
S6	05 Jan 2021	High Tide Time	1313
S6	05 Jan 2021	Low Tide (ft)	2.19
S6	05 Jan 2021	Low Tide Time	754
S6	05 Jan 2021	Comments	Seagrass; Clear

Station	Date	Parameter	Value
S6	12 Jan 2021	Arrive Time	1105
S6	12 Jan 2021	Weather	Sunny
S6	12 Jan 2021	Wind Speed (kts)	5.2
S6	12 Jan 2021	Wind Dir	N
S6	12 Jan 2021	Animal Life	6 Godwits
S6	12 Jan 2021	Floatables	Foam
S6	12 Jan 2021	Water Color	Green
S6	12 Jan 2021	Current Direction	S
S6	12 Jan 2021	Water Temp (C)	14.5
S6	12 Jan 2021	Wave Height Low (ft)	4
S6	12 Jan 2021	High Tide (ft)	6.6
S6	12 Jan 2021	High Tide Time	747
S6	12 Jan 2021	Low Tide (ft)	1.77
S6	12 Jan 2021	Low Tide Time	137
S6	12 Jan 2021	Comments	10 Persons; 3 Surfers; Water clear
S6	19 Jan 2021	Arrive Time	925
S6	19 Jan 2021	Weather	Partly Cloudy
S6	19 Jan 2021	Wind Speed (kts)	1.5
S6	19 Jan 2021	Wind Dir	NE
S6	19 Jan 2021	Animal Life	2 Dogs; 1 Godwit
S6	19 Jan 2021	Floatables	Foam
S6	19 Jan 2021	Water Color	Green
S6	19 Jan 2021	Current Direction	S
S6	19 Jan 2021	Water Temp (C)	16.7
S6	19 Jan 2021	Wave Height Low (ft)	5
S6	19 Jan 2021	High Tide (ft)	3.25
S6	19 Jan 2021	High Tide Time	1304
S6	19 Jan 2021	Low Tide (ft)	2.14
S6	19 Jan 2021	Low Tide Time	751
S6	19 Jan 2021	Comments	10 Surfers; 13 Persons; Water clear
S6	26 Jan 2021	Arrive Time	1010
S6	26 Jan 2021	Weather	Partly Cloudy
S6	26 Jan 2021	Wind Speed (kts)	10.6
S6	26 Jan 2021	Wind Dir	W
S6	26 Jan 2021	Animal Life	5 Godwits; 7 Seagulls
S6	26 Jan 2021	Floatables	Foam; Film
S6	26 Jan 2021	Water Color	Green
S6	26 Jan 2021	Current Direction	S
S6	26 Jan 2021	Water Temp (C)	13.9
S6	26 Jan 2021	Wave Height Low (ft)	6
S6	26 Jan 2021	High Tide (ft)	5.72
S6	26 Jan 2021	High Tide Time	700
S6	26 Jan 2021	Low Tide (ft)	-0.88
S6	26 Jan 2021	Low Tide Time	1423
S6	26 Jan 2021	Comments	Kelp; Water clear
S8	05 Jan 2021	Arrive Time	1110
S8	05 Jan 2021	Weather	Cloudy
S8	05 Jan 2021	Wind Speed (kts)	4
S8	05 Jan 2021	Wind Dir	NW
S8	05 Jan 2021	Animal Life	1 Seagull; 5 Cormorants
S8	05 Jan 2021	Floatables	None
S8	05 Jan 2021	Water Color	Gray
S8	05 Jan 2021	Current Direction	S
S8	05 Jan 2021	Water Temp (C)	14.7
S8	05 Jan 2021	Wave Height Low (ft)	3
S8	05 Jan 2021	High Tide (ft)	3.85
S8	05 Jan 2021	High Tide Time	1313

Station	Date	Parameter	Value
S8	05 Jan 2021	Low Tide (ft)	2.19
S8	05 Jan 2021	Low Tide Time	754
S8	05 Jan 2021	Comments	Water turbid
S8	12 Jan 2021	Arrive Time	822
S8	12 Jan 2021	Weather	Sunny
S8	12 Jan 2021	Wind Speed (kts)	2.4
S8	12 Jan 2021	Wind Dir	E
S8	12 Jan 2021	Animal Life	80 Cormorants; 1 Pelican; 1 Seagull
S8	12 Jan 2021	Floatables	Foam
S8	12 Jan 2021	Water Color	Green
S8	12 Jan 2021	Current Direction	S
S8	12 Jan 2021	Water Temp (C)	12.3
S8	12 Jan 2021	Wave Height Low (ft)	4
S8	12 Jan 2021	High Tide (ft)	6.6
S8	12 Jan 2021	High Tide Time	747
S8	12 Jan 2021	Low Tide (ft)	1.77
S8	12 Jan 2021	Low Tide Time	137
S8	12 Jan 2021	Comments	Water turbid
S8	19 Jan 2021	Arrive Time	1000
S8	19 Jan 2021	Weather	Cloudy
S8	19 Jan 2021	Wind Speed (kts)	5
S8	19 Jan 2021	Wind Dir	E
S8	19 Jan 2021	Animal Life	60 Plovers; 40 Grebes
S8	19 Jan 2021	Floatables	Foam
S8	19 Jan 2021	Water Color	Green
S8	19 Jan 2021	Current Direction	N
S8	19 Jan 2021	Water Temp (C)	16
S8	19 Jan 2021	Wave Height Low (ft)	4
S8	19 Jan 2021	High Tide (ft)	3.25
S8	19 Jan 2021	High Tide Time	1304
S8	19 Jan 2021	Low Tide (ft)	2.14
S8	19 Jan 2021	Low Tide Time	751
S8	19 Jan 2021	Comments	Kelp; Seagrass; Water clear
S8	26 Jan 2021	Arrive Time	805
S8	26 Jan 2021	Weather	Partly Cloudy
S8	26 Jan 2021	Wind Speed (kts)	6.9
S8	26 Jan 2021	Wind Dir	W
S8	26 Jan 2021	Animal Life	1 Plover; 6 Cormorants
S8	26 Jan 2021	Floatables	Foam; Film
S8	26 Jan 2021	Water Color	Brown
S8	26 Jan 2021	Current Direction	S
S8	26 Jan 2021	Water Temp (C)	9
S8	26 Jan 2021	Wave Height Low (ft)	6
S8	26 Jan 2021	High Tide (ft)	5.72
S8	26 Jan 2021	High Tide Time	700
S8	26 Jan 2021	Low Tide (ft)	-0.88
S8	26 Jan 2021	Low Tide Time	1423
S8	26 Jan 2021	Comments	Debris; Kelp; Seagrass; Water turbid
S9	05 Jan 2021	Arrive Time	1130
S9	05 Jan 2021	Weather	Cloudy
S9	05 Jan 2021	Wind Speed (kts)	3.6
S9	05 Jan 2021	Wind Dir	NW
S9	05 Jan 2021	Animal Life	4 Seagulls
S9	05 Jan 2021	Floatables	None
S9	05 Jan 2021	Water Color	Gray
S9	05 Jan 2021	Current Direction	S
S9	05 Jan 2021	Water Temp (C)	14.6

Station	Date	Parameter	Value
S9	05 Jan 2021	Wave Height Low (ft)	2
S9	05 Jan 2021	High Tide (ft)	3.85
S9	05 Jan 2021	High Tide Time	1313
S9	05 Jan 2021	Low Tide (ft)	2.19
S9	05 Jan 2021	Low Tide Time	754
S9	05 Jan 2021	Comments	3 Persons; Water turbid
S9	12 Jan 2021	Arrive Time	800
S9	12 Jan 2021	Weather	Sunny
S9	12 Jan 2021	Wind Speed (kts)	1.5
S9	12 Jan 2021	Wind Dir	N
S9	12 Jan 2021	Animal Life	4 Seagulls
S9	12 Jan 2021	Floatables	Foam
S9	12 Jan 2021	Water Color	Green
S9	12 Jan 2021	Current Direction	S
S9	12 Jan 2021	Water Temp (C)	13
S9	12 Jan 2021	Wave Height Low (ft)	5
S9	12 Jan 2021	High Tide (ft)	6.6
S9	12 Jan 2021	High Tide Time	747
S9	12 Jan 2021	Low Tide (ft)	1.77
S9	12 Jan 2021	Low Tide Time	137
S9	12 Jan 2021	Comments	2 Persons; Water turbid
S9	19 Jan 2021	Arrive Time	1020
S9	19 Jan 2021	Weather	Cloudy
S9	19 Jan 2021	Wind Speed (kts)	0.5
S9	19 Jan 2021	Wind Dir	SW
S9	19 Jan 2021	Animal Life	None
S9	19 Jan 2021	Floatables	Foam; Film
S9	19 Jan 2021	Water Color	Green
S9	19 Jan 2021	Current Direction	N
S9	19 Jan 2021	Water Temp (C)	15.8
S9	19 Jan 2021	Wave Height Low (ft)	5
S9	19 Jan 2021	High Tide (ft)	3.25
S9	19 Jan 2021	High Tide Time	1304
S9	19 Jan 2021	Low Tide (ft)	2.14
S9	19 Jan 2021	Low Tide Time	751
S9	19 Jan 2021	Comments	Kelp; Seagrass; 1 Jogger; 3 Persons; Water clear
S9	26 Jan 2021	Arrive Time	740
S9	26 Jan 2021	Weather	Partly Cloudy
S9	26 Jan 2021	Wind Speed (kts)	2.9
S9	26 Jan 2021	Wind Dir	N
S9	26 Jan 2021	Animal Life	2 Godwits; 2 Seagulls; 8 Pelicans
S9	26 Jan 2021	Floatables	Foam; Film
S9	26 Jan 2021	Water Color	Brown
S9	26 Jan 2021	Current Direction	S
S9	26 Jan 2021	Water Temp (C)	11
S9	26 Jan 2021	Wave Height Low (ft)	6
S9	26 Jan 2021	High Tide (ft)	5.72
S9	26 Jan 2021	High Tide Time	700
S9	26 Jan 2021	Low Tide (ft)	-0.88
S9	26 Jan 2021	Low Tide Time	1423
S9	26 Jan 2021	Comments	Debris; Kelp; Seagrass; Water turbid
S10	05 Jan 2021	Arrive Time	955
S10	05 Jan 2021	Weather	Partly Cloudy
S10	05 Jan 2021	Wind Speed (kts)	5.4
S10	05 Jan 2021	Wind Dir	N
S10	05 Jan 2021	Animal Life	None
S10	05 Jan 2021	Floatables	None

Station	Date	Parameter	Value
S10	05 Jan 2021	Water Color	Green
S10	05 Jan 2021	Current Direction	S
S10	05 Jan 2021	Water Temp (C)	13.5
S10	05 Jan 2021	Wave Height Low (ft)	4
S10	05 Jan 2021	High Tide (ft)	3.85
S10	05 Jan 2021	High Tide Time	1313
S10	05 Jan 2021	Low Tide (ft)	2.19
S10	05 Jan 2021	Low Tide Time	754
S10	05 Jan 2021	Comments	Debris-1; Water clear
S10	07 Jan 2021	Arrive Time	1017
S10	07 Jan 2021	Weather	Partly Cloudy
S10	07 Jan 2021	Wind Speed (kts)	0.5
S10	07 Jan 2021	Wind Dir	W
S10	07 Jan 2021	Animal Life	2 Seagulls
S10	07 Jan 2021	Floatables	Foam; Film; Laundry Detergent
S10	07 Jan 2021	Water Color	Brown
S10	07 Jan 2021	Current Direction	S
S10	07 Jan 2021	Water Temp (C)	15.6
S10	07 Jan 2021	Wave Height Low (ft)	3
S10	07 Jan 2021	High Tide (ft)	3.12
S10	07 Jan 2021	High Tide Time	1632
S10	07 Jan 2021	Low Tide (ft)	0.94
S10	07 Jan 2021	Low Tide Time	1054
S10	07 Jan 2021	Comments	Resample; Sewage-like odor; Seagrass; Water clear
S10	08 Jan 2021	Arrive Time	1005
S10	08 Jan 2021	Weather	Sunny
S10	08 Jan 2021	Wind Speed (kts)	0.8
S10	08 Jan 2021	Wind Dir	NE
S10	08 Jan 2021	Animal Life	1 Pelican
S10	08 Jan 2021	Floatables	None
S10	08 Jan 2021	Water Color	Brown
S10	08 Jan 2021	Current Direction	S
S10	08 Jan 2021	Water Temp (C)	14.9
S10	08 Jan 2021	Wave Height Low (ft)	3
S10	08 Jan 2021	High Tide (ft)	5.45
S10	08 Jan 2021	High Tide Time	441
S10	08 Jan 2021	Low Tide (ft)	0.12
S10	08 Jan 2021	Low Tide Time	1159
S10	08 Jan 2021	Comments	Resample; Water turbid
S10	10 Jan 2021	Arrive Time	1020
S10	10 Jan 2021	Weather	Sunny
S10	10 Jan 2021	Wind Speed (kts)	4.2
S10	10 Jan 2021	Wind Dir	E
S10	10 Jan 2021	Animal Life	2 Godwits; 2 Seagulls; 1 Grebe
S10	10 Jan 2021	Floatables	Foam
S10	10 Jan 2021	Water Color	Green
S10	10 Jan 2021	Current Direction	S
S10	10 Jan 2021	Water Temp (C)	16.4
S10	10 Jan 2021	Wave Height Low (ft)	5
S10	10 Jan 2021	High Tide (ft)	6.27
S10	10 Jan 2021	High Tide Time	616
S10	10 Jan 2021	Low Tide (ft)	-1.19
S10	10 Jan 2021	Low Tide Time	1341
S10	10 Jan 2021	Comments	Resample; Debris-1; Water turbid
S10	12 Jan 2021	Arrive Time	930
S10	12 Jan 2021	Weather	Sunny
S10	12 Jan 2021	Wind Speed (kts)	10.3

Station	Date	Parameter	Value
S10	12 Jan 2021	Wind Dir	E
S10	12 Jan 2021	Animal Life	2 Terns; 1 Pelican; 3 Vultures
S10	12 Jan 2021	Floatables	Foam
S10	12 Jan 2021	Water Color	Green
S10	12 Jan 2021	Current Direction	S
S10	12 Jan 2021	Water Temp (C)	14.9
S10	12 Jan 2021	Wave Height Low (ft)	4
S10	12 Jan 2021	High Tide (ft)	6.6
S10	12 Jan 2021	High Tide Time	747
S10	12 Jan 2021	Low Tide (ft)	1.77
S10	12 Jan 2021	Low Tide Time	137
S10	12 Jan 2021	Comments	2 Persons; Water clear
S10	19 Jan 2021	Arrive Time	815
S10	19 Jan 2021	Weather	Hazy
S10	19 Jan 2021	Wind Speed (kts)	3.4
S10	19 Jan 2021	Wind Dir	N
S10	19 Jan 2021	Animal Life	1 Godwit
S10	19 Jan 2021	Floatables	Foam; Film
S10	19 Jan 2021	Water Color	Green
S10	19 Jan 2021	Current Direction	N
S10	19 Jan 2021	Water Temp (C)	15
S10	19 Jan 2021	Wave Height Low (ft)	6
S10	19 Jan 2021	High Tide (ft)	3.25
S10	19 Jan 2021	High Tide Time	1304
S10	19 Jan 2021	Low Tide (ft)	2.14
S10	19 Jan 2021	Low Tide Time	751
S10	19 Jan 2021	Comments	Water clear
S10	26 Jan 2021	Arrive Time	845
S10	26 Jan 2021	Weather	Partly Cloudy
S10	26 Jan 2021	Wind Speed (kts)	12.4
S10	26 Jan 2021	Wind Dir	W
S10	26 Jan 2021	Animal Life	13 Plovers; 2 Seagulls
S10	26 Jan 2021	Floatables	Foam; Film
S10	26 Jan 2021	Water Color	Green
S10	26 Jan 2021	Current Direction	S
S10	26 Jan 2021	Water Temp (C)	14.3
S10	26 Jan 2021	Wave Height Low (ft)	10
S10	26 Jan 2021	High Tide (ft)	5.72
S10	26 Jan 2021	High Tide Time	700
S10	26 Jan 2021	Low Tide (ft)	-0.88
S10	26 Jan 2021	Low Tide Time	1423
S10	26 Jan 2021	Comments	Sewage-like odor; Debris-4; Water turbid
S10	28 Jan 2021	Arrive Time	900
S10	28 Jan 2021	Weather	Sunny
S10	28 Jan 2021	Wind Speed (kts)	3.3
S10	28 Jan 2021	Wind Dir	W
S10	28 Jan 2021	Animal Life	1 Godwit; 1 Seal; 1 Seagull
S10	28 Jan 2021	Floatables	Foam; Film
S10	28 Jan 2021	Water Color	Green
S10	28 Jan 2021	Current Direction	N
S10	28 Jan 2021	Water Temp (C)	14.2
S10	28 Jan 2021	Wave Height Low (ft)	8
S10	28 Jan 2021	High Tide (ft)	6.15
S10	28 Jan 2021	High Tide Time	814
S10	28 Jan 2021	Low Tide (ft)	-1.23
S10	28 Jan 2021	Low Tide Time	1528
S10	28 Jan 2021	Comments	Resample; Kelp; Seagrass; Debris - 1; Water clear

Station	Date	Parameter	Value
S10	30 Jan 2021	Arrive Time	905
S10	30 Jan 2021	Weather	Sunny
S10	30 Jan 2021	Wind Speed (kts)	2.5
S10	30 Jan 2021	Wind Dir	N
S10	30 Jan 2021	Animal Life	1 Godwit; 1 Pelican
S10	30 Jan 2021	Floatables	None
S10	30 Jan 2021	Water Color	Green
S10	30 Jan 2021	Current Direction	S
S10	30 Jan 2021	Water Temp (C)	15.1
S10	30 Jan 2021	Wave Height Low (ft)	4
S10	30 Jan 2021	High Tide (ft)	5.98
S10	30 Jan 2021	High Tide Time	930
S10	30 Jan 2021	Low Tide (ft)	329
S10	30 Jan 2021	Low Tide Time	329
S10	30 Jan 2021	Comments	Resample; Kelp; Seagrass; Debris-1; Water clear
S11	05 Jan 2021	Arrive Time	855
S11	05 Jan 2021	Weather	Cloudy
S11	05 Jan 2021	Wind Speed (kts)	1.7
S11	05 Jan 2021	Wind Dir	E
S11	05 Jan 2021	Animal Life	1 Dog
S11	05 Jan 2021	Floatables	None
S11	05 Jan 2021	Water Color	Gray
S11	05 Jan 2021	Current Direction	S
S11	05 Jan 2021	Water Temp (C)	14
S11	05 Jan 2021	Wave Height Low (ft)	4
S11	05 Jan 2021	High Tide (ft)	3.85
S11	05 Jan 2021	High Tide Time	1313
S11	05 Jan 2021	Low Tide (ft)	2.19
S11	05 Jan 2021	Low Tide Time	754
S11	05 Jan 2021	Comments	2 Persons; Water clear
S11	12 Jan 2021	Arrive Time	1058
S11	12 Jan 2021	Weather	Sunny
S11	12 Jan 2021	Wind Speed (kts)	5.8
S11	12 Jan 2021	Wind Dir	N
S11	12 Jan 2021	Animal Life	4 Seagulls; 1 Godwit
S11	12 Jan 2021	Floatables	Foam
S11	12 Jan 2021	Water Color	Green
S11	12 Jan 2021	Current Direction	S
S11	12 Jan 2021	Water Temp (C)	16
S11	12 Jan 2021	Wave Height Low (ft)	5
S11	12 Jan 2021	High Tide (ft)	6.6
S11	12 Jan 2021	High Tide Time	747
S11	12 Jan 2021	Low Tide (ft)	1.77
S11	12 Jan 2021	Low Tide Time	137
S11	12 Jan 2021	Comments	2 Persons; Water turbid
S11	19 Jan 2021	Arrive Time	915
S11	19 Jan 2021	Weather	Partly Cloudy
S11	19 Jan 2021	Wind Speed (kts)	6.2
S11	19 Jan 2021	Wind Dir	N
S11	19 Jan 2021	Animal Life	None
S11	19 Jan 2021	Floatables	Foam; Film
S11	19 Jan 2021	Water Color	Green
S11	19 Jan 2021	Current Direction	S
S11	19 Jan 2021	Water Temp (C)	16.2
S11	19 Jan 2021	Wave Height Low (ft)	7
S11	19 Jan 2021	High Tide (ft)	3.25
S11	19 Jan 2021	High Tide Time	1304
S11	19 Jan 2021	Low Tide (ft)	2.14

Station	Date	Parameter	Value
S11	19 Jan 2021	Low Tide Time	751
S11	19 Jan 2021	Comments	2 Surfers; 3 Persons; Water clear
S11	26 Jan 2021	Arrive Time	1000
S11	26 Jan 2021	Weather	Partly Cloudy
S11	26 Jan 2021	Wind Speed (kts)	10.4
S11	26 Jan 2021	Wind Dir	W
S11	26 Jan 2021	Animal Life	1 Dog
S11	26 Jan 2021	Floatables	Foam; Film
S11	26 Jan 2021	Water Color	Green
S11	26 Jan 2021	Current Direction	S
S11	26 Jan 2021	Water Temp (C)	14.7
S11	26 Jan 2021	Wave Height Low (ft)	8
S11	26 Jan 2021	High Tide (ft)	5.72
S11	26 Jan 2021	High Tide Time	700
S11	26 Jan 2021	Low Tide (ft)	-0.88
S11	26 Jan 2021	Low Tide Time	1423
S11	26 Jan 2021	Comments	Kelp; 2 Persons; Water clear; Dead animals
S12	05 Jan 2021	Arrive Time	925
S12	05 Jan 2021	Weather	Cloudy
S12	05 Jan 2021	Wind Speed (kts)	2.9
S12	05 Jan 2021	Wind Dir	N
S12	05 Jan 2021	Animal Life	3 Pelicans; 120 Godwit; 21 Cormorants; 7 Terns
S12	05 Jan 2021	Floatables	None
S12	05 Jan 2021	Water Color	Gray
S12	05 Jan 2021	Current Direction	S
S12	05 Jan 2021	Water Temp (C)	14
S12	05 Jan 2021	Wave Height Low (ft)	4
S12	05 Jan 2021	High Tide (ft)	3.85
S12	05 Jan 2021	High Tide Time	1313
S12	05 Jan 2021	Low Tide (ft)	2.19
S12	05 Jan 2021	Low Tide Time	754
S12	05 Jan 2021	Comments	Water clear
S12	12 Jan 2021	Arrive Time	1030
S12	12 Jan 2021	Weather	Sunny
S12	12 Jan 2021	Wind Speed (kts)	4.2
S12	12 Jan 2021	Wind Dir	NW
S12	12 Jan 2021	Animal Life	1 Godwit; 1 Dog; 3 Seagulls; 8 Cormorants
S12	12 Jan 2021	Floatables	Foam
S12	12 Jan 2021	Water Color	Green
S12	12 Jan 2021	Current Direction	S
S12	12 Jan 2021	Water Temp (C)	14.7
S12	12 Jan 2021	Wave Height Low (ft)	5
S12	12 Jan 2021	High Tide (ft)	6.6
S12	12 Jan 2021	High Tide Time	747
S12	12 Jan 2021	Low Tide (ft)	1.77
S12	12 Jan 2021	Low Tide Time	137
S12	12 Jan 2021	Comments	5 Persons; Water turbid
S12	19 Jan 2021	Arrive Time	940
S12	19 Jan 2021	Weather	Partly Cloudy
S12	19 Jan 2021	Wind Speed (kts)	3
S12	19 Jan 2021	Wind Dir	NE
S12	19 Jan 2021	Animal Life	3 Dogs; 4 Grebes
S12	19 Jan 2021	Floatables	Foam
S12	19 Jan 2021	Water Color	Green
S12	19 Jan 2021	Current Direction	S
S12	19 Jan 2021	Water Temp (C)	16
S12	19 Jan 2021	Wave Height Low (ft)	3

Station	Date	Parameter	Value
S12	19 Jan 2021	High Tide (ft)	3.25
S12	19 Jan 2021	High Tide Time	1304
S12	19 Jan 2021	Low Tide (ft)	2.14
S12	19 Jan 2021	Low Tide Time	751
S12	19 Jan 2021	Comments	Kelp; Seagrass; 5 Persons; Water clear
S12	26 Jan 2021	Arrive Time	1025
S12	26 Jan 2021	Weather	Partly Cloudy
S12	26 Jan 2021	Wind Speed (kts)	6
S12	26 Jan 2021	Wind Dir	W
S12	26 Jan 2021	Animal Life	32 Godwits; 1 Dog
S12	26 Jan 2021	Floatables	Foam; Film
S12	26 Jan 2021	Water Color	Green
S12	26 Jan 2021	Current Direction	S
S12	26 Jan 2021	Water Temp (C)	15.3
S12	26 Jan 2021	Wave Height Low (ft)	5
S12	26 Jan 2021	High Tide (ft)	5.72
S12	26 Jan 2021	High Tide Time	700
S12	26 Jan 2021	Low Tide (ft)	-0.88
S12	26 Jan 2021	Low Tide Time	1423
S12	26 Jan 2021	Comments	Kelp; Seagrass; 3 Persons; Water clear

Kelp Stations

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 Jan 2021	5	7	6	6	3	9	7
02 Jan 2021	5	7	6	6	3	9	7
03 Jan 2021	5	7	6	6	3	9	7
04 Jan 2021	5	7	6	6	3	9	7
05 Jan 2021	21	6	6	7	4	8	14
06 Jan 2021	37	7	8	6	5	8	23
07 Jan 2021	37	7	8	6	5	8	23
08 Jan 2021	37	7	8	6	5	8	23
09 Jan 2021	37	7	8	6	5	8	23
10 Jan 2021	37	7	8	6	5	8	23
11 Jan 2021	37	7	8	6	5	8	23
12 Jan 2021	37	7	8	6	5	8	23
13 Jan 2021	104	13	11	6	4	11	35
14 Jan 2021	172	8	11	7	5	15	29
15 Jan 2021	172	8	11	7	5	15	29
16 Jan 2021	172	8	11	7	5	15	29
17 Jan 2021	172	8	11	7	5	15	29
18 Jan 2021	172	8	11	7	5	15	29
19 Jan 2021	121	9	13	9	6	22	30
20 Jan 2021	298	13	21	13	7	40	59
21 Jan 2021	298	13	21	13	7	40	59
22 Jan 2021	298	13	21	13	7	40	59
23 Jan 2021	298	13	21	13	7	40	59
24 Jan 2021	298	13	21	13	7	40	59
25 Jan 2021	298	13	21	13	7	40	59
26 Jan 2021	1193*	14*	18*	8*	7*	28*	107*
27 Jan 2021	1936	53	55	34	15	42	281
28 Jan 2021	1936	53	55	34	15	42	281
29 Jan 2021	1936	53	55	34	15	42	281
30 Jan 2021	1936	53	55	34	15	42	281
31 Jan 2021	1936	53	55	34	15	42	281

* Geometric mean calculated using n<5

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 Jan 2021	2	2	2	2	2	4	2
02 Jan 2021	2	2	2	2	2	4	2
03 Jan 2021	2	2	2	2	2	4	2
04 Jan 2021	2	2	2	2	2	4	2
05 Jan 2021	9	2	2	2	2	3	4
06 Jan 2021	13	2	2	2	2	4	5
07 Jan 2021	13	2	2	2	2	4	5
08 Jan 2021	13	2	2	2	2	4	5
09 Jan 2021	13	2	2	2	2	4	5
10 Jan 2021	13	2	2	2	2	4	5
11 Jan 2021	13	2	2	2	2	4	5
12 Jan 2021	13	2	2	2	2	4	5
13 Jan 2021	38	3	3	2	2	5	10
14 Jan 2021	79	3	4	2	2	6	15
15 Jan 2021	79	3	4	2	2	6	15
16 Jan 2021	79	3	4	2	2	6	15
17 Jan 2021	79	3	4	2	2	6	15
18 Jan 2021	79	3	4	2	2	6	15
19 Jan 2021	43	3	3	2	2	6	11
20 Jan 2021	93	4	4	2	2	7	17
21 Jan 2021	93	4	4	2	2	7	17
22 Jan 2021	93	4	4	2	2	7	17
23 Jan 2021	93	4	4	2	2	7	17
24 Jan 2021	93	4	4	2	2	7	17
25 Jan 2021	93	4	4	2	2	7	17
26 Jan 2021	336*	4*	3*	2*	2*	4*	34*
27 Jan 2021	403	12	10	9	3	6	67
28 Jan 2021	403	12	10	9	3	6	67
29 Jan 2021	403	12	10	9	3	6	67
30 Jan 2021	403	12	10	9	3	6	67
31 Jan 2021	403	12	10	9	3	6	67

* 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 Jan 2021	2	2	2	2	2	3	2
02 Jan 2021	2	2	2	2	2	3	2
03 Jan 2021	2	2	2	2	2	3	2
04 Jan 2021	2	2	2	2	2	3	2
05 Jan 2021	7	2	2	2	2	3	3
06 Jan 2021	9	2	2	2	2	3	3
07 Jan 2021	9	2	2	2	2	3	3
08 Jan 2021	9	2	2	2	2	3	3
09 Jan 2021	9	2	2	2	2	3	3
10 Jan 2021	9	2	2	2	2	3	3
11 Jan 2021	9	2	2	2	2	3	3
12 Jan 2021	9	2	2	2	2	3	3
13 Jan 2021	20	2	2	2	2	3	5
14 Jan 2021	36	2	2	2	2	4	7
15 Jan 2021	36	2	2	2	2	4	7
16 Jan 2021	36	2	2	2	2	4	7
17 Jan 2021	36	2	2	2	2	4	7
18 Jan 2021	36	2	2	2	2	4	7
19 Jan 2021	24	2	2	2	2	4	5
20 Jan 2021	46	2	2	2	2	4	7
21 Jan 2021	46	2	2	2	2	4	7
22 Jan 2021	46	2	2	2	2	4	7
23 Jan 2021	46	2	2	2	2	4	7
24 Jan 2021	46	2	2	2	2	4	7
25 Jan 2021	46	2	2	2	2	4	7
26 Jan 2021	130*	2*	2*	2*	2*	3*	10*
27 Jan 2021	170	6	6	7	3	3	22
28 Jan 2021	170	6	6	7	3	3	22
29 Jan 2021	170	6	6	7	3	3	22
30 Jan 2021	170	6	6	7	3	3	22
31 Jan 2021	170	6	6	7	3	3	22

* 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
05 Jan 2021	E	IC	IC	IC	IC	IC	IC
13 Jan 2021	IC						
19 Jan 2021	IC						
27 Jan 2021	E	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

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
05 Jan 2021	E	IC	IC	IC	IC	IC	IC
13 Jan 2021	E	IC	IC	IC	IC	IC	IC
19 Jan 2021	IC						
27 Jan 2021	E	E	E	E	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
05 Jan 2021	E	IC	IC	IC	IC	IC	IC
13 Jan 2021	E	IC	IC	IC	IC	IC	IC
19 Jan 2021	IC						
27 Jan 2021	E	E	E	E	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
05 Jan 2021	E	IC	IC	IC	IC	IC	IC
13 Jan 2021	E	IC	IC	IC	IC	IC	IC
19 Jan 2021	IC						
27 Jan 2021	IC	E	E	E	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* (Enter) 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	Enter	F:T	Temp	XMS	DO	Sal	pH
I19	05 Jan 2021	1109	2	>16000	10000	2600e	0.62	14.1	48.43	7.7	33.52	8.1
I19	05 Jan 2021	1109	6	8000	1000	380e	0.12	14.1	53.79	7.4	33.60	8.1
I19	05 Jan 2021	1109	11	1000e	280e	70	0.28	14.0	15.59	6.9	33.61	8.0
I19	13 Jan 2021	1032	2	6200	3800e	420	0.61	13.6	67.32	8.0	33.53	8.1
I19	13 Jan 2021	1032	6	9400	2000e	480	0.21	13.6	67.37	8.0	33.53	8.1
I19	13 Jan 2021	1032	11	4800	1800e	320e	0.38	13.5	62.99	8.1	33.56	8.1
I19	19 Jan 2021	1128	2	30e	4e	8e	0.13	14.8	73.69	8.1	33.56	8.1
I19	19 Jan 2021	1128	6	<20	4e	4e	0.20	14.8	74.28	8.2	33.56	8.1
I19	19 Jan 2021	1128	11	40e	4e	4e	0.10	14.8	74.75	8.2	33.55	8.1
I19	27 Jan 2021	1015	2	12000	860	320e	0.07	14.3	49.08	7.6	33.57	8.2
I19	27 Jan 2021	1015	6	12000	1000e	680	0.08	14.2	46.97	7.5	33.55	8.2
I19	27 Jan 2021	1015	11	800e	220e	140e	0.28	13.9	40.22	6.6	33.59	8.1
I24	05 Jan 2021	1141	2	2e	<2	<2	1.00	14.0	57.87	7.1	33.61	8.0
I24	05 Jan 2021	1141	6	2e	<2	<2	1.00	13.9	64.12	6.8	33.61	8.0
I24	05 Jan 2021	1141	11	2e	<2	<2	1.00	13.9	63.34	6.7	33.61	8.0
I24	13 Jan 2021	1054	2	12e	<2	<2	0.17	14.0	84.36	7.6	33.55	8.1
I24	13 Jan 2021	1054	6	140e	12e	<2	0.09	13.6	78.75	7.6	33.56	8.1
I24	13 Jan 2021	1054	11	200e	16e	4e	0.08	13.6	65.66	7.4	33.57	8.1
I24	19 Jan 2021	1147	2	<2	<2	2e	1.00	14.7	76.62	7.4	33.56	8.1
I24	19 Jan 2021	1147	6	20e	<2	<2	0.10	14.7	77.54	7.0	33.57	8.1
I24	19 Jan 2021	1147	11	12e	6e	<2	0.50	14.6	72.13	7.8	33.59	8.1
I24	27 Jan 2021	1033	2	8400	880	400	0.10	14.2	56.82	7.5	33.55	8.2
I24	27 Jan 2021	1033	6	540	82	62	0.15	13.6	72.37	6.6	33.56	8.1
I24	27 Jan 2021	1033	11	200e	<20	8e	0.10	13.5	61.48	6.2	33.58	8.1
I25	05 Jan 2021	1148	2	4e	<2	<2	0.50	14.0	65.46	7.1	33.61	8.1
I25	05 Jan 2021	1148	6	<20	<2	<2	0.10	14.0	69.80	6.9	33.61	8.0
I25	05 Jan 2021	1148	9	<2	<2	<2	1.00	13.9	70.25	6.9	33.61	8.0
I25	13 Jan 2021	1102	2	4e	<2	<2	0.50	14.0	85.32	7.5	33.55	8.1
I25	13 Jan 2021	1102	6	40e	16e	2e	0.40	13.7	82.38	7.5	33.55	8.1
I25	13 Jan 2021	1102	9	40e	14e	<2	0.35	13.6	71.32	7.5	33.56	8.1
I25	19 Jan 2021	1154	2	20e	2e	<2	0.10	14.7	76.86	8.2	33.56	8.1
I25	19 Jan 2021	1154	6	<20	2e	<2	0.10	14.7	76.55	8.2	33.56	8.1
I25	19 Jan 2021	1154	9	30e	2e	2e	0.07	14.5	69.88	8.0	33.56	8.1
I25	27 Jan 2021	1039	2	4400	560	360e	0.13	14.2	58.82	7.5	33.53	8.2
I25	27 Jan 2021	1039	6	200e	62	28e	0.31	13.5	73.71	6.4	33.56	8.1
I25	27 Jan 2021	1039	9	<200	42	14e	0.21	13.5	72.24	6.4	33.57	8.1
I26	05 Jan 2021	1159	2	2e	<2	<2	1.00	14.1	68.82	7.3	33.61	8.1
I26	05 Jan 2021	1159	6	<20	<2	<2	0.10	14.0	64.76	7.1	33.61	8.1
I26	05 Jan 2021	1159	9	<2	<2	<2	1.00	13.6	66.42	6.3	33.60	8.0

Station	Date	Time	Depth	Total	Fecal	Enter	F:T	Temp	XMS	DO	Sal	pH
I26	13 Jan 2021	1115	2	2e	2e	<2	1.00	13.7	74.87	7.9	33.57	8.1
I26	13 Jan 2021	1115	6	2e	<2	<2	1.00	13.6	69.07	7.7	33.57	8.1
I26	13 Jan 2021	1115	9	6e	<2	<2	0.33	13.6	63.96	7.6	33.58	8.1
I26	19 Jan 2021	1208	2	<20	2e	<2	0.10	14.8	69.21	8.1	33.57	8.1
I26	19 Jan 2021	1208	6	<20	<2	4e	0.10	14.8	67.82	8.1	33.57	8.1
I26	19 Jan 2021	1208	9	<20	2e	2e	0.10	14.7	58.86	8.1	33.57	8.1
I26	27 Jan 2021	1049	2	3600e	840	340e	0.23	14.2	50.21	7.3	33.57	8.2
I26	27 Jan 2021	1049	6	2200e	860	200e	0.39	14.2	46.28	7.6	33.59	8.2
I26	27 Jan 2021	1049	9	2000e	280e	100e	0.14	14.2	31.48	7.8	33.62	8.2
I32	05 Jan 2021	1211	2	<20	<2	<2	0.10	14.1	40.36	7.2	33.62	8.1
I32	05 Jan 2021	1211	6	<20	2e	<2	0.10	14.0	32.61	7.3	33.62	8.0
I32	05 Jan 2021	1211	9	2e	2e	<2	1.00	13.9	30.43	7.2	33.62	8.0
I32	13 Jan 2021	1127	2	<2	<2	<2	1.00	13.7	74.19	7.9	33.58	8.1
I32	13 Jan 2021	1127	6	<2	<2	2e	1.00	13.6	62.38	7.9	33.59	8.1
I32	13 Jan 2021	1127	9	<2	<2	<2	1.00	13.6	63.77	8.0	33.60	8.1
I32	19 Jan 2021	1222	2	10e	<2	<2	0.20	14.6	69.58	8.3	33.56	8.1
I32	19 Jan 2021	1222	6	6e	2e	<2	0.33	14.5	67.61	8.1	33.56	8.1
I32	19 Jan 2021	1222	9	<20	2e	<2	0.10	14.5	60.43	8.0	33.55	8.1
I32	27 Jan 2021	1101	2	40e	<2	4e	0.05	14.5	50.78	7.6	33.62	8.2
I32	27 Jan 2021	1101	6	<200	16e	16e	0.08	14.3	53.43	7.6	33.61	8.2
I32	27 Jan 2021	1101	9	200e	24e	16e	0.12	14.1	53.14	7.2	33.60	8.2
I39	05 Jan 2021	1046	2	<2	<2	<2	1.00	14.0	84.71	7.2	33.60	8.1
I39	05 Jan 2021	1046	12	<2	<2	2e	1.00	13.3	87.75	6.0	33.61	8.0
I39	05 Jan 2021	1046	18	14e	2e	<2	0.14	12.8	79.24	5.2	33.63	7.9
I39	13 Jan 2021	1012	2	28e	6e	<2	0.21	13.9	84.51	7.5	33.54	8.1
I39	13 Jan 2021	1012	12	56	22e	6e	0.39	13.6	86.61	6.9	33.53	8.0
I39	13 Jan 2021	1012	18	36e	6e	2e	0.17	13.5	76.99	6.5	33.55	8.0
I39	19 Jan 2021	1108	2	<2	2e	<2	1.00	14.9	81.12	8.3	33.58	8.2
I39	19 Jan 2021	1108	12	200e	4e	6e	0.02	14.2	72.80	7.8	33.56	8.1
I39	19 Jan 2021	1108	18	80e	6e	6e	0.07	14.0	54.08	7.4	33.56	8.0
I39	27 Jan 2021	956	2	18e	4e	2e	0.22	13.6	81.69	6.8	33.58	8.1
I39	27 Jan 2021	956	12	<200	10e	<2	0.05	13.4	82.68	6.7	33.59	8.1
I39	27 Jan 2021	956	18	<200	28e	4e	0.14	13.1	73.37	6.1	33.59	8.1
I40	05 Jan 2021	1130	2	220e	24e	4e	0.11	14.2	57.46	7.5	33.62	8.1
I40	05 Jan 2021	1130	6	120e	20e	<2	0.17	14.1	57.52	7.3	33.62	8.1
I40	05 Jan 2021	1130	9	<200	220e	48	1.10	14.1	56.52	7.3	33.62	8.1
I40	13 Jan 2021	1045	2	6e	<2	<2	0.33	13.7	71.05	8.1	33.58	8.1
I40	13 Jan 2021	1045	6	<200	220e	22e	1.10	13.5	61.99	8.0	33.61	8.1
I40	13 Jan 2021	1045	9	400e	260e	58	0.65	13.5	59.59	7.8	33.61	8.1
I40	19 Jan 2021	1139	2	22e	2e	<2	0.09	14.8	69.84	8.1	33.57	8.1
I40	19 Jan 2021	1139	6	40e	<2	2e	0.05	14.8	68.62	8.1	33.56	8.1
I40	19 Jan 2021	1139	9	40e	4e	<2	0.10	14.8	65.12	8.1	33.56	8.1
I40	27 Jan 2021	1026	2	5800	580	200e	0.10	14.3	49.48	7.5	33.57	8.2
I40	27 Jan 2021	1026	6	8800	920	440	0.10	14.2	56.39	7.4	33.56	8.2
I40	27 Jan 2021	1026	9	600e	88	72	0.15	13.8	66.62	6.6	33.60	8.1

Table 3.9

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

Station	Date	Parameter	Value
I19	05 Jan 2021	Depth (m)	12
I19	05 Jan 2021	Arrive Time	1109
I19	05 Jan 2021	Depart Time	1123
I19	05 Jan 2021	Air Temp (C)	12
I19	05 Jan 2021	Weather	Fog
I19	05 Jan 2021	Visibility (mi)	5
I19	05 Jan 2021	Wind Speed (kts)	6
I19	05 Jan 2021	Wind Dir	NW
I19	05 Jan 2021	Water Color	Bluish-Green
I19	05 Jan 2021	Wave Ht Low (ft)	6
I19	05 Jan 2021	Wave Period (sec)	16
I19	05 Jan 2021	Sea State	Wind ripples
I19	05 Jan 2021	High Tide (ft)	3.85
I19	05 Jan 2021	High Tide Time	1313
I19	05 Jan 2021	Low Tide (ft)	2.19
I19	05 Jan 2021	Low Tide Time	754
I19	05 Jan 2021	Comments	Recast and bottom bottle did not fire so collected separately from cast
I19	13 Jan 2021	Depth (m)	12
I19	13 Jan 2021	Arrive Time	1032
I19	13 Jan 2021	Depart Time	1035
I19	13 Jan 2021	Air Temp (C)	14
I19	13 Jan 2021	Weather	Haze
I19	13 Jan 2021	Visibility (mi)	12
I19	13 Jan 2021	Wind Speed (kts)	9
I19	13 Jan 2021	Wind Dir	W
I19	13 Jan 2021	Water Color	Brownish-Green
I19	13 Jan 2021	Wave Ht Low (ft)	4
I19	13 Jan 2021	Wave Period (sec)	13
I19	13 Jan 2021	Sea State	Calm
I19	13 Jan 2021	High Tide (ft)	6.52
I19	13 Jan 2021	High Tide Time	830
I19	13 Jan 2021	Low Tide (ft)	-1.54
I19	13 Jan 2021	Low Tide Time	1548
I19	13 Jan 2021	Comments	none
I19	19 Jan 2021	Depth (m)	11
I19	19 Jan 2021	Arrive Time	1128
I19	19 Jan 2021	Depart Time	1131
I19	19 Jan 2021	Air Temp (C)	19
I19	19 Jan 2021	Weather	Haze
I19	19 Jan 2021	Visibility (mi)	6
I19	19 Jan 2021	Wind Speed (kts)	9
I19	19 Jan 2021	Wind Dir	NE
I19	19 Jan 2021	Water Color	Greenish-Brown
I19	19 Jan 2021	Wave Ht Low (ft)	4
I19	19 Jan 2021	Wave Period (sec)	13
I19	19 Jan 2021	Sea State	Confused swell
I19	19 Jan 2021	High Tide (ft)	3.25
I19	19 Jan 2021	High Tide Time	1304
I19	19 Jan 2021	Low Tide (ft)	2.14
I19	19 Jan 2021	Low Tide Time	751
I19	19 Jan 2021	Comments	none
I19	27 Jan 2021	Depth (m)	11

Station	Date	Parameter	Value
I19	27 Jan 2021	Arrive Time	1015
I19	27 Jan 2021	Depart Time	1018
I19	27 Jan 2021	Air Temp (C)	13
I19	27 Jan 2021	Weather	Partly Cloudy
I19	27 Jan 2021	Visibility (mi)	14
I19	27 Jan 2021	Wind Speed (kts)	5
I19	27 Jan 2021	Wind Dir	E
I19	27 Jan 2021	Water Color	Greenish-Brown
I19	27 Jan 2021	Wave Ht Low (ft)	3
I19	27 Jan 2021	Wave Period (sec)	9
I19	27 Jan 2021	Sea State	Light chop
I19	27 Jan 2021	High Tide (ft)	5.98
I19	27 Jan 2021	High Tide Time	737
I19	27 Jan 2021	Low Tide (ft)	-1.11
I19	27 Jan 2021	Low Tide Time	1455
I19	27 Jan 2021	Comments	none
I24	05 Jan 2021	Depth (m)	11
I24	05 Jan 2021	Arrive Time	1141
I24	05 Jan 2021	Depart Time	1145
I24	05 Jan 2021	Air Temp (C)	12
I24	05 Jan 2021	Weather	Fog
I24	05 Jan 2021	Visibility (mi)	5
I24	05 Jan 2021	Wind Speed (kts)	5
I24	05 Jan 2021	Wind Dir	NW
I24	05 Jan 2021	Water Color	Bluish-Green
I24	05 Jan 2021	Wave Ht Low (ft)	6
I24	05 Jan 2021	Wave Period (sec)	16
I24	05 Jan 2021	Sea State	Wind ripples
I24	05 Jan 2021	High Tide (ft)	3.85
I24	05 Jan 2021	High Tide Time	1313
I24	05 Jan 2021	Low Tide (ft)	2.19
I24	05 Jan 2021	Low Tide Time	754
I24	05 Jan 2021	Comments	none
I24	13 Jan 2021	Depth (m)	11
I24	13 Jan 2021	Arrive Time	1054
I24	13 Jan 2021	Depart Time	1056
I24	13 Jan 2021	Air Temp (C)	15
I24	13 Jan 2021	Weather	Haze
I24	13 Jan 2021	Visibility (mi)	12
I24	13 Jan 2021	Wind Speed (kts)	0
I24	13 Jan 2021	Wind Dir	
I24	13 Jan 2021	Water Color	Brownish-Green
I24	13 Jan 2021	Wave Ht Low (ft)	6
I24	13 Jan 2021	Wave Period (sec)	13
I24	13 Jan 2021	Sea State	Calm
I24	13 Jan 2021	High Tide (ft)	6.52
I24	13 Jan 2021	High Tide Time	830
I24	13 Jan 2021	Low Tide (ft)	-1.54
I24	13 Jan 2021	Low Tide Time	1548
I24	13 Jan 2021	Comments	none
I24	19 Jan 2021	Depth (m)	10
I24	19 Jan 2021	Arrive Time	1147
I24	19 Jan 2021	Depart Time	1151
I24	19 Jan 2021	Air Temp (C)	19
I24	19 Jan 2021	Weather	Haze
I24	19 Jan 2021	Visibility (mi)	6
I24	19 Jan 2021	Wind Speed (kts)	15
I24	19 Jan 2021	Wind Dir	NE

Station	Date	Parameter	Value
I24	19 Jan 2021	Water Color	Green
I24	19 Jan 2021	Wave Ht Low (ft)	4
I24	19 Jan 2021	Wave Period (sec)	13
I24	19 Jan 2021	Sea State	Heavy chop
I24	19 Jan 2021	High Tide (ft)	3.25
I24	19 Jan 2021	High Tide Time	1304
I24	19 Jan 2021	Low Tide (ft)	2.14
I24	19 Jan 2021	Low Tide Time	751
I24	19 Jan 2021	Comments	Due to wind and swell surface data was a bit off
I24	27 Jan 2021	Depth (m)	12
I24	27 Jan 2021	Arrive Time	1033
I24	27 Jan 2021	Depart Time	1036
I24	27 Jan 2021	Air Temp (C)	13
I24	27 Jan 2021	Weather	Haze
I24	27 Jan 2021	Visibility (mi)	14
I24	27 Jan 2021	Wind Speed (kts)	1
I24	27 Jan 2021	Wind Dir	NW
I24	27 Jan 2021	Water Color	Greenish-Brown
I24	27 Jan 2021	Wave Ht Low (ft)	2
I24	27 Jan 2021	Wave Period (sec)	9
I24	27 Jan 2021	Sea State	Wind ripples
I24	27 Jan 2021	High Tide (ft)	5.98
I24	27 Jan 2021	High Tide Time	737
I24	27 Jan 2021	Low Tide (ft)	-1.11
I24	27 Jan 2021	Low Tide Time	1455
I24	27 Jan 2021	Comments	none
I25	05 Jan 2021	Depth (m)	9
I25	05 Jan 2021	Arrive Time	1148
I25	05 Jan 2021	Depart Time	1152
I25	05 Jan 2021	Air Temp (C)	12
I25	05 Jan 2021	Weather	Fog
I25	05 Jan 2021	Visibility (mi)	5
I25	05 Jan 2021	Wind Speed (kts)	5
I25	05 Jan 2021	Wind Dir	N
I25	05 Jan 2021	Water Color	Bluish-Green
I25	05 Jan 2021	Wave Ht Low (ft)	6
I25	05 Jan 2021	Wave Period (sec)	16
I25	05 Jan 2021	Sea State	Wind ripples
I25	05 Jan 2021	High Tide (ft)	3.85
I25	05 Jan 2021	High Tide Time	1313
I25	05 Jan 2021	Low Tide (ft)	2.19
I25	05 Jan 2021	Low Tide Time	754
I25	05 Jan 2021	Comments	none
I25	13 Jan 2021	Depth (m)	10
I25	13 Jan 2021	Arrive Time	1102
I25	13 Jan 2021	Depart Time	1105
I25	13 Jan 2021	Air Temp (C)	15
I25	13 Jan 2021	Weather	Haze
I25	13 Jan 2021	Visibility (mi)	12
I25	13 Jan 2021	Wind Speed (kts)	0
I25	13 Jan 2021	Wind Dir	
I25	13 Jan 2021	Water Color	Greenish-Brown
I25	13 Jan 2021	Wave Ht Low (ft)	6
I25	13 Jan 2021	Wave Period (sec)	13
I25	13 Jan 2021	Sea State	Calm
I25	13 Jan 2021	High Tide (ft)	6.52
I25	13 Jan 2021	High Tide Time	830
I25	13 Jan 2021	Low Tide (ft)	-1.54

Station	Date	Parameter	Value
I25	13 Jan 2021	Low Tide Time	1548
I25	13 Jan 2021	Comments	none
I25	19 Jan 2021	Depth (m)	9
I25	19 Jan 2021	Arrive Time	1154
I25	19 Jan 2021	Depart Time	1204
I25	19 Jan 2021	Air Temp (C)	19
I25	19 Jan 2021	Weather	Drizzle
I25	19 Jan 2021	Visibility (mi)	5
I25	19 Jan 2021	Wind Speed (kts)	22
I25	19 Jan 2021	Wind Dir	N
I25	19 Jan 2021	Water Color	Green
I25	19 Jan 2021	Wave Ht Low (ft)	5
I25	19 Jan 2021	Wave Period (sec)	13
I25	19 Jan 2021	Sea State	Heavy chop
I25	19 Jan 2021	High Tide (ft)	3.25
I25	19 Jan 2021	High Tide Time	1304
I25	19 Jan 2021	Low Tide (ft)	2.14
I25	19 Jan 2021	Low Tide Time	751
I25	19 Jan 2021	Comments	none
I25	27 Jan 2021	Depth (m)	9
I25	27 Jan 2021	Arrive Time	1039
I25	27 Jan 2021	Depart Time	1043
I25	27 Jan 2021	Air Temp (C)	13
I25	27 Jan 2021	Weather	Haze
I25	27 Jan 2021	Visibility (mi)	14
I25	27 Jan 2021	Wind Speed (kts)	1
I25	27 Jan 2021	Wind Dir	N
I25	27 Jan 2021	Water Color	Greenish-Brown
I25	27 Jan 2021	Wave Ht Low (ft)	2
I25	27 Jan 2021	Wave Period (sec)	9
I25	27 Jan 2021	Sea State	Wind ripples
I25	27 Jan 2021	High Tide (ft)	5.98
I25	27 Jan 2021	High Tide Time	737
I25	27 Jan 2021	Low Tide (ft)	-1.11
I25	27 Jan 2021	Low Tide Time	1455
I25	27 Jan 2021	Comments	none
I26	05 Jan 2021	Depth (m)	11
I26	05 Jan 2021	Arrive Time	1159
I26	05 Jan 2021	Depart Time	1202
I26	05 Jan 2021	Air Temp (C)	12
I26	05 Jan 2021	Weather	Fog
I26	05 Jan 2021	Visibility (mi)	5
I26	05 Jan 2021	Wind Speed (kts)	5
I26	05 Jan 2021	Wind Dir	NW
I26	05 Jan 2021	Water Color	Brownish-Green
I26	05 Jan 2021	Wave Ht Low (ft)	6
I26	05 Jan 2021	Wave Period (sec)	16
I26	05 Jan 2021	Sea State	Wind ripples
I26	05 Jan 2021	High Tide (ft)	3.85
I26	05 Jan 2021	High Tide Time	1313
I26	05 Jan 2021	Low Tide (ft)	2.19
I26	05 Jan 2021	Low Tide Time	754
I26	05 Jan 2021	Comments	none
I26	13 Jan 2021	Depth (m)	10
I26	13 Jan 2021	Arrive Time	1115
I26	13 Jan 2021	Depart Time	1117
I26	13 Jan 2021	Air Temp (C)	15

Station	Date	Parameter	Value
I26	13 Jan 2021	Weather	Haze
I26	13 Jan 2021	Visibility (mi)	12
I26	13 Jan 2021	Wind Speed (kts)	4
I26	13 Jan 2021	Wind Dir	W
I26	13 Jan 2021	Water Color	Greenish-Brown
I26	13 Jan 2021	Wave Ht Low (ft)	6
I26	13 Jan 2021	Wave Period (sec)	13
I26	13 Jan 2021	Sea State	Calm
I26	13 Jan 2021	High Tide (ft)	6.52
I26	13 Jan 2021	High Tide Time	830
I26	13 Jan 2021	Low Tide (ft)	-1.54
I26	13 Jan 2021	Low Tide Time	1548
I26	13 Jan 2021	Comments	none
I26	19 Jan 2021	Depth (m)	10
I26	19 Jan 2021	Arrive Time	1208
I26	19 Jan 2021	Depart Time	1213
I26	19 Jan 2021	Air Temp (C)	19
I26	19 Jan 2021	Weather	Cloudy
I26	19 Jan 2021	Visibility (mi)	5
I26	19 Jan 2021	Wind Speed (kts)	11
I26	19 Jan 2021	Wind Dir	NE
I26	19 Jan 2021	Water Color	Green
I26	19 Jan 2021	Wave Ht Low (ft)	5
I26	19 Jan 2021	Wave Period (sec)	13
I26	19 Jan 2021	Sea State	Heavy chop
I26	19 Jan 2021	High Tide (ft)	3.25
I26	19 Jan 2021	High Tide Time	1304
I26	19 Jan 2021	Low Tide (ft)	2.14
I26	19 Jan 2021	Low Tide Time	751
I26	19 Jan 2021	Comments	none
I26	27 Jan 2021	Depth (m)	9
I26	27 Jan 2021	Arrive Time	1049
I26	27 Jan 2021	Depart Time	1052
I26	27 Jan 2021	Air Temp (C)	14
I26	27 Jan 2021	Weather	Haze
I26	27 Jan 2021	Visibility (mi)	14
I26	27 Jan 2021	Wind Speed (kts)	1
I26	27 Jan 2021	Wind Dir	NE
I26	27 Jan 2021	Water Color	Greenish-Brown
I26	27 Jan 2021	Wave Ht Low (ft)	2
I26	27 Jan 2021	Wave Period (sec)	9
I26	27 Jan 2021	Sea State	Wind ripples
I26	27 Jan 2021	High Tide (ft)	5.98
I26	27 Jan 2021	High Tide Time	737
I26	27 Jan 2021	Low Tide (ft)	-1.11
I26	27 Jan 2021	Low Tide Time	1455
I26	27 Jan 2021	Comments	none
I32	05 Jan 2021	Depth (m)	11
I32	05 Jan 2021	Arrive Time	1211
I32	05 Jan 2021	Depart Time	1214
I32	05 Jan 2021	Air Temp (C)	12
I32	05 Jan 2021	Weather	Fog
I32	05 Jan 2021	Visibility (mi)	5
I32	05 Jan 2021	Wind Speed (kts)	6
I32	05 Jan 2021	Wind Dir	NW
I32	05 Jan 2021	Water Color	Brownish-Green
I32	05 Jan 2021	Wave Ht Low (ft)	6
I32	05 Jan 2021	Wave Period (sec)	16

Station	Date	Parameter	Value
I32	05 Jan 2021	Sea State	Wind ripples
I32	05 Jan 2021	High Tide (ft)	3.85
I32	05 Jan 2021	High Tide Time	1313
I32	05 Jan 2021	Low Tide (ft)	2.19
I32	05 Jan 2021	Low Tide Time	754
I32	05 Jan 2021	Comments	none
I32	13 Jan 2021	Depth (m)	10
I32	13 Jan 2021	Arrive Time	1127
I32	13 Jan 2021	Depart Time	1136
I32	13 Jan 2021	Air Temp (C)	15
I32	13 Jan 2021	Weather	Haze
I32	13 Jan 2021	Visibility (mi)	12
I32	13 Jan 2021	Wind Speed (kts)	1
I32	13 Jan 2021	Wind Dir	NW
I32	13 Jan 2021	Water Color	Brownish-Green
I32	13 Jan 2021	Wave Ht Low (ft)	5
I32	13 Jan 2021	Wave Period (sec)	13
I32	13 Jan 2021	Sea State	Light chop
I32	13 Jan 2021	High Tide (ft)	6.52
I32	13 Jan 2021	High Tide Time	830
I32	13 Jan 2021	Low Tide (ft)	-1.54
I32	13 Jan 2021	Low Tide Time	1548
I32	13 Jan 2021	Comments	none
I32	19 Jan 2021	Depth (m)	10
I32	19 Jan 2021	Arrive Time	1222
I32	19 Jan 2021	Depart Time	1225
I32	19 Jan 2021	Air Temp (C)	20
I32	19 Jan 2021	Weather	Cloudy
I32	19 Jan 2021	Visibility (mi)	5
I32	19 Jan 2021	Wind Speed (kts)	12
I32	19 Jan 2021	Wind Dir	NE
I32	19 Jan 2021	Water Color	Green
I32	19 Jan 2021	Wave Ht Low (ft)	5
I32	19 Jan 2021	Wave Period (sec)	13
I32	19 Jan 2021	Sea State	Heavy chop
I32	19 Jan 2021	High Tide (ft)	3.25
I32	19 Jan 2021	High Tide Time	1304
I32	19 Jan 2021	Low Tide (ft)	2.14
I32	19 Jan 2021	Low Tide Time	751
I32	19 Jan 2021	Comments	none
I32	27 Jan 2021	Depth (m)	10
I32	27 Jan 2021	Arrive Time	1101
I32	27 Jan 2021	Depart Time	1103
I32	27 Jan 2021	Air Temp (C)	14
I32	27 Jan 2021	Weather	Haze
I32	27 Jan 2021	Visibility (mi)	14
I32	27 Jan 2021	Wind Speed (kts)	2
I32	27 Jan 2021	Wind Dir	W
I32	27 Jan 2021	Water Color	Greenish-Brown
I32	27 Jan 2021	Wave Ht Low (ft)	2
I32	27 Jan 2021	Wave Period (sec)	9
I32	27 Jan 2021	Sea State	Wind ripples
I32	27 Jan 2021	High Tide (ft)	5.98
I32	27 Jan 2021	High Tide Time	737
I32	27 Jan 2021	Low Tide (ft)	-1.11
I32	27 Jan 2021	Low Tide Time	1455
I32	27 Jan 2021	Comments	none

Station	Date	Parameter	Value
I39	05 Jan 2021	Depth (m)	22
I39	05 Jan 2021	Arrive Time	1046
I39	05 Jan 2021	Depart Time	1052
I39	05 Jan 2021	Air Temp (C)	12
I39	05 Jan 2021	Weather	Fog
I39	05 Jan 2021	Visibility (mi)	5
I39	05 Jan 2021	Wind Speed (kts)	7
I39	05 Jan 2021	Wind Dir	NW
I39	05 Jan 2021	Water Color	Bluish-Green
I39	05 Jan 2021	Wave Ht Low (ft)	6
I39	05 Jan 2021	Wave Period (sec)	16
I39	05 Jan 2021	Sea State	Wind ripples
I39	05 Jan 2021	High Tide (ft)	3.85
I39	05 Jan 2021	High Tide Time	1313
I39	05 Jan 2021	Low Tide (ft)	2.19
I39	05 Jan 2021	Low Tide Time	754
I39	05 Jan 2021	Comments	none
I39	13 Jan 2021	Depth (m)	18
I39	13 Jan 2021	Arrive Time	1012
I39	13 Jan 2021	Depart Time	1015
I39	13 Jan 2021	Air Temp (C)	14
I39	13 Jan 2021	Weather	Haze
I39	13 Jan 2021	Visibility (mi)	12
I39	13 Jan 2021	Wind Speed (kts)	0
I39	13 Jan 2021	Wind Dir	
I39	13 Jan 2021	Water Color	Greenish-Blue
I39	13 Jan 2021	Wave Ht Low (ft)	4
I39	13 Jan 2021	Wave Period (sec)	13
I39	13 Jan 2021	Sea State	Calm
I39	13 Jan 2021	High Tide (ft)	6.52
I39	13 Jan 2021	High Tide Time	830
I39	13 Jan 2021	Low Tide (ft)	-1.54
I39	13 Jan 2021	Low Tide Time	1548
I39	13 Jan 2021	Comments	none
I39	19 Jan 2021	Depth (m)	19
I39	19 Jan 2021	Arrive Time	1108
I39	19 Jan 2021	Depart Time	1111
I39	19 Jan 2021	Air Temp (C)	19
I39	19 Jan 2021	Weather	Haze
I39	19 Jan 2021	Visibility (mi)	6
I39	19 Jan 2021	Wind Speed (kts)	7
I39	19 Jan 2021	Wind Dir	E
I39	19 Jan 2021	Water Color	Greenish-Blue
I39	19 Jan 2021	Wave Ht Low (ft)	4
I39	19 Jan 2021	Wave Period (sec)	13
I39	19 Jan 2021	Sea State	Confused swell
I39	19 Jan 2021	High Tide (ft)	3.25
I39	19 Jan 2021	High Tide Time	1304
I39	19 Jan 2021	Low Tide (ft)	2.14
I39	19 Jan 2021	Low Tide Time	751
I39	19 Jan 2021	Comments	none
I39	27 Jan 2021	Depth (m)	18
I39	27 Jan 2021	Arrive Time	956
I39	27 Jan 2021	Depart Time	1000
I39	27 Jan 2021	Air Temp (C)	13
I39	27 Jan 2021	Weather	Partly Cloudy
I39	27 Jan 2021	Visibility (mi)	14
I39	27 Jan 2021	Wind Speed (kts)	8

Station	Date	Parameter	Value
I39	27 Jan 2021	Wind Dir	E
I39	27 Jan 2021	Water Color	Greenish-Blue
I39	27 Jan 2021	Wave Ht Low (ft)	4
I39	27 Jan 2021	Wave Period (sec)	7
I39	27 Jan 2021	Sea State	Light chop
I39	27 Jan 2021	High Tide (ft)	5.98
I39	27 Jan 2021	High Tide Time	737
I39	27 Jan 2021	Low Tide (ft)	-1.11
I39	27 Jan 2021	Low Tide Time	1455
I39	27 Jan 2021	Comments	none
I40	05 Jan 2021	Depth (m)	11
I40	05 Jan 2021	Arrive Time	1130
I40	05 Jan 2021	Depart Time	1137
I40	05 Jan 2021	Air Temp (C)	12
I40	05 Jan 2021	Weather	Fog
I40	05 Jan 2021	Visibility (mi)	5
I40	05 Jan 2021	Wind Speed (kts)	8
I40	05 Jan 2021	Wind Dir	NW
I40	05 Jan 2021	Water Color	Bluish-Green
I40	05 Jan 2021	Wave Ht Low (ft)	6
I40	05 Jan 2021	Wave Period (sec)	16
I40	05 Jan 2021	Sea State	Wind ripples
I40	05 Jan 2021	High Tide (ft)	3.85
I40	05 Jan 2021	High Tide Time	1313
I40	05 Jan 2021	Low Tide (ft)	2.19
I40	05 Jan 2021	Low Tide Time	754
I40	05 Jan 2021	Comments	Screen cover fell off trans and might have caused dip in data
I40	13 Jan 2021	Depth (m)	11
I40	13 Jan 2021	Arrive Time	1045
I40	13 Jan 2021	Depart Time	1047
I40	13 Jan 2021	Air Temp (C)	15
I40	13 Jan 2021	Weather	Haze
I40	13 Jan 2021	Visibility (mi)	12
I40	13 Jan 2021	Wind Speed (kts)	1
I40	13 Jan 2021	Wind Dir	NW
I40	13 Jan 2021	Water Color	Brownish-Green
I40	13 Jan 2021	Wave Ht Low (ft)	4
I40	13 Jan 2021	Wave Period (sec)	13
I40	13 Jan 2021	Sea State	Calm
I40	13 Jan 2021	High Tide (ft)	6.52
I40	13 Jan 2021	High Tide Time	830
I40	13 Jan 2021	Low Tide (ft)	-1.54
I40	13 Jan 2021	Low Tide Time	1548
I40	13 Jan 2021	Comments	none
I40	19 Jan 2021	Depth (m)	10
I40	19 Jan 2021	Arrive Time	1139
I40	19 Jan 2021	Depart Time	1144
I40	19 Jan 2021	Air Temp (C)	19
I40	19 Jan 2021	Weather	Haze
I40	19 Jan 2021	Visibility (mi)	6
I40	19 Jan 2021	Wind Speed (kts)	14
I40	19 Jan 2021	Wind Dir	E
I40	19 Jan 2021	Water Color	Greenish-Brown
I40	19 Jan 2021	Wave Ht Low (ft)	4
I40	19 Jan 2021	Wave Period (sec)	13
I40	19 Jan 2021	Sea State	Confused swell
I40	19 Jan 2021	High Tide (ft)	3.25
I40	19 Jan 2021	High Tide Time	1304

Station	Date	Parameter	Value
I40	19 Jan 2021	Low Tide (ft)	2.14
I40	19 Jan 2021	Low Tide Time	751
I40	19 Jan 2021	Comments	none
I40	27 Jan 2021	Depth (m)	11
I40	27 Jan 2021	Arrive Time	1026
I40	27 Jan 2021	Depart Time	1028
I40	27 Jan 2021	Air Temp (C)	13
I40	27 Jan 2021	Weather	Partly Cloudy
I40	27 Jan 2021	Visibility (mi)	14
I40	27 Jan 2021	Wind Speed (kts)	2
I40	27 Jan 2021	Wind Dir	N
I40	27 Jan 2021	Water Color	Greenish-Brown
I40	27 Jan 2021	Wave Ht Low (ft)	3
I40	27 Jan 2021	Wave Period (sec)	9
I40	27 Jan 2021	Sea State	Wind ripples
I40	27 Jan 2021	High Tide (ft)	5.98
I40	27 Jan 2021	High Tide Time	737
I40	27 Jan 2021	Low Tide (ft)	-1.11
I40	27 Jan 2021	Low Tide Time	1455
I40	27 Jan 2021	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 ($\sigma\text{-t}$)	Chlor ($\mu\text{g/L}$)
I19	05 Jan 2021	1	14.12	43.98	7.7	33.52	8.1	25.0	2.67
I19	05 Jan 2021	2	14.13	48.43	7.7	33.52	8.1	25.0	2.82
I19	05 Jan 2021	3	14.11	49.44	7.6	33.53	8.1	25.0	3.10
I19	05 Jan 2021	4	14.10	49.15	7.6	33.54	8.1	25.0	3.25
I19	05 Jan 2021	5	14.09	51.26	7.5	33.56	8.1	25.1	3.25
I19	05 Jan 2021	6	14.06	53.79	7.4	33.60	8.1	25.1	3.13
I19	05 Jan 2021	7	14.06	62.05	7.3	33.61	8.1	25.1	2.74
I19	05 Jan 2021	8	14.04	66.24	7.2	33.61	8.1	25.1	2.60
I19	05 Jan 2021	9	14.03	56.24	7.1	33.61	8.1	25.1	3.21
I19	05 Jan 2021	10	14.03	15.59	6.9	33.61	8.0	25.1	3.83
I19	13 Jan 2021	1	13.60	67.38	8.0	33.53	8.1	25.1	2.73
I19	13 Jan 2021	2	13.59	67.32	8.0	33.53	8.1	25.1	2.85
I19	13 Jan 2021	3	13.59	67.15	8.0	33.53	8.1	25.1	3.44
I19	13 Jan 2021	4	13.56	67.14	8.0	33.53	8.1	25.1	4.62
I19	13 Jan 2021	5	13.57	67.13	8.0	33.53	8.1	25.1	5.32
I19	13 Jan 2021	6	13.58	67.37	8.0	33.53	8.1	25.1	5.43
I19	13 Jan 2021	7	13.58	68.12	8.0	33.53	8.1	25.1	5.48
I19	13 Jan 2021	8	13.56	67.95	8.1	33.55	8.1	25.2	5.30
I19	13 Jan 2021	9	13.56	65.38	8.1	33.55	8.1	25.2	5.03
I19	13 Jan 2021	10	13.53	62.99	8.1	33.56	8.1	25.2	4.92
I19	19 Jan 2021	1	14.76	73.39	8.1	33.56	8.1	24.9	2.33
I19	19 Jan 2021	2	14.76	73.69	8.1	33.56	8.1	24.9	2.37
I19	19 Jan 2021	3	14.77	73.69	8.2	33.56	8.1	24.9	2.46
I19	19 Jan 2021	4	14.77	73.87	8.1	33.56	8.1	24.9	2.62
I19	19 Jan 2021	5	14.77	74.23	8.1	33.56	8.1	24.9	2.73
I19	19 Jan 2021	6	14.77	74.28	8.2	33.56	8.1	24.9	2.77
I19	19 Jan 2021	7	14.77	74.64	8.2	33.56	8.1	24.9	2.93
I19	19 Jan 2021	8	14.76	74.72	8.2	33.56	8.1	24.9	2.92
I19	19 Jan 2021	9	14.75	74.58	8.1	33.55	8.1	24.9	2.91
I19	19 Jan 2021	10	14.75	74.75	8.2	33.55	8.1	24.9	2.83
I19	27 Jan 2021	1	14.34	50.36	7.6	33.57	8.2	25.0	1.22
I19	27 Jan 2021	2	14.28	49.08	7.6	33.57	8.2	25.0	1.58
I19	27 Jan 2021	3	14.26	47.42	7.6	33.56	8.2	25.0	2.02
I19	27 Jan 2021	4	14.24	47.19	7.6	33.56	8.2	25.0	2.19
I19	27 Jan 2021	5	14.20	46.68	7.6	33.55	8.2	25.0	2.09
I19	27 Jan 2021	6	14.19	46.97	7.5	33.55	8.2	25.0	1.98
I19	27 Jan 2021	7	14.16	46.81	7.4	33.56	8.2	25.0	1.62
I19	27 Jan 2021	8	14.10	48.15	7.2	33.57	8.2	25.1	1.39
I19	27 Jan 2021	9	14.01	50.61	6.9	33.59	8.2	25.1	1.23
I19	27 Jan 2021	10	13.93	40.22	6.6	33.59	8.1	25.1	1.22
I24	05 Jan 2021	1	14.00	58.28	7.1	33.61	8.0	25.1	2.19
I24	05 Jan 2021	2	14.00	57.87	7.1	33.61	8.0	25.1	2.25
I24	05 Jan 2021	3	13.94	58.65	7.0	33.61	8.0	25.1	2.45
I24	05 Jan 2021	4	13.94	60.87	6.9	33.61	8.0	25.1	2.57
I24	05 Jan 2021	5	13.92	62.75	6.8	33.61	8.0	25.1	2.47
I24	05 Jan 2021	6	13.91	64.12	6.8	33.61	8.0	25.1	2.35
I24	05 Jan 2021	7	13.91	65.89	6.7	33.61	8.0	25.1	2.25
I24	05 Jan 2021	8	13.91	66.31	6.7	33.61	8.0	25.1	2.20
I24	05 Jan 2021	9	13.91	66.00	6.7	33.61	8.0	25.1	2.20
I24	05 Jan 2021	10	13.91	65.02	6.7	33.61	8.0	25.1	2.18
I24	05 Jan 2021	11	13.91	63.34	6.7	33.61	8.0	25.1	2.15

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
I24	13 Jan 2021	1	13.99	84.59	7.6	33.55	8.1	25.1	1.35
I24	13 Jan 2021	2	13.98	84.36	7.6	33.55	8.1	25.1	1.43
I24	13 Jan 2021	3	13.90	84.62	7.6	33.55	8.1	25.1	1.80
I24	13 Jan 2021	4	13.72	84.45	7.6	33.55	8.1	25.1	2.56
I24	13 Jan 2021	5	13.64	83.16	7.6	33.55	8.1	25.1	3.05
I24	13 Jan 2021	6	13.61	78.75	7.6	33.56	8.1	25.2	3.56
I24	13 Jan 2021	7	13.61	74.80	7.6	33.56	8.1	25.2	3.90
I24	13 Jan 2021	8	13.61	75.69	7.5	33.56	8.1	25.2	4.17
I24	13 Jan 2021	9	13.60	70.24	7.5	33.56	8.1	25.2	4.61
I24	13 Jan 2021	10	13.60	65.66	7.4	33.57	8.1	25.2	4.23
I24	19 Jan 2021	1	14.73	71.81	8.1	33.50	8.1	24.9	1.79
I24	19 Jan 2021	2	14.73	76.62	7.4	33.56	8.1	24.9	0.43
I24	19 Jan 2021	3	14.72	77.61	7.2	33.56	8.1	24.9	0.33
I24	19 Jan 2021	4	14.72	77.49	7.1	33.56	8.1	24.9	0.36
I24	19 Jan 2021	5	14.72	77.47	7.0	33.56	8.1	24.9	0.43
I24	19 Jan 2021	6	14.71	77.54	7.0	33.57	8.1	24.9	0.46
I24	19 Jan 2021	7	14.70	77.70	7.1	33.57	8.1	24.9	0.53
I24	19 Jan 2021	8	14.70	77.58	7.4	33.56	8.1	24.9	0.52
I24	19 Jan 2021	9	14.68	75.81	7.7	33.57	8.1	24.9	0.99
I24	19 Jan 2021	10	14.59	72.13	7.8	33.59	8.1	25.0	1.00
I24	27 Jan 2021	1	14.22	56.88	7.6	33.55	8.2	25.0	1.86
I24	27 Jan 2021	2	14.22	56.82	7.5	33.55	8.2	25.0	2.31
I24	27 Jan 2021	3	14.08	57.09	7.3	33.57	8.2	25.1	2.24
I24	27 Jan 2021	4	13.93	61.36	7.1	33.57	8.2	25.1	1.82
I24	27 Jan 2021	5	13.82	64.52	6.9	33.57	8.2	25.1	1.54
I24	27 Jan 2021	6	13.59	72.37	6.6	33.56	8.1	25.2	1.17
I24	27 Jan 2021	7	13.57	78.49	6.5	33.55	8.1	25.2	1.00
I24	27 Jan 2021	8	13.57	80.37	6.4	33.57	8.1	25.2	0.95
I24	27 Jan 2021	9	13.48	75.98	6.3	33.59	8.1	25.2	0.93
I24	27 Jan 2021	10	13.47	61.48	6.2	33.58	8.1	25.2	0.93
I25	05 Jan 2021	1	14.01	65.61	7.1	33.61	8.1	25.1	2.29
I25	05 Jan 2021	2	14.04	65.46	7.1	33.61	8.1	25.1	2.19
I25	05 Jan 2021	3	14.02	64.44	7.0	33.61	8.1	25.1	2.49
I25	05 Jan 2021	4	13.99	64.33	7.0	33.61	8.1	25.1	2.57
I25	05 Jan 2021	5	13.95	66.89	7.0	33.61	8.1	25.1	2.57
I25	05 Jan 2021	6	13.96	69.80	6.9	33.61	8.0	25.1	2.58
I25	05 Jan 2021	7	13.96	69.75	6.9	33.61	8.0	25.1	2.52
I25	05 Jan 2021	8	13.95	70.00	6.9	33.61	8.1	25.1	2.55
I25	05 Jan 2021	9	13.95	70.25	6.9	33.61	8.0	25.1	2.52
I25	13 Jan 2021	1	14.01	85.59	7.4	33.54	8.1	25.1	1.30
I25	13 Jan 2021	2	13.96	85.32	7.5	33.55	8.1	25.1	1.29
I25	13 Jan 2021	3	13.91	84.75	7.5	33.55	8.1	25.1	1.41
I25	13 Jan 2021	4	13.89	83.96	7.5	33.55	8.1	25.1	1.85
I25	13 Jan 2021	5	13.82	83.84	7.5	33.55	8.1	25.1	2.17
I25	13 Jan 2021	6	13.70	82.38	7.5	33.55	8.1	25.1	2.75
I25	13 Jan 2021	7	13.68	80.16	7.5	33.55	8.1	25.1	3.27
I25	13 Jan 2021	8	13.65	78.53	7.5	33.55	8.1	25.1	3.85
I25	13 Jan 2021	9	13.59	71.32	7.5	33.56	8.1	25.2	3.78
I25	19 Jan 2021	1	14.70	75.83	8.2	33.56	8.1	24.9	2.78
I25	19 Jan 2021	2	14.70	76.86	8.2	33.56	8.1	24.9	2.93
I25	19 Jan 2021	3	14.69	76.17	8.2	33.56	8.1	24.9	3.13
I25	19 Jan 2021	4	14.69	76.16	8.2	33.56	8.1	24.9	3.31
I25	19 Jan 2021	5	14.68	76.20	8.2	33.56	8.1	24.9	3.29
I25	19 Jan 2021	6	14.68	76.55	8.2	33.56	8.1	24.9	3.31
I25	19 Jan 2021	7	14.62	73.93	8.1	33.56	8.1	24.9	3.26
I25	19 Jan 2021	8	14.56	72.14	8.1	33.56	8.1	25.0	3.33

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
I25	19 Jan 2021	9	14.51	69.88	8.0	33.56	8.1	25.0	3.32
	27 Jan 2021	1	14.22	60.76	7.5	33.53	8.2	25.0	1.64
	27 Jan 2021	2	14.20	58.82	7.5	33.53	8.2	25.0	1.83
	27 Jan 2021	3	14.12	56.90	7.4	33.55	8.2	25.0	2.15
	27 Jan 2021	4	13.74	60.54	6.8	33.58	8.2	25.1	1.71
	27 Jan 2021	5	13.53	67.16	6.4	33.56	8.1	25.2	1.25
	27 Jan 2021	6	13.52	73.71	6.4	33.56	8.1	25.2	1.11
	27 Jan 2021	7	13.53	73.86	6.4	33.56	8.1	25.2	1.01
	27 Jan 2021	8	13.52	72.88	6.4	33.57	8.1	25.2	0.98
	27 Jan 2021	9	13.52	72.24	6.4	33.57	8.1	25.2	1.08
I26	05 Jan 2021	2	14.09	68.82	7.3	33.61	8.1	25.1	3.06
	05 Jan 2021	3	14.07	68.71	7.3	33.61	8.1	25.1	3.25
	05 Jan 2021	4	14.04	66.60	7.2	33.61	8.1	25.1	3.42
	05 Jan 2021	5	14.03	64.96	7.2	33.61	8.1	25.1	3.10
	05 Jan 2021	6	13.97	64.76	7.1	33.61	8.1	25.1	2.67
	05 Jan 2021	7	13.79	61.59	6.8	33.62	8.0	25.2	2.26
	05 Jan 2021	8	13.67	63.49	6.5	33.61	8.0	25.2	1.87
	05 Jan 2021	9	13.65	66.42	6.3	33.60	8.0	25.2	1.57
	13 Jan 2021	1	13.86	76.92	7.9	33.56	8.1	25.1	1.46
	13 Jan 2021	2	13.73	74.87	7.9	33.57	8.1	25.1	1.73
I26	13 Jan 2021	3	13.67	72.38	7.8	33.57	8.1	25.2	2.35
	13 Jan 2021	4	13.65	71.03	7.7	33.57	8.1	25.2	2.89
	13 Jan 2021	5	13.65	69.87	7.7	33.57	8.1	25.2	3.38
	13 Jan 2021	6	13.65	69.07	7.7	33.57	8.1	25.2	3.72
	13 Jan 2021	7	13.64	67.75	7.7	33.57	8.1	25.2	3.83
	13 Jan 2021	8	13.65	69.19	7.7	33.57	8.1	25.2	3.79
	13 Jan 2021	9	13.65	63.96	7.6	33.58	8.1	25.2	3.88
	19 Jan 2021	1	14.78	69.20	8.2	33.57	8.1	24.9	2.65
	19 Jan 2021	2	14.77	69.21	8.1	33.57	8.1	24.9	2.83
	19 Jan 2021	3	14.77	68.36	8.2	33.57	8.1	24.9	3.16
I26	19 Jan 2021	4	14.76	68.12	8.1	33.57	8.1	24.9	3.22
	19 Jan 2021	5	14.76	67.71	8.1	33.57	8.1	24.9	3.24
	19 Jan 2021	6	14.76	67.82	8.1	33.57	8.1	24.9	3.28
	19 Jan 2021	7	14.74	65.78	8.1	33.57	8.1	24.9	3.23
	19 Jan 2021	8	14.75	64.84	8.1	33.57	8.1	24.9	3.20
	19 Jan 2021	9	14.72	58.86	8.1	33.57	8.1	24.9	3.26
	27 Jan 2021	1	14.23	51.17	7.3	33.57	8.2	25.0	1.85
	27 Jan 2021	2	14.22	50.21	7.3	33.57	8.2	25.0	1.93
	27 Jan 2021	3	14.18	51.01	7.3	33.57	8.2	25.0	2.13
	27 Jan 2021	4	14.18	50.64	7.4	33.57	8.2	25.0	2.26
I32	05 Jan 2021	5	14.18	49.13	7.5	33.58	8.2	25.0	2.26
	05 Jan 2021	6	14.20	46.28	7.6	33.59	8.2	25.1	2.31
	05 Jan 2021	7	14.22	42.86	7.7	33.60	8.2	25.1	2.37
	05 Jan 2021	8	14.24	37.35	7.8	33.61	8.2	25.1	2.39
	05 Jan 2021	9	14.24	31.48	7.8	33.62	8.2	25.1	2.37
	05 Jan 2021	10	14.05	44.40	7.2	33.62	8.1	25.1	2.61
	05 Jan 2021	2	14.06	40.36	7.2	33.62	8.1	25.1	2.77
	05 Jan 2021	3	14.02	41.90	7.2	33.62	8.0	25.1	2.69
	05 Jan 2021	4	13.97	42.56	7.3	33.62	8.0	25.1	2.69
	05 Jan 2021	5	13.96	34.75	7.3	33.62	8.0	25.1	2.77
I32	05 Jan 2021	6	13.96	32.61	7.3	33.62	8.0	25.1	2.63
	05 Jan 2021	7	13.92	30.99	7.3	33.62	8.0	25.1	2.56
	05 Jan 2021	8	13.91	29.67	7.3	33.62	8.0	25.1	2.54
	05 Jan 2021	9	13.90	30.43	7.2	33.62	8.0	25.1	2.44
	05 Jan 2021	10	13.83	31.05	7.1	33.62	8.0	25.2	2.28

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
I32	13 Jan 2021	1	13.74	74.10	7.9	33.57	8.1	25.1	1.61
I32	13 Jan 2021	2	13.72	74.19	7.9	33.58	8.1	25.1	1.74
I32	13 Jan 2021	3	13.59	72.80	7.9	33.59	8.1	25.2	2.61
I32	13 Jan 2021	4	13.59	67.90	7.9	33.59	8.1	25.2	3.72
I32	13 Jan 2021	5	13.58	63.13	7.9	33.59	8.1	25.2	4.31
I32	13 Jan 2021	6	13.58	62.38	7.9	33.59	8.1	25.2	4.74
I32	13 Jan 2021	7	13.58	63.44	8.0	33.59	8.1	25.2	5.04
I32	13 Jan 2021	8	13.58	63.83	8.0	33.59	8.1	25.2	4.98
I32	13 Jan 2021	9	13.58	63.77	8.0	33.60	8.1	25.2	5.10
I32	13 Jan 2021	10	13.58	63.16	8.0	33.60	8.1	25.2	4.94
I32	19 Jan 2021	1	14.58	69.53	8.3	33.56	8.1	25.0	4.28
I32	19 Jan 2021	2	14.58	69.58	8.3	33.56	8.1	25.0	4.53
I32	19 Jan 2021	3	14.58	68.74	8.3	33.56	8.1	25.0	4.62
I32	19 Jan 2021	4	14.57	68.11	8.2	33.56	8.1	25.0	4.58
I32	19 Jan 2021	5	14.55	68.00	8.2	33.56	8.1	25.0	4.42
I32	19 Jan 2021	6	14.53	67.61	8.1	33.56	8.1	25.0	3.92
I32	19 Jan 2021	7	14.51	65.07	8.1	33.55	8.1	25.0	3.54
I32	19 Jan 2021	8	14.51	64.33	8.1	33.55	8.1	25.0	3.35
I32	19 Jan 2021	9	14.50	60.43	8.0	33.55	8.1	25.0	3.08
I32	19 Jan 2021	10	14.50	53.79	8.0	33.55	8.1	25.0	3.10
I32	27 Jan 2021	1	14.58	51.59	7.7	33.61	8.2	25.0	1.37
I32	27 Jan 2021	2	14.50	50.78	7.6	33.62	8.2	25.0	1.63
I32	27 Jan 2021	3	14.40	50.70	7.6	33.61	8.2	25.0	2.06
I32	27 Jan 2021	4	14.35	52.45	7.6	33.61	8.2	25.0	2.50
I32	27 Jan 2021	5	14.34	53.28	7.6	33.61	8.2	25.0	2.56
I32	27 Jan 2021	6	14.29	53.43	7.6	33.61	8.2	25.1	2.27
I32	27 Jan 2021	7	14.15	53.43	7.4	33.62	8.2	25.1	1.95
I32	27 Jan 2021	8	14.09	53.04	7.2	33.61	8.2	25.1	1.84
I32	27 Jan 2021	9	14.07	53.14	7.2	33.60	8.2	25.1	1.68
I32	27 Jan 2021	10	14.03	53.48	7.0	33.60	8.2	25.1	1.56
I39	05 Jan 2021	1	14.01	84.75	7.2	33.60	8.1	25.1	1.72
I39	05 Jan 2021	2	14.01	84.71	7.2	33.60	8.1	25.1	1.86
I39	05 Jan 2021	3	13.96	84.64	7.2	33.60	8.1	25.1	2.13
I39	05 Jan 2021	4	13.91	84.80	7.1	33.60	8.1	25.1	2.28
I39	05 Jan 2021	5	13.87	85.16	7.0	33.60	8.1	25.1	2.34
I39	05 Jan 2021	6	13.81	85.66	6.9	33.60	8.0	25.1	2.24
I39	05 Jan 2021	7	13.80	86.35	6.8	33.60	8.0	25.1	2.19
I39	05 Jan 2021	8	13.78	86.99	6.8	33.60	8.0	25.1	2.15
I39	05 Jan 2021	9	13.77	87.12	6.7	33.60	8.0	25.2	1.94
I39	05 Jan 2021	10	13.73	87.23	6.6	33.60	8.0	25.2	1.79
I39	05 Jan 2021	11	13.55	87.54	6.3	33.61	8.0	25.2	1.48
I39	05 Jan 2021	12	13.28	87.75	6.0	33.61	8.0	25.3	1.16
I39	05 Jan 2021	13	12.98	87.87	5.7	33.63	8.0	25.3	0.93
I39	05 Jan 2021	14	12.99	86.40	5.5	33.61	7.9	25.3	0.78
I39	05 Jan 2021	15	12.90	84.27	5.4	33.63	7.9	25.4	0.74
I39	05 Jan 2021	16	12.81	82.01	5.3	33.63	7.9	25.4	0.70
I39	05 Jan 2021	17	12.83	79.35	5.3	33.62	7.9	25.4	0.68
I39	05 Jan 2021	18	12.81	79.24	5.2	33.63	7.9	25.4	0.68
I39	13 Jan 2021	1	13.89	84.24	7.4	33.54	8.1	25.1	2.01
I39	13 Jan 2021	2	13.89	84.51	7.5	33.54	8.1	25.1	1.85
I39	13 Jan 2021	3	13.87	84.60	7.5	33.54	8.1	25.1	1.97
I39	13 Jan 2021	4	13.86	84.45	7.5	33.54	8.1	25.1	2.38
I39	13 Jan 2021	5	13.85	84.27	7.5	33.54	8.1	25.1	2.83
I39	13 Jan 2021	6	13.84	84.27	7.5	33.54	8.1	25.1	3.11
I39	13 Jan 2021	7	13.84	83.98	7.4	33.53	8.1	25.1	3.70
I39	13 Jan 2021	8	13.84	84.01	7.4	33.54	8.1	25.1	3.85

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
I39	13 Jan 2021	9	13.83	84.06	7.4	33.54	8.1	25.1	4.02
I39	13 Jan 2021	10	13.83	84.12	7.5	33.54	8.1	25.1	4.32
I39	13 Jan 2021	11	13.80	84.73	7.3	33.54	8.1	25.1	3.58
I39	13 Jan 2021	12	13.57	86.61	6.9	33.53	8.0	25.1	2.77
I39	13 Jan 2021	13	13.53	86.95	6.6	33.53	8.0	25.1	2.48
I39	13 Jan 2021	14	13.50	85.59	6.5	33.54	8.0	25.2	2.49
I39	13 Jan 2021	15	13.51	81.00	6.5	33.54	8.0	25.2	2.50
I39	13 Jan 2021	16	13.51	78.61	6.5	33.54	8.0	25.2	2.46
I39	13 Jan 2021	17	13.51	78.07	6.5	33.54	8.0	25.2	2.46
I39	13 Jan 2021	18	13.51	76.99	6.5	33.55	8.0	25.2	2.45
I39	19 Jan 2021	1	14.92	80.99	8.3	33.58	8.2	24.9	1.66
I39	19 Jan 2021	2	14.92	81.12	8.3	33.58	8.2	24.9	1.65
I39	19 Jan 2021	3	14.92	81.19	8.3	33.58	8.2	24.9	1.79
I39	19 Jan 2021	4	14.92	81.15	8.3	33.58	8.2	24.9	1.93
I39	19 Jan 2021	5	14.90	81.07	8.3	33.58	8.1	24.9	2.18
I39	19 Jan 2021	6	14.80	80.84	8.3	33.58	8.1	24.9	2.40
I39	19 Jan 2021	7	14.64	80.17	8.2	33.58	8.1	25.0	2.69
I39	19 Jan 2021	8	14.35	79.01	8.2	33.57	8.1	25.0	2.94
I39	19 Jan 2021	9	14.27	78.13	8.1	33.55	8.1	25.0	3.29
I39	19 Jan 2021	10	14.24	76.94	8.0	33.55	8.1	25.0	3.31
I39	19 Jan 2021	11	14.20	74.42	7.9	33.56	8.1	25.0	3.23
I39	19 Jan 2021	12	14.17	72.80	7.8	33.56	8.1	25.0	3.03
I39	19 Jan 2021	13	14.14	71.92	7.8	33.56	8.1	25.0	2.84
I39	19 Jan 2021	14	14.09	70.10	7.7	33.56	8.1	25.1	2.60
I39	19 Jan 2021	15	14.02	67.88	7.6	33.56	8.1	25.1	2.54
I39	19 Jan 2021	16	13.99	63.75	7.5	33.56	8.1	25.1	2.40
I39	19 Jan 2021	17	13.98	61.47	7.5	33.56	8.1	25.1	2.29
I39	19 Jan 2021	18	13.97	54.08	7.4	33.56	8.0	25.1	2.26
I39	27 Jan 2021	1	13.55	81.47	6.8	33.58	8.1	25.2	0.54
I39	27 Jan 2021	2	13.56	81.69	6.8	33.58	8.1	25.2	0.55
I39	27 Jan 2021	3	13.54	81.53	6.8	33.58	8.1	25.2	0.56
I39	27 Jan 2021	4	13.54	81.72	6.8	33.58	8.1	25.2	0.59
I39	27 Jan 2021	5	13.50	81.81	6.8	33.59	8.1	25.2	0.64
I39	27 Jan 2021	6	13.48	81.97	6.8	33.58	8.1	25.2	0.67
I39	27 Jan 2021	7	13.47	82.12	6.7	33.58	8.1	25.2	0.71
I39	27 Jan 2021	8	13.46	82.30	6.7	33.58	8.1	25.2	0.74
I39	27 Jan 2021	9	13.44	82.41	6.7	33.58	8.1	25.2	0.79
I39	27 Jan 2021	10	13.42	82.54	6.7	33.58	8.1	25.2	0.82
I39	27 Jan 2021	11	13.42	82.71	6.7	33.58	8.1	25.2	0.85
I39	27 Jan 2021	12	13.41	82.68	6.7	33.59	8.1	25.2	0.85
I39	27 Jan 2021	13	13.39	82.74	6.6	33.59	8.1	25.2	0.86
I39	27 Jan 2021	14	13.38	82.71	6.6	33.59	8.1	25.2	0.87
I39	27 Jan 2021	15	13.29	81.80	6.4	33.59	8.1	25.2	0.83
I39	27 Jan 2021	16	13.21	80.10	6.3	33.59	8.1	25.3	0.78
I39	27 Jan 2021	17	13.17	78.04	6.2	33.58	8.1	25.3	0.76
I39	27 Jan 2021	18	13.12	73.37	6.1	33.59	8.1	25.3	0.78
I40	05 Jan 2021	1	14.17	57.25	7.5	33.62	8.1	25.1	3.39
I40	05 Jan 2021	2	14.18	57.46	7.5	33.62	8.1	25.1	3.69
I40	05 Jan 2021	3	14.14	56.74	7.5	33.62	8.1	25.1	4.04
I40	05 Jan 2021	4	14.10	56.73	7.4	33.62	8.1	25.1	3.79
I40	05 Jan 2021	5	14.09	57.11	7.4	33.62	8.1	25.1	3.46
I40	05 Jan 2021	6	14.08	57.52	7.3	33.62	8.1	25.1	3.31
I40	05 Jan 2021	7	14.08	58.08	7.3	33.62	8.1	25.1	3.17
I40	05 Jan 2021	8	14.08	58.22	7.3	33.62	8.1	25.1	3.04
I40	05 Jan 2021	9	14.09	56.52	7.3	33.62	8.1	25.1	3.03
I40	05 Jan 2021	10	14.09	53.18	7.3	33.62	8.1	25.1	3.09
I40	13 Jan 2021	1	13.71	71.36	8.1	33.58	8.1	25.1	1.98

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
I40	13 Jan 2021	2	13.70	71.05	8.1	33.58	8.1	25.1	2.13
I40	13 Jan 2021	3	13.68	70.59	8.1	33.59	8.1	25.2	3.19
I40	13 Jan 2021	4	13.65	68.05	8.1	33.60	8.1	25.2	4.63
I40	13 Jan 2021	5	13.56	64.71	8.1	33.61	8.1	25.2	5.80
I40	13 Jan 2021	6	13.54	61.99	8.0	33.61	8.1	25.2	5.87
I40	13 Jan 2021	7	13.53	60.39	7.9	33.61	8.1	25.2	5.26
I40	13 Jan 2021	8	13.53	60.24	7.9	33.61	8.1	25.2	4.95
I40	13 Jan 2021	9	13.53	59.59	7.8	33.61	8.1	25.2	4.57
I40	13 Jan 2021	10	13.52	57.50	7.8	33.61	8.1	25.2	4.21
I40	19 Jan 2021	1	14.82	69.83	8.1	33.57	8.1	24.9	2.69
I40	19 Jan 2021	2	14.82	69.84	8.1	33.57	8.1	24.9	2.88
I40	19 Jan 2021	3	14.82	69.92	8.2	33.57	8.1	24.9	3.07
I40	19 Jan 2021	4	14.82	68.60	8.1	33.57	8.1	24.9	3.23
I40	19 Jan 2021	5	14.81	67.95	8.1	33.57	8.1	24.9	3.19
I40	19 Jan 2021	6	14.81	68.62	8.1	33.56	8.1	24.9	3.18
I40	19 Jan 2021	7	14.81	68.54	8.1	33.57	8.1	24.9	3.19
I40	19 Jan 2021	8	14.80	67.02	8.1	33.57	8.1	24.9	3.08
I40	19 Jan 2021	9	14.79	65.12	8.1	33.56	8.1	24.9	3.26
I40	19 Jan 2021	10	14.77	63.34	8.2	33.56	8.1	24.9	3.16
I40	27 Jan 2021	1	14.35	48.96	7.6	33.57	8.2	25.0	1.57
I40	27 Jan 2021	2	14.35	49.48	7.5	33.57	8.2	25.0	1.69
I40	27 Jan 2021	3	14.29	50.55	7.5	33.56	8.2	25.0	2.19
I40	27 Jan 2021	4	14.27	53.17	7.5	33.56	8.2	25.0	2.44
I40	27 Jan 2021	5	14.24	55.28	7.5	33.56	8.2	25.0	2.29
I40	27 Jan 2021	6	14.22	56.39	7.4	33.56	8.2	25.0	1.99
I40	27 Jan 2021	7	14.21	58.05	7.3	33.56	8.2	25.0	1.64
I40	27 Jan 2021	8	14.17	61.24	7.0	33.59	8.2	25.1	1.29
I40	27 Jan 2021	9	13.82	66.62	6.6	33.60	8.1	25.1	1.08
I40	27 Jan 2021	10	13.79	57.44	6.4	33.59	8.1	25.1	1.12

NA = not available

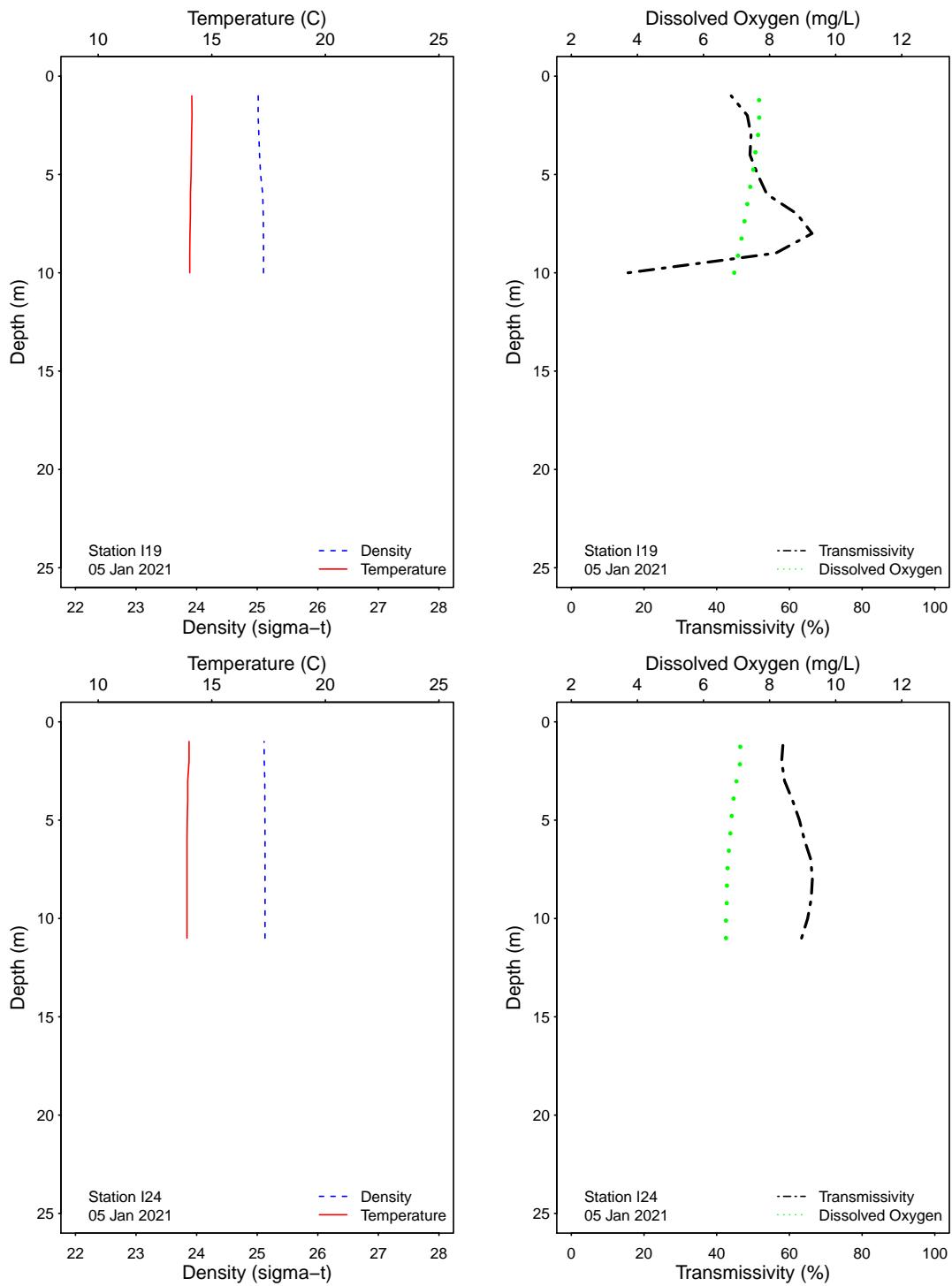


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

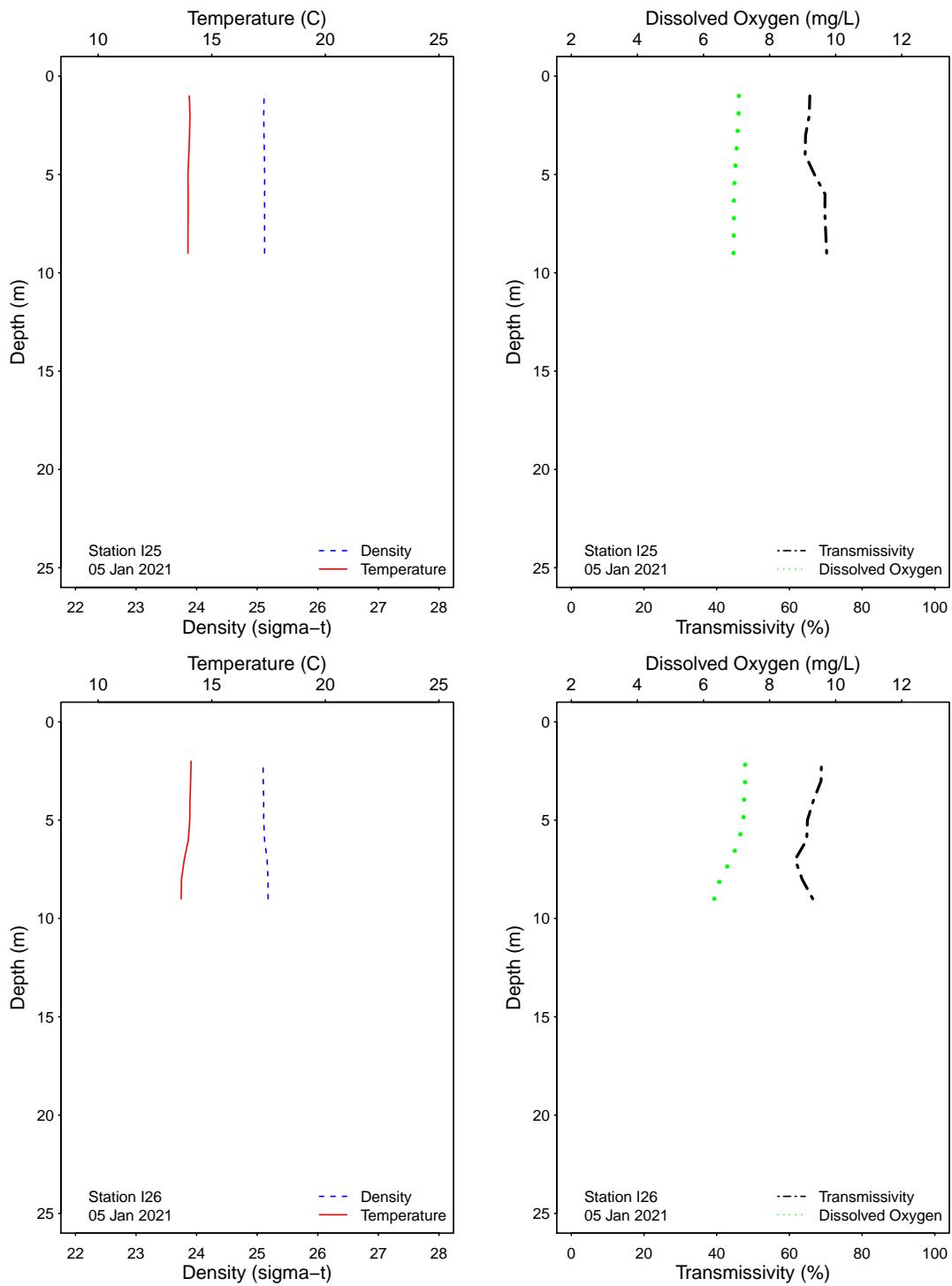


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

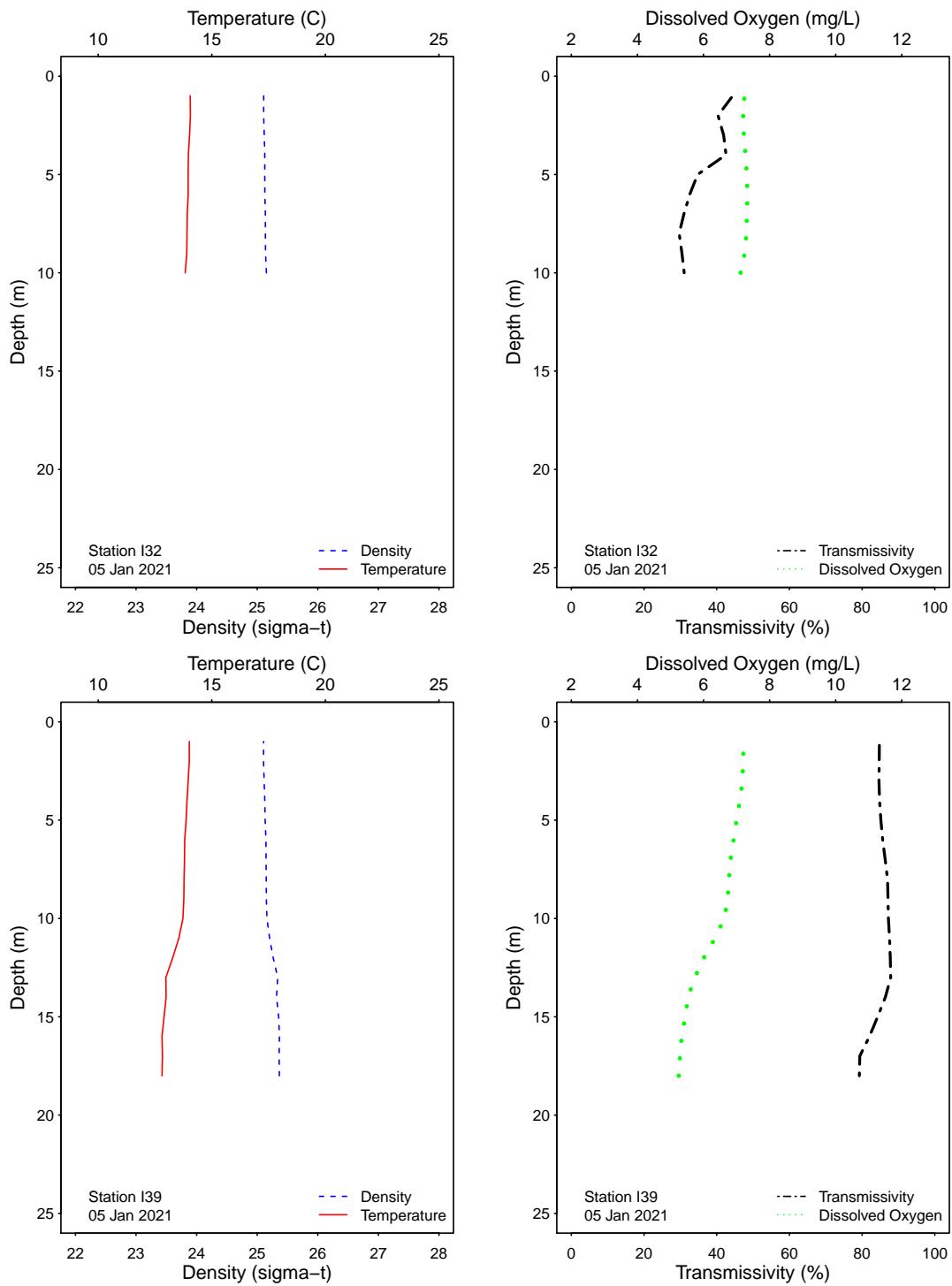


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

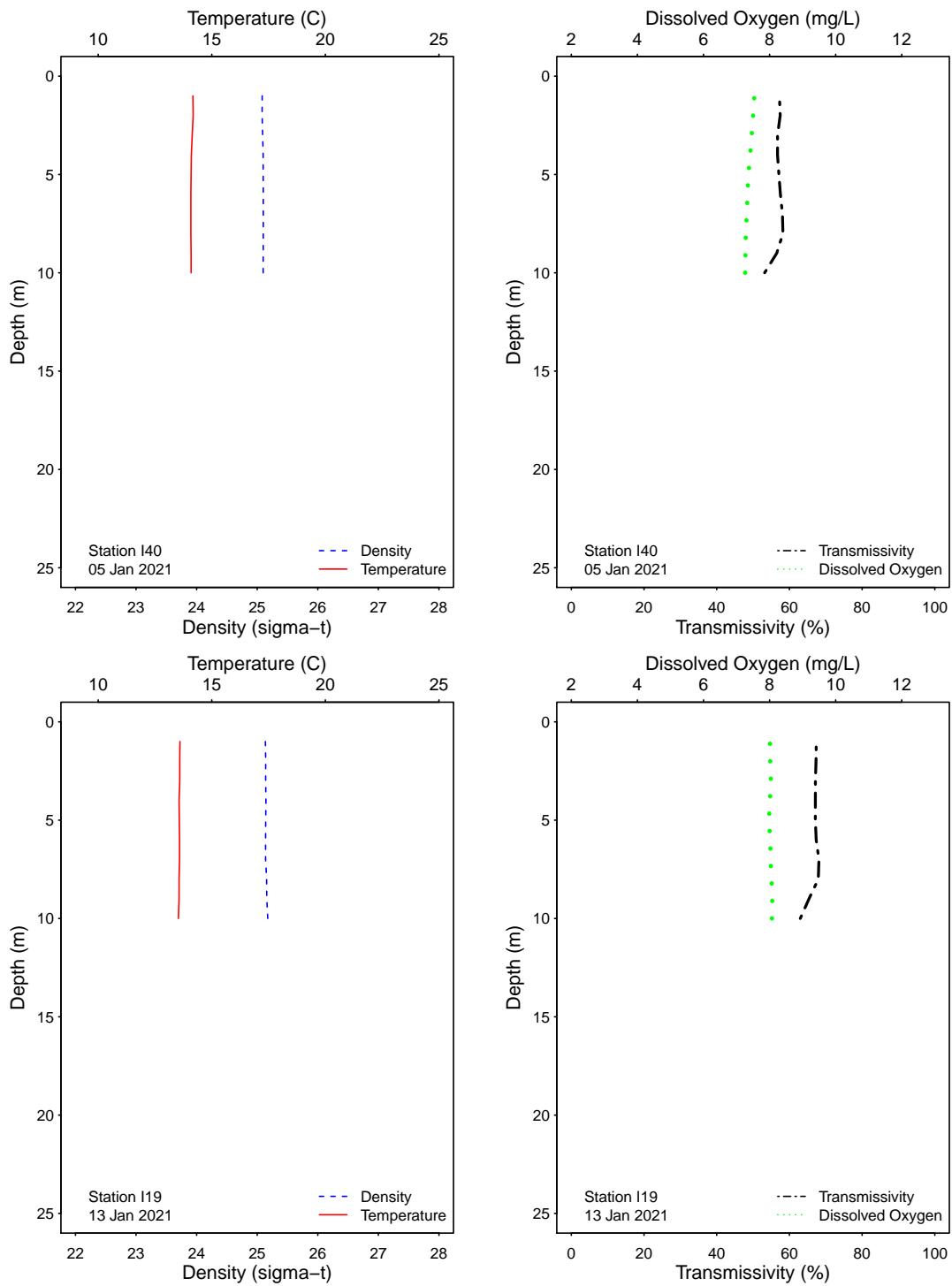


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

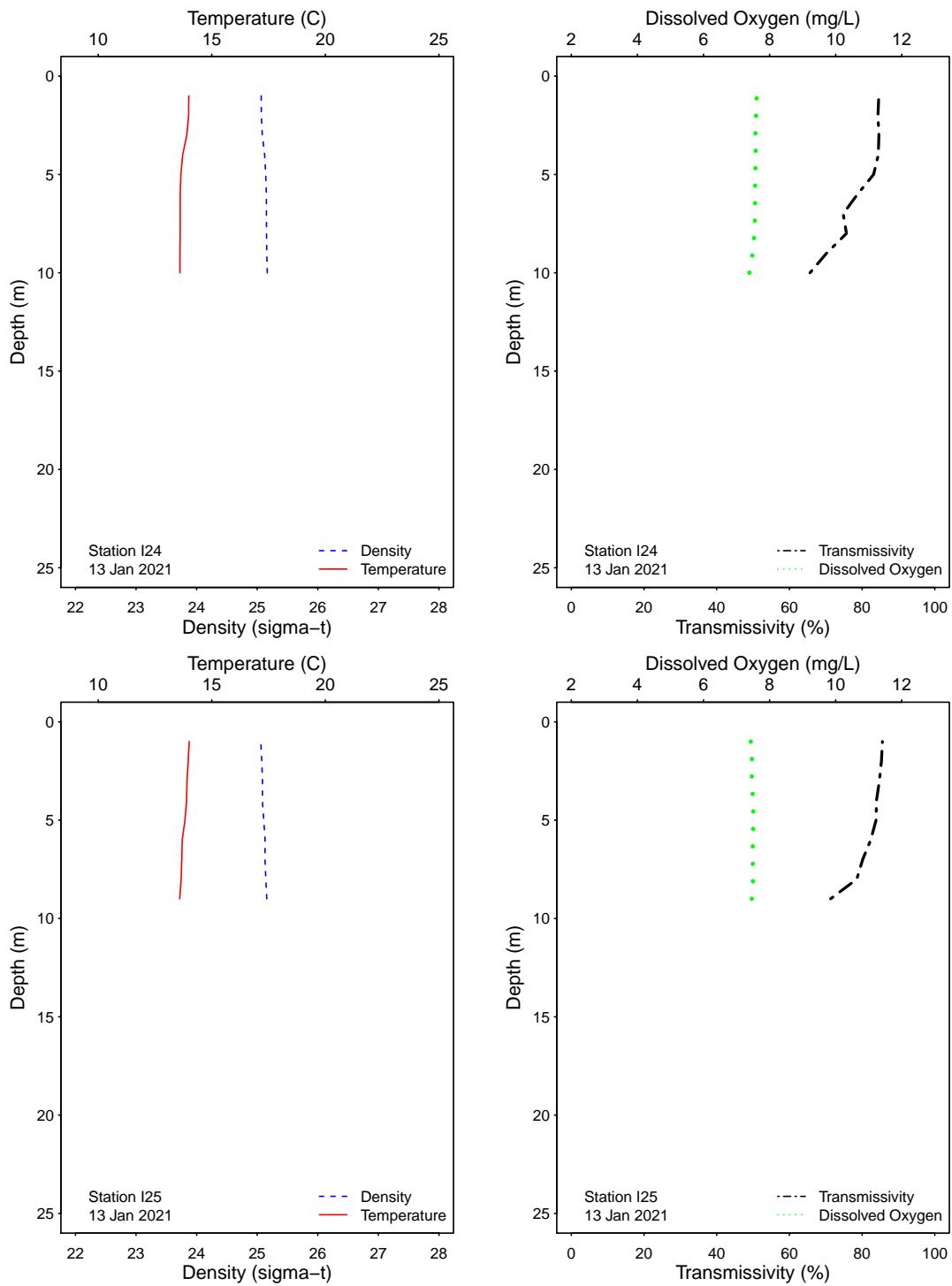


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

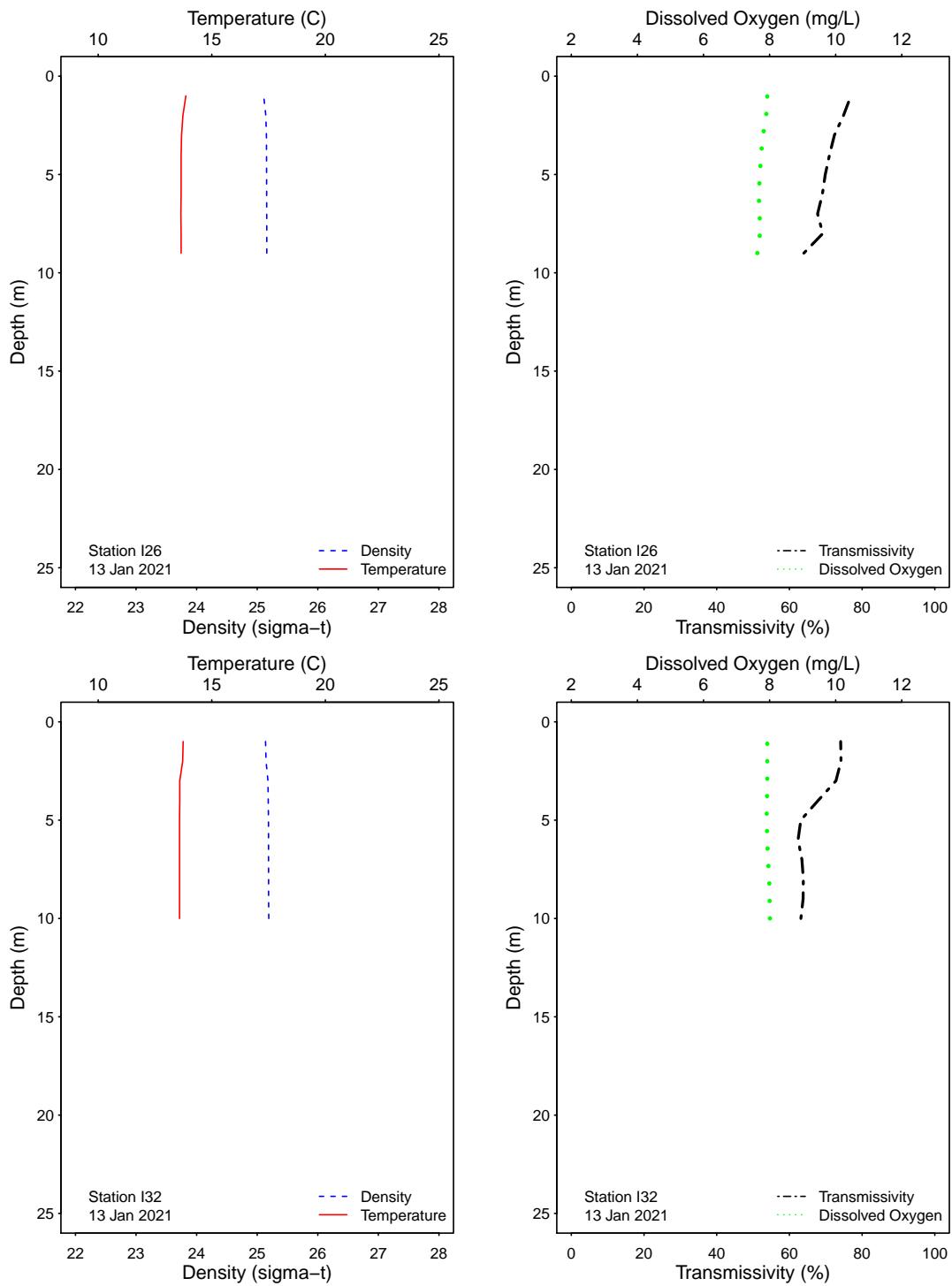


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

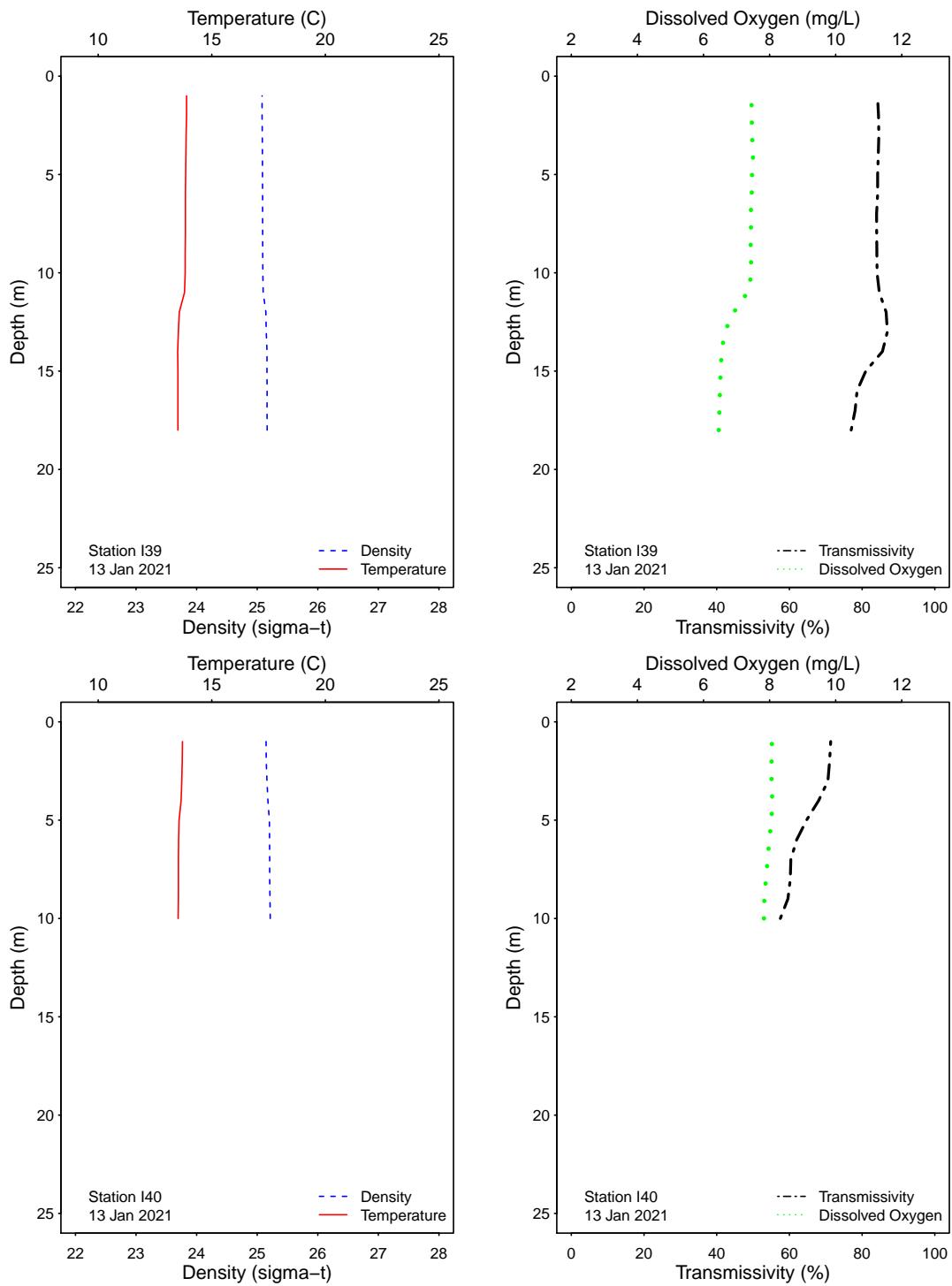


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

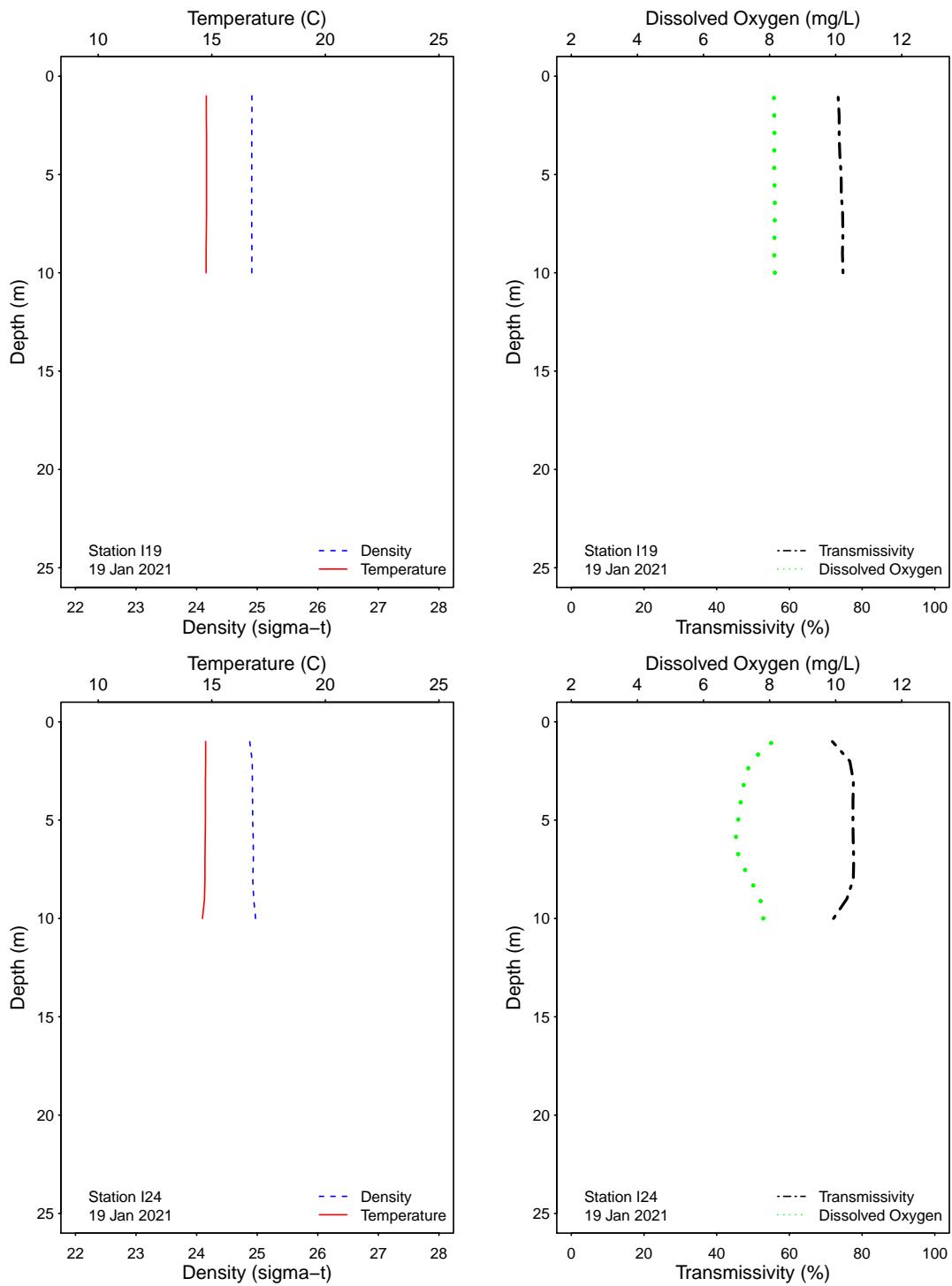


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

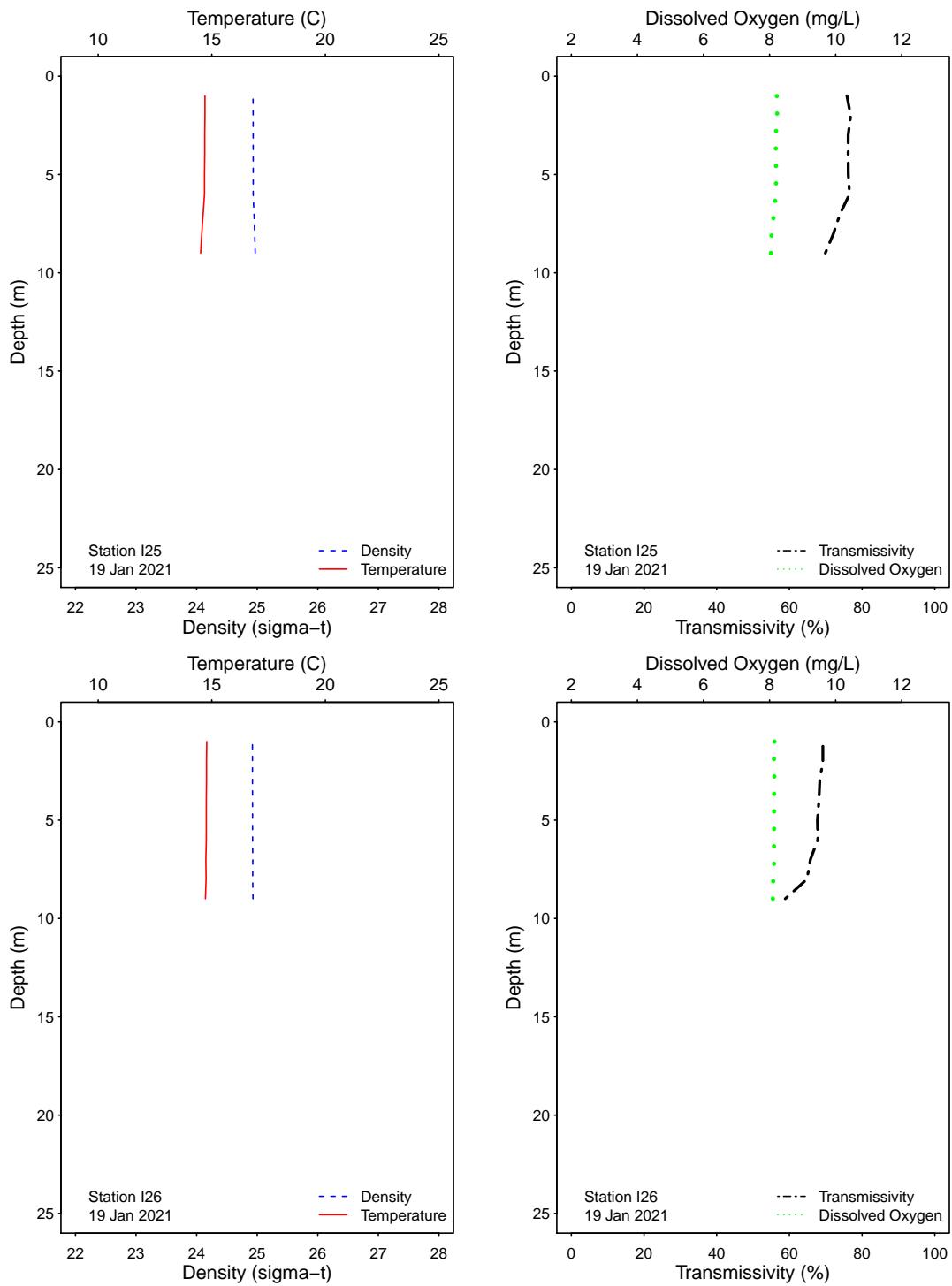


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

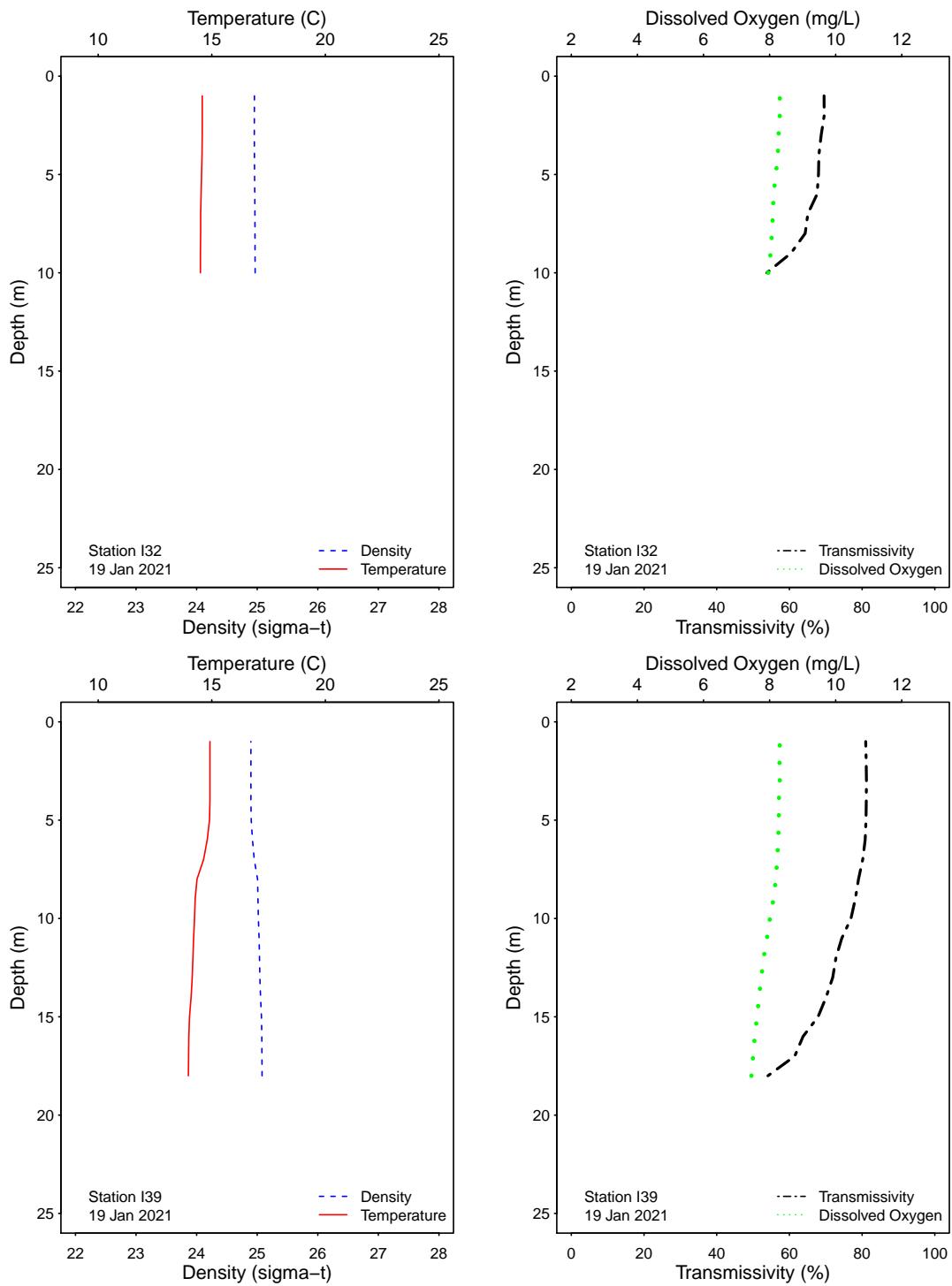


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

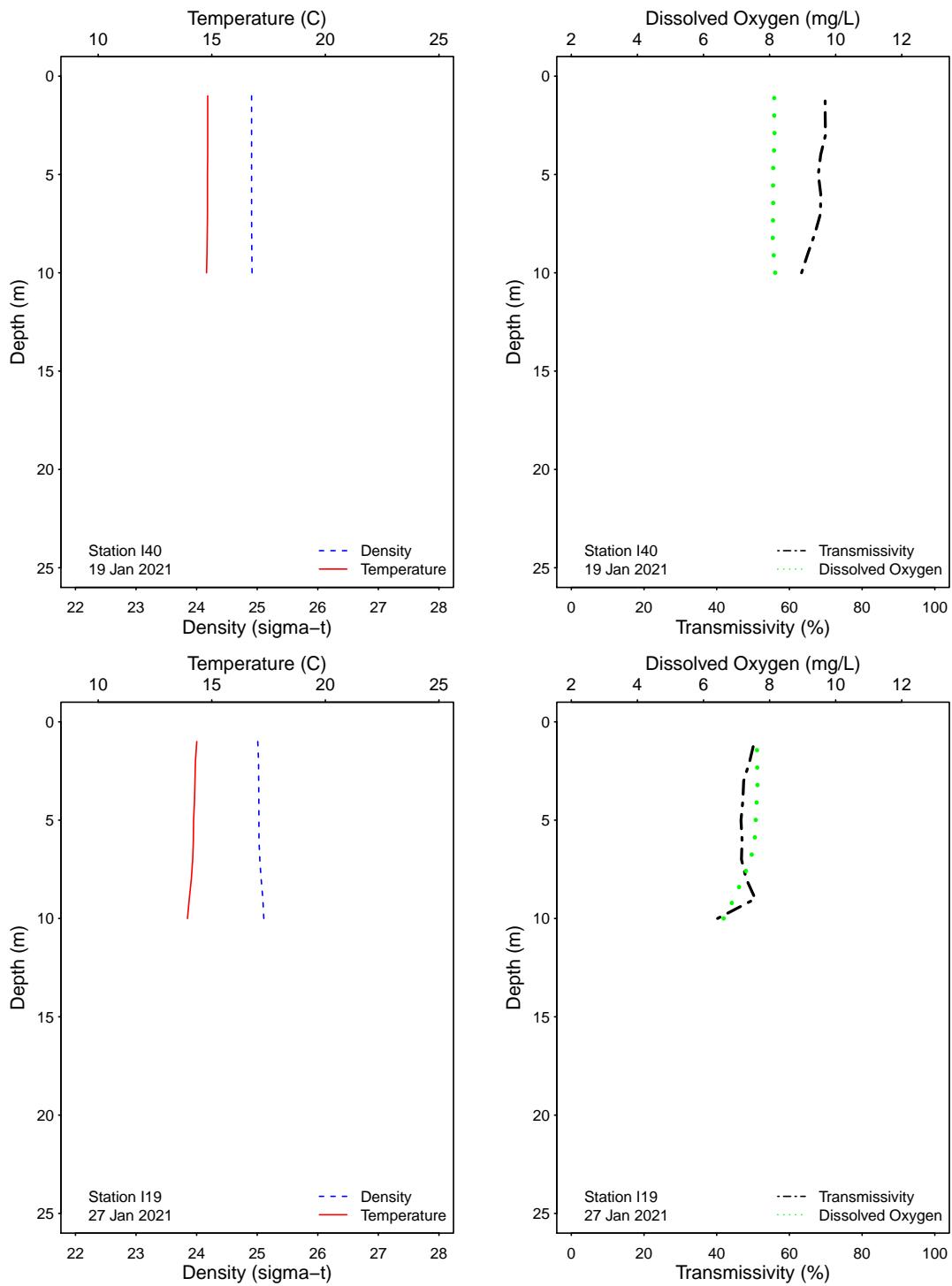


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

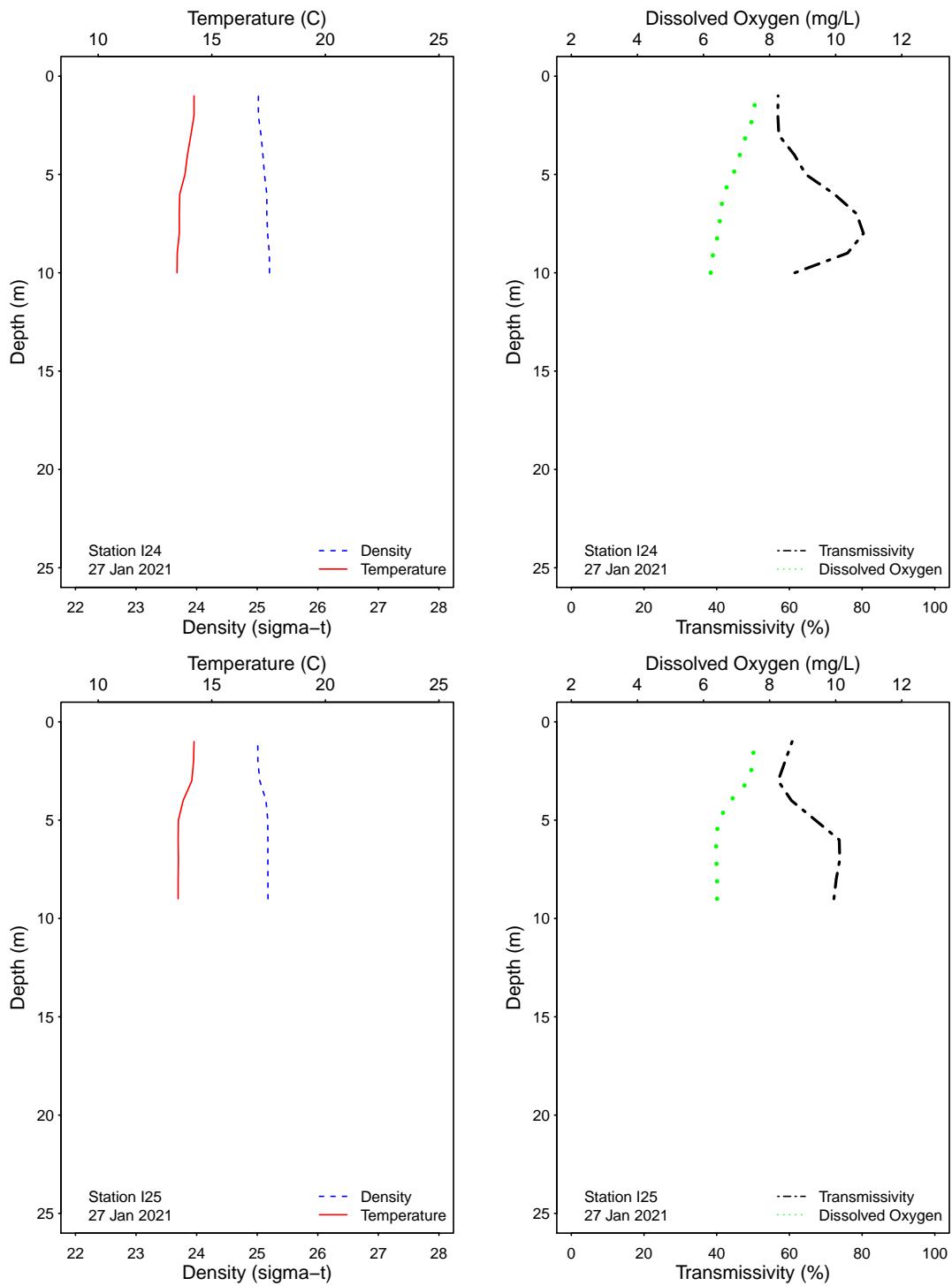


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

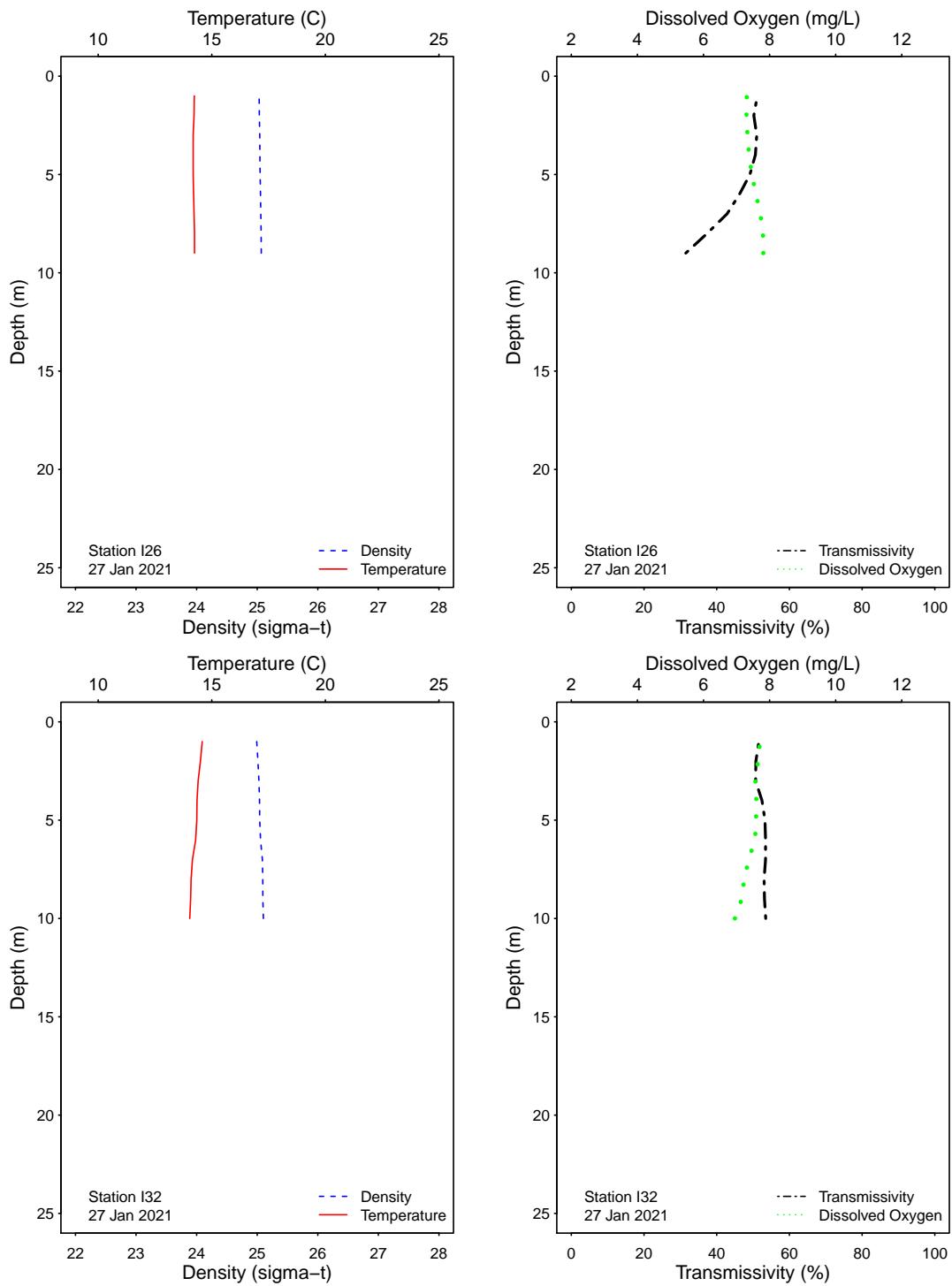


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

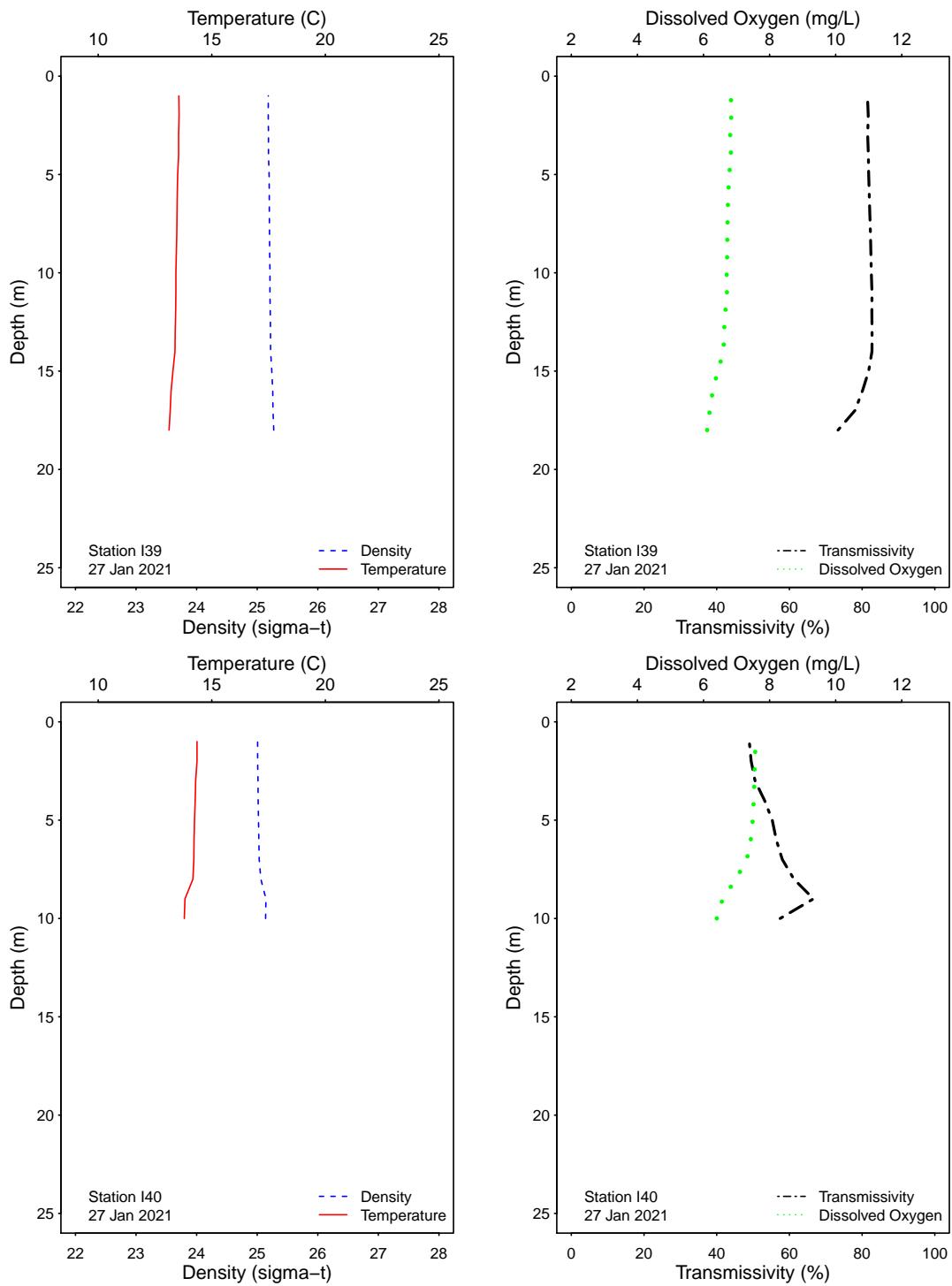


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

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* (Enter) are reported as CFU/100 mL.

Station	Date	Depth	Analyst	Procedure	Total	Fecal	Enter
I19	05 Jan 2021	6	AE	LAB DUPLICATE	6200	800e	320e
I19	13 Jan 2021	6	BS	LAB DUPLICATE	9400	2800e	280e
I19	19 Jan 2021	6	BS	LAB DUPLICATE	80e	6e	2e
I19	27 Jan 2021	6	JF	LAB DUPLICATE	14000	1400e	740
I40	05 Jan 2021	6	BS	LAB DUPLICATE	160e	22e	2e
I40	13 Jan 2021	6	BS	LAB DUPLICATE	400e	160e	32e
I40	19 Jan 2021	6	AE	LAB DUPLICATE	<20	<2	4e
I40	27 Jan 2021	6	JF	LAB DUPLICATE	7200	940	580
S12	05 Jan 2021		AE	FIELD DUPLICATE	<2	2e	<2
S12	05 Jan 2021		AE	LAB DUPLICATE	<20	2e	<2
S12	12 Jan 2021		BS	FIELD DUPLICATE	<2	<2	<2
S12	12 Jan 2021		BS	LAB DUPLICATE	<2	<2	8e
S12	19 Jan 2021		BS	FIELD DUPLICATE	<20	<2	<2
S12	19 Jan 2021		BS	LAB DUPLICATE	<20	<2	<2
S12	26 Jan 2021		AR	FIELD DUPLICATE	<20	<2	<2
S12	26 Jan 2021		AR	LAB DUPLICATE	6e	2e	<2

ns = not sampled

ND = no data

APPENDIX B

New 2019 Ocean Plan Water Quality Objectives

Shore Stations

Table B.1

Summary of compliance with the Ocean Plan's 6-week 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 6 weeks unless otherwise noted (*). Values >30 CFU/100 mL exceed the standard.

Date	S4	S5	S6	S8	S9	S10	S11	S12
01 Jan 2021	4	11	6	4	6	4	6	5
02 Jan 2021	4	11	6	4	6	4	6	5
03 Jan 2021	4	11	6	4	6	4	6	5
04 Jan 2021	4	11	6	4	6	4	6	5
05 Jan 2021	14	34	6	4	6	18	6	5
06 Jan 2021	14	34	6	4	6	18	6	5
07 Jan 2021	29	78	6	4	6	46	6	5
08 Jan 2021	47	147	6	4	6	93	6	5
09 Jan 2021	47	147	6	4	6	93	6	5
10 Jan 2021	67	240	6	4	6	130	6	5
11 Jan 2021	67	240	6	4	6	130	6	5
12 Jan 2021	86	443	7	4	10	170	8	4
13 Jan 2021	86	443	7	4	10	170	8	4
14 Jan 2021	86	372	7	4	10	170	8	4
15 Jan 2021	86	372	7	4	10	170	8	4
16 Jan 2021	86	372	7	4	10	170	8	4
17 Jan 2021	86	372	7	4	10	170	8	4
18 Jan 2021	86	372	7	4	10	170	8	4
19 Jan 2021	97	494	7	4	8	163	7	4
20 Jan 2021	97	494	7	4	8	163	7	4
21 Jan 2021	97	494	7	4	8	163	7	4
22 Jan 2021	97	494	7	4	8	163	7	4
23 Jan 2021	97	494	7	4	8	163	7	4
24 Jan 2021	97	494	7	4	8	163	7	4
25 Jan 2021	97	494	7	4	8	163	7	4
26 Jan 2021	141	866	5	3	7	270	6	3
27 Jan 2021	141	866	5	3	7	270	6	3
28 Jan 2021	141	724	5	3	7	311	6	3
29 Jan 2021	141	724	5	3	7	311	6	3
30 Jan 2021	141	737	5	3	7	374	6	3
31 Jan 2021	141	737	5	3	7	374	6	3

* Geometric mean calculated using n<5

Table B.2

Summary of compliance at the SBOO shore stations with the Ocean Plan's Statistical Threshold Value standard for *Enterococcus* bacteria, which states that *Enterococcus* density shall not exceed 110 CFU/100 mL in more than 10% of samples per month.

Date	S4	S5	S6	S8	S9	S10	S11	S12
January	E	E	IC	IC	IC	E	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Kelp Stations

Table B.3

Summary of compliance with the Ocean Plan's 6-week 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 6 weeks unless otherwise noted (*). Values >30 CFU/100 mL exceed the standard.

Date	I19	I24	I25	I26	I32	I39	I40
01 Jan 2021	2	2	2	2	2	3	2
02 Jan 2021	2	2	2	2	2	3	2
03 Jan 2021	2	2	2	2	2	3	2
04 Jan 2021	2	2	2	2	2	3	2
05 Jan 2021	6	2	2	2	2	3	3
06 Jan 2021	6	2	2	2	2	3	3
07 Jan 2021	6	2	2	2	2	3	3
08 Jan 2021	6	2	2	2	2	3	3
09 Jan 2021	6	2	2	2	2	3	3
10 Jan 2021	6	2	2	2	2	3	3
11 Jan 2021	6	2	2	2	2	3	3
12 Jan 2021	7	2	2	2	2	3	3
13 Jan 2021	14	2	2	2	2	3	4
14 Jan 2021	14	2	2	2	2	3	4
15 Jan 2021	14	2	2	2	2	3	4
16 Jan 2021	14	2	2	2	2	3	4
17 Jan 2021	14	2	2	2	2	3	4
18 Jan 2021	20	2	2	2	2	3	5
19 Jan 2021	16	2	2	2	2	3	4
20 Jan 2021	16	2	2	2	2	3	4
21 Jan 2021	16	2	2	2	2	3	4
22 Jan 2021	16	2	2	2	2	3	4
23 Jan 2021	16	2	2	2	2	3	4
24 Jan 2021	16	2	2	2	2	3	4
25 Jan 2021	16	2	2	2	2	3	4
26 Jan 2021	24	2	2	2	2	4	5
27 Jan 2021	39	4	4	5	3	4	10
28 Jan 2021	39	4	4	5	3	4	10
29 Jan 2021	39	4	4	5	3	4	10
30 Jan 2021	39	4	4	5	3	4	10
31 Jan 2021	39	4	4	5	3	4	10

* Geometric mean calculated using n<5

Table B.4

Summary of compliance at the SBOO kelp stations with the Ocean Plan's Statistical Threshold Value standard for *Enterococcus* bacteria, which states that *Enterococcus* density shall not exceed 110 CFU/100 mL in more than 10% of samples per month.

Date	I19	I24	I25	I26	I32	I39	I40
January	E	E	E	E	IC	IC	E

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data