

SOUTH BAY OCEAN OUTFALL MONTHLY RECEIVING WATERS MONITORING REPORT

SOUTH BAY WATER RECLAMATION PLANT

NPDES Permit No. CA0109045
SDRWQCB Order No. R9-2021-0011

DECEMBER 2022

Environmental Monitoring and Technical Services
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January 31, 2023

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

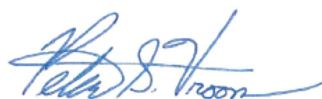
Dear Mr. Gibson:

Enclosed is the December 2022 Monthly Receiving Waters Monitoring Report for the South Bay Ocean Outfall, South Bay Water Reclamation Plant as required per Order No. R9-2021-0011, 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. R9-2021-0001, NPDES Permit No. CA0108928).

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

Sincerely,



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

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. R9-2021-0011, NPDES Permit No. CA0109045, for the South Bay Water Reclamation Plant (SBWRP), South Bay Ocean Outfall (SBOO). This report includes receiving waters monitoring data collected from all shore, kelp and offshore stations specified in the above order. Data for influent and effluent monitoring activities for the SBWRP are presented in separate reports.

MATERIALS AND METHODS

Shore Stations

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

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

Kelp Bed Stations

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

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

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

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

Offshore Stations

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

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

Bacteriological Reporting and Quality Assurance

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

Results of the bacteriological analysis of seawater samples collected from each of the shore, kelp bed, and offshore stations located within State waters are assessed relative to the water-contact standards specified in the 2019 California Ocean Plan (Ocean Plan). The six standards are defined as follows:

Water-Contact Objectives

Fecal coliform:

- (1) The 30-day geometric mean (GM) of fecal coliform density not to exceed 200 CFU/100 mL, calculated based on the five most recent samples from each site
- (2) The single sample maximum (SSM) not to exceed 400 CFU/100 mL

Enterococci:

- (1) The six-week rolling GM of *Enterococci* not to exceed 30 CFU/100 mL, calculated weekly
- (2) The statistical threshold value (STV) of 110 CFU/100 mL not to be exceeded by more than 10 percent of the samples collected in a calendar month, calculated in a static manner

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.

Shellfish Harvesting Standards

Total coliform:

- (1) The median total coliform density shall not exceed 70 CFU/100 mL
- (2) The STV of 230 CFU/100 mL not to be exceeded by more than 10 percent of the samples collected in a calendar month, calculated in a static manner

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 2022 Quality Assurance Report, which will be completed in March 2023.

SUMMARY OF RESULTS

➤ 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 December, six of the eight shore stations located north of the border were out of compliance with 2019 California Ocean Plan (Ocean Plan) water contact standards on one or more days as follows:
 - The 30-day running geometric mean standard for fecal coliforms was exceeded at station S5.
 - The single sample maximum (SSM) standard for fecal coliforms was exceeded at stations S4, S5, S6, S10, S11, and S12.
 - The 6-week running geometric mean standard for *Enterococcus* was exceeded at stations S4, S5, S6, S10, and S11.
 - The statistical threshold value (STV) standard for *Enterococcus* was exceeded at stations S4, S5, S6, S10, S11, and S12.

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

- The 30-day running median standard for total coliform was exceeded at stations S4, S5, S6, S10, S11, and S12.
 - The STV standard for total coliform was exceeded at stations S4, S5, S6, S10, S11 and S12.
- A sewage-like odor was reported at station S5 on one or more days in December.
- 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 December 1, 5, 13, 21, and 27.
- During December, each of the seven kelp stations was out of compliance with 2019 Ocean Plan water contact standards on one or more days as follows:
 - The SSM for fecal coliforms was exceeded at stations I19, I24, I25, I26, I32, I39, and I40.
 - The 6-week running geometric mean standard for *Enterococcus* was exceeded at station I40.
 - The STV standard for *Enterococcus* was exceeded at stations I19, I24, I25, I26, I32, I39, and I40.
 - The 30-day running median standard for total coliform was exceeded at stations I19, I24, I25, and I40.
 - The STV standard for total coliform was exceeded at stations I19, I24, I25, I26, I32, and I40.
- Water column temperatures ranged from 13.40 to 15.92°C. The difference between surface and bottom waters ranged from 0.02 to 0.69°C.
- Concentrations of chlorophyll *a* ranged from 0.44 to 7.47 µg/L at the kelp bed stations.
- Nothing of sewage origin was observed at SBOO kelp stations in December.

➤ **Offshore Water Quality Sampling**

- Quarterly sampling was not conducted during December at the offshore stations. The next quarterly sampling is scheduled for February 2023.



TABLES AND FIGURES

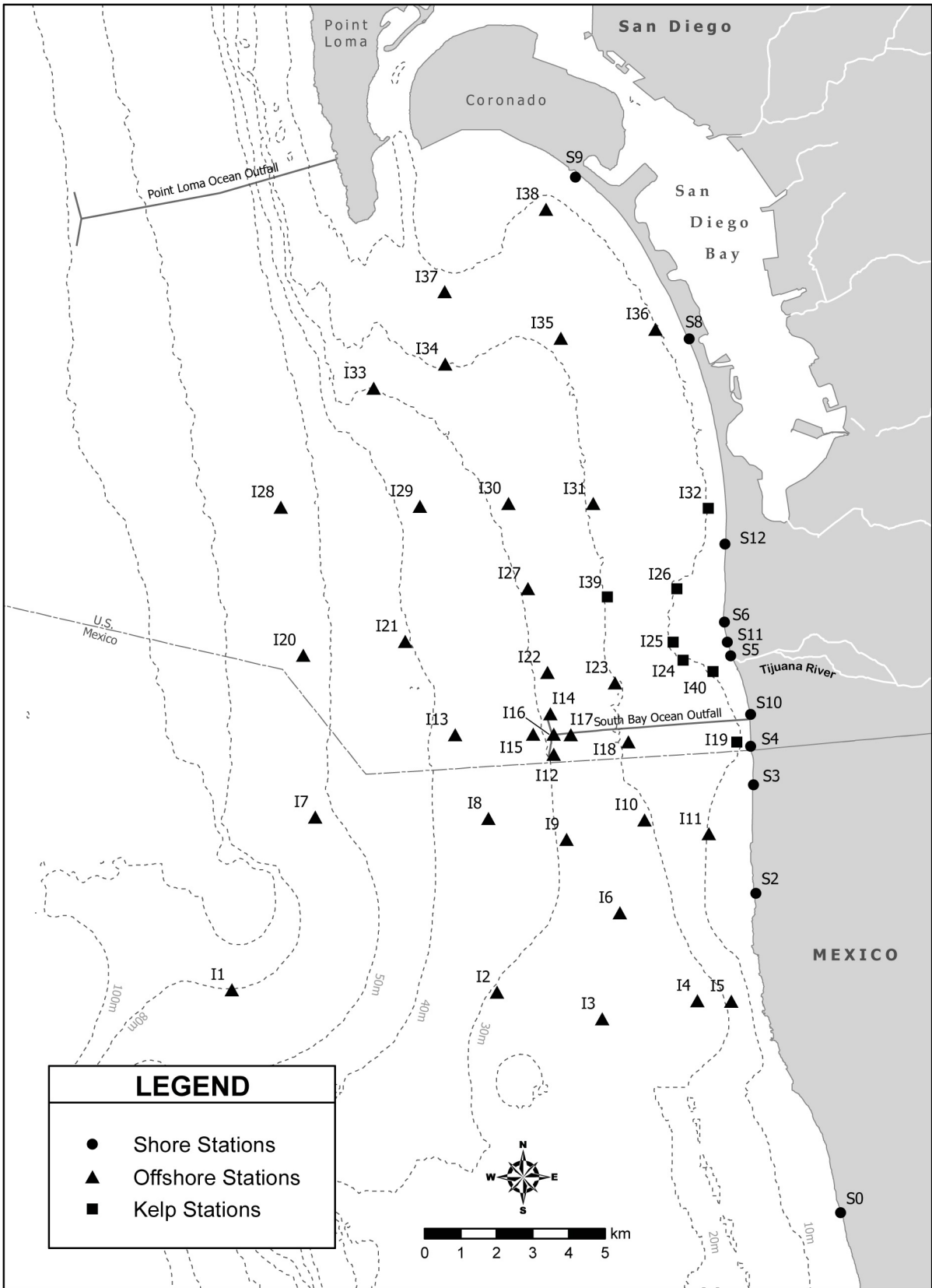


Figure 1.1 Station Map

Shore Stations

Table 2.1

Summary of compliance with the Ocean Plan's 30-day Geometric Mean standard for 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 Dec 2022	105	64	17	2	9	110	17	8
02 Dec 2022	105	64	17	2	9	110	17	8
03 Dec 2022	105	64	17	2	9	110	17	8
04 Dec 2022	105	64	17	2	9	110	17	8
05 Dec 2022	105	64	17	2	9	110	17	8
06 Dec 2022	47	32	11	2	6	49	11	6
07 Dec 2022	47	32	11	2	6	49	11	6
08 Dec 2022	31	64	14	2	5	43	17	6
09 Dec 2022	31	64	14	2	5	43	17	6
10 Dec 2022	31	64	14	2	5	43	17	6
11 Dec 2022	31	64	14	2	5	43	17	6
12 Dec 2022	31	64	14	2	5	43	17	6
13 Dec 2022	80	182	32	2	4	94	38	16
14 Dec 2022	80	182	32	2	4	94	38	16
15 Dec 2022	42	94	23	2	5	33	34	27
16 Dec 2022	42	94	23	2	5	33	34	27
17 Dec 2022	42	94	23	2	5	33	34	27
18 Dec 2022	42	94	23	2	5	33	34	27
19 Dec 2022	42	94	23	2	5	33	34	27
20 Dec 2022	28	247	40	2	4	19	103	25
21 Dec 2022	28	247	40	2	4	19	103	25
22 Dec 2022	34	275	48	2	3	23	130	29
23 Dec 2022	34	275	48	2	3	23	130	29
24 Dec 2022	34	275	48	2	3	23	130	29
25 Dec 2022	34	275	48	2	3	23	130	29
26 Dec 2022	34	275	48	2	3	23	130	29
27 Dec 2022	69	128	40	3	4	23	57	27
28 Dec 2022	69	128	40	3	4	23	57	27
29 Dec 2022	85	204	57	4	4	20	73	29
30 Dec 2022	85	204	57	4	4	20	73	29
31 Dec 2022	85	204	57	4	4	20	73	29

* Geometric mean calculated using n<5

Table 2.2

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
06 Dec 2022	IC	IC	IC	IC	IC	IC	IC	IC
13 Dec 2022	E	E	E	IC	IC	E	E	E
20 Dec 2022	IC	E	IC	IC	IC	IC	E	IC
27 Dec 2022	E	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 2.3

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 Dec 2022	22	53	26	3	4	22	19	6
02 Dec 2022	22	53	26	3	4	22	19	6
03 Dec 2022	22	53	26	3	4	22	19	6
04 Dec 2022	22	53	26	3	4	22	19	6
05 Dec 2022	22	53	26	3	4	22	19	6
06 Dec 2022	18	26	13	3	4	22	12	5
07 Dec 2022	18	26	13	3	4	22	12	5
08 Dec 2022	18	26	13	3	4	22	12	5
09 Dec 2022	18	26	13	3	4	22	12	5
10 Dec 2022	18	26	13	3	4	22	12	5
11 Dec 2022	18	26	13	3	4	22	12	5
12 Dec 2022	18	26	13	3	4	22	12	5
13 Dec 2022	61	110	37	3	4	73	36	12
14 Dec 2022	61	110	37	3	4	73	36	12
15 Dec 2022	61	110	37	3	4	73	36	12
16 Dec 2022	61	110	37	3	4	73	36	12
17 Dec 2022	61	110	37	3	4	73	36	12
18 Dec 2022	61	110	37	3	4	73	36	12
19 Dec 2022	61	110	37	3	4	73	36	12
20 Dec 2022	39	338	70	2	3	54	123	12
21 Dec 2022	39	338	70	2	3	54	123	12
22 Dec 2022	39	338	70	2	3	54	123	12
23 Dec 2022	39	338	70	2	3	54	123	12
24 Dec 2022	39	338	70	2	3	54	123	12
25 Dec 2022	39	338	70	2	3	54	123	12
26 Dec 2022	39	338	70	2	3	54	123	12
27 Dec 2022	42	246	36	2	3	30	98	17
28 Dec 2022	42	246	36	2	3	30	98	17
29 Dec 2022	42	246	36	2	3	30	98	17
30 Dec 2022	42	246	36	2	3	30	98	17
31 Dec 2022	42	246	36	2	3	30	98	17

* Geometric mean calculated using n<5

Table 2.4

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
December	E	E	E	IC	IC	E	E	E

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 2.5

Summary of compliance with the Ocean Plan's 30-day Median standard for total coliform bacteria at the SBOO shore stations. Data are based on the median of the five most recent samples from each site over the previous 30 days unless otherwise noted (*). Values >70 CFU/100 mL exceed the standard.

Date	S4	S5	S6	S8	S9	S10	S11	S12
01 Dec 2022	1300	970	100	11	14	150	130	20
02 Dec 2022	1300	970	100	11	14	150	130	20
03 Dec 2022	1300	970	100	11	14	150	130	20
04 Dec 2022	1300	970	100	11	14	150	130	20
05 Dec 2022	1300	970	100	11	14	150	130	20
06 Dec 2022	200	140	80	6	8	100	120	20
07 Dec 2022	200	140	80	6	8	100	120	20
08 Dec 2022	119	970	100	4	6	60	130	20
09 Dec 2022	119	970	100	4	6	60	130	20
10 Dec 2022	119	970	100	4	6	60	130	20
11 Dec 2022	119	970	100	4	6	60	130	20
12 Dec 2022	119	970	100	4	6	60	130	20
13 Dec 2022	200	1800	120	2	4	100	140	20
14 Dec 2022	200	1800	120	2	4	100	140	20
15 Dec 2022	119	970	100	4	6	60	310	20
16 Dec 2022	119	970	100	4	6	60	310	20
17 Dec 2022	119	970	100	4	6	60	310	20
18 Dec 2022	119	970	100	4	6	60	310	20
19 Dec 2022	119	970	100	4	6	60	310	20
20 Dec 2022	38	1800	120	6	4	100	480	20
21 Dec 2022	38	1800	120	6	4	100	480	20
22 Dec 2022	117	8070	2040	4	3	160	7570	210
23 Dec 2022	117	8070	2040	4	3	160	7570	210
24 Dec 2022	117	8070	2040	4	3	160	7570	210
25 Dec 2022	117	8070	2040	4	3	160	7570	210
26 Dec 2022	117	8070	2040	4	3	160	7570	210
27 Dec 2022	200	140	80	6	4	100	140	40
28 Dec 2022	200	140	80	6	4	100	140	40
29 Dec 2022	1917	8010	2010	13	3	120	7506	220
30 Dec 2022	1917	8010	2010	13	3	120	7506	220
31 Dec 2022	1917	8010	2010	13	3	120	7506	220

* Median calculated using n<5

Table 2.6

Summary of compliance at the SBOO shore stations with the Ocean Plan's Statistical Threshold Value standard for total coliform bacteria, which states that total coliform density shall not exceed 230 CFU/100 mL in more than 10% of samples per month.

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

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 2.7

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

Station	Date	Time	Total	Fecal	Entero
S0	06 Dec 2022	1055	7800	160e	160e
S0	13 Dec 2022	805	5800	1400e	1400e
S0	20 Dec 2022	835	2400e	46	88
S0	27 Dec 2022	1100	6200	400	160e
S2	06 Dec 2022	950	120e	44	18e
S2	13 Dec 2022	915	11000	800e	1600e
S2	20 Dec 2022	930	580	52	38e
S2	27 Dec 2022	1155	>16000	2800e	2400e
S3	06 Dec 2022	1010	4e	6e	4e
S3	13 Dec 2022	855	14000	1800e	2400e
S3	20 Dec 2022	915	1400	110	78
S3	27 Dec 2022	1139	>16000	5000	3000e
S4	06 Dec 2022	1054	<2	<2	2e
S4	13 Dec 2022	1054	>16000	3600e	2600e
S4	20 Dec 2022	1155	34e	6e	24e
S4	27 Dec 2022	842	3800e	1200e	140e
S5	06 Dec 2022	955	6e	2e	2e
S5	13 Dec 2022	946	>16000	>12000	11000
S5	20 Dec 2022	1022	>16000	>12000	>12000
S5	27 Dec 2022	920	20e	6e	60e
S6	06 Dec 2022	1022	<2	<2	<2
S6	13 Dec 2022	1002	6600	760	860
S6	20 Dec 2022	1050	4000	340e	90
S6	27 Dec 2022	947	<20	<20	10e
S8	06 Dec 2022	859	6e	2e	<2
S8	13 Dec 2022	904	<2	<2	<2
S8	20 Dec 2022	925	<20	<2	<2
S8	27 Dec 2022	1023	<20	<20	<2
S9	06 Dec 2022	832	2e	2e	4e
S9	13 Dec 2022	846	4e	2e	2e
S9	20 Dec 2022	902	2e	<2	<2
S9	27 Dec 2022	1040	<20	<20	4e
S10	06 Dec 2022	1059	<2	<2	<2
S10	13 Dec 2022	1103	>16000	2200e	2600e
S10	20 Dec 2022	1145	220e	2e	16e
S10	27 Dec 2022	835	20e	20e	20e
S11	06 Dec 2022	1012	<2	<2	4e
S11	13 Dec 2022	955	15000	880	1400e
S11	20 Dec 2022	1038	>16000	8200	3000e
S11	27 Dec 2022	938	12e	<2	20e
S12	06 Dec 2022	916	<20	2e	<2
S12	13 Dec 2022	926	10000	940	460
S12	20 Dec 2022	959	400e	20e	14e

Station	Date	Time	Total	Fecal	Entero
S12	27 Dec 2022	1003	40e	<20	<20

ns = not sampled

ND = no data

Table 2.8

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

Station	Date	Parameter	Value
S0	06 Dec 2022	Arrive Time	1055
S0	06 Dec 2022	Weather	Sunny
S0	06 Dec 2022	Wind Speed (kts)	3.2
S0	06 Dec 2022	Wind Dir	NW
S0	06 Dec 2022	Animal Life	Seagull-15;
S0	06 Dec 2022	Floatables	None
S0	06 Dec 2022	Water Color	Green
S0	06 Dec 2022	Current Direction	N
S0	06 Dec 2022	Water Temp (C)	15
S0	06 Dec 2022	Wave Height Low (ft)	3
S0	06 Dec 2022	High Tide (ft)	6.13
S0	06 Dec 2022	High Tide Time	713
S0	06 Dec 2022	Low Tide (ft)	1.63
S0	06 Dec 2022	Low Tide Time	101
S0	06 Dec 2022	Comments	Water turbid; Surfer/Paddle boarder-1; Fisherpersion-1; Trash-0; 1.0 L/sec water flowing from storm drain
S0	13 Dec 2022	Arrive Time	805
S0	13 Dec 2022	Weather	Cloudy
S0	13 Dec 2022	Wind Speed (kts)	1.8
S0	13 Dec 2022	Wind Dir	SE
S0	13 Dec 2022	Animal Life	Dog-2; Seagull-20;
S0	13 Dec 2022	Floatables	None
S0	13 Dec 2022	Water Color	Green
S0	13 Dec 2022	Current Direction	N
S0	13 Dec 2022	Water Temp (C)	11
S0	13 Dec 2022	Wave Height Low (ft)	3
S0	13 Dec 2022	High Tide (ft)	3.3
S0	13 Dec 2022	High Tide Time	124
S0	13 Dec 2022	Low Tide (ft)	2.98
S0	13 Dec 2022	Low Tide Time	505
S0	13 Dec 2022	Comments	Water turbid; Trash-0; Kelp;Algae; 2.0 L/sec water flowing from storm drain
S0	20 Dec 2022	Arrive Time	835
S0	20 Dec 2022	Weather	Sunny
S0	20 Dec 2022	Wind Speed (kts)	2.3
S0	20 Dec 2022	Wind Dir	SW
S0	20 Dec 2022	Animal Life	
S0	20 Dec 2022	Floatables	None
S0	20 Dec 2022	Water Color	Green
S0	20 Dec 2022	Current Direction	S
S0	20 Dec 2022	Water Temp (C)	11
S0	20 Dec 2022	Wave Height Low (ft)	2
S0	20 Dec 2022	High Tide (ft)	5.95
S0	20 Dec 2022	High Tide Time	602
S0	20 Dec 2022	Low Tide (ft)	-0.5
S0	20 Dec 2022	Low Tide Time	1317
S0	20 Dec 2022	Comments	Water turbid; Trash-0; Kelp;Algae; 1.0 L/sec of water flowing from storm drain
S0	27 Dec 2022	Arrive Time	1100
S0	27 Dec 2022	Weather	Cloudy
S0	27 Dec 2022	Wind Speed (kts)	3.6
S0	27 Dec 2022	Wind Dir	N
S0	27 Dec 2022	Animal Life	Bird-10; Dog-1;

Station	Date	Parameter	Value
S0	27 Dec 2022	Floatables	None
S0	27 Dec 2022	Water Color	Green
S0	27 Dec 2022	Current Direction	N
S0	27 Dec 2022	Water Temp (C)	14
S0	27 Dec 2022	Wave Height Low (ft)	4
S0	27 Dec 2022	High Tide (ft)	3.89
S0	27 Dec 2022	High Tide Time	34
S0	27 Dec 2022	Low Tide (ft)	2.23
S0	27 Dec 2022	Low Tide Time	530
S0	27 Dec 2022	Comments	Water clear; Trash-0; Kelp;Algae; Person/Walker/Jogger-2; 0.5 L/sec Water flowing from storm drain
S2	06 Dec 2022	Arrive Time	950
S2	06 Dec 2022	Weather	Sunny
S2	06 Dec 2022	Wind Speed (kts)	1.9
S2	06 Dec 2022	Wind Dir	NW
S2	06 Dec 2022	Animal Life	Seagull-15;
S2	06 Dec 2022	Floatables	None
S2	06 Dec 2022	Water Color	Green
S2	06 Dec 2022	Current Direction	N
S2	06 Dec 2022	Water Temp (C)	15
S2	06 Dec 2022	Wave Height Low (ft)	3
S2	06 Dec 2022	High Tide (ft)	6.13
S2	06 Dec 2022	High Tide Time	713
S2	06 Dec 2022	Low Tide (ft)	1.63
S2	06 Dec 2022	Low Tide Time	101
S2	06 Dec 2022	Comments	Water turbid; Trash-0; Kelp;Algae; No flow from storm drain
S2	13 Dec 2022	Arrive Time	915
S2	13 Dec 2022	Weather	Cloudy
S2	13 Dec 2022	Wind Speed (kts)	3.8
S2	13 Dec 2022	Wind Dir	SE
S2	13 Dec 2022	Animal Life	Seagull-20;
S2	13 Dec 2022	Floatables	None
S2	13 Dec 2022	Water Color	Green
S2	13 Dec 2022	Current Direction	N
S2	13 Dec 2022	Water Temp (C)	11
S2	13 Dec 2022	Wave Height Low (ft)	3
S2	13 Dec 2022	High Tide (ft)	3.3
S2	13 Dec 2022	High Tide Time	124
S2	13 Dec 2022	Low Tide (ft)	2.98
S2	13 Dec 2022	Low Tide Time	505
S2	13 Dec 2022	Comments	Water turbid; Trash-0; Kelp;Algae; No water flow from storm drain, Water turbid; Trash-0; Kelp;Algae; No flow from storm drain
S2	20 Dec 2022	Arrive Time	930
S2	20 Dec 2022	Weather	Sunny
S2	20 Dec 2022	Wind Speed (kts)	3.1
S2	20 Dec 2022	Wind Dir	SW
S2	20 Dec 2022	Animal Life	Dog-2; Seagull-20;
S2	20 Dec 2022	Floatables	None
S2	20 Dec 2022	Water Color	Green
S2	20 Dec 2022	Current Direction	S
S2	20 Dec 2022	Water Temp (C)	11
S2	20 Dec 2022	Wave Height Low (ft)	2
S2	20 Dec 2022	High Tide (ft)	5.95
S2	20 Dec 2022	High Tide Time	602
S2	20 Dec 2022	Low Tide (ft)	-0.5
S2	20 Dec 2022	Low Tide Time	1317
S2	20 Dec 2022	Comments	Water turbid; Trash-0; Kelp;Algae; No flow from storm drain

Station	Date	Parameter	Value
S2	27 Dec 2022	Arrive Time	1155
S2	27 Dec 2022	Weather	Cloudy
S2	27 Dec 2022	Wind Speed (kts)	4.5
S2	27 Dec 2022	Wind Dir	N
S2	27 Dec 2022	Animal Life	Bird-10; Dog-4;
S2	27 Dec 2022	Floatables	None
S2	27 Dec 2022	Water Color	Green
S2	27 Dec 2022	Current Direction	N
S2	27 Dec 2022	Water Temp (C)	14
S2	27 Dec 2022	Wave Height Low (ft)	4
S2	27 Dec 2022	High Tide (ft)	3.89
S2	27 Dec 2022	High Tide Time	34
S2	27 Dec 2022	Low Tide (ft)	2.23
S2	27 Dec 2022	Low Tide Time	530
S2	27 Dec 2022	Comments	Water clear; Trash-0; Kelp;Algae; Person/Walker/Jogger-10; No flow from storm drain
S3	06 Dec 2022	Arrive Time	1010
S3	06 Dec 2022	Weather	Sunny
S3	06 Dec 2022	Wind Speed (kts)	2.2
S3	06 Dec 2022	Wind Dir	NW
S3	06 Dec 2022	Animal Life	
S3	06 Dec 2022	Floatables	None
S3	06 Dec 2022	Water Color	Green
S3	06 Dec 2022	Current Direction	N
S3	06 Dec 2022	Water Temp (C)	15
S3	06 Dec 2022	Wave Height Low (ft)	3
S3	06 Dec 2022	High Tide (ft)	6.13
S3	06 Dec 2022	High Tide Time	713
S3	06 Dec 2022	Low Tide (ft)	1.63
S3	06 Dec 2022	Low Tide Time	101
S3	06 Dec 2022	Comments	Water turbid; Trash-0; Kelp;Algae; 0.1 L/sec water flowing from storm drain
S3	13 Dec 2022	Arrive Time	855
S3	13 Dec 2022	Weather	Cloudy
S3	13 Dec 2022	Wind Speed (kts)	1.8
S3	13 Dec 2022	Wind Dir	SE
S3	13 Dec 2022	Animal Life	Seagull-20;
S3	13 Dec 2022	Floatables	None
S3	13 Dec 2022	Water Color	Green
S3	13 Dec 2022	Current Direction	N
S3	13 Dec 2022	Water Temp (C)	11
S3	13 Dec 2022	Wave Height Low (ft)	3
S3	13 Dec 2022	High Tide (ft)	3.3
S3	13 Dec 2022	High Tide Time	124
S3	13 Dec 2022	Low Tide (ft)	2.98
S3	13 Dec 2022	Low Tide Time	505
S3	13 Dec 2022	Comments	Water turbid; Trash-0; Kelp;Algae; No flow from storm drain
S3	20 Dec 2022	Arrive Time	915
S3	20 Dec 2022	Weather	Sunny
S3	20 Dec 2022	Wind Speed (kts)	3.5
S3	20 Dec 2022	Wind Dir	SW
S3	20 Dec 2022	Animal Life	Seagull-20;
S3	20 Dec 2022	Floatables	None
S3	20 Dec 2022	Water Color	Green
S3	20 Dec 2022	Current Direction	S
S3	20 Dec 2022	Water Temp (C)	11
S3	20 Dec 2022	Wave Height Low (ft)	2

Station	Date	Parameter	Value
S3	20 Dec 2022	High Tide (ft)	5.95
S3	20 Dec 2022	High Tide Time	602
S3	20 Dec 2022	Low Tide (ft)	-0.5
S3	20 Dec 2022	Low Tide Time	1317
S3	20 Dec 2022	Comments	Water turbid; Trash-0; Kelp;Algae; No flow from storm drain
S3	27 Dec 2022	Arrive Time	1139
S3	27 Dec 2022	Weather	Cloudy
S3	27 Dec 2022	Wind Speed (kts)	3.9
S3	27 Dec 2022	Wind Dir	N
S3	27 Dec 2022	Animal Life	Bird-10; Dog-6;
S3	27 Dec 2022	Floatables	None
S3	27 Dec 2022	Water Color	Green
S3	27 Dec 2022	Current Direction	N
S3	27 Dec 2022	Water Temp (C)	14
S3	27 Dec 2022	Wave Height Low (ft)	4
S3	27 Dec 2022	High Tide (ft)	3.89
S3	27 Dec 2022	High Tide Time	34
S3	27 Dec 2022	Low Tide (ft)	2.23
S3	27 Dec 2022	Low Tide Time	530
S3	27 Dec 2022	Comments	Water clear; Trash-0; Algae;Kelp;Debris; Person/Walker/Jogger-10; 0.5 L/sec Water flowing from storm drain
S4	06 Dec 2022	Arrive Time	1054
S4	06 Dec 2022	Weather	Partly cloudy
S4	06 Dec 2022	Wind Speed (kts)	2.1
S4	06 Dec 2022	Wind Dir	NW
S4	06 Dec 2022	Animal Life	Bird-2;
S4	06 Dec 2022	Floatables	None
S4	06 Dec 2022	Water Color	Green
S4	06 Dec 2022	Current Direction	S
S4	06 Dec 2022	Water Temp (C)	14.9
S4	06 Dec 2022	Wave Height Low (ft)	3
S4	06 Dec 2022	High Tide (ft)	6.13
S4	06 Dec 2022	High Tide Time	713
S4	06 Dec 2022	Low Tide (ft)	1.63
S4	06 Dec 2022	Low Tide Time	101
S4	06 Dec 2022	Comments	Water clear; Trash-1; Kelp;Seagrass
S4	13 Dec 2022	Arrive Time	1054
S4	13 Dec 2022	Weather	Partly cloudy
S4	13 Dec 2022	Wind Speed (kts)	1.1
S4	13 Dec 2022	Wind Dir	S
S4	13 Dec 2022	Animal Life	Bird-1;
S4	13 Dec 2022	Floatables	None
S4	13 Dec 2022	Water Color	Green
S4	13 Dec 2022	Current Direction	S
S4	13 Dec 2022	Water Temp (C)	9.9
S4	13 Dec 2022	Wave Height Low (ft)	4
S4	13 Dec 2022	High Tide (ft)	3.3
S4	13 Dec 2022	High Tide Time	124
S4	13 Dec 2022	Low Tide (ft)	2.98
S4	13 Dec 2022	Low Tide Time	505
S4	13 Dec 2022	Comments	Water clear; Trash-2; Kelp;Debris
S4	20 Dec 2022	Arrive Time	1155
S4	20 Dec 2022	Weather	Hazy
S4	20 Dec 2022	Wind Speed (kts)	3.3
S4	20 Dec 2022	Wind Dir	NW
S4	20 Dec 2022	Animal Life	

Station	Date	Parameter	Value
S4	20 Dec 2022	Floatables	None
S4	20 Dec 2022	Water Color	Green
S4	20 Dec 2022	Current Direction	S
S4	20 Dec 2022	Water Temp (C)	0
S4	20 Dec 2022	Wave Height Low (ft)	1
S4	20 Dec 2022	High Tide (ft)	5.95
S4	20 Dec 2022	High Tide Time	602
S4	20 Dec 2022	Low Tide (ft)	-0.5
S4	20 Dec 2022	Low Tide Time	1317
S4	20 Dec 2022	Comments	Water clear; Trash-1; Kelp
S4	27 Dec 2022	Arrive Time	843
S4	27 Dec 2022	Weather	Foggy
S4	27 Dec 2022	Wind Speed (kts)	0.1
S4	27 Dec 2022	Wind Dir	N
S4	27 Dec 2022	Animal Life	Bird-3;
S4	27 Dec 2022	Floatables	None
S4	27 Dec 2022	Water Color	Green
S4	27 Dec 2022	Current Direction	S
S4	27 Dec 2022	Water Temp (C)	8
S4	27 Dec 2022	Wave Height Low (ft)	6
S4	27 Dec 2022	High Tide (ft)	3.89
S4	27 Dec 2022	High Tide Time	34
S4	27 Dec 2022	Low Tide (ft)	2.23
S4	27 Dec 2022	Low Tide Time	530
S4	27 Dec 2022	Comments	Water clear; Trash-1; Debris;Seagrass
S5	06 Dec 2022	Arrive Time	955
S5	06 Dec 2022	Weather	Partly cloudy
S5	06 Dec 2022	Wind Speed (kts)	1.5
S5	06 Dec 2022	Wind Dir	NE
S5	06 Dec 2022	Animal Life	
S5	06 Dec 2022	Floatables	None
S5	06 Dec 2022	Water Color	Green
S5	06 Dec 2022	Current Direction	S
S5	06 Dec 2022	Water Temp (C)	6.5
S5	06 Dec 2022	Wave Height Low (ft)	4
S5	06 Dec 2022	High Tide (ft)	6.13
S5	06 Dec 2022	High Tide Time	713
S5	06 Dec 2022	Low Tide (ft)	1.63
S5	06 Dec 2022	Low Tide Time	101
S5	06 Dec 2022	Comments	Water clear; Trash-1; Kelp;Seagrass;Debris
S5	13 Dec 2022	Arrive Time	946
S5	13 Dec 2022	Weather	Partly cloudy
S5	13 Dec 2022	Wind Speed (kts)	5.2
S5	13 Dec 2022	Wind Dir	E
S5	13 Dec 2022	Animal Life	
S5	13 Dec 2022	Floatables	None
S5	13 Dec 2022	Water Color	Brown
S5	13 Dec 2022	Current Direction	S
S5	13 Dec 2022	Water Temp (C)	12.8
S5	13 Dec 2022	Wave Height Low (ft)	4
S5	13 Dec 2022	High Tide (ft)	3.3
S5	13 Dec 2022	High Tide Time	124
S5	13 Dec 2022	Low Tide (ft)	2.98
S5	13 Dec 2022	Low Tide Time	505
S5	13 Dec 2022	Comments	Water clear; Trash-2; Debris;Kelp;Seagrass
S5	20 Dec 2022	Arrive Time	1022
S5	20 Dec 2022	Weather	Hazy

Station	Date	Parameter	Value
S5	20 Dec 2022	Wind Speed (kts)	4.6
S5	20 Dec 2022	Wind Dir	N
S5	20 Dec 2022	Animal Life	
S5	20 Dec 2022	Floatables	None
S5	20 Dec 2022	Water Color	Brown
S5	20 Dec 2022	Current Direction	S
S5	20 Dec 2022	Water Temp (C)	0
S5	20 Dec 2022	Wave Height Low (ft)	2
S5	20 Dec 2022	High Tide (ft)	5.95
S5	20 Dec 2022	High Tide Time	602
S5	20 Dec 2022	Low Tide (ft)	-0.5
S5	20 Dec 2022	Low Tide Time	1317
S5	20 Dec 2022	Comments	Water turbid; Trash-1; Kelp; Person/Walker/Jogger-1; Sewage-like odor
S5	27 Dec 2022	Arrive Time	920
S5	27 Dec 2022	Weather	Foggy
S5	27 Dec 2022	Wind Speed (kts)	2.5
S5	27 Dec 2022	Wind Dir	S
S5	27 Dec 2022	Animal Life	
S5	27 Dec 2022	Floatables	None
S5	27 Dec 2022	Water Color	Green
S5	27 Dec 2022	Current Direction	S
S5	27 Dec 2022	Water Temp (C)	0
S5	27 Dec 2022	Wave Height Low (ft)	6
S5	27 Dec 2022	High Tide (ft)	3.89
S5	27 Dec 2022	High Tide Time	34
S5	27 Dec 2022	Low Tide (ft)	2.23
S5	27 Dec 2022	Low Tide Time	530
S5	27 Dec 2022	Comments	Water clear; Trash-1; Kelp;Seagrass;Debris; Person/Walker/Jogger-4; Sewage-like odor
S6	06 Dec 2022	Arrive Time	1022
S6	06 Dec 2022	Weather	Partly cloudy
S6	06 Dec 2022	Wind Speed (kts)	1.3
S6	06 Dec 2022	Wind Dir	SW
S6	06 Dec 2022	Animal Life	
S6	06 Dec 2022	Floatables	None
S6	06 Dec 2022	Water Color	Green
S6	06 Dec 2022	Current Direction	S
S6	06 Dec 2022	Water Temp (C)	14.1
S6	06 Dec 2022	Wave Height Low (ft)	3
S6	06 Dec 2022	High Tide (ft)	6.13
S6	06 Dec 2022	High Tide Time	713
S6	06 Dec 2022	Low Tide (ft)	1.63
S6	06 Dec 2022	Low Tide Time	101
S6	06 Dec 2022	Comments	Water clear; Surfer/Paddle boarder-1; Trash-1; Kelp;Seagrass;Debris; Person/Walker/Jogger-2
S6	13 Dec 2022	Arrive Time	1002
S6	13 Dec 2022	Weather	Partly cloudy
S6	13 Dec 2022	Wind Speed (kts)	4.2
S6	13 Dec 2022	Wind Dir	S
S6	13 Dec 2022	Animal Life	Bird-20;
S6	13 Dec 2022	Floatables	None
S6	13 Dec 2022	Water Color	Green
S6	13 Dec 2022	Current Direction	S
S6	13 Dec 2022	Water Temp (C)	10.9
S6	13 Dec 2022	Wave Height Low (ft)	3
S6	13 Dec 2022	High Tide (ft)	3.3
S6	13 Dec 2022	High Tide Time	124

Station	Date	Parameter	Value
S6	13 Dec 2022	Low Tide (ft)	2.98
S6	13 Dec 2022	Low Tide Time	505
S6	13 Dec 2022	Comments	Water clear; Trash-1; Kelp; Person/Walker/Jogger-3
S6	20 Dec 2022	Arrive Time	1050
S6	20 Dec 2022	Weather	Hazy
S6	20 Dec 2022	Wind Speed (kts)	3.4
S6	20 Dec 2022	Wind Dir	N
S6	20 Dec 2022	Animal Life	
S6	20 Dec 2022	Floatables	None
S6	20 Dec 2022	Water Color	Green
S6	20 Dec 2022	Current Direction	S
S6	20 Dec 2022	Water Temp (C)	0
S6	20 Dec 2022	Wave Height Low (ft)	4
S6	20 Dec 2022	High Tide (ft)	5.95
S6	20 Dec 2022	High Tide Time	602
S6	20 Dec 2022	Low Tide (ft)	-0.5
S6	20 Dec 2022	Low Tide Time	1317
S6	20 Dec 2022	Comments	Water clear; Surfer/Paddle boarder-3; Trash-1; Kelp; Person/Walker/Jogger-1
S6	27 Dec 2022	Arrive Time	947
S6	27 Dec 2022	Weather	Partly cloudy
S6	27 Dec 2022	Wind Speed (kts)	4
S6	27 Dec 2022	Wind Dir	S
S6	27 Dec 2022	Animal Life	Bird-2;
S6	27 Dec 2022	Floatables	None
S6	27 Dec 2022	Water Color	Green
S6	27 Dec 2022	Current Direction	S
S6	27 Dec 2022	Water Temp (C)	0
S6	27 Dec 2022	Wave Height Low (ft)	6
S6	27 Dec 2022	High Tide (ft)	3.89
S6	27 Dec 2022	High Tide Time	34
S6	27 Dec 2022	Low Tide (ft)	2.23
S6	27 Dec 2022	Low Tide Time	530
S6	27 Dec 2022	Comments	Water clear; Surfer/Paddle boarder-6; Trash-1; Kelp;Seagrass;Debris; Person/Walker/Jogger-6
S8	06 Dec 2022	Arrive Time	859
S8	06 Dec 2022	Weather	Partly cloudy
S8	06 Dec 2022	Wind Speed (kts)	3.4
S8	06 Dec 2022	Wind Dir	SE
S8	06 Dec 2022	Animal Life	Bird-2;
S8	06 Dec 2022	Floatables	None
S8	06 Dec 2022	Water Color	Green
S8	06 Dec 2022	Current Direction	S
S8	06 Dec 2022	Water Temp (C)	13.2
S8	06 Dec 2022	Wave Height Low (ft)	3
S8	06 Dec 2022	High Tide (ft)	6.13
S8	06 Dec 2022	High Tide Time	713
S8	06 Dec 2022	Low Tide (ft)	1.63
S8	06 Dec 2022	Low Tide Time	101
S8	06 Dec 2022	Comments	Water clear; Fisherperson-1; Trash-1; Kelp;Seagrass
S8	13 Dec 2022	Arrive Time	904
S8	13 Dec 2022	Weather	Partly cloudy
S8	13 Dec 2022	Wind Speed (kts)	4.4
S8	13 Dec 2022	Wind Dir	SE
S8	13 Dec 2022	Animal Life	Bird-40;
S8	13 Dec 2022	Floatables	None
S8	13 Dec 2022	Water Color	Green

Station	Date	Parameter	Value
S8	13 Dec 2022	Current Direction	S
S8	13 Dec 2022	Water Temp (C)	10.3
S8	13 Dec 2022	Wave Height Low (ft)	4
S8	13 Dec 2022	High Tide (ft)	3.3
S8	13 Dec 2022	High Tide Time	124
S8	13 Dec 2022	Low Tide (ft)	2.98
S8	13 Dec 2022	Low Tide Time	505
S8	13 Dec 2022	Comments	Water clear; Trash-1; Kelp
S8	20 Dec 2022	Arrive Time	925
S8	20 Dec 2022	Weather	Hazy
S8	20 Dec 2022	Wind Speed (kts)	0
S8	20 Dec 2022	Wind Dir	
S8	20 Dec 2022	Animal Life	
S8	20 Dec 2022	Floatables	None
S8	20 Dec 2022	Water Color	Green
S8	20 Dec 2022	Current Direction	S
S8	20 Dec 2022	Water Temp (C)	12
S8	20 Dec 2022	Wave Height Low (ft)	1
S8	20 Dec 2022	High Tide (ft)	5.95
S8	20 Dec 2022	High Tide Time	602
S8	20 Dec 2022	Low Tide (ft)	-0.5
S8	20 Dec 2022	Low Tide Time	1317
S8	20 Dec 2022	Comments	Water clear; Trash-1; Kelp; Person/Walker/Jogger-2
S8	27 Dec 2022	Arrive Time	1023
S8	27 Dec 2022	Weather	Partly cloudy
S8	27 Dec 2022	Wind Speed (kts)	1.3
S8	27 Dec 2022	Wind Dir	S
S8	27 Dec 2022	Animal Life	Bird-20;
S8	27 Dec 2022	Floatables	None
S8	27 Dec 2022	Water Color	Green
S8	27 Dec 2022	Current Direction	S
S8	27 Dec 2022	Water Temp (C)	10
S8	27 Dec 2022	Wave Height Low (ft)	6
S8	27 Dec 2022	High Tide (ft)	3.89
S8	27 Dec 2022	High Tide Time	34
S8	27 Dec 2022	Low Tide (ft)	2.23
S8	27 Dec 2022	Low Tide Time	530
S8	27 Dec 2022	Comments	Water clear; Trash-1; Kelp; Seagrass; Person/Walker/Jogger-1
S9	06 Dec 2022	Arrive Time	842
S9	06 Dec 2022	Weather	Partly cloudy
S9	06 Dec 2022	Wind Speed (kts)	1.7
S9	06 Dec 2022	Wind Dir	S
S9	06 Dec 2022	Animal Life	Bird-1;
S9	06 Dec 2022	Floatables	None
S9	06 Dec 2022	Water Color	Green
S9	06 Dec 2022	Current Direction	S
S9	06 Dec 2022	Water Temp (C)	13.6
S9	06 Dec 2022	Wave Height Low (ft)	3
S9	06 Dec 2022	High Tide (ft)	6.13
S9	06 Dec 2022	High Tide Time	713
S9	06 Dec 2022	Low Tide (ft)	1.63
S9	06 Dec 2022	Low Tide Time	101
S9	06 Dec 2022	Comments	Water clear; Trash-1; Seagrass; Kelp; Person/Walker/Jogger-2
S9	13 Dec 2022	Arrive Time	846
S9	13 Dec 2022	Weather	Partly cloudy

Station	Date	Parameter	Value
S9	13 Dec 2022	Wind Speed (kts)	3.3
S9	13 Dec 2022	Wind Dir	S
S9	13 Dec 2022	Animal Life	
S9	13 Dec 2022	Floatables	None
S9	13 Dec 2022	Water Color	Green
S9	13 Dec 2022	Current Direction	S
S9	13 Dec 2022	Water Temp (C)	13.4
S9	13 Dec 2022	Wave Height Low (ft)	3
S9	13 Dec 2022	High Tide (ft)	3.3
S9	13 Dec 2022	High Tide Time	124
S9	13 Dec 2022	Low Tide (ft)	2.98
S9	13 Dec 2022	Low Tide Time	505
S9	13 Dec 2022	Comments	Water clear; Trash-1; Debris;Kelp; Person/Walker/Jogger-3
S9	20 Dec 2022	Arrive Time	902
S9	20 Dec 2022	Weather	Hazy
S9	20 Dec 2022	Wind Speed (kts)	2.3
S9	20 Dec 2022	Wind Dir	E
S9	20 Dec 2022	Animal Life	Bird-1;
S9	20 Dec 2022	Floatables	None
S9	20 Dec 2022	Water Color	Green
S9	20 Dec 2022	Current Direction	S
S9	20 Dec 2022	Water Temp (C)	13
S9	20 Dec 2022	Wave Height Low (ft)	1
S9	20 Dec 2022	High Tide (ft)	5.95
S9	20 Dec 2022	High Tide Time	602
S9	20 Dec 2022	Low Tide (ft)	-0.5
S9	20 Dec 2022	Low Tide Time	1317
S9	20 Dec 2022	Comments	Water clear; Trash-1; Kelp
S9	27 Dec 2022	Arrive Time	1040
S9	27 Dec 2022	Weather	Foggy
S9	27 Dec 2022	Wind Speed (kts)	1.1
S9	27 Dec 2022	Wind Dir	S
S9	27 Dec 2022	Animal Life	
S9	27 Dec 2022	Floatables	None
S9	27 Dec 2022	Water Color	Green
S9	27 Dec 2022	Current Direction	S
S9	27 Dec 2022	Water Temp (C)	8
S9	27 Dec 2022	Wave Height Low (ft)	5
S9	27 Dec 2022	High Tide (ft)	3.89
S9	27 Dec 2022	High Tide Time	34
S9	27 Dec 2022	Low Tide (ft)	2.23
S9	27 Dec 2022	Low Tide Time	530
S9	27 Dec 2022	Comments	Water clear; Trash-1; Seagrass; Person/Walker/Jogger-5
S10	06 Dec 2022	Arrive Time	1059
S10	06 Dec 2022	Weather	Partly cloudy
S10	06 Dec 2022	Wind Speed (kts)	1.9
S10	06 Dec 2022	Wind Dir	W
S10	06 Dec 2022	Animal Life	
S10	06 Dec 2022	Floatables	None
S10	06 Dec 2022	Water Color	Green
S10	06 Dec 2022	Current Direction	S
S10	06 Dec 2022	Water Temp (C)	12.6
S10	06 Dec 2022	Wave Height Low (ft)	3
S10	06 Dec 2022	High Tide (ft)	6.13
S10	06 Dec 2022	High Tide Time	713
S10	06 Dec 2022	Low Tide (ft)	1.63
S10	06 Dec 2022	Low Tide Time	101
S10	06 Dec 2022	Comments	Water clear; Trash-1

Station	Date	Parameter	Value
S10	13 Dec 2022	Arrive Time	1103
S10	13 Dec 2022	Weather	Partly cloudy
S10	13 Dec 2022	Wind Speed (kts)	4.8
S10	13 Dec 2022	Wind Dir	NW
S10	13 Dec 2022	Animal Life	Bird-2;
S10	13 Dec 2022	Floatables	None
S10	13 Dec 2022	Water Color	Green
S10	13 Dec 2022	Current Direction	S
S10	13 Dec 2022	Water Temp (C)	10.4
S10	13 Dec 2022	Wave Height Low (ft)	4
S10	13 Dec 2022	High Tide (ft)	3.3
S10	13 Dec 2022	High Tide Time	124
S10	13 Dec 2022	Low Tide (ft)	2.98
S10	13 Dec 2022	Low Tide Time	505
S10	13 Dec 2022	Comments	Water clear; Trash-2; Kelp;Debris
S10	20 Dec 2022	Arrive Time	1145
S10	20 Dec 2022	Weather	Hazy
S10	20 Dec 2022	Wind Speed (kts)	4.2
S10	20 Dec 2022	Wind Dir	NW
S10	20 Dec 2022	Animal Life	Bird-1;
S10	20 Dec 2022	Floatables	None
S10	20 Dec 2022	Water Color	Green
S10	20 Dec 2022	Current Direction	S
S10	20 Dec 2022	Water Temp (C)	0
S10	20 Dec 2022	Wave Height Low (ft)	1
S10	20 Dec 2022	High Tide (ft)	5.95
S10	20 Dec 2022	High Tide Time	602
S10	20 Dec 2022	Low Tide (ft)	-0.5
S10	20 Dec 2022	Low Tide Time	1317
S10	20 Dec 2022	Comments	Water turbid; Trash-1; Kelp
S10	27 Dec 2022	Arrive Time	834
S10	27 Dec 2022	Weather	Foggy
S10	27 Dec 2022	Wind Speed (kts)	2.1
S10	27 Dec 2022	Wind Dir	N
S10	27 Dec 2022	Animal Life	
S10	27 Dec 2022	Floatables	None
S10	27 Dec 2022	Water Color	Green
S10	27 Dec 2022	Current Direction	S
S10	27 Dec 2022	Water Temp (C)	8
S10	27 Dec 2022	Wave Height Low (ft)	4
S10	27 Dec 2022	High Tide (ft)	3.89
S10	27 Dec 2022	High Tide Time	34
S10	27 Dec 2022	Low Tide (ft)	2.23
S10	27 Dec 2022	Low Tide Time	530
S10	27 Dec 2022	Comments	Water clear; Trash-1; Seagrass
S11	06 Dec 2022	Arrive Time	1012
S11	06 Dec 2022	Weather	Partly cloudy
S11	06 Dec 2022	Wind Speed (kts)	1.5
S11	06 Dec 2022	Wind Dir	S
S11	06 Dec 2022	Animal Life	
S11	06 Dec 2022	Floatables	None
S11	06 Dec 2022	Water Color	Green
S11	06 Dec 2022	Current Direction	S
S11	06 Dec 2022	Water Temp (C)	16.1
S11	06 Dec 2022	Wave Height Low (ft)	4
S11	06 Dec 2022	High Tide (ft)	6.13
S11	06 Dec 2022	High Tide Time	713

Station	Date	Parameter	Value
S11	06 Dec 2022	Low Tide (ft)	1.63
S11	06 Dec 2022	Low Tide Time	101
S11	06 Dec 2022	Comments	Water clear; Trash-1; Debris;Seagrass;Kelp
S11	13 Dec 2022	Arrive Time	955
S11	13 Dec 2022	Weather	Partly cloudy
S11	13 Dec 2022	Wind Speed (kts)	5.6
S11	13 Dec 2022	Wind Dir	E
S11	13 Dec 2022	Animal Life	Bird-7; Dog-1;
S11	13 Dec 2022	Floatables	None
S11	13 Dec 2022	Water Color	Green
S11	13 Dec 2022	Current Direction	S
S11	13 Dec 2022	Water Temp (C)	10.2
S11	13 Dec 2022	Wave Height Low (ft)	4
S11	13 Dec 2022	High Tide (ft)	3.3
S11	13 Dec 2022	High Tide Time	124
S11	13 Dec 2022	Low Tide (ft)	2.98
S11	13 Dec 2022	Low Tide Time	505
S11	13 Dec 2022	Comments	Water clear; Trash-1; Kelp;Debris; Person/Walker/Jogger-2
S11	20 Dec 2022	Arrive Time	1038
S11	20 Dec 2022	Weather	Hazy
S11	20 Dec 2022	Wind Speed (kts)	4.4
S11	20 Dec 2022	Wind Dir	N
S11	20 Dec 2022	Animal Life	Bird-1;
S11	20 Dec 2022	Floatables	None
S11	20 Dec 2022	Water Color	Brown
S11	20 Dec 2022	Current Direction	S
S11	20 Dec 2022	Water Temp (C)	0
S11	20 Dec 2022	Wave Height Low (ft)	3
S11	20 Dec 2022	High Tide (ft)	5.95
S11	20 Dec 2022	High Tide Time	602
S11	20 Dec 2022	Low Tide (ft)	-0.5
S11	20 Dec 2022	Low Tide Time	1317
S11	20 Dec 2022	Comments	Water turbid; Trash-1; Kelp
S11	27 Dec 2022	Arrive Time	938
S11	27 Dec 2022	Weather	Partly cloudy
S11	27 Dec 2022	Wind Speed (kts)	3.6
S11	27 Dec 2022	Wind Dir	SE
S11	27 Dec 2022	Animal Life	Bird-12;
S11	27 Dec 2022	Floatables	None
S11	27 Dec 2022	Water Color	Green
S11	27 Dec 2022	Current Direction	S
S11	27 Dec 2022	Water Temp (C)	0
S11	27 Dec 2022	Wave Height Low (ft)	6
S11	27 Dec 2022	High Tide (ft)	3.89
S11	27 Dec 2022	High Tide Time	34
S11	27 Dec 2022	Low Tide (ft)	2.23
S11	27 Dec 2022	Low Tide Time	530
S11	27 Dec 2022	Comments	Water clear; Surfer/Paddle boarder-2; Trash-1; Sea-grass;Debris
S12	06 Dec 2022	Arrive Time	916
S12	06 Dec 2022	Weather	Partly cloudy
S12	06 Dec 2022	Wind Speed (kts)	2.3
S12	06 Dec 2022	Wind Dir	S
S12	06 Dec 2022	Animal Life	Bird-1;
S12	06 Dec 2022	Floatables	None
S12	06 Dec 2022	Water Color	Green
S12	06 Dec 2022	Current Direction	S

Station	Date	Parameter	Value
S12	06 Dec 2022	Water Temp (C)	12.5
S12	06 Dec 2022	Wave Height Low (ft)	3
S12	06 Dec 2022	High Tide (ft)	6.13
S12	06 Dec 2022	High Tide Time	713
S12	06 Dec 2022	Low Tide (ft)	1.63
S12	06 Dec 2022	Low Tide Time	101
S12	06 Dec 2022	Comments	Water clear; Trash-1; Kelp;Seagrass; Person/Walker/Jogger-1
S12	13 Dec 2022	Arrive Time	926
S12	13 Dec 2022	Weather	Partly cloudy
S12	13 Dec 2022	Wind Speed (kts)	3.6
S12	13 Dec 2022	Wind Dir	S
S12	13 Dec 2022	Animal Life	Bird-2;
S12	13 Dec 2022	Floatables	None
S12	13 Dec 2022	Water Color	Green
S12	13 Dec 2022	Current Direction	S
S12	13 Dec 2022	Water Temp (C)	11
S12	13 Dec 2022	Wave Height Low (ft)	3
S12	13 Dec 2022	High Tide (ft)	3.3
S12	13 Dec 2022	High Tide Time	124
S12	13 Dec 2022	Low Tide (ft)	2.98
S12	13 Dec 2022	Low Tide Time	505
S12	13 Dec 2022	Comments	Water clear; Trash-1; Kelp
S12	20 Dec 2022	Arrive Time	959
S12	20 Dec 2022	Weather	Hazy
S12	20 Dec 2022	Wind Speed (kts)	3.8
S12	20 Dec 2022	Wind Dir	N
S12	20 Dec 2022	Animal Life	
S12	20 Dec 2022	Floatables	None
S12	20 Dec 2022	Water Color	Green
S12	20 Dec 2022	Current Direction	S
S12	20 Dec 2022	Water Temp (C)	0
S12	20 Dec 2022	Wave Height Low (ft)	2
S12	20 Dec 2022	High Tide (ft)	5.95
S12	20 Dec 2022	High Tide Time	602
S12	20 Dec 2022	Low Tide (ft)	-0.5
S12	20 Dec 2022	Low Tide Time	1317
S12	20 Dec 2022	Comments	Water clear; Trash-1; Kelp
S12	27 Dec 2022	Arrive Time	1003
S12	27 Dec 2022	Weather	Partly cloudy
S12	27 Dec 2022	Wind Speed (kts)	0.5
S12	27 Dec 2022	Wind Dir	S
S12	27 Dec 2022	Animal Life	Bird-30; Dog-1; Seal/Sea Lion-1;
S12	27 Dec 2022	Floatables	None
S12	27 Dec 2022	Water Color	Green
S12	27 Dec 2022	Current Direction	S
S12	27 Dec 2022	Water Temp (C)	0
S12	27 Dec 2022	Wave Height Low (ft)	5
S12	27 Dec 2022	High Tide (ft)	3.89
S12	27 Dec 2022	High Tide Time	34
S12	27 Dec 2022	Low Tide (ft)	2.23
S12	27 Dec 2022	Low Tide Time	530
S12	27 Dec 2022	Comments	Water clear; Trash-1; Kelp;Seagrass; Person/Walker/Jogger-2

Kelp Stations

Table 3.1

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 Dec 2022	14	12	8	3	3	3	15
02 Dec 2022	14	12	8	3	3	3	15
03 Dec 2022	14	12	8	3	3	3	15
04 Dec 2022	14	12	8	3	3	3	15
05 Dec 2022	10	9	6	2	2	3	10
06 Dec 2022	10	9	6	2	2	3	10
07 Dec 2022	14	12	8	3	3	3	14
08 Dec 2022	14	12	8	3	3	3	14
09 Dec 2022	14	12	8	3	3	3	14
10 Dec 2022	14	12	8	3	3	3	14
11 Dec 2022	14	12	8	3	3	3	14
12 Dec 2022	14	12	8	3	3	3	14
13 Dec 2022	27	36	19	11	7	9	36
14 Dec 2022	13	17	12	13	7	8	23
15 Dec 2022	13	17	12	13	7	8	23
16 Dec 2022	13	17	12	13	7	8	23
17 Dec 2022	13	17	12	13	7	8	23
18 Dec 2022	13	17	12	13	7	8	23
19 Dec 2022	13	17	12	13	7	8	23
20 Dec 2022	13	17	12	13	7	8	23
21 Dec 2022	17	25	19	13	7	12	29
22 Dec 2022	17	25	19	13	7	12	29
23 Dec 2022	17	25	19	13	7	12	29
24 Dec 2022	17	25	19	13	7	12	29
25 Dec 2022	17	25	19	13	7	12	29
26 Dec 2022	17	25	19	13	7	12	29
27 Dec 2022	54	23	16	10	6	8	25
28 Dec 2022	54	23	16	10	6	8	25
29 Dec 2022	54	23	16	10	6	8	25
30 Dec 2022	54	23	16	10	6	8	25
31 Dec 2022	78	42	27	15	7	12	47

* Geometric mean calculated using n<5

Table 3.2

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
01 Dec 2022	IC	IC	IC	IC	IC	IC	IC
05 Dec 2022	IC	IC	IC	IC	IC	IC	IC
13 Dec 2022	E	E	E	E	E	E	E
21 Dec 2022	IC	IC	IC	IC	IC	IC	IC
27 Dec 2022	E	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 3.3

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 Dec 2022	9	6	9	2	4	3	11
02 Dec 2022	9	6	9	2	4	3	11
03 Dec 2022	9	6	9	2	4	3	11
04 Dec 2022	9	6	9	2	4	3	11
05 Dec 2022	8	5	7	2	4	3	10
06 Dec 2022	6	5	5	2	4	2	8
07 Dec 2022	6	5	5	2	4	2	8
08 Dec 2022	6	5	5	2	4	2	8
09 Dec 2022	6	5	5	2	4	2	8
10 Dec 2022	6	5	5	2	4	2	8
11 Dec 2022	6	5	5	2	4	2	8
12 Dec 2022	6	5	5	2	4	2	8
13 Dec 2022	14	17	12	8	9	6	27
14 Dec 2022	14	17	12	8	9	6	27
15 Dec 2022	14	17	12	8	9	6	27
16 Dec 2022	14	17	12	8	9	6	27
17 Dec 2022	14	17	12	8	9	6	27
18 Dec 2022	14	17	12	8	9	6	27
19 Dec 2022	21	25	18	10	13	7	45
20 Dec 2022	21	25	18	10	13	7	45
21 Dec 2022	17	24	16	8	9	6	45
22 Dec 2022	17	24	16	8	9	6	45
23 Dec 2022	17	24	16	8	9	6	45
24 Dec 2022	17	24	16	8	9	6	45
25 Dec 2022	17	24	16	8	9	6	45
26 Dec 2022	9	18	13	10	11	6	35
27 Dec 2022	24	20	14	10	10	5	30
28 Dec 2022	24	20	14	10	10	5	30
29 Dec 2022	24	20	14	10	10	5	30
30 Dec 2022	24	20	14	10	10	5	30
31 Dec 2022	24	20	14	10	10	5	30

* Geometric mean calculated using n<5

Table 3.4

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
December	E	E	E	E	E	E	E

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 3.5

Summary of compliance with the Ocean Plan’s 30-day Median standard for total coliform bacteria at the SBOO kelp stations. Data are based on the median of the five most recent samples from each site and depth over the previous 30 days unless otherwise noted (*). Values >70 CFU/100 mL exceed the standard.

Date	I19			I24			I25			I26			I32			I39			I40		
	2m	6m	11m	2m	6m	11m	2m	6m	9m	2m	6m	9m	2m	6m	9m	2m	12m	18m	2m	6m	9m
01 Dec 2022	26	14	46	13	17	29	5	22	25	2	2	13	2	3	4	2	2	3	220	183	130
02 Dec 2022	26	14	46	13	17	29	5	22	25	2	2	13	2	3	4	2	2	3	220	183	130
03 Dec 2022	26	14	46	13	17	29	5	22	25	2	2	13	2	3	4	2	2	3	220	183	130
04 Dec 2022	26	14	46	13	17	29	5	22	25	2	2	13	2	3	4	2	2	3	220	183	130
05 Dec 2022	16	8	32	2	2	2	2	2	2	2	2	6	2	2	2	2	2	2	20	6	20
06 Dec 2022	16	8	32	2	2	2	2	2	2	2	2	6	2	2	2	2	2	2	20	6	20
07 Dec 2022	26	14	46	13	17	29	5	22	25	2	2	13	2	3	4	2	2	3	220	183	130
08 Dec 2022	26	14	46	13	17	29	5	22	25	2	2	13	2	3	4	2	2	3	220	183	130
09 Dec 2022	26	14	46	13	17	29	5	22	25	2	2	13	2	3	4	2	2	3	220	183	130
10 Dec 2022	26	14	46	13	17	29	5	22	25	2	2	13	2	3	4	2	2	3	220	183	130
11 Dec 2022	26	14	46	13	17	29	5	22	25	2	2	13	2	3	4	2	2	3	220	183	130
12 Dec 2022	26	14	46	13	17	29	5	22	25	2	2	13	2	3	4	2	2	3	220	183	130
13 Dec 2022	36	20	60	24	32	56	8	42	48	2	2	20	2	4	6	2	2	4	420	360	240
14 Dec 2022	26	14	46	13	17	29	5	22	25	2	2	13	2	3	4	2	2	3	220	183	130
15 Dec 2022	26	14	46	13	17	29	5	22	25	2	2	13	2	3	4	2	2	3	220	183	130
16 Dec 2022	26	14	46	13	17	29	5	22	25	2	2	13	2	3	4	2	2	3	220	183	130
17 Dec 2022	26	14	46	13	17	29	5	22	25	2	2	13	2	3	4	2	2	3	220	183	130
18 Dec 2022	26	14	46	13	17	29	5	22	25	2	2	13	2	3	4	2	2	3	220	183	130
19 Dec 2022	26	14	46	13	17	29	5	22	25	2	2	13	2	3	4	2	2	3	220	183	130
20 Dec 2022	26	14	46	13	17	29	5	22	25	2	2	13	2	3	4	2	2	3	220	183	130
21 Dec 2022	20	17	61	56	301	401	161	111	181	2	2	13	2	3	5	11	2	11	910	1503	510
22 Dec 2022	20	17	61	56	301	401	161	111	181	2	2	13	2	3	5	11	2	11	910	1503	510
23 Dec 2022	20	17	61	56	301	401	161	111	181	2	2	13	2	3	5	11	2	11	910	1503	510
24 Dec 2022	20	17	61	56	301	401	161	111	181	2	2	13	2	3	5	11	2	11	910	1503	510
25 Dec 2022	20	17	61	56	301	401	161	111	181	2	2	13	2	3	5	11	2	11	910	1503	510
26 Dec 2022	20	17	61	56	301	401	161	111	181	2	2	13	2	3	5	11	2	11	910	1503	510
27 Dec 2022	36	20	62	2	32	200	2	10	40	2	2	20	2	2	8	2	2	4	46	240	240
28 Dec 2022	36	20	62	2	32	200	2	10	40	2	2	20	2	2	8	2	2	4	46	240	240
29 Dec 2022	36	20	62	2	32	200	2	10	40	2	2	20	2	2	8	2	2	4	46	240	240
30 Dec 2022	36	20	62	2	32	200	2	10	40	2	2	20	2	2	8	2	2	4	46	240	240
31 Dec 2022	702	1707	831	56	316	500	161	115	200	11	11	23	2	2	11	11	2	12	923	1620	620

* Median calculated using n<5

Table 3.6

Summary of compliance at the SBOO kelp stations with the Ocean Plan's Statistical Threshold standard for total coliform bacteria, which states that total coliform density shall not exceed 230 CFU/100 mL in more than 10% of samples per station by depth, per month.

Date	I19			I24			I25			I26			I32			I39			I40		
	2m	6m	11m	2m	6m	11m	2m	6m	9m	2m	6m	9m	2m	6m	9m	2m	12m	18m	2m	6m	9m
December	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	IC	IC	IC	E	E	E

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 3.7

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

Station	Date	Time	Depth	Total	Fecal	Entero	Temp	XMS	DO	Sal	pH
I19	01 Dec 2022	958	2	36e	4e	2e	15.3	76.98	7.7	33.42	8.1
I19	01 Dec 2022	958	6	20e	20e	2e	15.3	77.20	7.7	33.42	8.1
I19	01 Dec 2022	958	11	60e	14e	6e	15.2	71.83	7.6	33.42	8.1
I19	05 Dec 2022	1103	2	<2	<2	<2	15.4	77.49	7.8	33.45	8.1
I19	05 Dec 2022	1103	6	4e	<2	2e	15.3	76.55	7.6	33.44	8.1
I19	05 Dec 2022	1103	11	<2	<2	4e	14.9	64.92	6.6	33.43	8.0
I19	13 Dec 2022	1223	2	1400e	300e	320e	14.0	36.15	7.8	33.27	8.0
I19	13 Dec 2022	1223	6	3400e	480	280e	13.8	53.69	7.3	33.30	8.0
I19	13 Dec 2022	1223	11	1600e	140e	280e	13.8	56.78	7.2	33.31	8.0
I19	21 Dec 2022	1052	2	4e	<2	<2	13.8	77.18	7.6	33.39	8.0
I19	21 Dec 2022	1052	6	14e	4e	4e	13.7	74.66	7.6	33.39	8.0
I19	21 Dec 2022	1052	11	62	26e	10e	13.5	76.65	7.7	33.40	8.0
I19	27 Dec 2022	1042	2	>16000	5200	3800e	14.1	59.75	8.5	33.28	8.1
I19	27 Dec 2022	1042	6	>16000	4800	4000	14.1	55.13	8.4	33.31	8.1
I19	27 Dec 2022	1042	11	>16000	7000	2000e	14.1	55.02	8.4	33.33	8.1
I24	01 Dec 2022	1016	2	<2	<2	<2	15.4	84.49	7.9	33.46	8.2
I24	01 Dec 2022	1016	6	2e	2e	<2	15.4	84.36	7.9	33.46	8.2
I24	01 Dec 2022	1016	11	<2	<2	<2	15.4	82.98	7.9	33.46	8.2
I24	05 Dec 2022	1125	2	2e	<2	<2	15.5	82.32	7.8	33.46	8.1
I24	05 Dec 2022	1125	6	<2	<2	<2	15.4	80.38	7.7	33.46	8.1
I24	05 Dec 2022	1125	11	<2	<2	<2	15.4	78.98	7.8	33.46	8.1
I24	13 Dec 2022	1242	2	4400	740	580	14.2	52.38	7.4	33.27	8.0
I24	13 Dec 2022	1242	6	840	80e	100e	14.0	83.52	7.2	33.38	8.0
I24	13 Dec 2022	1242	11	>16000	6400	6800	13.9	16.45	6.7	33.36	8.0
I24	21 Dec 2022	1113	2	110	8e	<2	13.6	83.41	6.4	33.36	8.0
I24	21 Dec 2022	1113	6	600	46	14e	13.6	77.09	7.0	33.36	8.0
I24	21 Dec 2022	1113	11	800e	64	34e	13.6	71.40	6.7	33.38	8.0
I24	27 Dec 2022	1108	2	2e	<2	2e	14.1	74.49	8.0	33.40	8.1
I24	27 Dec 2022	1108	6	32e	8e	12e	13.9	74.54	7.6	33.39	8.1
I24	27 Dec 2022	1108	11	200e	40e	80e	13.8	38.90	7.3	33.39	8.1
I25	01 Dec 2022	1028	2	<2	<2	<2	15.4	84.30	7.9	33.46	8.2
I25	01 Dec 2022	1028	6	<2	<2	<2	15.4	84.08	7.8	33.46	8.2
I25	01 Dec 2022	1028	9	<2	<2	2e	15.4	83.10	7.8	33.46	8.2
I25	05 Dec 2022	1139	2	<2	<2	2e	15.6	87.72	7.7	33.46	8.1
I25	05 Dec 2022	1139	6	<2	<2	<2	15.5	86.51	7.7	33.46	8.1
I25	05 Dec 2022	1139	9	<2	<2	<2	15.5	86.33	7.7	33.46	8.1
I25	13 Dec 2022	1250	2	4400	680	420	14.2	60.91	7.4	33.27	8.0
I25	13 Dec 2022	1250	6	5400	980	980	14.0	70.54	7.1	33.38	8.0
I25	13 Dec 2022	1250	9	9600	700	880	14.0	61.24	7.0	33.38	8.0

Station	Date	Time	Depth	Total	Fecal	Entero	Temp	XMS	DO	Sal	pH
I25	21 Dec 2022	1121	2	320e	24e	6e	13.6	83.00	7.5	33.33	8.0
I25	21 Dec 2022	1121	6	220e	46	8e	13.6	78.59	7.2	33.34	8.0
I25	21 Dec 2022	1121	9	360e	60e	18e	13.6	76.49	7.2	33.34	8.0
I25	27 Dec 2022	1114	2	<2	<2	2e	14.2	76.26	8.2	33.40	8.1
I25	27 Dec 2022	1114	6	10e	8e	18e	14.0	63.65	7.8	33.39	8.1
I25	27 Dec 2022	1114	9	40e	14e	36e	13.9	46.42	7.6	33.39	8.1
I26	01 Dec 2022	1036	2	<2	<2	<2	15.3	82.16	7.8	33.43	8.1
I26	01 Dec 2022	1036	6	<2	<2	6e	15.2	81.46	7.7	33.43	8.1
I26	01 Dec 2022	1036	9	<20	<2	2e	15.2	74.34	7.7	33.42	8.1
I26	05 Dec 2022	1155	2	<2	<2	<2	15.6	90.36	7.7	33.46	8.1
I26	05 Dec 2022	1155	6	2e	2e	2e	15.3	87.49	7.5	33.44	8.1
I26	05 Dec 2022	1155	9	<2	<2	<2	15.3	78.06	7.4	33.44	8.1
I26	13 Dec 2022	1259	2	1800e	80e	200e	14.3	51.02	7.2	33.30	8.0
I26	13 Dec 2022	1259	6	>16000	5400	3400e	13.9	38.23	6.9	33.34	8.0
I26	13 Dec 2022	1259	9	>16000	4000	5800	13.9	37.11	6.8	33.34	8.0
I26	21 Dec 2022	1131	2	2e	<2	<2	13.8	81.25	7.8	33.34	8.0
I26	21 Dec 2022	1131	6	<2	<2	<2	13.6	77.61	7.7	33.33	8.0
I26	21 Dec 2022	1131	9	6e	<2	2e	13.6	78.61	7.8	33.33	8.0
I26	27 Dec 2022	1123	2	20e	4e	12e	14.1	67.85	8.0	33.40	8.1
I26	27 Dec 2022	1123	6	20e	2e	16e	14.0	60.40	7.8	33.40	8.1
I26	27 Dec 2022	1123	9	40e	6e	8e	14.0	59.78	7.8	33.40	8.1
I32	01 Dec 2022	1046	2	2e	<2	16e	15.2	62.99	7.6	33.42	8.1
I32	01 Dec 2022	1046	6	4e	2e	60	15.1	60.63	7.5	33.42	8.1
I32	01 Dec 2022	1046	9	2e	<2	92	15.1	54.26	7.4	33.41	8.1
I32	05 Dec 2022	1206	2	<2	<2	<2	15.8	79.21	8.0	33.45	8.1
I32	05 Dec 2022	1206	6	<2	<2	<2	15.5	74.34	8.0	33.45	8.1
I32	05 Dec 2022	1206	9	2e	2e	<2	15.4	73.17	7.7	33.45	8.1
I32	13 Dec 2022	1310	2	3200e	320e	240e	14.0	59.81	7.5	33.26	8.0
I32	13 Dec 2022	1310	6	3200e	300e	280e	13.8	73.38	6.9	33.33	8.0
I32	13 Dec 2022	1310	9	3400e	460	400	13.8	70.39	6.8	33.34	8.0
I32	21 Dec 2022	1145	2	<2	<2	<2	13.9	77.66	7.8	33.36	8.0
I32	21 Dec 2022	1145	6	<2	<2	<2	13.7	73.47	7.7	33.36	8.0
I32	21 Dec 2022	1145	9	8e	<2	<2	13.4	70.87	7.7	33.35	8.0
I32	27 Dec 2022	1134	2	2e	<2	2e	14.3	69.76	7.8	33.42	8.1
I32	27 Dec 2022	1134	6	<2	2e	12e	14.0	72.65	7.7	33.41	8.1
I32	27 Dec 2022	1134	9	14e	<2	10e	14.0	67.28	7.6	33.41	8.1
I39	01 Dec 2022	940	2	<2	<2	<2	15.4	90.66	7.9	33.47	8.2
I39	01 Dec 2022	940	12	<2	<2	<2	15.4	89.23	7.8	33.46	8.2
I39	01 Dec 2022	940	18	2e	<2	<2	15.4	88.15	7.8	33.46	8.2
I39	05 Dec 2022	1039	2	<2	<2	<2	15.5	90.78	7.8	33.45	8.1
I39	05 Dec 2022	1039	12	<2	<2	<2	15.3	90.73	7.7	33.45	8.1
I39	05 Dec 2022	1039	18	<2	<2	<2	14.9	84.07	7.1	33.42	8.0
I39	13 Dec 2022	1200	2	<20	1000e	680	14.2	60.53	7.4	33.17	8.0
I39	13 Dec 2022	1200	12	2e	100e	160e	14.0	80.29	7.0	33.39	8.0
I39	13 Dec 2022	1200	18	<20	160e	200e	13.9	68.81	6.8	33.38	8.0

Station	Date	Time	Depth	Total	Fecal	Entero	Temp	XMS	DO	Sal	pH
I39	21 Dec 2022	1030	2	86	8e	4e	13.7	81.69	7.3	33.34	8.0
I39	21 Dec 2022	1030	12	56	12e	2e	13.6	85.14	7.2	33.34	8.0
I39	21 Dec 2022	1030	18	72	16e	<2	13.6	84.58	7.2	33.34	8.0
I39	27 Dec 2022	1018	2	<2	<2	<2	14.2	80.22	8.0	33.41	8.1
I39	27 Dec 2022	1018	12	2e	<2	2e	13.9	76.21	7.1	33.40	8.1
I39	27 Dec 2022	1018	18	4e	<2	6e	13.9	62.30	6.9	33.41	8.0
I40	01 Dec 2022	1007	2	<20	2e	<2	15.2	72.55	7.8	33.42	8.1
I40	01 Dec 2022	1007	6	6e	<2	4e	15.2	70.39	7.7	33.42	8.1
I40	01 Dec 2022	1007	9	<20	<2	4e	15.2	69.80	7.7	33.42	8.1
I40	05 Dec 2022	1115	2	<20	<2	4e	15.5	64.98	7.8	33.45	8.1
I40	05 Dec 2022	1115	6	4e	2e	4e	15.4	65.59	7.6	33.44	8.1
I40	05 Dec 2022	1115	9	<20	<2	10e	15.2	56.49	7.0	33.42	8.0
I40	13 Dec 2022	1235	2	15000	840	1000	13.9	41.75	7.0	33.33	8.0
I40	13 Dec 2022	1235	6	3000e	800	980	13.9	49.63	6.9	33.34	8.0
I40	13 Dec 2022	1235	9	>16000	2800	4800	13.9	68.02	7.0	33.35	8.0
I40	21 Dec 2022	1104	2	1800e	100e	26e	13.4	69.99	7.9	33.33	8.0
I40	21 Dec 2022	1104	6	3400e	140e	48	13.4	68.42	7.5	33.34	8.0
I40	21 Dec 2022	1104	9	1000e	120e	64	13.5	68.53	7.2	33.36	8.0
I40	27 Dec 2022	1058	2	46	6e	<2	14.1	68.24	8.7	33.38	8.1
I40	27 Dec 2022	1058	6	240e	14e	26e	14.0	67.80	8.3	33.38	8.1
I40	27 Dec 2022	1058	9	240e	20e	<20	14.0	58.65	8.3	33.39	8.1

ns = not sampled

ND = no data

Table 3.8

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

Station	Date	Parameter	Value
I19	01 Dec 2022	Depth (m)	11
I19	01 Dec 2022	Arrive Time	958
I19	01 Dec 2022	Depart Time	1001
I19	01 Dec 2022	Air Temp (C)	14.8
I19	01 Dec 2022	Weather	Overcast
I19	01 Dec 2022	Visibility (mi)	11
I19	01 Dec 2022	Wind Speed (kts)	5.9
I19	01 Dec 2022	Wind Dir	SW
I19	01 Dec 2022	Water Color	Greenish-Blue
I19	01 Dec 2022	Wave Ht Low (ft)	3
I19	01 Dec 2022	Wave Period (sec)	15
I19	01 Dec 2022	Sea State	Light Chop
I19	01 Dec 2022	High Tide (ft)	4.58
I19	01 Dec 2022	High Tide Time	1230
I19	01 Dec 2022	Low Tide (ft)	0.43
I19	01 Dec 2022	Low Tide Time	624
I19	01 Dec 2022	Comments	none
I19	05 Dec 2022	Depth (m)	11
I19	05 Dec 2022	Arrive Time	1053
I19	05 Dec 2022	Depart Time	1103
I19	05 Dec 2022	Air Temp (C)	15.8
I19	05 Dec 2022	Weather	Partly Cloudy
I19	05 Dec 2022	Visibility (mi)	12
I19	05 Dec 2022	Wind Speed (kts)	0.7
I19	05 Dec 2022	Wind Dir	SE
I19	05 Dec 2022	Water Color	Blueish-Green
I19	05 Dec 2022	Wave Ht Low (ft)	4
I19	05 Dec 2022	Wave Period (sec)	15
I19	05 Dec 2022	Sea State	Light Chop
I19	05 Dec 2022	High Tide (ft)	5.97
I19	05 Dec 2022	High Tide Time	1448
I19	05 Dec 2022	Low Tide (ft)	-0.35
I19	05 Dec 2022	Low Tide Time	2154
I19	05 Dec 2022	Comments	none
I19	13 Dec 2022	Depth (m)	11
I19	13 Dec 2022	Arrive Time	1223
I19	13 Dec 2022	Depart Time	1226
I19	13 Dec 2022	Air Temp (C)	13.1
I19	13 Dec 2022	Weather	Overcast
I19	13 Dec 2022	Visibility (mi)	10
I19	13 Dec 2022	Wind Speed (kts)	3.6
I19	13 Dec 2022	Wind Dir	W
I19	13 Dec 2022	Water Color	Green
I19	13 Dec 2022	Wave Ht Low (ft)	5.2
I19	13 Dec 2022	Wave Period (sec)	11
I19	13 Dec 2022	Sea State	Regular Swell
I19	13 Dec 2022	High Tide (ft)	4.68
I19	13 Dec 2022	High Tide Time	1906
I19	13 Dec 2022	Low Tide (ft)	0.36
I19	13 Dec 2022	Low Tide Time	300
I19	13 Dec 2022	Comments	Inside turbid plume
I19	21 Dec 2022	Depth (m)	11
I19	21 Dec 2022	Arrive Time	1052

Station	Date	Parameter	Value
I19	21 Dec 2022	Depart Time	1054
I19	21 Dec 2022	Air Temp (C)	14.1
I19	21 Dec 2022	Weather	Clear
I19	21 Dec 2022	Visibility (mi)	11
I19	21 Dec 2022	Wind Speed (kts)	7.3
I19	21 Dec 2022	Wind Dir	N
I19	21 Dec 2022	Water Color	Blue
I19	21 Dec 2022	Wave Ht Low (ft)	3
I19	21 Dec 2022	Wave Period (sec)	13
I19	21 Dec 2022	Sea State	Calm
I19	21 Dec 2022	High Tide (ft)	6.38
I19	21 Dec 2022	High Tide Time	1442
I19	21 Dec 2022	Low Tide (ft)	-1.08
I19	21 Dec 2022	Low Tide Time	2200
I19	21 Dec 2022	Comments	none
I19	27 Dec 2022	Depth (m)	11
I19	27 Dec 2022	Arrive Time	1042
I19	27 Dec 2022	Depart Time	1051
I19	27 Dec 2022	Air Temp (C)	13.5
I19	27 Dec 2022	Weather	Fog
I19	27 Dec 2022	Visibility (mi)	1
I19	27 Dec 2022	Wind Speed (kts)	5.4
I19	27 Dec 2022	Wind Dir	S
I19	27 Dec 2022	Water Color	Green
I19	27 Dec 2022	Wave Ht Low (ft)	5.6
I19	27 Dec 2022	Wave Period (sec)	11
I19	27 Dec 2022	Sea State	Regular Swell
I19	27 Dec 2022	High Tide (ft)	5.52
I19	27 Dec 2022	High Tide Time	1930
I19	27 Dec 2022	Low Tide (ft)	-0.61
I19	27 Dec 2022	Low Tide Time	248
I19	27 Dec 2022	Comments	none
I24	01 Dec 2022	Depth (m)	11
I24	01 Dec 2022	Arrive Time	1016
I24	01 Dec 2022	Depart Time	1026
I24	01 Dec 2022	Air Temp (C)	14.8
I24	01 Dec 2022	Weather	Overcast
I24	01 Dec 2022	Visibility (mi)	11
I24	01 Dec 2022	Wind Speed (kts)	5.1
I24	01 Dec 2022	Wind Dir	SW
I24	01 Dec 2022	Water Color	Blueish-Green
I24	01 Dec 2022	Wave Ht Low (ft)	3
I24	01 Dec 2022	Wave Period (sec)	15
I24	01 Dec 2022	Sea State	Light Chop
I24	01 Dec 2022	High Tide (ft)	4.58
I24	01 Dec 2022	High Tide Time	1230
I24	01 Dec 2022	Low Tide (ft)	0.43
I24	01 Dec 2022	Low Tide Time	624
I24	01 Dec 2022	Comments	none
I24	05 Dec 2022	Depth (m)	11
I24	05 Dec 2022	Arrive Time	1118
I24	05 Dec 2022	Depart Time	1125
I24	05 Dec 2022	Air Temp (C)	15.8
I24	05 Dec 2022	Weather	Partly Cloudy
I24	05 Dec 2022	Visibility (mi)	12
I24	05 Dec 2022	Wind Speed (kts)	9.7
I24	05 Dec 2022	Wind Dir	W
I24	05 Dec 2022	Water Color	Blueish-Green

Station	Date	Parameter	Value
I24	05 Dec 2022	Wave Ht Low (ft)	4
I24	05 Dec 2022	Wave Period (sec)	15
I24	05 Dec 2022	Sea State	Light Chop
I24	05 Dec 2022	High Tide (ft)	5.97
I24	05 Dec 2022	High Tide Time	1448
I24	05 Dec 2022	Low Tide (ft)	-0.35
I24	05 Dec 2022	Low Tide Time	2154
I24	05 Dec 2022	Comments	none
I24	13 Dec 2022	Depth (m)	11
I24	13 Dec 2022	Arrive Time	1242
I24	13 Dec 2022	Depart Time	1247
I24	13 Dec 2022	Air Temp (C)	13.2
I24	13 Dec 2022	Weather	Overcast
I24	13 Dec 2022	Visibility (mi)	10
I24	13 Dec 2022	Wind Speed (kts)	1.2
I24	13 Dec 2022	Wind Dir	W
I24	13 Dec 2022	Water Color	Green
I24	13 Dec 2022	Wave Ht Low (ft)	5.2
I24	13 Dec 2022	Wave Period (sec)	11
I24	13 Dec 2022	Sea State	Regular Swell
I24	13 Dec 2022	High Tide (ft)	4.68
I24	13 Dec 2022	High Tide Time	1906
I24	13 Dec 2022	Low Tide (ft)	0.36
I24	13 Dec 2022	Low Tide Time	300
I24	13 Dec 2022	Comments	Inside turbid plume
I24	21 Dec 2022	Depth (m)	10
I24	21 Dec 2022	Arrive Time	1113
I24	21 Dec 2022	Depart Time	1116
I24	21 Dec 2022	Air Temp (C)	14.2
I24	21 Dec 2022	Weather	Clear
I24	21 Dec 2022	Visibility (mi)	11
I24	21 Dec 2022	Wind Speed (kts)	5.1
I24	21 Dec 2022	Wind Dir	N
I24	21 Dec 2022	Water Color	Green
I24	21 Dec 2022	Wave Ht Low (ft)	3
I24	21 Dec 2022	Wave Period (sec)	13
I24	21 Dec 2022	Sea State	Calm
I24	21 Dec 2022	High Tide (ft)	6.38
I24	21 Dec 2022	High Tide Time	1442
I24	21 Dec 2022	Low Tide (ft)	-1.08
I24	21 Dec 2022	Low Tide Time	2200
I24	21 Dec 2022	Comments	none
I24	27 Dec 2022	Depth (m)	11
I24	27 Dec 2022	Arrive Time	1108
I24	27 Dec 2022	Depart Time	1110
I24	27 Dec 2022	Air Temp (C)	13
I24	27 Dec 2022	Weather	Fog
I24	27 Dec 2022	Visibility (mi)	1
I24	27 Dec 2022	Wind Speed (kts)	6.1
I24	27 Dec 2022	Wind Dir	S
I24	27 Dec 2022	Water Color	Green
I24	27 Dec 2022	Wave Ht Low (ft)	5.6
I24	27 Dec 2022	Wave Period (sec)	11
I24	27 Dec 2022	Sea State	Regular Swell
I24	27 Dec 2022	High Tide (ft)	5.52
I24	27 Dec 2022	High Tide Time	1930
I24	27 Dec 2022	Low Tide (ft)	-0.61
I24	27 Dec 2022	Low Tide Time	248

Station	Date	Parameter	Value
I24	27 Dec 2022	Comments	none
I25	01 Dec 2022	Depth (m)	9
I25	01 Dec 2022	Arrive Time	1028
I25	01 Dec 2022	Depart Time	1031
I25	01 Dec 2022	Air Temp (C)	15
I25	01 Dec 2022	Weather	Overcast
I25	01 Dec 2022	Visibility (mi)	11
I25	01 Dec 2022	Wind Speed (kts)	4.8
I25	01 Dec 2022	Wind Dir	W
I25	01 Dec 2022	Water Color	Blueish-Green
I25	01 Dec 2022	Wave Ht Low (ft)	3
I25	01 Dec 2022	Wave Period (sec)	15
I25	01 Dec 2022	Sea State	Light Chop
I25	01 Dec 2022	High Tide (ft)	4.58
I25	01 Dec 2022	High Tide Time	1230
I25	01 Dec 2022	Low Tide (ft)	0.43
I25	01 Dec 2022	Low Tide Time	624
I25	01 Dec 2022	Comments	none
I25	05 Dec 2022	Depth (m)	9
I25	05 Dec 2022	Arrive Time	1128
I25	05 Dec 2022	Depart Time	1139
I25	05 Dec 2022	Air Temp (C)	15.9
I25	05 Dec 2022	Weather	Partly Cloudy
I25	05 Dec 2022	Visibility (mi)	12
I25	05 Dec 2022	Wind Speed (kts)	3.6
I25	05 Dec 2022	Wind Dir	SW
I25	05 Dec 2022	Water Color	Blueish-Green
I25	05 Dec 2022	Wave Ht Low (ft)	4
I25	05 Dec 2022	Wave Period (sec)	15
I25	05 Dec 2022	Sea State	Light Chop
I25	05 Dec 2022	High Tide (ft)	5.97
I25	05 Dec 2022	High Tide Time	1448
I25	05 Dec 2022	Low Tide (ft)	-0.35
I25	05 Dec 2022	Low Tide Time	2154
I25	05 Dec 2022	Comments	none
I25	13 Dec 2022	Depth (m)	10
I25	13 Dec 2022	Arrive Time	1250
I25	13 Dec 2022	Depart Time	1253
I25	13 Dec 2022	Air Temp (C)	13.3
I25	13 Dec 2022	Weather	Overcast
I25	13 Dec 2022	Visibility (mi)	10
I25	13 Dec 2022	Wind Speed (kts)	3.2
I25	13 Dec 2022	Wind Dir	W
I25	13 Dec 2022	Water Color	Green
I25	13 Dec 2022	Wave Ht Low (ft)	5.2
I25	13 Dec 2022	Wave Period (sec)	11
I25	13 Dec 2022	Sea State	Regular Swell
I25	13 Dec 2022	High Tide (ft)	4.68
I25	13 Dec 2022	High Tide Time	1906
I25	13 Dec 2022	Low Tide (ft)	0.36
I25	13 Dec 2022	Low Tide Time	300
I25	13 Dec 2022	Comments	Inside turbid plume
I25	21 Dec 2022	Depth (m)	8
I25	21 Dec 2022	Arrive Time	1121
I25	21 Dec 2022	Depart Time	1124
I25	21 Dec 2022	Air Temp (C)	14
I25	21 Dec 2022	Weather	Clear

Station	Date	Parameter	Value
I25	21 Dec 2022	Visibility (mi)	11
I25	21 Dec 2022	Wind Speed (kts)	6.8
I25	21 Dec 2022	Wind Dir	N
I25	21 Dec 2022	Water Color	Blueish-Green
I25	21 Dec 2022	Wave Ht Low (ft)	3
I25	21 Dec 2022	Wave Period (sec)	13
I25	21 Dec 2022	Sea State	Calm
I25	21 Dec 2022	High Tide (ft)	6.38
I25	21 Dec 2022	High Tide Time	1442
I25	21 Dec 2022	Low Tide (ft)	-1.08
I25	21 Dec 2022	Low Tide Time	2200
I25	21 Dec 2022	Comments	none
I25	27 Dec 2022	Depth (m)	9
I25	27 Dec 2022	Arrive Time	1114
I25	27 Dec 2022	Depart Time	1117
I25	27 Dec 2022	Air Temp (C)	13.1
I25	27 Dec 2022	Weather	Fog
I25	27 Dec 2022	Visibility (mi)	1
I25	27 Dec 2022	Wind Speed (kts)	5.6
I25	27 Dec 2022	Wind Dir	SW
I25	27 Dec 2022	Water Color	Green
I25	27 Dec 2022	Wave Ht Low (ft)	5.6
I25	27 Dec 2022	Wave Period (sec)	11
I25	27 Dec 2022	Sea State	Regular Swell
I25	27 Dec 2022	High Tide (ft)	5.52
I25	27 Dec 2022	High Tide Time	1930
I25	27 Dec 2022	Low Tide (ft)	-0.61
I25	27 Dec 2022	Low Tide Time	248
I25	27 Dec 2022	Comments	none
I26	01 Dec 2022	Depth (m)	9
I26	01 Dec 2022	Arrive Time	1036
I26	01 Dec 2022	Depart Time	1039
I26	01 Dec 2022	Air Temp (C)	15.1
I26	01 Dec 2022	Weather	Overcast
I26	01 Dec 2022	Visibility (mi)	11
I26	01 Dec 2022	Wind Speed (kts)	0.3
I26	01 Dec 2022	Wind Dir	NW
I26	01 Dec 2022	Water Color	Blueish-Green
I26	01 Dec 2022	Wave Ht Low (ft)	3
I26	01 Dec 2022	Wave Period (sec)	15
I26	01 Dec 2022	Sea State	Light Chop
I26	01 Dec 2022	High Tide (ft)	4.58
I26	01 Dec 2022	High Tide Time	1230
I26	01 Dec 2022	Low Tide (ft)	0.43
I26	01 Dec 2022	Low Tide Time	624
I26	01 Dec 2022	Comments	none
I26	05 Dec 2022	Depth (m)	9
I26	05 Dec 2022	Arrive Time	1144
I26	05 Dec 2022	Depart Time	1155
I26	05 Dec 2022	Air Temp (C)	15.9
I26	05 Dec 2022	Weather	Partly Cloudy
I26	05 Dec 2022	Visibility (mi)	12
I26	05 Dec 2022	Wind Speed (kts)	5.8
I26	05 Dec 2022	Wind Dir	W
I26	05 Dec 2022	Water Color	Blueish-Green
I26	05 Dec 2022	Wave Ht Low (ft)	4
I26	05 Dec 2022	Wave Period (sec)	15
I26	05 Dec 2022	Sea State	Light Chop

Station	Date	Parameter	Value
I26	05 Dec 2022	High Tide (ft)	5.97
I26	05 Dec 2022	High Tide Time	1448
I26	05 Dec 2022	Low Tide (ft)	-0.35
I26	05 Dec 2022	Low Tide Time	2154
I26	05 Dec 2022	Comments	none
I26	13 Dec 2022	Depth (m)	9
I26	13 Dec 2022	Arrive Time	1259
I26	13 Dec 2022	Depart Time	1303
I26	13 Dec 2022	Air Temp (C)	13.3
I26	13 Dec 2022	Weather	Overcast
I26	13 Dec 2022	Visibility (mi)	10
I26	13 Dec 2022	Wind Speed (kts)	3.1
I26	13 Dec 2022	Wind Dir	W
I26	13 Dec 2022	Water Color	Green
I26	13 Dec 2022	Wave Ht Low (ft)	5.2
I26	13 Dec 2022	Wave Period (sec)	11
I26	13 Dec 2022	Sea State	Regular Swell
I26	13 Dec 2022	High Tide (ft)	4.68
I26	13 Dec 2022	High Tide Time	1906
I26	13 Dec 2022	Low Tide (ft)	0.36
I26	13 Dec 2022	Low Tide Time	300
I26	13 Dec 2022	Comments	Inside turbid plume
I26	21 Dec 2022	Depth (m)	9
I26	21 Dec 2022	Arrive Time	1131
I26	21 Dec 2022	Depart Time	1135
I26	21 Dec 2022	Air Temp (C)	14.1
I26	21 Dec 2022	Weather	Clear
I26	21 Dec 2022	Visibility (mi)	11
I26	21 Dec 2022	Wind Speed (kts)	13.4
I26	21 Dec 2022	Wind Dir	NW
I26	21 Dec 2022	Water Color	Blueish-Green
I26	21 Dec 2022	Wave Ht Low (ft)	3
I26	21 Dec 2022	Wave Period (sec)	13
I26	21 Dec 2022	Sea State	Calm
I26	21 Dec 2022	High Tide (ft)	6.38
I26	21 Dec 2022	High Tide Time	1442
I26	21 Dec 2022	Low Tide (ft)	-1.08
I26	21 Dec 2022	Low Tide Time	2200
I26	21 Dec 2022	Comments	none
I26	27 Dec 2022	Depth (m)	10
I26	27 Dec 2022	Arrive Time	1123
I26	27 Dec 2022	Depart Time	1125
I26	27 Dec 2022	Air Temp (C)	13
I26	27 Dec 2022	Weather	Fog
I26	27 Dec 2022	Visibility (mi)	1
I26	27 Dec 2022	Wind Speed (kts)	4.6
I26	27 Dec 2022	Wind Dir	SW
I26	27 Dec 2022	Water Color	Green
I26	27 Dec 2022	Wave Ht Low (ft)	5.6
I26	27 Dec 2022	Wave Period (sec)	11
I26	27 Dec 2022	Sea State	Regular Swell
I26	27 Dec 2022	High Tide (ft)	5.52
I26	27 Dec 2022	High Tide Time	1930
I26	27 Dec 2022	Low Tide (ft)	-0.61
I26	27 Dec 2022	Low Tide Time	248
I26	27 Dec 2022	Comments	none
I32	01 Dec 2022	Depth (m)	9

Station	Date	Parameter	Value
I32	01 Dec 2022	Arrive Time	1046
I32	01 Dec 2022	Depart Time	1049
I32	01 Dec 2022	Air Temp (C)	15.2
I32	01 Dec 2022	Weather	Overcast
I32	01 Dec 2022	Visibility (mi)	11
I32	01 Dec 2022	Wind Speed (kts)	0
I32	01 Dec 2022	Wind Dir	W
I32	01 Dec 2022	Water Color	Blueish-Green
I32	01 Dec 2022	Wave Ht Low (ft)	3
I32	01 Dec 2022	Wave Period (sec)	15
I32	01 Dec 2022	Sea State	Light Chop
I32	01 Dec 2022	High Tide (ft)	4.58
I32	01 Dec 2022	High Tide Time	1230
I32	01 Dec 2022	Low Tide (ft)	0.43
I32	01 Dec 2022	Low Tide Time	624
I32	01 Dec 2022	Comments	none
I32	05 Dec 2022	Depth (m)	9
I32	05 Dec 2022	Arrive Time	1202
I32	05 Dec 2022	Depart Time	1206
I32	05 Dec 2022	Air Temp (C)	15.7
I32	05 Dec 2022	Weather	Partly Cloudy
I32	05 Dec 2022	Visibility (mi)	12
I32	05 Dec 2022	Wind Speed (kts)	11.4
I32	05 Dec 2022	Wind Dir	W
I32	05 Dec 2022	Water Color	Blueish-Green
I32	05 Dec 2022	Wave Ht Low (ft)	4
I32	05 Dec 2022	Wave Period (sec)	15
I32	05 Dec 2022	Sea State	Light Chop
I32	05 Dec 2022	High Tide (ft)	5.97
I32	05 Dec 2022	High Tide Time	1448
I32	05 Dec 2022	Low Tide (ft)	-0.35
I32	05 Dec 2022	Low Tide Time	2154
I32	05 Dec 2022	Comments	none
I32	13 Dec 2022	Depth (m)	10
I32	13 Dec 2022	Arrive Time	1310
I32	13 Dec 2022	Depart Time	1315
I32	13 Dec 2022	Air Temp (C)	13.2
I32	13 Dec 2022	Weather	Overcast
I32	13 Dec 2022	Visibility (mi)	10
I32	13 Dec 2022	Wind Speed (kts)	0
I32	13 Dec 2022	Wind Dir	W
I32	13 Dec 2022	Water Color	Green
I32	13 Dec 2022	Wave Ht Low (ft)	5.2
I32	13 Dec 2022	Wave Period (sec)	11
I32	13 Dec 2022	Sea State	Regular Swell
I32	13 Dec 2022	High Tide (ft)	4.68
I32	13 Dec 2022	High Tide Time	1906
I32	13 Dec 2022	Low Tide (ft)	0.36
I32	13 Dec 2022	Low Tide Time	300
I32	13 Dec 2022	Comments	In turbid plume; Floating algae and organic debris
I32	21 Dec 2022	Depth (m)	9
I32	21 Dec 2022	Arrive Time	1145
I32	21 Dec 2022	Depart Time	1148
I32	21 Dec 2022	Air Temp (C)	14.4
I32	21 Dec 2022	Weather	Clear
I32	21 Dec 2022	Visibility (mi)	11
I32	21 Dec 2022	Wind Speed (kts)	6.6
I32	21 Dec 2022	Wind Dir	NW

Station	Date	Parameter	Value
I32	21 Dec 2022	Water Color	Blueish-Green
I32	21 Dec 2022	Wave Ht Low (ft)	3
I32	21 Dec 2022	Wave Period (sec)	13
I32	21 Dec 2022	Sea State	Calm
I32	21 Dec 2022	High Tide (ft)	6.38
I32	21 Dec 2022	High Tide Time	1442
I32	21 Dec 2022	Low Tide (ft)	-1.08
I32	21 Dec 2022	Low Tide Time	2200
I32	21 Dec 2022	Comments	none
I32	27 Dec 2022	Depth (m)	11
I32	27 Dec 2022	Arrive Time	1134
I32	27 Dec 2022	Depart Time	1137
I32	27 Dec 2022	Air Temp (C)	12.9
I32	27 Dec 2022	Weather	Fog
I32	27 Dec 2022	Visibility (mi)	1
I32	27 Dec 2022	Wind Speed (kts)	2.7
I32	27 Dec 2022	Wind Dir	NW
I32	27 Dec 2022	Water Color	Green
I32	27 Dec 2022	Wave Ht Low (ft)	5.6
I32	27 Dec 2022	Wave Period (sec)	11
I32	27 Dec 2022	Sea State	Regular Swell
I32	27 Dec 2022	High Tide (ft)	5.52
I32	27 Dec 2022	High Tide Time	1930
I32	27 Dec 2022	Low Tide (ft)	-0.61
I32	27 Dec 2022	Low Tide Time	248
I32	27 Dec 2022	Comments	none
I39	01 Dec 2022	Depth (m)	18
I39	01 Dec 2022	Arrive Time	940
I39	01 Dec 2022	Depart Time	944
I39	01 Dec 2022	Air Temp (C)	14.7
I39	01 Dec 2022	Weather	Overcast
I39	01 Dec 2022	Visibility (mi)	11
I39	01 Dec 2022	Wind Speed (kts)	5.7
I39	01 Dec 2022	Wind Dir	SW
I39	01 Dec 2022	Water Color	Greenish-Blue
I39	01 Dec 2022	Wave Ht Low (ft)	3
I39	01 Dec 2022	Wave Period (sec)	15
I39	01 Dec 2022	Sea State	Light Chop
I39	01 Dec 2022	High Tide (ft)	4.58
I39	01 Dec 2022	High Tide Time	1230
I39	01 Dec 2022	Low Tide (ft)	0.43
I39	01 Dec 2022	Low Tide Time	624
I39	01 Dec 2022	Comments	none
I39	05 Dec 2022	Depth (m)	19
I39	05 Dec 2022	Arrive Time	1035
I39	05 Dec 2022	Depart Time	1039
I39	05 Dec 2022	Air Temp (C)	15.7
I39	05 Dec 2022	Weather	Partly Cloudy
I39	05 Dec 2022	Visibility (mi)	12
I39	05 Dec 2022	Wind Speed (kts)	1.7
I39	05 Dec 2022	Wind Dir	NW
I39	05 Dec 2022	Water Color	Greenish-Blue
I39	05 Dec 2022	Wave Ht Low (ft)	4
I39	05 Dec 2022	Wave Period (sec)	15
I39	05 Dec 2022	Sea State	Light Chop
I39	05 Dec 2022	High Tide (ft)	5.97
I39	05 Dec 2022	High Tide Time	1448
I39	05 Dec 2022	Low Tide (ft)	-0.35

Station	Date	Parameter	Value
I39	05 Dec 2022	Low Tide Time	2154
I39	05 Dec 2022	Comments	none
I39	13 Dec 2022	Depth (m)	19
I39	13 Dec 2022	Arrive Time	1200
I39	13 Dec 2022	Depart Time	1203
I39	13 Dec 2022	Air Temp (C)	13.3
I39	13 Dec 2022	Weather	Overcast
I39	13 Dec 2022	Visibility (mi)	10
I39	13 Dec 2022	Wind Speed (kts)	0
I39	13 Dec 2022	Wind Dir	SW
I39	13 Dec 2022	Water Color	Greenish-Blue
I39	13 Dec 2022	Wave Ht Low (ft)	5.2
I39	13 Dec 2022	Wave Period (sec)	11
I39	13 Dec 2022	Sea State	Regular Swell
I39	13 Dec 2022	High Tide (ft)	4.68
I39	13 Dec 2022	High Tide Time	1906
I39	13 Dec 2022	Low Tide (ft)	0.36
I39	13 Dec 2022	Low Tide Time	300
I39	13 Dec 2022	Comments	none
I39	21 Dec 2022	Depth (m)	19
I39	21 Dec 2022	Arrive Time	1030
I39	21 Dec 2022	Depart Time	1032
I39	21 Dec 2022	Air Temp (C)	13.1
I39	21 Dec 2022	Weather	Clear
I39	21 Dec 2022	Visibility (mi)	11
I39	21 Dec 2022	Wind Speed (kts)	3.5
I39	21 Dec 2022	Wind Dir	N
I39	21 Dec 2022	Water Color	Blue
I39	21 Dec 2022	Wave Ht Low (ft)	3
I39	21 Dec 2022	Wave Period (sec)	13
I39	21 Dec 2022	Sea State	Calm
I39	21 Dec 2022	High Tide (ft)	6.38
I39	21 Dec 2022	High Tide Time	1442
I39	21 Dec 2022	Low Tide (ft)	-1.08
I39	21 Dec 2022	Low Tide Time	2200
I39	21 Dec 2022	Comments	none
I39	27 Dec 2022	Depth (m)	1
I39	27 Dec 2022	Arrive Time	1018
I39	27 Dec 2022	Depart Time	1022
I39	27 Dec 2022	Air Temp (C)	13.4
I39	27 Dec 2022	Weather	Fog
I39	27 Dec 2022	Visibility (mi)	1
I39	27 Dec 2022	Wind Speed (kts)	2.2
I39	27 Dec 2022	Wind Dir	NW
I39	27 Dec 2022	Water Color	Green
I39	27 Dec 2022	Wave Ht Low (ft)	5.6
I39	27 Dec 2022	Wave Period (sec)	11
I39	27 Dec 2022	Sea State	Regular Swell
I39	27 Dec 2022	High Tide (ft)	5.52
I39	27 Dec 2022	High Tide Time	1930
I39	27 Dec 2022	Low Tide (ft)	-0.61
I39	27 Dec 2022	Low Tide Time	248
I39	27 Dec 2022	Comments	none
I40	01 Dec 2022	Depth (m)	9
I40	01 Dec 2022	Arrive Time	1007
I40	01 Dec 2022	Depart Time	1012
I40	01 Dec 2022	Air Temp (C)	14.8

Station	Date	Parameter	Value
I40	01 Dec 2022	Weather	Overcast
I40	01 Dec 2022	Visibility (mi)	11
I40	01 Dec 2022	Wind Speed (kts)	5.2
I40	01 Dec 2022	Wind Dir	SW
I40	01 Dec 2022	Water Color	Greenish-Blue
I40	01 Dec 2022	Wave Ht Low (ft)	3
I40	01 Dec 2022	Wave Period (sec)	15
I40	01 Dec 2022	Sea State	Light Chop
I40	01 Dec 2022	High Tide (ft)	4.58
I40	01 Dec 2022	High Tide Time	1230
I40	01 Dec 2022	Low Tide (ft)	0.43
I40	01 Dec 2022	Low Tide Time	624
I40	01 Dec 2022	Comments	none
I40	05 Dec 2022	Depth (m)	10
I40	05 Dec 2022	Arrive Time	1110
I40	05 Dec 2022	Depart Time	1115
I40	05 Dec 2022	Air Temp (C)	15.8
I40	05 Dec 2022	Weather	Partly Cloudy
I40	05 Dec 2022	Visibility (mi)	12
I40	05 Dec 2022	Wind Speed (kts)	6.4
I40	05 Dec 2022	Wind Dir	SW
I40	05 Dec 2022	Water Color	Blueish-Green
I40	05 Dec 2022	Wave Ht Low (ft)	4
I40	05 Dec 2022	Wave Period (sec)	15
I40	05 Dec 2022	Sea State	Light Chop
I40	05 Dec 2022	High Tide (ft)	5.97
I40	05 Dec 2022	High Tide Time	1448
I40	05 Dec 2022	Low Tide (ft)	-0.35
I40	05 Dec 2022	Low Tide Time	2154
I40	05 Dec 2022	Comments	none
I40	13 Dec 2022	Depth (m)	10
I40	13 Dec 2022	Arrive Time	1235
I40	13 Dec 2022	Depart Time	1242
I40	13 Dec 2022	Air Temp (C)	13.3
I40	13 Dec 2022	Weather	Overcast
I40	13 Dec 2022	Visibility (mi)	10
I40	13 Dec 2022	Wind Speed (kts)	3.3
I40	13 Dec 2022	Wind Dir	W
I40	13 Dec 2022	Water Color	Green
I40	13 Dec 2022	Wave Ht Low (ft)	5.2
I40	13 Dec 2022	Wave Period (sec)	11
I40	13 Dec 2022	Sea State	Regular Swell
I40	13 Dec 2022	High Tide (ft)	4.68
I40	13 Dec 2022	High Tide Time	1906
I40	13 Dec 2022	Low Tide (ft)	0.36
I40	13 Dec 2022	Low Tide Time	300
I40	13 Dec 2022	Comments	Inside turbid plume
I40	21 Dec 2022	Depth (m)	9
I40	21 Dec 2022	Arrive Time	1104
I40	21 Dec 2022	Depart Time	1113
I40	21 Dec 2022	Air Temp (C)	14
I40	21 Dec 2022	Weather	Clear
I40	21 Dec 2022	Visibility (mi)	11
I40	21 Dec 2022	Wind Speed (kts)	5.8
I40	21 Dec 2022	Wind Dir	NW
I40	21 Dec 2022	Water Color	Green
I40	21 Dec 2022	Wave Ht Low (ft)	3
I40	21 Dec 2022	Wave Period (sec)	13

Station	Date	Parameter	Value
I40	21 Dec 2022	Sea State	Calm
I40	21 Dec 2022	High Tide (ft)	6.38
I40	21 Dec 2022	High Tide Time	1442
I40	21 Dec 2022	Low Tide (ft)	-1.08
I40	21 Dec 2022	Low Tide Time	2200
I40	21 Dec 2022	Comments	none
I40	27 Dec 2022	Depth (m)	12
I40	27 Dec 2022	Arrive Time	1058
I40	27 Dec 2022	Depart Time	1102
I40	27 Dec 2022	Air Temp (C)	13.1
I40	27 Dec 2022	Weather	Fog
I40	27 Dec 2022	Visibility (mi)	1
I40	27 Dec 2022	Wind Speed (kts)	3.7
I40	27 Dec 2022	Wind Dir	W
I40	27 Dec 2022	Water Color	Green
I40	27 Dec 2022	Wave Ht Low (ft)	5.6
I40	27 Dec 2022	Wave Period (sec)	11
I40	27 Dec 2022	Sea State	Regular Swell
I40	27 Dec 2022	High Tide (ft)	5.52
I40	27 Dec 2022	High Tide Time	1930
I40	27 Dec 2022	Low Tide (ft)	-0.61
I40	27 Dec 2022	Low Tide Time	248
I40	27 Dec 2022	Comments	none

Table 3.9

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

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
I19	01 Dec 2022	1	15.27	77.26	7.7	33.42	8.1	24.7	1.57
I19	01 Dec 2022	2	15.27	76.98	7.7	33.42	8.1	24.7	1.72
I19	01 Dec 2022	3	15.26	77.14	7.7	33.42	8.1	24.7	1.88
I19	01 Dec 2022	4	15.26	76.64	7.7	33.42	8.1	24.7	2.01
I19	01 Dec 2022	5	15.26	76.78	7.7	33.42	8.1	24.7	2.00
I19	01 Dec 2022	6	15.26	77.20	7.7	33.42	8.1	24.7	2.05
I19	01 Dec 2022	7	15.26	77.10	7.7	33.42	8.1	24.7	2.06
I19	01 Dec 2022	8	15.26	76.62	7.7	33.42	8.1	24.7	2.00
I19	01 Dec 2022	9	15.25	72.44	7.6	33.42	8.1	24.7	2.01
I19	01 Dec 2022	10	15.25	71.83	7.6	33.42	8.1	24.7	1.87
I19	05 Dec 2022	1	15.44	77.72	7.8	33.45	8.1	24.7	1.08
I19	05 Dec 2022	2	15.43	77.49	7.8	33.45	8.1	24.7	1.13
I19	05 Dec 2022	3	15.41	77.43	7.8	33.45	8.1	24.7	1.26
I19	05 Dec 2022	4	15.36	77.29	7.7	33.45	8.1	24.7	1.56
I19	05 Dec 2022	5	15.34	76.81	7.7	33.44	8.1	24.7	1.81
I19	05 Dec 2022	6	15.29	76.55	7.6	33.44	8.1	24.7	1.97
I19	05 Dec 2022	7	15.25	76.26	7.6	33.44	8.1	24.7	2.05
I19	05 Dec 2022	8	15.21	76.79	7.4	33.43	8.1	24.7	1.98
I19	05 Dec 2022	9	15.02	73.44	7.0	33.43	8.0	24.8	2.11
I19	05 Dec 2022	10	14.91	64.92	6.6	33.43	8.0	24.8	2.13
I19	13 Dec 2022	1	13.96	36.65	7.8	33.27	8.0	24.9	1.51
I19	13 Dec 2022	2	13.96	36.15	7.8	33.27	8.0	24.9	1.72
I19	13 Dec 2022	3	13.94	35.68	7.7	33.27	8.0	24.9	1.81
I19	13 Dec 2022	4	13.85	38.62	7.6	33.28	8.0	24.9	2.23
I19	13 Dec 2022	5	13.78	48.07	7.4	33.30	8.0	24.9	2.51
I19	13 Dec 2022	6	13.78	53.69	7.3	33.30	8.0	24.9	2.34
I19	13 Dec 2022	7	13.78	54.22	7.2	33.30	8.0	24.9	2.29
I19	13 Dec 2022	8	13.77	56.42	7.2	33.30	8.0	24.9	2.13
I19	13 Dec 2022	9	13.77	56.75	7.2	33.31	8.0	24.9	1.88
I19	13 Dec 2022	10	13.76	56.78	7.2	33.31	8.0	24.9	1.73
I19	21 Dec 2022	1	13.80	77.56	7.6	33.39	8.0	25.0	1.07
I19	21 Dec 2022	2	13.77	77.18	7.6	33.39	8.0	25.0	1.08
I19	21 Dec 2022	3	13.70	76.47	7.6	33.39	8.0	25.0	1.45
I19	21 Dec 2022	4	13.68	75.29	7.6	33.39	8.0	25.0	1.99
I19	21 Dec 2022	5	13.67	74.68	7.6	33.39	8.0	25.0	2.26
I19	21 Dec 2022	6	13.66	74.66	7.6	33.39	8.0	25.0	2.58
I19	21 Dec 2022	7	13.65	74.66	7.5	33.39	8.0	25.0	2.79
I19	21 Dec 2022	8	13.64	75.24	7.6	33.39	8.0	25.0	2.77
I19	21 Dec 2022	9	13.60	76.02	7.6	33.40	8.0	25.0	2.44
I19	21 Dec 2022	10	13.46	76.65	7.7	33.40	8.0	25.1	2.39
I19	27 Dec 2022	1	14.18	60.22	8.5	33.26	8.1	24.8	5.17
I19	27 Dec 2022	2	14.12	59.75	8.5	33.28	8.1	24.8	5.49
I19	27 Dec 2022	3	14.06	58.83	8.4	33.29	8.1	24.9	5.77
I19	27 Dec 2022	4	14.05	57.69	8.3	33.29	8.1	24.9	5.64
I19	27 Dec 2022	5	14.06	55.13	8.3	33.30	8.1	24.9	5.54
I19	27 Dec 2022	6	14.06	55.13	8.4	33.31	8.1	24.9	5.57
I19	27 Dec 2022	7	14.06	54.94	8.4	33.31	8.1	24.9	5.21
I19	27 Dec 2022	8	14.06	55.53	8.4	33.32	8.1	24.9	5.13
I19	27 Dec 2022	9	14.06	55.42	8.4	33.32	8.1	24.9	4.73
I19	27 Dec 2022	10	14.06	55.02	8.4	33.33	8.1	24.9	4.65

Station	Date	Depth (m)	Temp (°C)	XMS (‰)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
I24	01 Dec 2022	1	15.39	84.63	8.0	33.46	8.2	24.7	1.15
I24	01 Dec 2022	2	15.40	84.49	7.9	33.46	8.2	24.7	1.13
I24	01 Dec 2022	3	15.39	84.35	7.9	33.46	8.2	24.7	1.12
I24	01 Dec 2022	4	15.39	84.54	7.9	33.46	8.2	24.7	1.28
I24	01 Dec 2022	5	15.38	84.43	7.9	33.46	8.2	24.7	1.36
I24	01 Dec 2022	6	15.38	84.36	7.9	33.46	8.2	24.7	1.36
I24	01 Dec 2022	7	15.38	83.85	7.9	33.46	8.2	24.7	1.41
I24	01 Dec 2022	8	15.38	83.94	7.9	33.46	8.2	24.7	1.42
I24	01 Dec 2022	9	15.37	83.63	7.9	33.46	8.2	24.7	1.50
I24	01 Dec 2022	10	15.37	82.98	7.9	33.46	8.2	24.7	1.41
I24	05 Dec 2022	1	15.67	80.16	7.8	33.44	8.1	24.6	0.78
I24	05 Dec 2022	2	15.52	82.32	7.8	33.46	8.1	24.7	0.86
I24	05 Dec 2022	3	15.47	81.70	7.8	33.46	8.1	24.7	1.07
I24	05 Dec 2022	4	15.48	81.29	7.8	33.46	8.1	24.7	1.22
I24	05 Dec 2022	5	15.46	80.78	7.7	33.46	8.1	24.7	1.40
I24	05 Dec 2022	6	15.45	80.38	7.7	33.46	8.1	24.7	1.52
I24	05 Dec 2022	7	15.45	80.01	7.7	33.46	8.1	24.7	1.59
I24	05 Dec 2022	8	15.44	79.93	7.7	33.46	8.1	24.7	1.64
I24	05 Dec 2022	9	15.44	79.56	7.8	33.46	8.1	24.7	1.59
I24	05 Dec 2022	10	15.44	79.08	7.8	33.46	8.1	24.7	1.59
I24	05 Dec 2022	11	15.44	78.98	7.8	33.46	8.1	24.7	1.53
I24	13 Dec 2022	1	14.25	52.46	7.5	33.23	8.0	24.8	1.14
I24	13 Dec 2022	2	14.19	52.38	7.4	33.27	8.0	24.8	1.26
I24	13 Dec 2022	3	14.06	57.45	7.3	33.39	8.0	24.9	1.32
I24	13 Dec 2022	4	14.06	74.21	7.3	33.39	8.0	24.9	1.33
I24	13 Dec 2022	5	14.04	80.04	7.2	33.39	8.0	24.9	1.38
I24	13 Dec 2022	6	14.02	83.52	7.2	33.38	8.0	24.9	1.45
I24	13 Dec 2022	7	14.00	82.25	7.1	33.38	8.0	24.9	1.50
I24	13 Dec 2022	8	13.98	76.43	7.0	33.37	8.0	24.9	1.63
I24	13 Dec 2022	9	13.95	44.89	6.9	33.37	8.0	24.9	1.63
I24	13 Dec 2022	10	13.94	16.45	6.7	33.36	8.0	24.9	1.64
I24	21 Dec 2022	1	13.73	83.55	6.1	33.28	8.0	24.9	0.92
I24	21 Dec 2022	2	13.65	83.41	6.4	33.36	8.0	25.0	1.15
I24	21 Dec 2022	3	13.59	82.83	6.9	33.35	8.0	25.0	1.28
I24	21 Dec 2022	4	13.57	80.89	7.0	33.34	8.0	25.0	1.15
I24	21 Dec 2022	5	13.58	78.28	7.0	33.35	8.0	25.0	1.06
I24	21 Dec 2022	6	13.58	77.09	7.0	33.36	8.0	25.0	1.05
I24	21 Dec 2022	7	13.59	75.69	6.8	33.37	8.0	25.0	1.21
I24	21 Dec 2022	8	13.59	73.96	6.8	33.37	8.0	25.0	1.37
I24	21 Dec 2022	9	13.59	72.77	6.7	33.38	8.0	25.0	1.46
I24	21 Dec 2022	10	13.59	71.40	6.7	33.38	8.0	25.0	1.51
I24	27 Dec 2022	1	14.34	74.72	8.0	33.39	8.1	24.9	2.18
I24	27 Dec 2022	2	14.14	74.49	8.0	33.40	8.1	24.9	2.67
I24	27 Dec 2022	3	14.08	72.50	8.0	33.39	8.1	24.9	3.80
I24	27 Dec 2022	4	14.05	72.72	7.8	33.39	8.1	24.9	4.10
I24	27 Dec 2022	5	13.94	74.71	7.7	33.39	8.1	25.0	5.18
I24	27 Dec 2022	6	13.89	74.54	7.6	33.39	8.1	25.0	5.26
I24	27 Dec 2022	7	13.86	73.37	7.6	33.39	8.1	25.0	4.85
I24	27 Dec 2022	8	13.85	64.99	7.5	33.39	8.1	25.0	4.11
I24	27 Dec 2022	9	13.85	48.49	7.4	33.39	8.1	25.0	4.04
I24	27 Dec 2022	10	13.85	38.90	7.3	33.39	8.1	25.0	4.49
I25	01 Dec 2022	1	15.40	84.54	7.9	33.46	8.2	24.7	1.11
I25	01 Dec 2022	2	15.38	84.30	7.9	33.46	8.2	24.7	1.17
I25	01 Dec 2022	3	15.38	84.34	7.8	33.46	8.2	24.7	1.26
I25	01 Dec 2022	4	15.38	84.28	7.8	33.46	8.2	24.7	1.24
I25	01 Dec 2022	5	15.38	84.15	7.9	33.46	8.2	24.7	1.32

Station	Date	Depth (m)	Temp (°C)	XMS (‰)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
I25	01 Dec 2022	6	15.38	84.08	7.8	33.46	8.2	24.7	1.46
I25	01 Dec 2022	7	15.37	83.45	7.9	33.46	8.2	24.7	1.57
I25	01 Dec 2022	8	15.37	83.21	7.9	33.46	8.2	24.7	1.47
I25	01 Dec 2022	9	15.37	83.10	7.8	33.46	8.2	24.7	1.47
I25	05 Dec 2022	1	15.65	87.89	7.7	33.44	8.1	24.6	0.50
I25	05 Dec 2022	2	15.57	87.72	7.7	33.46	8.1	24.7	0.52
I25	05 Dec 2022	3	15.51	87.89	7.7	33.46	8.1	24.7	0.56
I25	05 Dec 2022	4	15.49	87.48	7.8	33.46	8.1	24.7	0.61
I25	05 Dec 2022	5	15.49	86.65	7.7	33.46	8.1	24.7	0.68
I25	05 Dec 2022	6	15.49	86.51	7.7	33.46	8.1	24.7	0.74
I25	05 Dec 2022	7	15.49	86.60	7.7	33.46	8.1	24.7	0.78
I25	05 Dec 2022	8	15.49	86.33	7.7	33.46	8.1	24.7	0.81
I25	13 Dec 2022	1	14.18	60.85	7.5	33.26	8.0	24.8	1.20
I25	13 Dec 2022	2	14.18	60.91	7.4	33.27	8.0	24.8	1.25
I25	13 Dec 2022	3	14.11	59.82	7.4	33.32	8.0	24.9	1.30
I25	13 Dec 2022	4	14.10	64.23	7.3	33.33	8.0	24.9	1.49
I25	13 Dec 2022	5	14.09	66.47	7.2	33.34	8.0	24.9	1.55
I25	13 Dec 2022	6	14.03	70.54	7.1	33.38	8.0	24.9	1.53
I25	13 Dec 2022	7	14.02	68.90	7.1	33.38	8.0	24.9	1.60
I25	13 Dec 2022	8	14.01	64.27	7.0	33.38	8.0	24.9	1.58
I25	13 Dec 2022	9	14.01	61.24	7.0	33.38	8.0	24.9	1.62
I25	21 Dec 2022	1	13.75	83.46	7.5	33.33	8.0	24.9	0.69
I25	21 Dec 2022	2	13.63	83.00	7.5	33.33	8.0	25.0	0.84
I25	21 Dec 2022	3	13.59	81.32	7.4	33.33	8.0	25.0	1.07
I25	21 Dec 2022	4	13.57	79.64	7.3	33.33	8.0	25.0	1.19
I25	21 Dec 2022	5	13.57	79.30	7.3	33.33	8.0	25.0	1.33
I25	21 Dec 2022	6	13.57	78.59	7.2	33.34	8.0	25.0	1.39
I25	21 Dec 2022	7	13.56	77.86	7.3	33.34	8.0	25.0	1.37
I25	21 Dec 2022	8	13.56	76.49	7.2	33.34	8.0	25.0	1.34
I25	27 Dec 2022	1	14.32	76.58	8.1	33.39	8.1	24.9	2.21
I25	27 Dec 2022	2	14.15	76.26	8.2	33.40	8.1	24.9	2.77
I25	27 Dec 2022	3	14.10	74.53	8.2	33.39	8.1	24.9	4.53
I25	27 Dec 2022	4	14.08	73.32	8.1	33.39	8.1	24.9	4.52
I25	27 Dec 2022	5	13.98	70.52	7.9	33.39	8.1	24.9	4.71
I25	27 Dec 2022	6	13.98	63.65	7.8	33.39	8.1	24.9	4.92
I25	27 Dec 2022	7	13.93	55.42	7.7	33.39	8.1	25.0	4.36
I25	27 Dec 2022	8	13.93	50.92	7.7	33.39	8.1	25.0	4.06
I25	27 Dec 2022	9	13.93	46.42	7.6	33.39	8.1	25.0	3.57
I26	01 Dec 2022	1	15.28	81.60	7.8	33.44	8.1	24.7	1.16
I26	01 Dec 2022	2	15.27	82.16	7.8	33.43	8.1	24.7	1.20
I26	01 Dec 2022	3	15.25	82.23	7.7	33.43	8.1	24.7	1.22
I26	01 Dec 2022	4	15.24	81.60	7.8	33.43	8.1	24.7	1.43
I26	01 Dec 2022	5	15.23	81.63	7.7	33.43	8.1	24.7	1.54
I26	01 Dec 2022	6	15.21	81.46	7.7	33.43	8.1	24.7	1.62
I26	01 Dec 2022	7	15.21	79.66	7.6	33.43	8.1	24.7	1.65
I26	01 Dec 2022	8	15.20	76.81	7.7	33.42	8.1	24.7	1.58
I26	01 Dec 2022	9	15.19	74.34	7.7	33.42	8.1	24.7	1.49
I26	05 Dec 2022	1	15.83	90.42	7.7	33.46	8.1	24.6	0.44
I26	05 Dec 2022	2	15.65	90.36	7.7	33.46	8.1	24.6	0.44
I26	05 Dec 2022	3	15.51	90.27	7.8	33.46	8.1	24.7	0.50
I26	05 Dec 2022	4	15.48	89.96	7.7	33.46	8.1	24.7	0.57
I26	05 Dec 2022	5	15.42	89.36	7.6	33.45	8.1	24.7	0.63
I26	05 Dec 2022	6	15.32	87.49	7.5	33.44	8.1	24.7	0.70
I26	05 Dec 2022	7	15.28	84.54	7.4	33.44	8.1	24.7	0.73
I26	05 Dec 2022	8	15.28	81.18	7.4	33.44	8.1	24.7	0.76

Station	Date	Depth (m)	Temp (°C)	XMS (‰)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
I26	05 Dec 2022	9	15.28	78.06	7.4	33.44	8.1	24.7	0.79
I26	13 Dec 2022	1	14.33	52.72	7.3	33.29	8.0	24.8	0.83
I26	13 Dec 2022	2	14.28	51.02	7.2	33.30	8.0	24.8	0.87
I26	13 Dec 2022	3	14.03	52.79	7.2	33.32	8.0	24.9	1.39
I26	13 Dec 2022	4	14.01	47.60	7.1	33.31	8.0	24.9	2.10
I26	13 Dec 2022	5	13.91	41.07	6.9	33.33	8.0	24.9	2.27
I26	13 Dec 2022	6	13.90	38.23	6.9	33.34	8.0	24.9	2.02
I26	13 Dec 2022	7	13.93	38.93	6.9	33.33	8.0	24.9	1.90
I26	13 Dec 2022	8	13.89	40.06	6.9	33.34	8.0	24.9	1.83
I26	13 Dec 2022	9	13.87	37.11	6.8	33.34	8.0	24.9	1.66
I26	21 Dec 2022	1	13.85	81.69	7.8	33.34	8.0	24.9	0.84
I26	21 Dec 2022	2	13.83	81.25	7.8	33.34	8.0	24.9	0.87
I26	21 Dec 2022	3	13.70	81.03	7.8	33.34	8.0	25.0	1.08
I26	21 Dec 2022	4	13.62	79.17	7.8	33.34	8.0	25.0	1.50
I26	21 Dec 2022	5	13.62	77.90	7.8	33.33	8.0	25.0	2.08
I26	21 Dec 2022	6	13.61	77.61	7.7	33.33	8.0	25.0	2.41
I26	21 Dec 2022	7	13.60	77.47	7.7	33.33	8.0	25.0	2.58
I26	21 Dec 2022	8	13.60	78.05	7.7	33.33	8.0	25.0	2.44
I26	21 Dec 2022	9	13.60	78.61	7.8	33.33	8.0	25.0	2.29
I26	27 Dec 2022	1	14.27	68.26	8.1	33.39	8.1	24.9	2.58
I26	27 Dec 2022	2	14.12	67.85	8.0	33.40	8.1	24.9	2.87
I26	27 Dec 2022	3	14.07	63.62	8.0	33.40	8.1	24.9	3.66
I26	27 Dec 2022	4	14.05	61.40	7.9	33.40	8.1	24.9	4.08
I26	27 Dec 2022	5	14.04	61.12	7.9	33.40	8.1	24.9	3.96
I26	27 Dec 2022	6	14.03	60.40	7.8	33.40	8.1	24.9	3.62
I26	27 Dec 2022	7	14.03	60.52	7.8	33.40	8.1	24.9	3.59
I26	27 Dec 2022	8	14.03	60.57	7.8	33.40	8.1	24.9	3.60
I26	27 Dec 2022	9	14.02	59.78	7.8	33.40	8.1	24.9	3.32
I32	01 Dec 2022	1	15.21	63.42	7.6	33.42	8.1	24.7	1.71
I32	01 Dec 2022	2	15.21	62.99	7.6	33.42	8.1	24.7	1.82
I32	01 Dec 2022	3	15.20	62.11	7.6	33.42	8.1	24.7	1.87
I32	01 Dec 2022	4	15.19	62.55	7.6	33.42	8.1	24.7	1.94
I32	01 Dec 2022	5	15.19	62.91	7.5	33.42	8.1	24.7	2.05
I32	01 Dec 2022	6	15.13	60.63	7.5	33.42	8.1	24.7	1.98
I32	01 Dec 2022	7	15.13	58.46	7.4	33.42	8.1	24.7	1.92
I32	01 Dec 2022	8	15.12	58.78	7.5	33.42	8.1	24.7	1.85
I32	01 Dec 2022	9	15.11	54.26	7.4	33.41	8.1	24.7	1.79
I32	01 Dec 2022	10	15.10	49.09	7.4	33.41	8.1	24.7	1.79
I32	05 Dec 2022	1	15.92	78.98	8.0	33.45	8.1	24.6	1.09
I32	05 Dec 2022	2	15.78	79.21	8.0	33.45	8.1	24.6	1.14
I32	05 Dec 2022	3	15.60	78.58	8.1	33.46	8.1	24.6	1.36
I32	05 Dec 2022	4	15.57	76.82	8.1	33.45	8.1	24.7	1.73
I32	05 Dec 2022	5	15.55	75.31	8.1	33.45	8.1	24.7	2.27
I32	05 Dec 2022	6	15.52	74.34	8.0	33.45	8.1	24.7	2.65
I32	05 Dec 2022	7	15.48	74.17	8.1	33.45	8.1	24.7	2.95
I32	05 Dec 2022	8	15.48	74.67	8.0	33.45	8.1	24.7	2.96
I32	05 Dec 2022	9	15.37	73.17	7.7	33.45	8.1	24.7	2.75
I32	13 Dec 2022	1	14.16	59.28	7.7	33.25	8.0	24.8	0.73
I32	13 Dec 2022	2	13.97	59.81	7.5	33.26	8.0	24.8	0.87
I32	13 Dec 2022	3	13.76	60.43	7.3	33.28	8.0	24.9	1.40
I32	13 Dec 2022	4	13.76	64.19	7.2	33.28	8.0	24.9	2.07
I32	13 Dec 2022	5	13.79	69.41	7.1	33.30	8.0	24.9	2.38
I32	13 Dec 2022	6	13.81	73.38	6.9	33.33	8.0	24.9	2.12
I32	13 Dec 2022	7	13.77	77.44	6.8	33.34	8.0	24.9	1.86
I32	13 Dec 2022	8	13.77	74.28	6.7	33.34	8.0	24.9	1.78

Station	Date	Depth (m)	Temp (°C)	XMS (‰)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (µg/L)
I32	13 Dec 2022	9	13.77	70.39	6.8	33.34	8.0	24.9	1.77
I32	13 Dec 2022	10	13.77	65.98	6.8	33.34	8.0	24.9	1.79
I32	21 Dec 2022	1	14.01	77.84	7.8	33.37	8.0	24.9	1.05
I32	21 Dec 2022	2	13.92	77.66	7.8	33.36	8.0	24.9	1.18
I32	21 Dec 2022	3	13.76	76.00	7.8	33.36	8.0	25.0	1.87
I32	21 Dec 2022	4	13.73	73.07	7.8	33.36	8.0	25.0	2.64
I32	21 Dec 2022	5	13.69	72.81	7.8	33.36	8.0	25.0	3.12
I32	21 Dec 2022	6	13.66	73.47	7.7	33.36	8.0	25.0	3.01
I32	21 Dec 2022	7	13.60	73.59	7.7	33.35	8.0	25.0	3.01
I32	21 Dec 2022	8	13.52	72.62	7.7	33.35	8.0	25.0	2.70
I32	21 Dec 2022	9	13.45	70.87	7.7	33.35	8.0	25.0	2.13
I32	27 Dec 2022	1	14.47	70.17	7.9	33.42	8.1	24.9	2.11
I32	27 Dec 2022	2	14.30	69.76	7.8	33.42	8.1	24.9	2.29
I32	27 Dec 2022	3	14.20	68.41	7.8	33.42	8.1	24.9	2.54
I32	27 Dec 2022	4	14.11	69.08	7.8	33.42	8.1	24.9	2.99
I32	27 Dec 2022	5	14.06	71.30	7.8	33.41	8.1	24.9	3.15
I32	27 Dec 2022	6	14.03	72.65	7.7	33.41	8.1	25.0	3.17
I32	27 Dec 2022	7	13.99	72.32	7.7	33.41	8.1	25.0	3.21
I32	27 Dec 2022	8	13.97	71.68	7.7	33.41	8.1	25.0	2.90
I32	27 Dec 2022	9	13.97	67.28	7.6	33.41	8.1	25.0	2.73
I32	27 Dec 2022	10	13.98	63.25	7.6	33.41	8.1	25.0	2.59
I39	01 Dec 2022	1	15.40	90.72	8.0	33.47	8.2	24.7	1.08
I39	01 Dec 2022	2	15.40	90.66	7.9	33.47	8.2	24.7	1.16
I39	01 Dec 2022	3	15.41	90.72	7.9	33.47	8.2	24.7	1.10
I39	01 Dec 2022	4	15.40	90.68	7.9	33.46	8.2	24.7	1.21
I39	01 Dec 2022	5	15.40	90.79	7.8	33.46	8.2	24.7	1.30
I39	01 Dec 2022	6	15.39	90.50	7.9	33.46	8.2	24.7	1.26
I39	01 Dec 2022	7	15.39	90.43	7.9	33.46	8.2	24.7	1.26
I39	01 Dec 2022	8	15.39	90.41	7.9	33.46	8.2	24.7	1.24
I39	01 Dec 2022	9	15.39	90.26	7.9	33.46	8.2	24.7	1.36
I39	01 Dec 2022	10	15.38	90.06	7.9	33.46	8.2	24.7	1.36
I39	01 Dec 2022	11	15.37	89.45	7.8	33.46	8.2	24.7	1.29
I39	01 Dec 2022	12	15.37	89.23	7.8	33.46	8.2	24.7	1.28
I39	01 Dec 2022	13	15.36	89.13	7.8	33.46	8.2	24.7	1.32
I39	01 Dec 2022	14	15.36	88.91	7.8	33.46	8.2	24.7	1.38
I39	01 Dec 2022	15	15.36	89.06	7.8	33.46	8.2	24.7	1.35
I39	01 Dec 2022	16	15.36	88.95	7.8	33.46	8.2	24.7	1.34
I39	01 Dec 2022	17	15.36	88.42	7.8	33.46	8.2	24.7	1.26
I39	01 Dec 2022	18	15.36	88.15	7.8	33.46	8.2	24.7	1.18
I39	05 Dec 2022	1	15.55	90.88	7.8	33.45	8.1	24.7	0.53
I39	05 Dec 2022	2	15.51	90.78	7.8	33.45	8.1	24.7	0.52
I39	05 Dec 2022	3	15.44	90.58	7.8	33.45	8.1	24.7	0.60
I39	05 Dec 2022	4	15.41	90.42	7.8	33.45	8.1	24.7	0.68
I39	05 Dec 2022	5	15.38	90.11	7.8	33.45	8.1	24.7	0.77
I39	05 Dec 2022	6	15.38	90.04	7.8	33.45	8.1	24.7	0.84
I39	05 Dec 2022	7	15.36	90.02	7.8	33.45	8.1	24.7	0.86
I39	05 Dec 2022	8	15.35	90.31	7.8	33.45	8.1	24.7	0.86
I39	05 Dec 2022	9	15.34	90.53	7.8	33.45	8.1	24.7	0.87
I39	05 Dec 2022	10	15.32	90.50	7.8	33.45	8.1	24.7	0.89
I39	05 Dec 2022	11	15.31	90.62	7.8	33.45	8.1	24.7	0.87
I39	05 Dec 2022	12	15.31	90.73	7.7	33.45	8.1	24.7	0.88
I39	05 Dec 2022	13	15.28	91.02	7.7	33.45	8.1	24.7	0.89
I39	05 Dec 2022	14	15.24	91.21	7.6	33.44	8.1	24.7	1.06
I39	05 Dec 2022	15	15.12	91.31	7.5	33.44	8.1	24.7	0.87
I39	05 Dec 2022	16	14.88	89.30	7.2	33.42	8.1	24.8	0.87
I39	05 Dec 2022	17	14.87	86.19	7.1	33.42	8.0	24.8	0.88
I39	05 Dec 2022	18	14.86	84.07	7.1	33.42	8.0	24.8	0.82

Station	Date	Depth (m)	Temp (°C)	XMS (‰)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
I39	13 Dec 2022	1	14.23	60.49	7.5	33.15	8.0	24.7	0.71
I39	13 Dec 2022	2	14.15	60.53	7.4	33.17	8.0	24.7	0.77
I39	13 Dec 2022	3	14.14	61.17	7.4	33.19	8.0	24.8	0.92
I39	13 Dec 2022	4	14.08	63.32	7.4	33.22	8.0	24.8	1.21
I39	13 Dec 2022	5	14.08	66.15	7.3	33.23	8.0	24.8	1.49
I39	13 Dec 2022	6	14.10	68.26	7.3	33.25	8.0	24.8	1.72
I39	13 Dec 2022	7	14.14	69.83	7.2	33.29	8.0	24.8	1.74
I39	13 Dec 2022	8	14.18	73.77	7.1	33.37	8.0	24.9	1.61
I39	13 Dec 2022	9	14.11	81.79	7.1	33.39	8.0	24.9	1.52
I39	13 Dec 2022	10	14.12	84.34	7.1	33.37	8.0	24.9	1.50
I39	13 Dec 2022	11	14.05	82.80	7.0	33.39	8.0	24.9	1.49
I39	13 Dec 2022	12	14.03	80.29	7.0	33.39	8.0	24.9	1.51
I39	13 Dec 2022	13	14.00	79.21	6.9	33.39	8.0	24.9	1.48
I39	13 Dec 2022	14	13.97	76.72	6.8	33.39	8.0	24.9	1.51
I39	13 Dec 2022	15	13.96	74.09	6.8	33.38	8.0	24.9	1.50
I39	13 Dec 2022	16	13.95	73.14	6.7	33.38	8.0	24.9	1.52
I39	13 Dec 2022	17	13.94	69.69	6.8	33.38	8.0	24.9	1.47
I39	13 Dec 2022	18	13.94	68.81	6.8	33.38	8.0	25.0	1.51
I39	21 Dec 2022	1	13.69	83.15	7.3	33.34	8.0	25.0	0.85
I39	21 Dec 2022	2	13.67	81.69	7.3	33.34	8.0	25.0	0.85
I39	21 Dec 2022	3	13.65	84.21	7.3	33.34	8.0	25.0	0.96
I39	21 Dec 2022	4	13.64	84.68	7.2	33.34	8.0	25.0	1.05
I39	21 Dec 2022	5	13.62	85.24	7.2	33.34	8.0	25.0	1.24
I39	21 Dec 2022	6	13.60	84.83	7.2	33.34	8.0	25.0	1.31
I39	21 Dec 2022	7	13.60	84.96	7.2	33.34	8.0	25.0	1.30
I39	21 Dec 2022	8	13.60	84.98	7.2	33.34	8.0	25.0	1.46
I39	21 Dec 2022	9	13.60	84.88	7.2	33.34	8.0	25.0	1.54
I39	21 Dec 2022	10	13.60	85.00	7.2	33.34	8.0	25.0	1.65
I39	21 Dec 2022	11	13.60	85.13	7.2	33.34	8.0	25.0	1.57
I39	21 Dec 2022	12	13.59	85.14	7.2	33.34	8.0	25.0	1.55
I39	21 Dec 2022	13	13.60	85.13	7.2	33.34	8.0	25.0	1.58
I39	21 Dec 2022	14	13.60	84.87	7.2	33.34	8.0	25.0	1.56
I39	21 Dec 2022	15	13.60	85.02	7.2	33.34	8.0	25.0	1.56
I39	21 Dec 2022	16	13.60	84.98	7.2	33.34	8.0	25.0	1.59
I39	21 Dec 2022	17	13.59	84.60	7.2	33.34	8.0	25.0	1.62
I39	21 Dec 2022	18	13.59	84.58	7.2	33.34	8.0	25.0	1.57
I39	27 Dec 2022	1	14.20	80.26	8.0	33.41	8.1	24.9	2.45
I39	27 Dec 2022	2	14.21	80.22	8.0	33.41	8.1	24.9	2.41
I39	27 Dec 2022	3	14.17	80.34	8.0	33.41	8.1	24.9	2.75
I39	27 Dec 2022	4	14.11	79.98	8.0	33.41	8.1	24.9	3.41
I39	27 Dec 2022	5	14.10	80.12	8.0	33.41	8.1	24.9	3.54
I39	27 Dec 2022	6	14.00	79.51	7.8	33.40	8.1	25.0	4.15
I39	27 Dec 2022	7	13.94	79.01	7.7	33.40	8.1	25.0	4.64
I39	27 Dec 2022	8	13.93	79.09	7.5	33.40	8.1	25.0	5.46
I39	27 Dec 2022	9	13.90	80.24	7.3	33.40	8.1	25.0	4.47
I39	27 Dec 2022	10	13.88	79.90	7.2	33.40	8.1	25.0	3.88
I39	27 Dec 2022	11	13.88	78.14	7.2	33.40	8.1	25.0	3.72
I39	27 Dec 2022	12	13.88	76.21	7.1	33.40	8.1	25.0	3.16
I39	27 Dec 2022	13	13.88	73.42	7.0	33.41	8.1	25.0	3.08
I39	27 Dec 2022	14	13.89	73.13	7.0	33.41	8.0	25.0	3.02
I39	27 Dec 2022	15	13.89	71.29	7.0	33.41	8.0	25.0	2.62
I39	27 Dec 2022	16	13.89	68.17	6.9	33.41	8.0	25.0	2.97
I39	27 Dec 2022	17	13.90	66.61	6.9	33.41	8.0	25.0	2.58
I39	27 Dec 2022	18	13.90	62.30	6.9	33.41	8.0	25.0	2.23
I40	01 Dec 2022	1	15.23	73.10	7.8	33.42	8.1	24.7	1.69
I40	01 Dec 2022	2	15.23	72.55	7.8	33.42	8.1	24.7	1.78
I40	01 Dec 2022	3	15.22	71.59	7.8	33.42	8.1	24.7	1.94

Station	Date	Depth (m)	Temp (°C)	XMS (‰)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
I40	01 Dec 2022	4	15.22	71.24	7.8	33.42	8.1	24.7	2.01
I40	01 Dec 2022	5	15.21	70.37	7.8	33.42	8.1	24.7	2.08
I40	01 Dec 2022	6	15.22	70.39	7.7	33.42	8.1	24.7	2.08
I40	01 Dec 2022	7	15.22	70.53	7.8	33.42	8.1	24.7	2.14
I40	01 Dec 2022	8	15.22	71.05	7.7	33.42	8.1	24.7	2.10
I40	01 Dec 2022	9	15.22	69.80	7.7	33.42	8.1	24.7	2.08
I40	01 Dec 2022	10	15.22	70.11	7.7	33.42	8.1	24.7	2.15
I40	05 Dec 2022	1	15.58	65.21	7.8	33.45	8.1	24.6	1.29
I40	05 Dec 2022	2	15.54	64.98	7.8	33.45	8.1	24.7	1.36
I40	05 Dec 2022	3	15.50	64.34	7.7	33.45	8.1	24.7	1.78
I40	05 Dec 2022	4	15.44	64.09	7.7	33.45	8.1	24.7	2.15
I40	05 Dec 2022	5	15.42	64.83	7.7	33.44	8.1	24.7	2.29
I40	05 Dec 2022	6	15.40	65.59	7.6	33.44	8.1	24.7	2.18
I40	05 Dec 2022	7	15.32	64.91	7.4	33.43	8.1	24.7	2.07
I40	05 Dec 2022	8	15.19	63.72	7.4	33.42	8.0	24.7	2.03
I40	05 Dec 2022	9	15.16	56.49	7.0	33.42	8.0	24.7	2.13
I40	05 Dec 2022	10	15.15	25.96	6.6	33.43	8.0	24.7	2.79
I40	13 Dec 2022	1	13.92	44.69	7.0	33.33	8.0	24.9	1.81
I40	13 Dec 2022	2	13.91	41.75	7.0	33.33	8.0	24.9	1.70
I40	13 Dec 2022	3	13.92	40.46	7.0	33.33	8.0	24.9	1.87
I40	13 Dec 2022	4	13.90	42.09	6.9	33.33	8.0	24.9	1.99
I40	13 Dec 2022	5	13.89	42.52	6.9	33.34	8.0	24.9	1.97
I40	13 Dec 2022	6	13.90	49.63	6.9	33.34	8.0	24.9	2.17
I40	13 Dec 2022	7	13.90	62.44	7.0	33.34	8.0	24.9	2.11
I40	13 Dec 2022	8	13.91	67.47	7.0	33.35	8.0	24.9	2.02
I40	13 Dec 2022	9	13.91	68.02	7.0	33.35	8.0	24.9	1.84
I40	13 Dec 2022	10	13.89	41.39	6.8	33.34	8.0	24.9	1.74
I40	21 Dec 2022	1	13.44	70.09	7.9	33.33	8.0	25.0	1.15
I40	21 Dec 2022	2	13.44	69.99	7.9	33.33	8.0	25.0	1.14
I40	21 Dec 2022	3	13.42	69.56	7.8	33.33	8.0	25.0	1.22
I40	21 Dec 2022	4	13.40	69.42	7.8	33.33	8.0	25.0	1.43
I40	21 Dec 2022	5	13.41	69.23	7.6	33.34	8.0	25.0	1.65
I40	21 Dec 2022	6	13.42	68.42	7.5	33.34	8.0	25.0	1.85
I40	21 Dec 2022	7	13.42	68.15	7.4	33.34	8.0	25.0	1.91
I40	21 Dec 2022	8	13.43	68.38	7.4	33.34	8.0	25.0	1.94
I40	21 Dec 2022	9	13.47	68.53	7.2	33.36	8.0	25.0	1.83
I40	21 Dec 2022	10	13.48	67.05	7.0	33.37	8.0	25.0	1.80
I40	27 Dec 2022	1	14.19	69.32	8.7	33.38	8.1	24.9	3.84
I40	27 Dec 2022	2	14.08	68.24	8.7	33.38	8.1	24.9	4.68
I40	27 Dec 2022	3	14.00	66.78	8.6	33.38	8.1	24.9	7.47
I40	27 Dec 2022	4	13.96	67.11	8.4	33.38	8.1	24.9	7.04
I40	27 Dec 2022	5	13.95	68.86	8.3	33.38	8.1	24.9	7.03
I40	27 Dec 2022	6	13.96	67.80	8.3	33.38	8.1	24.9	6.58
I40	27 Dec 2022	7	13.96	63.70	8.3	33.38	8.1	24.9	6.96
I40	27 Dec 2022	8	13.96	61.17	8.3	33.38	8.1	24.9	7.34
I40	27 Dec 2022	9	13.96	58.65	8.3	33.39	8.1	24.9	6.59
I40	27 Dec 2022	10	13.97	55.60	8.2	33.39	8.1	24.9	5.92

NA = not available

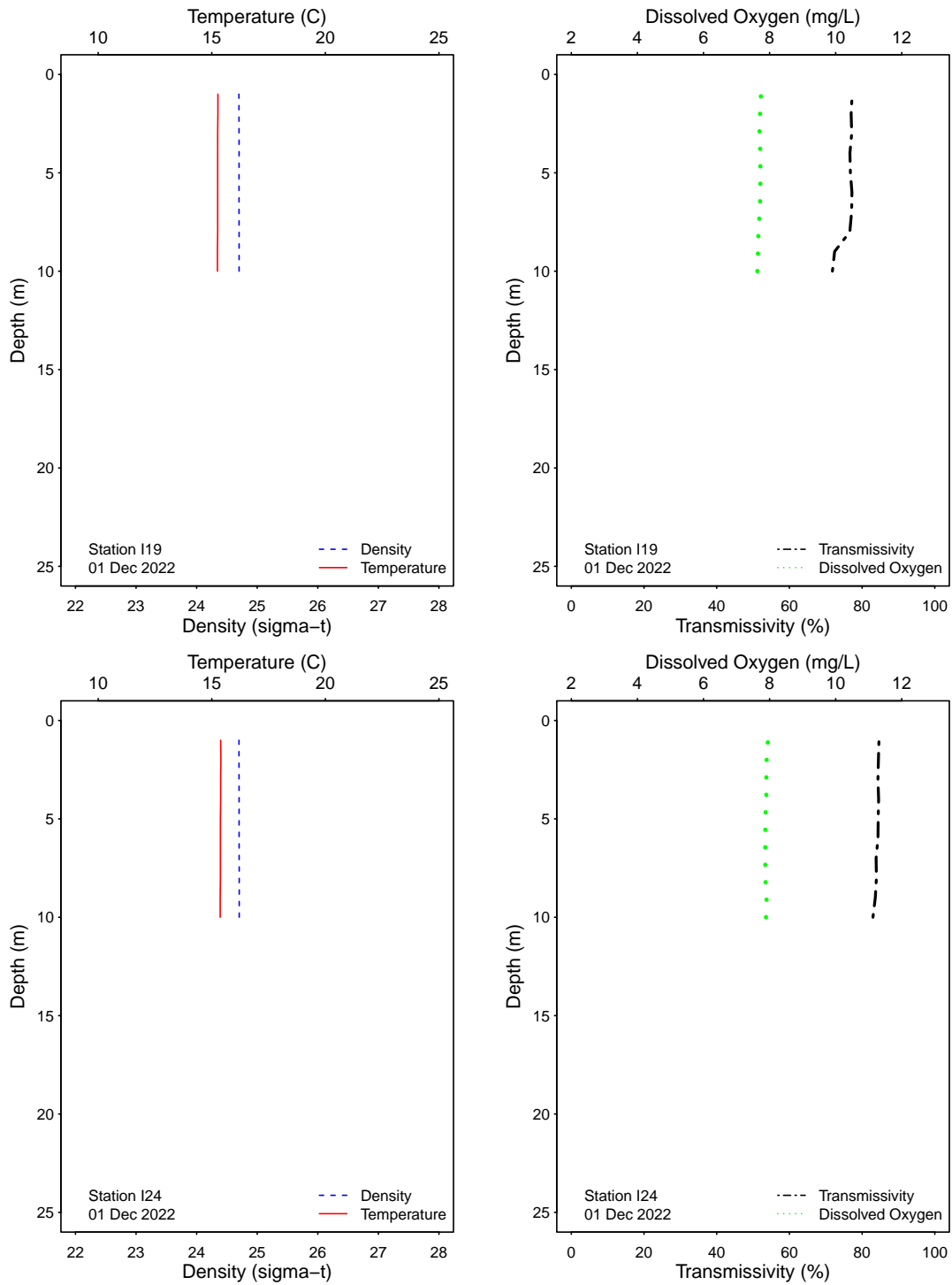


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

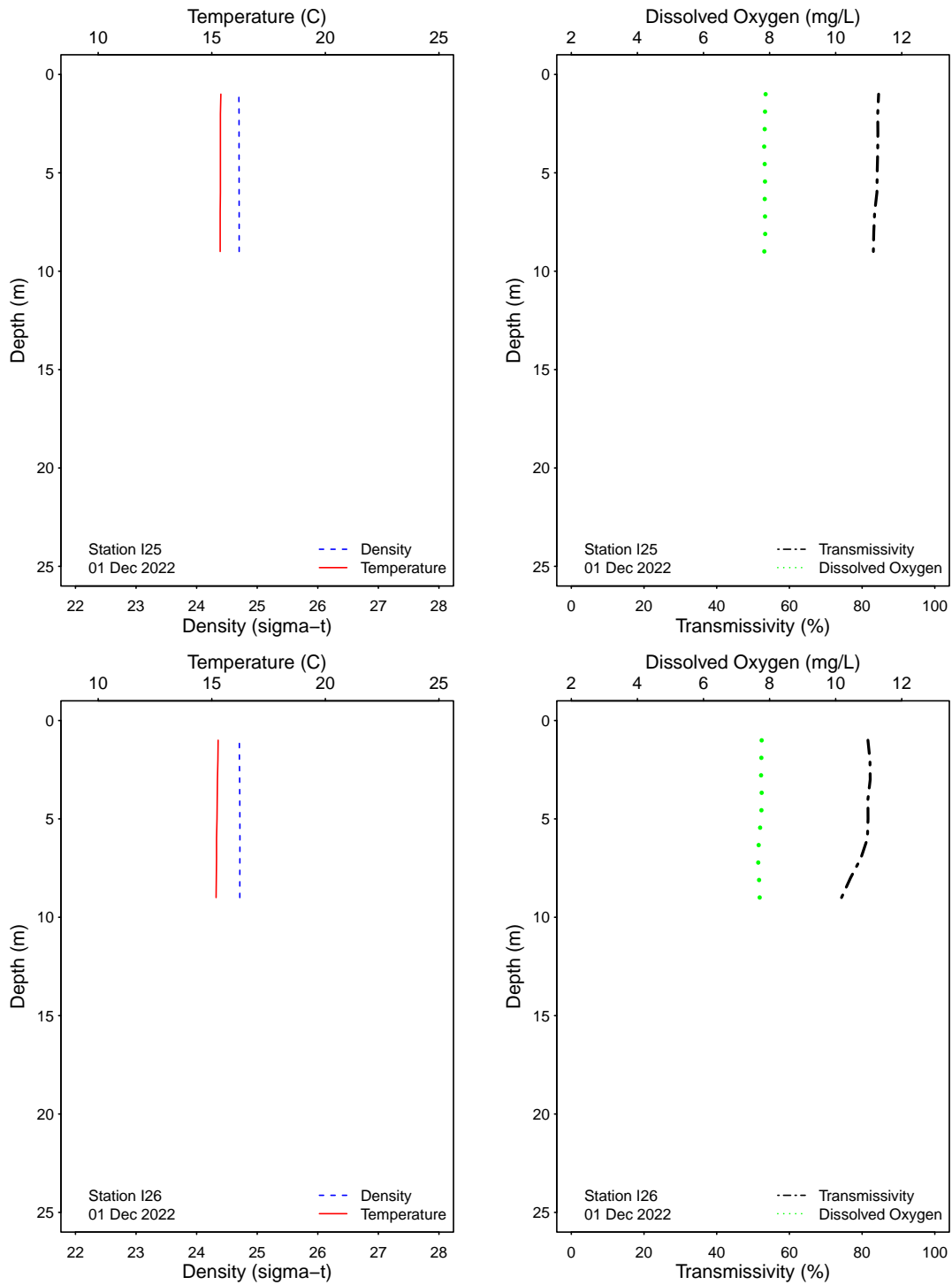


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

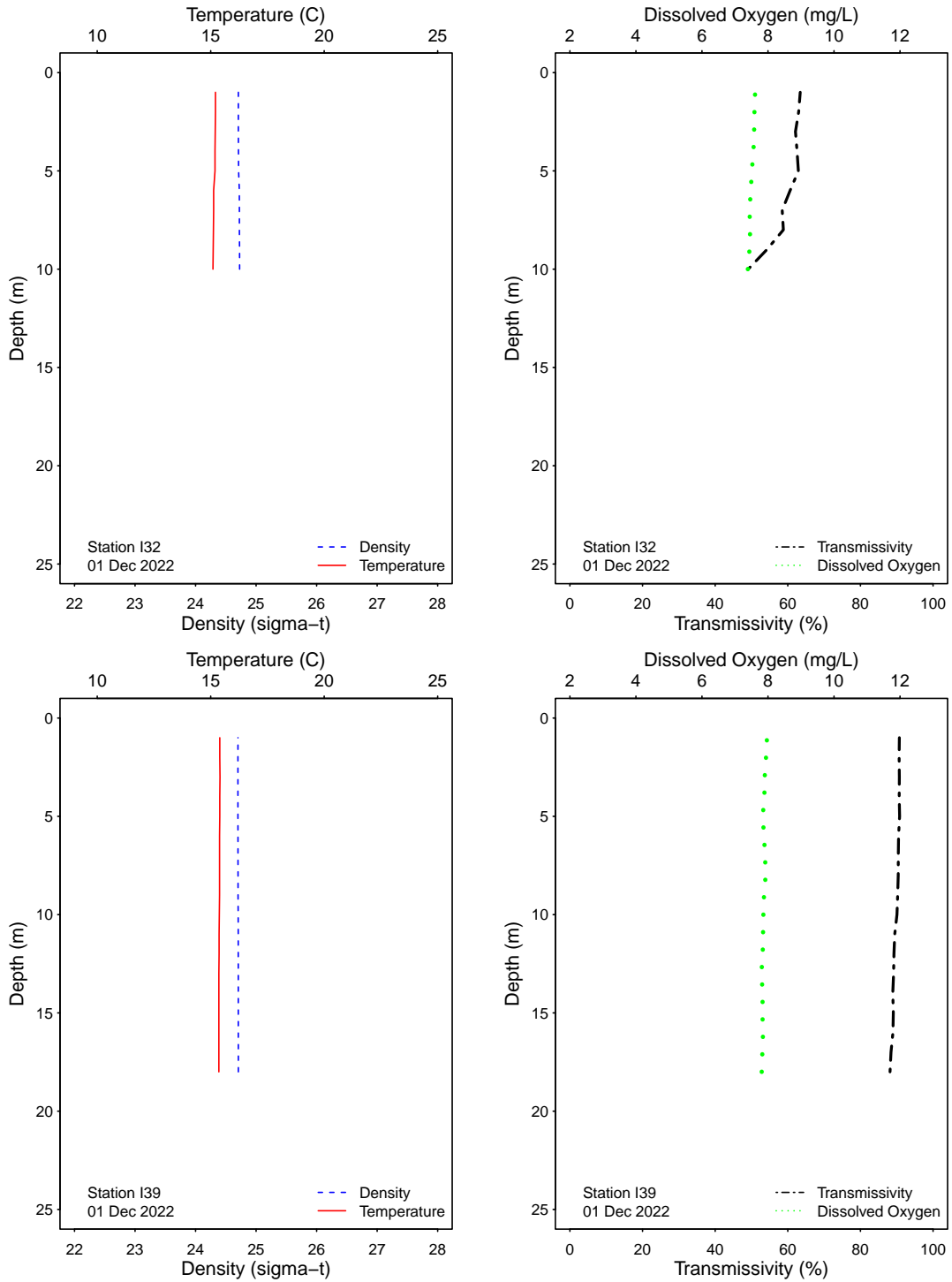


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

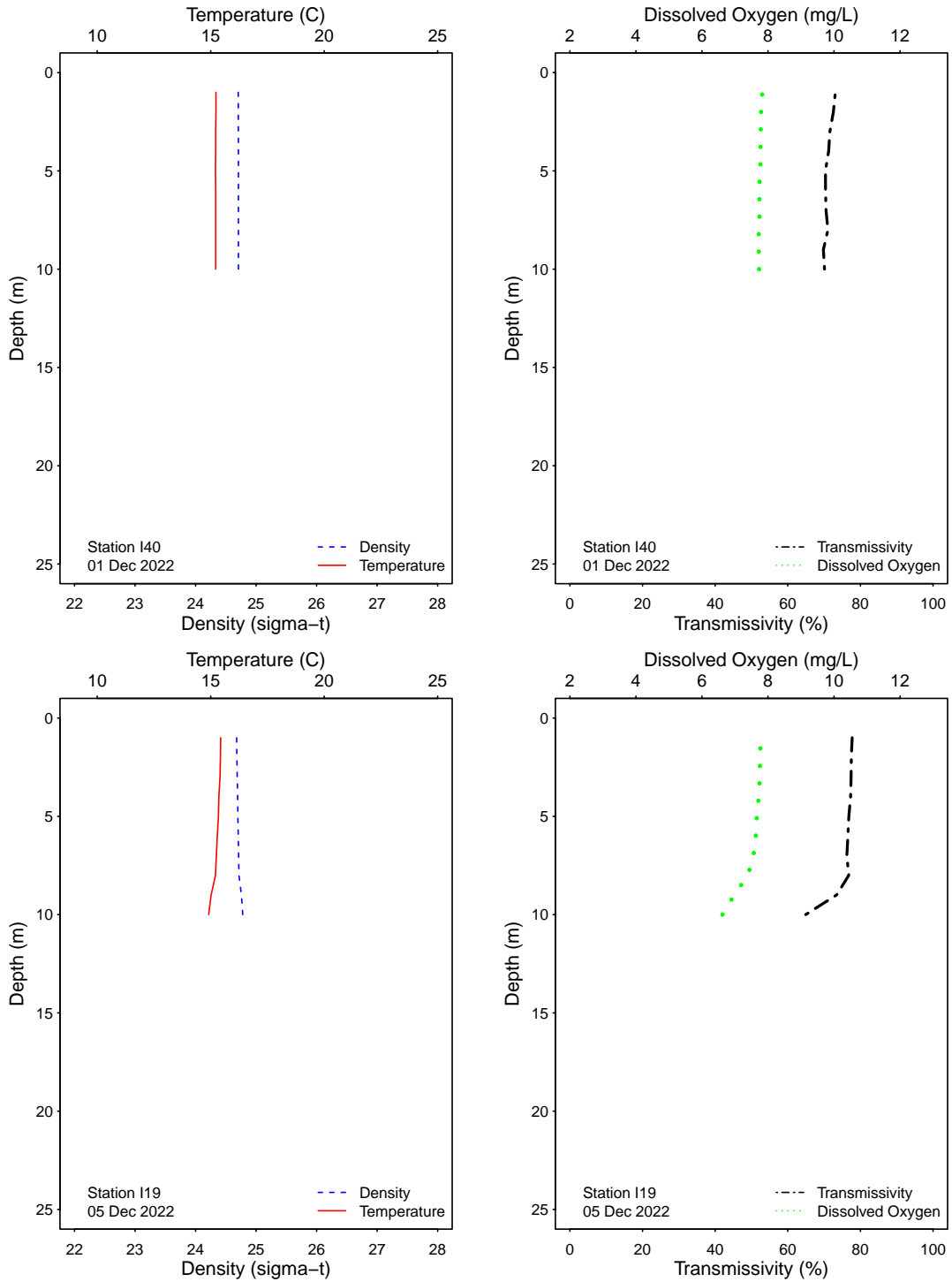


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

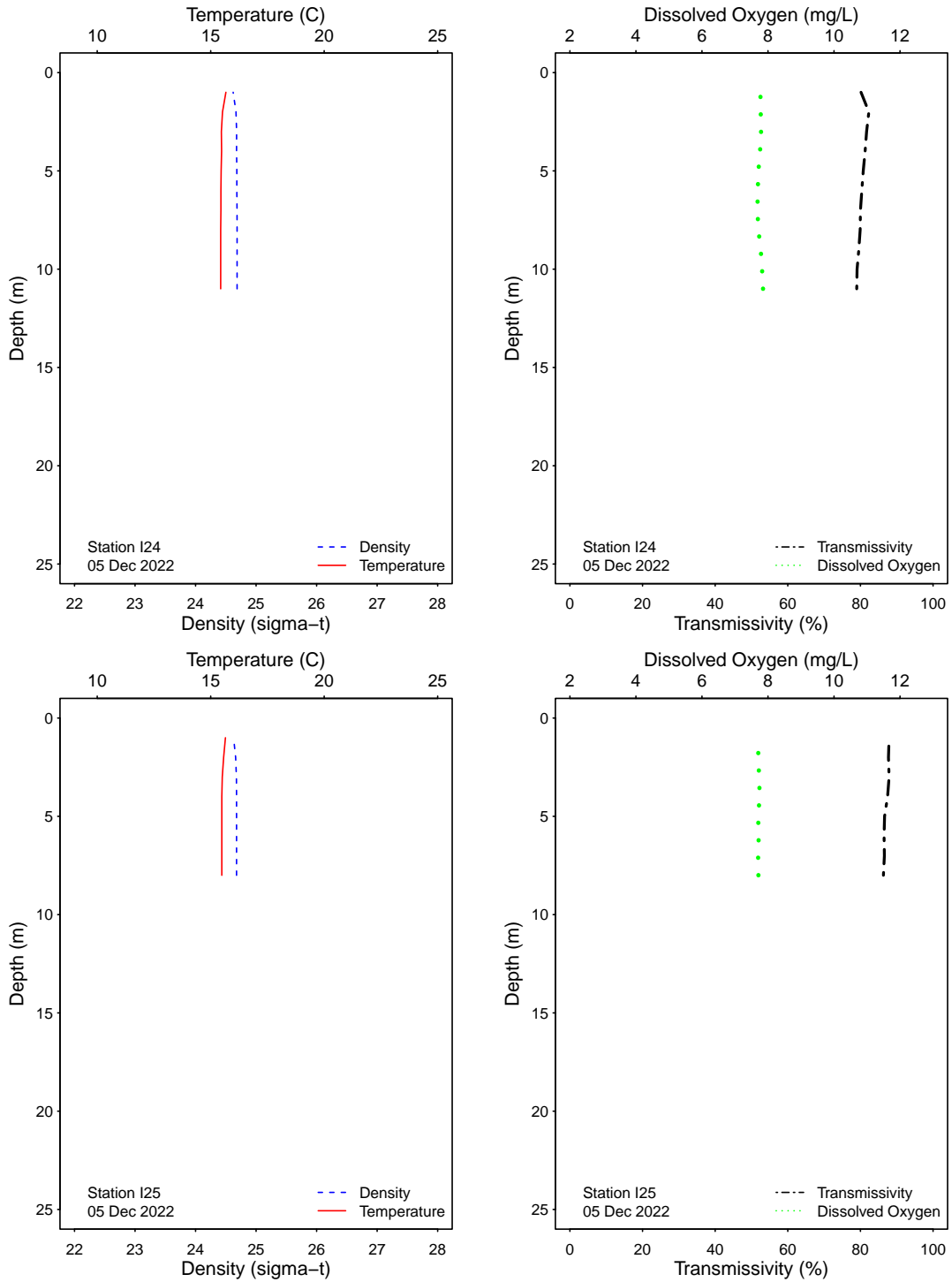


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

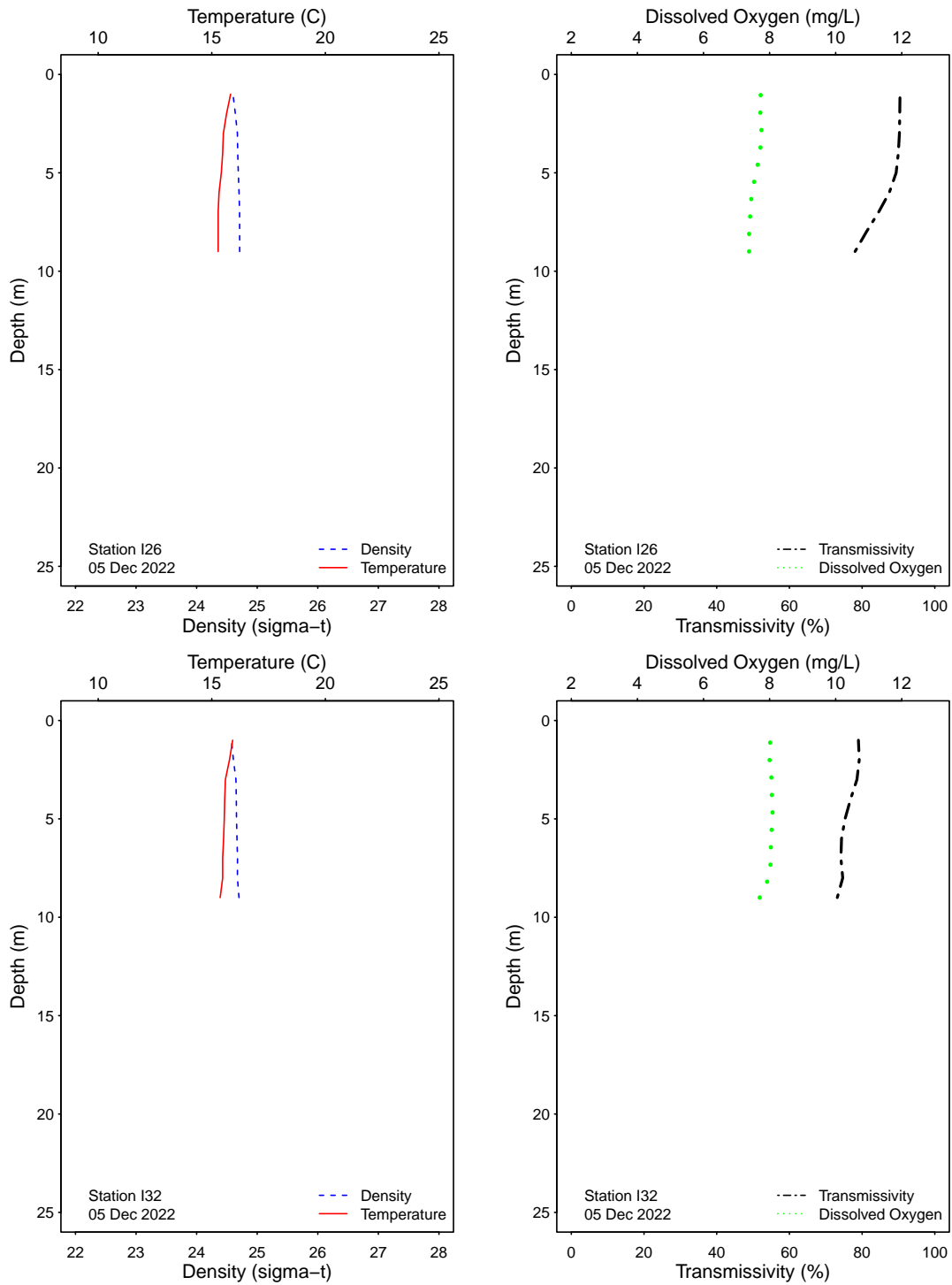


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

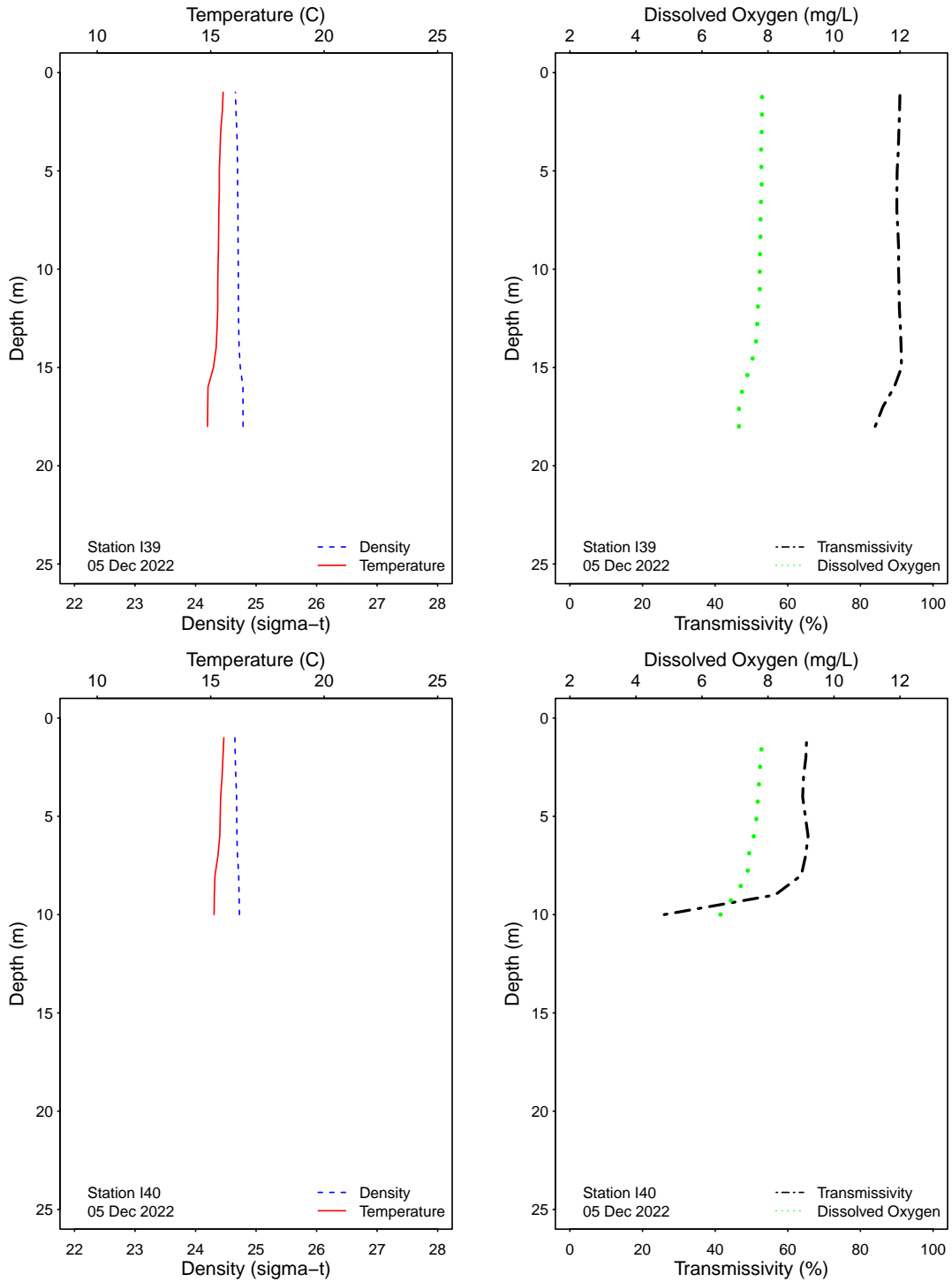


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

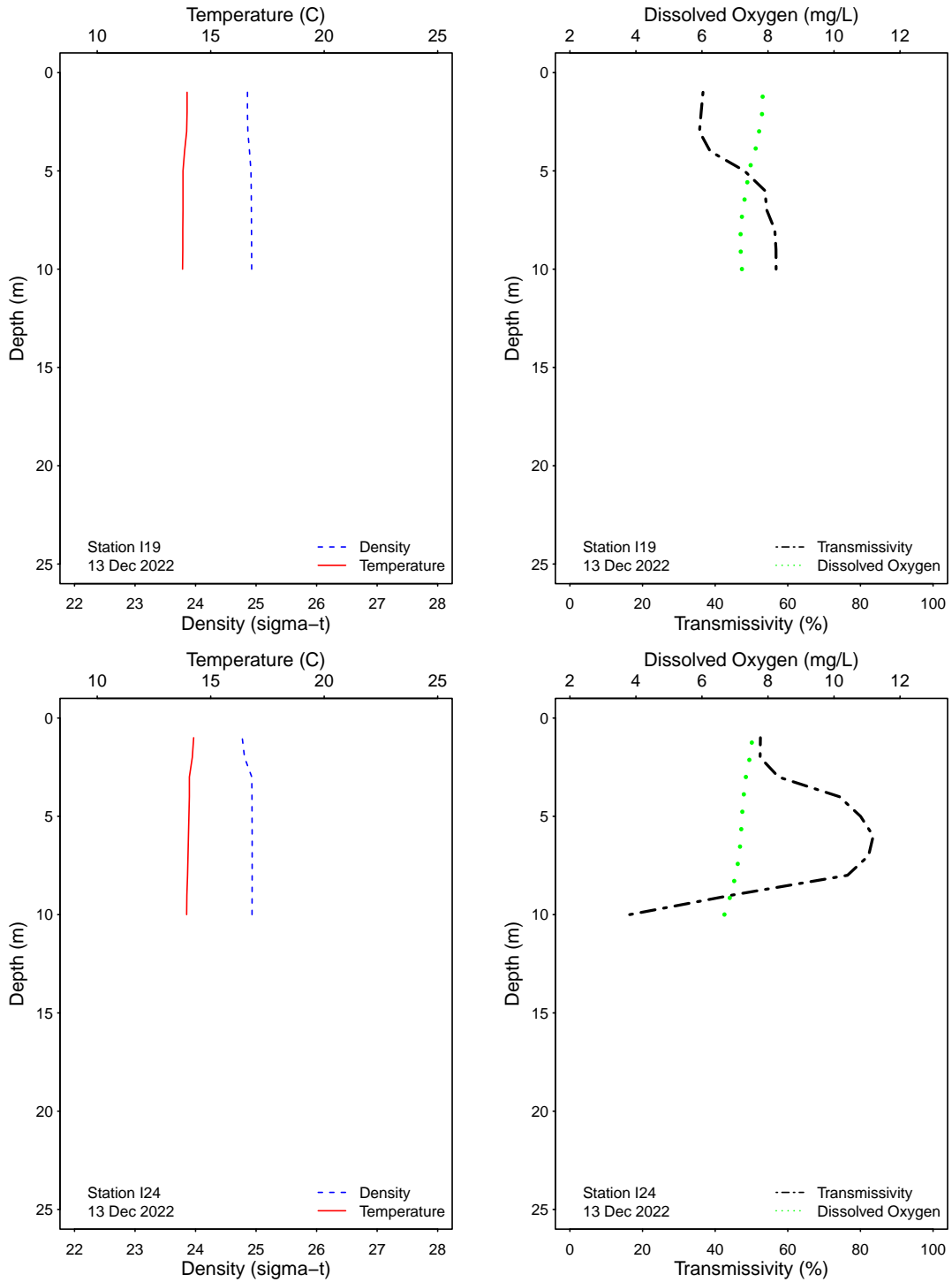


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

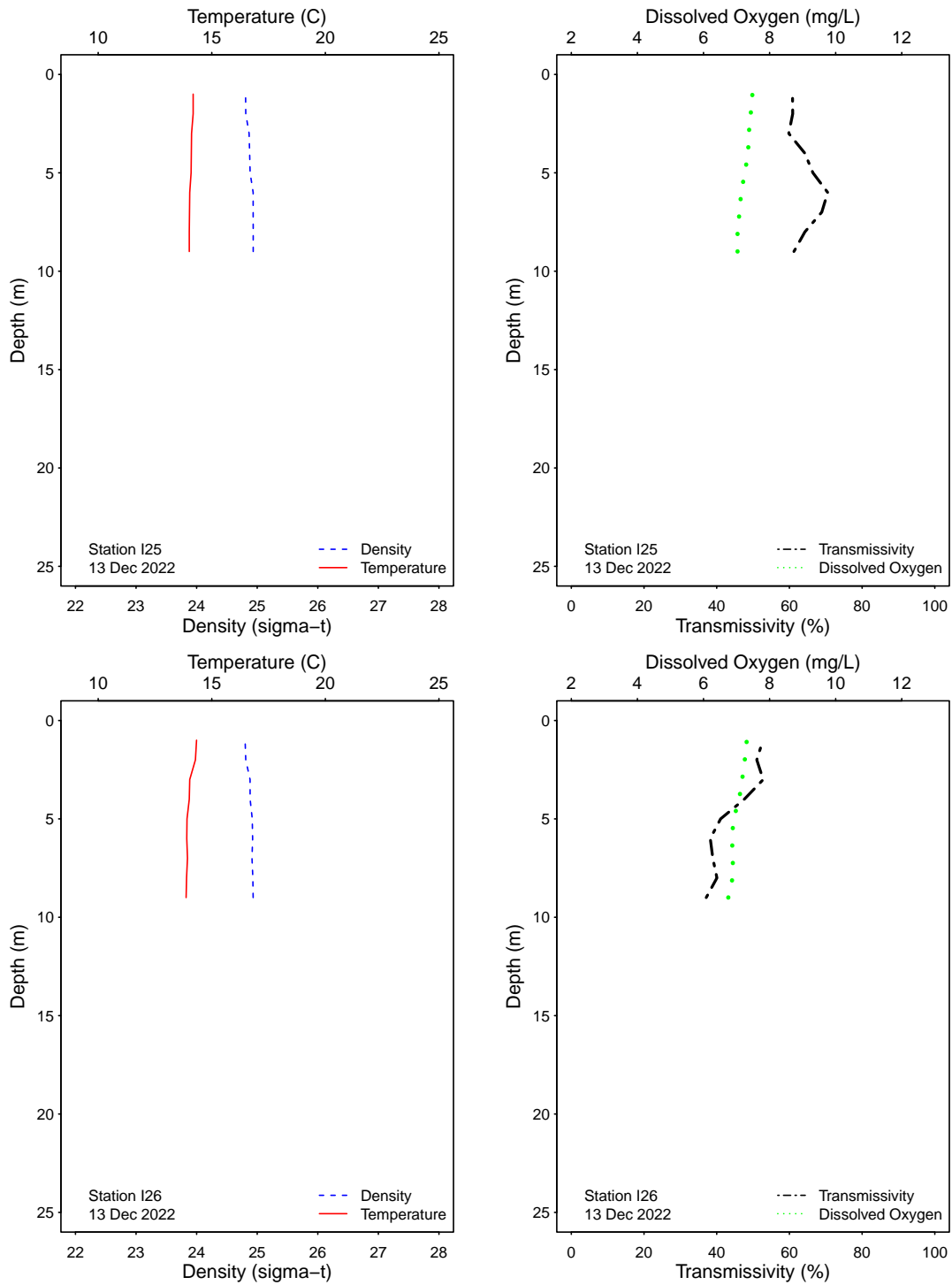


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

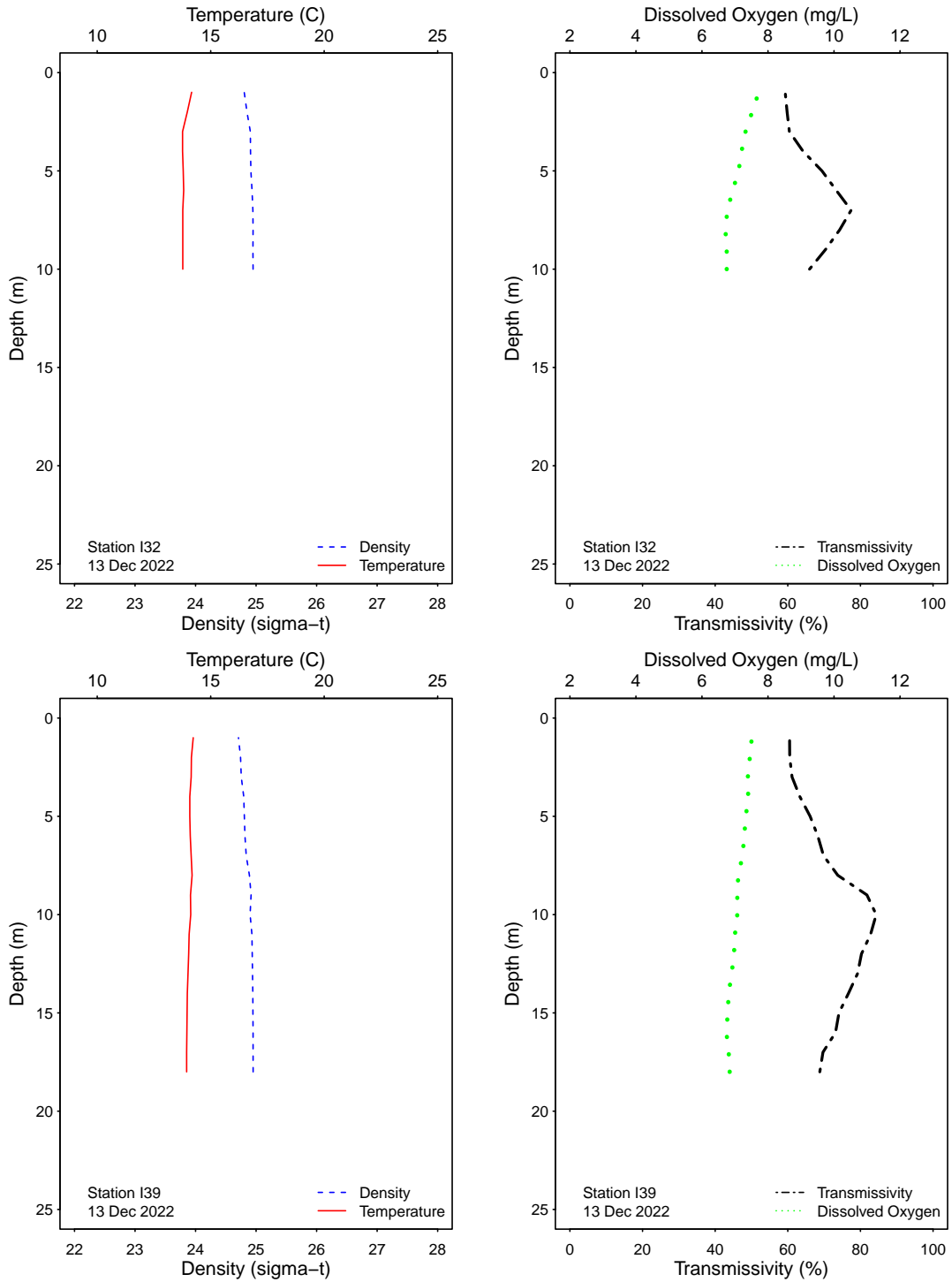


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

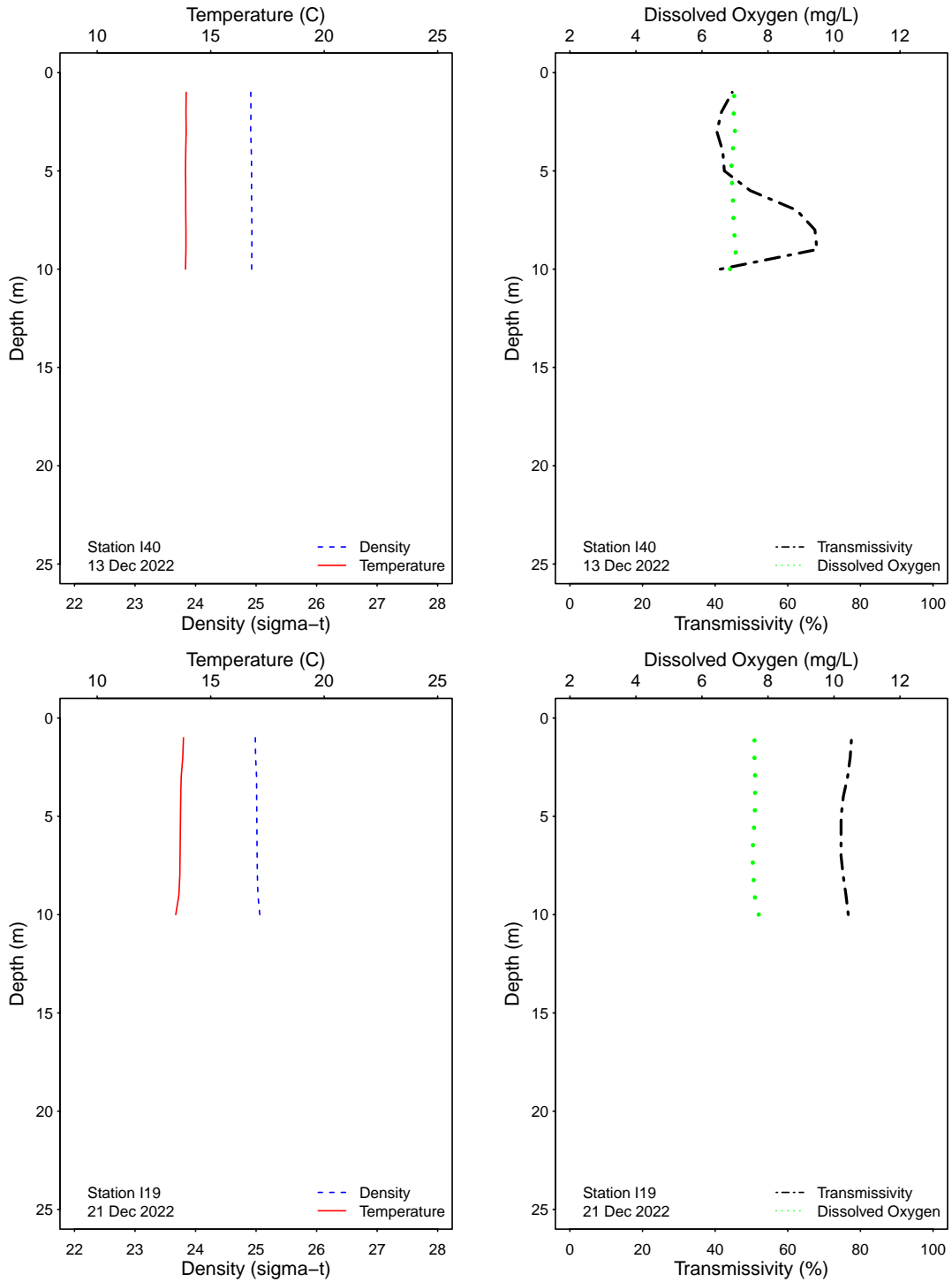


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

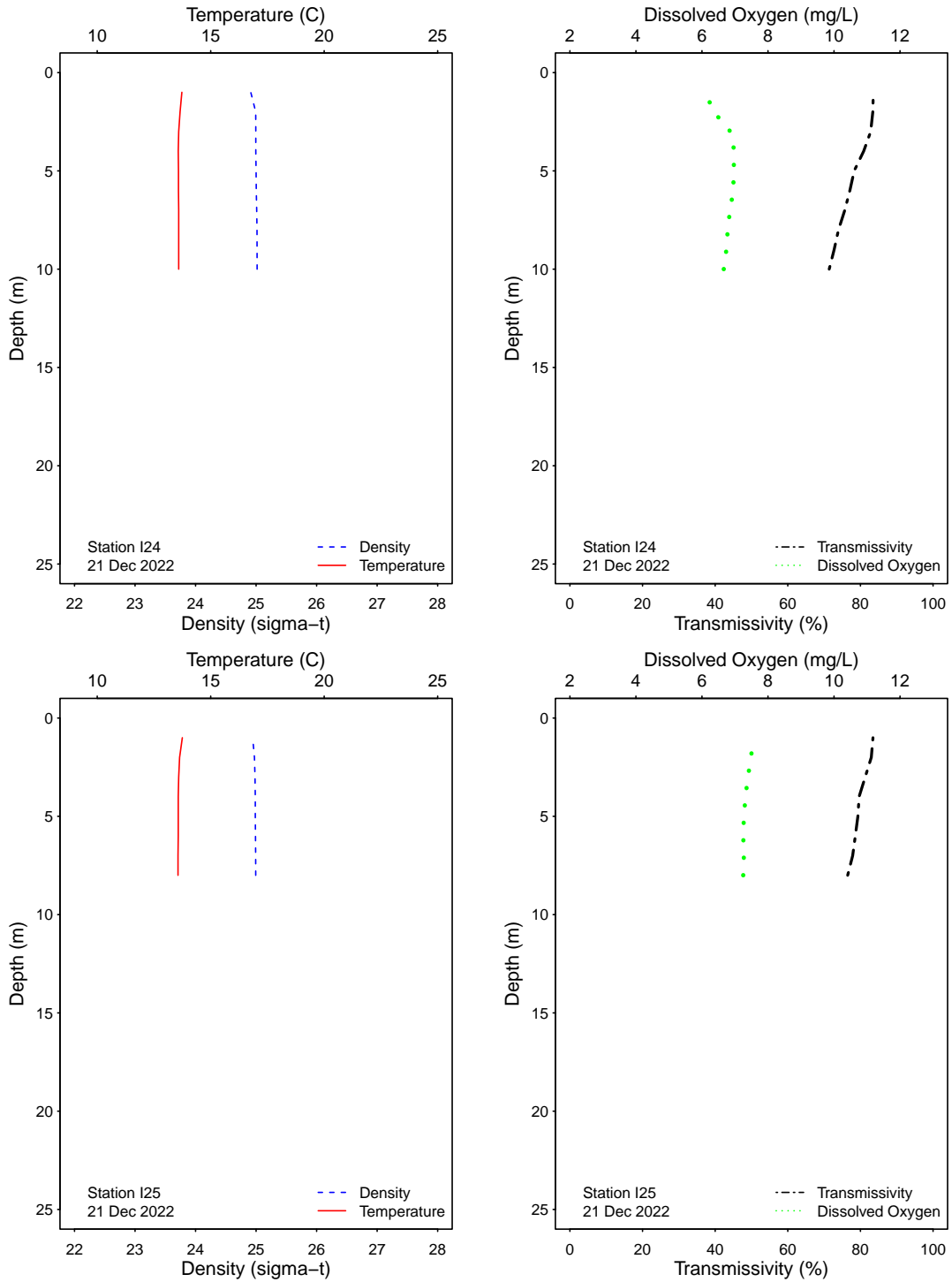


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

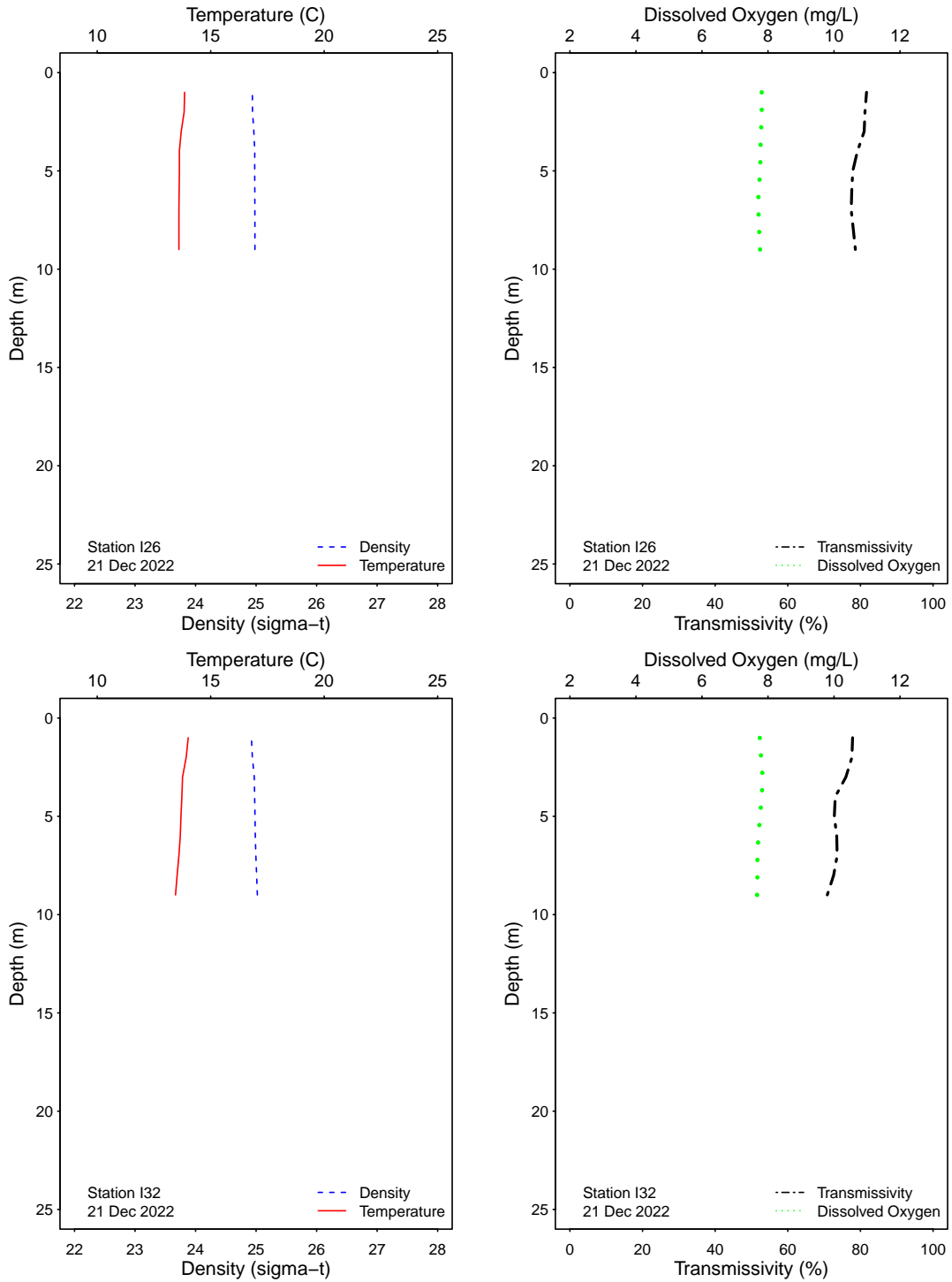


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

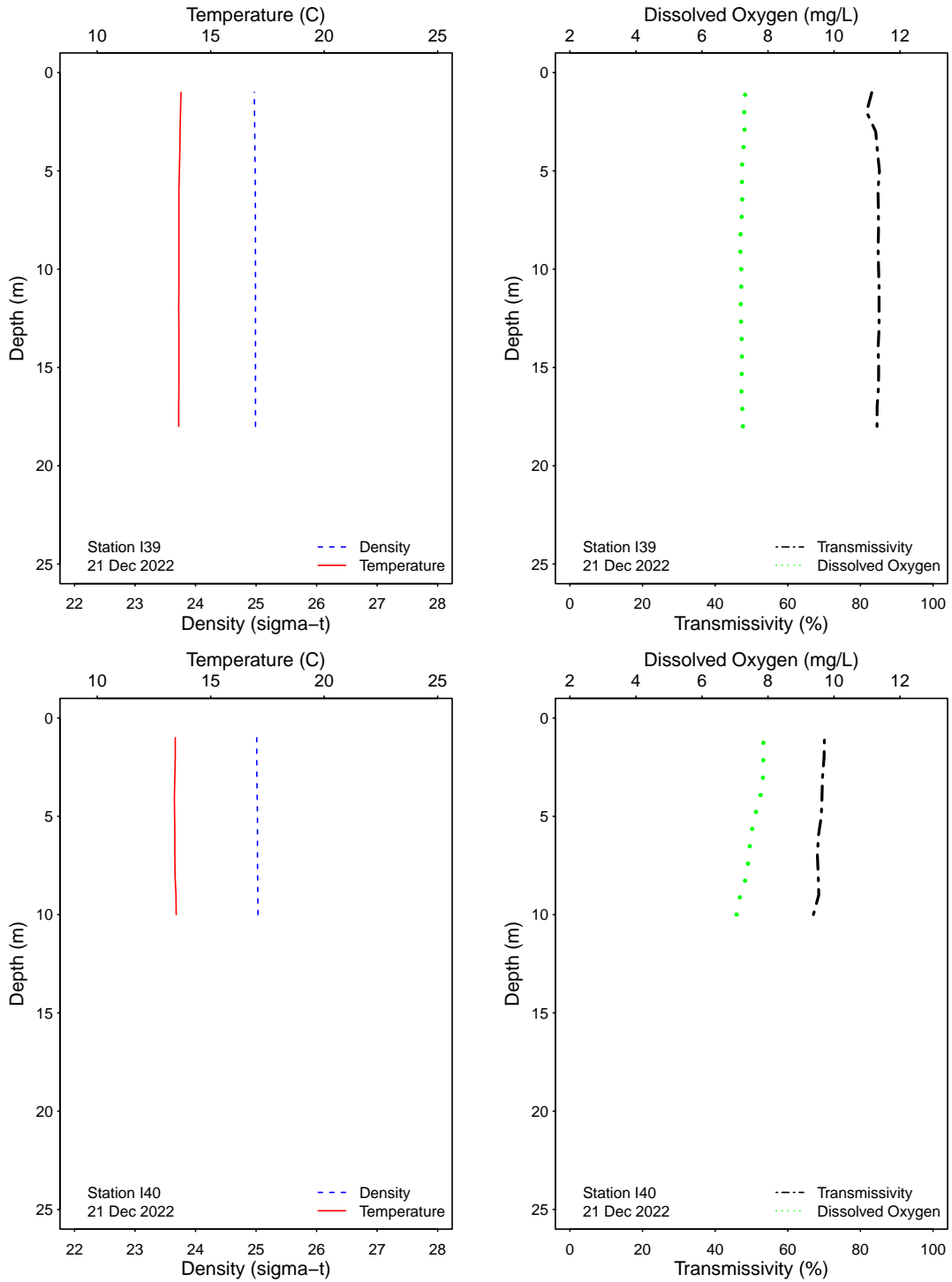


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

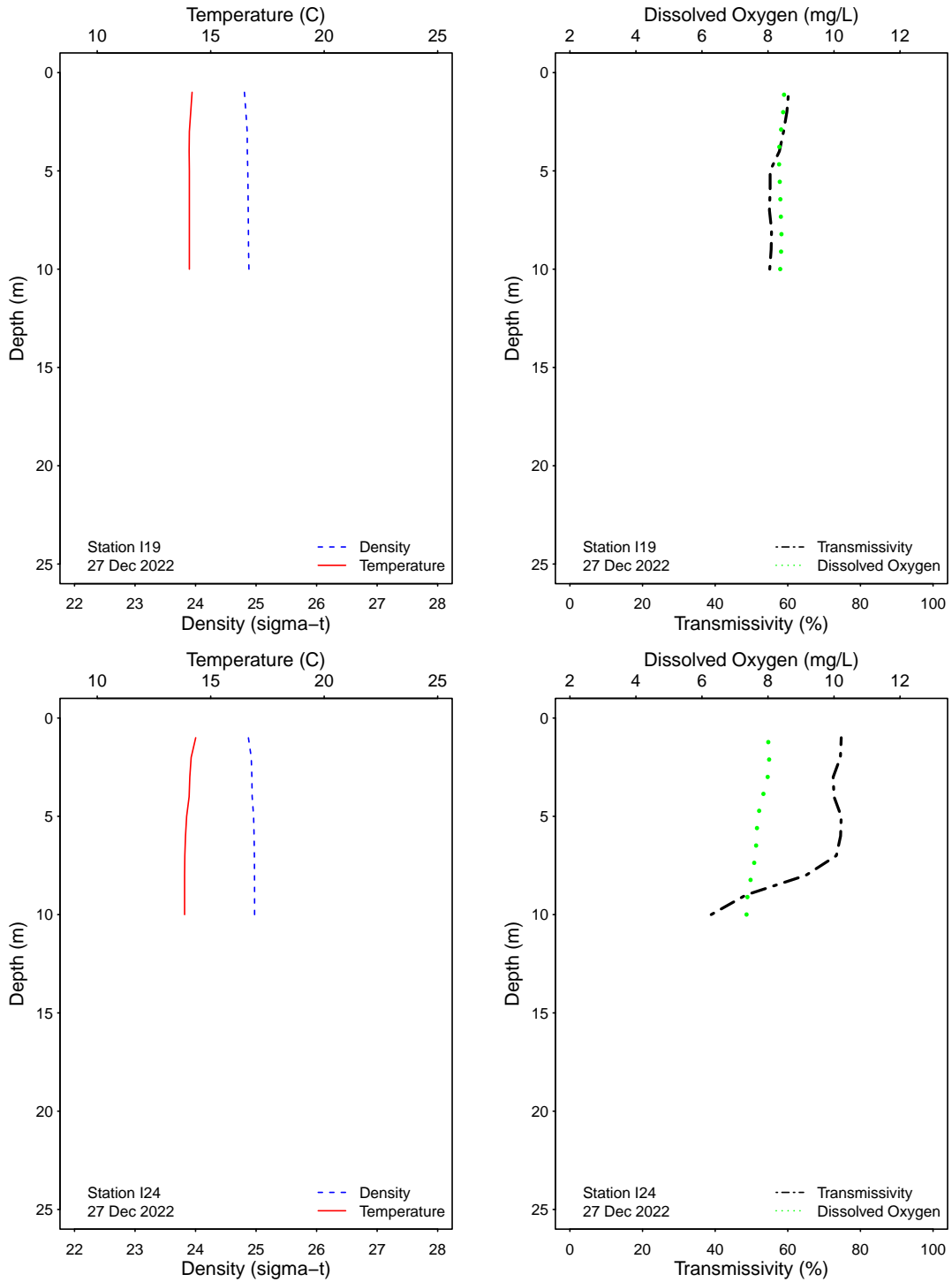


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

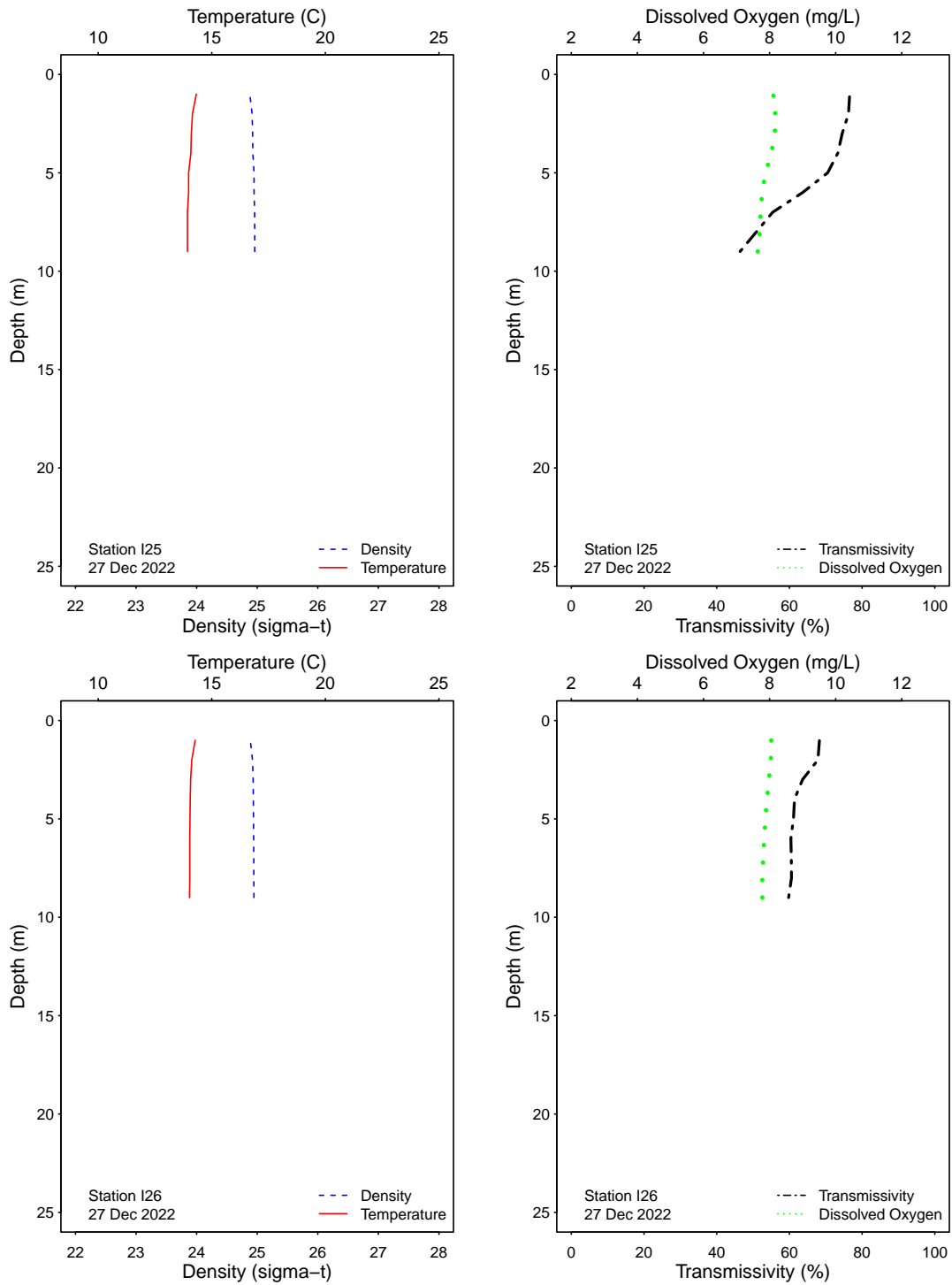


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

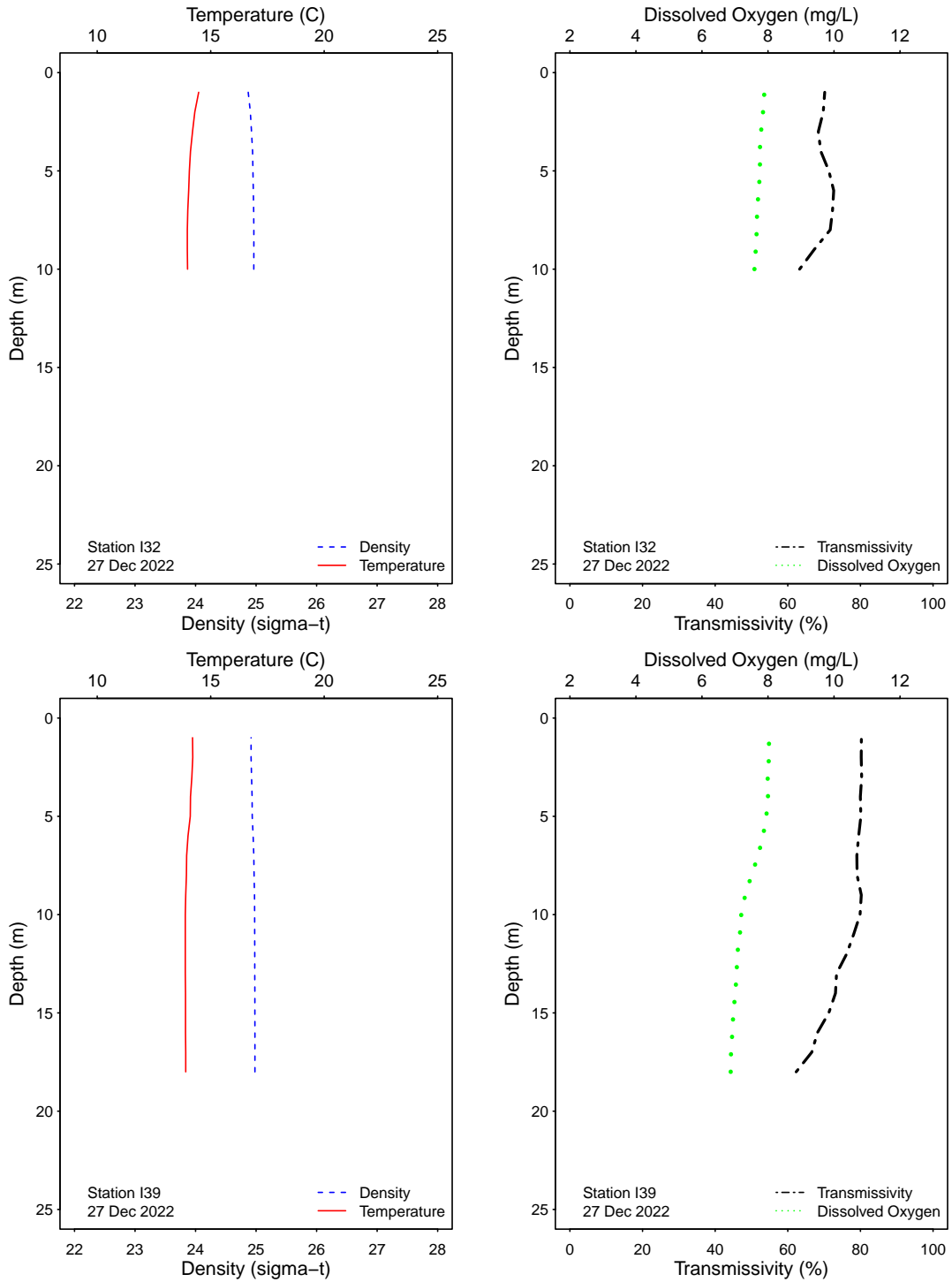


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

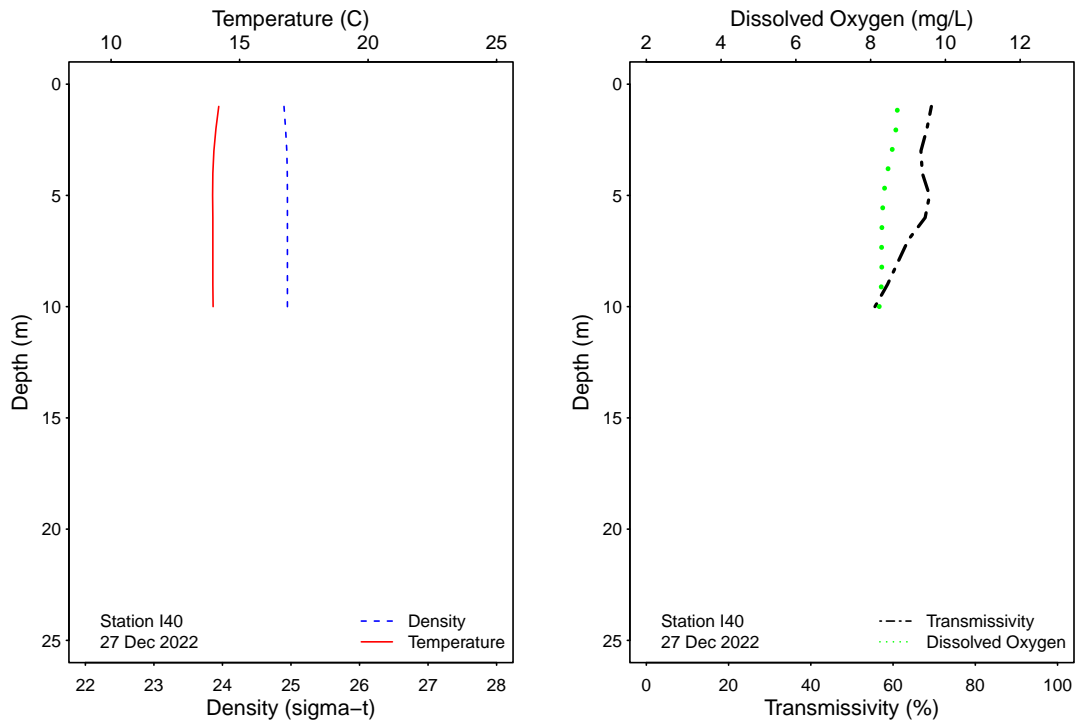


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

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

Station	Date	Depth	Analyst	Procedure	Total	Fecal	Enteroc
I19	01 Dec 2022	6	CRE	LAB DUPLICATE	32e	14e	2e
I19	05 Dec 2022	6	CRE	LAB DUPLICATE	6e	<2	2e
I19	13 Dec 2022	6	JF	LAB DUPLICATE	2600e	200e	300e
I19	21 Dec 2022	6	JF	LAB DUPLICATE	18e	8e	8e
I19	27 Dec 2022	6	KT	LAB DUPLICATE	>16000	6800	2600e
I40	01 Dec 2022	6	CRE	LAB DUPLICATE	8e	ns	6e
I40	01 Dec 2022	6	KT	LAB DUPLICATE	ns	<2	ns
I40	05 Dec 2022	6	CRE	LAB DUPLICATE	4e	<2	6e
I40	13 Dec 2022	6	JF	LAB DUPLICATE	9600	800	780
I40	21 Dec 2022	6	JF	LAB DUPLICATE	1600e	120e	34e
I40	27 Dec 2022	6	KT	LAB DUPLICATE	140e	40e	20e
S12	06 Dec 2022		CRE	FIELD DUPLICATE	<20	2e	<2
S12	06 Dec 2022		CRE	LAB DUPLICATE	<20	<2	<2
S12	13 Dec 2022		BS	FIELD DUPLICATE	11000	960	420
S12	13 Dec 2022		BS	LAB DUPLICATE	8600	1000	660
S12	20 Dec 2022		JF	FIELD DUPLICATE	1000e	36e	14e
S12	20 Dec 2022		JF	LAB DUPLICATE	400e	42	18e
S12	27 Dec 2022		KA	FIELD DUPLICATE	40e	2e	<20
S12	27 Dec 2022		KA	LAB DUPLICATE	20e	2e	<20

ns = not sampled

ND = no data

