

SOUTH BAY OCEAN OUTFALL MONTHLY RECEIVING WATERS MONITORING REPORT

SOUTH BAY WATER RECLAMATION PLANT

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

MARCH 2023

Environmental Monitoring and Technical Services
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April 30, 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 March 2023 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 2023 Quality Assurance Report, which will be completed in March 2024.

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 March, each of the eight shore stations located north of the border was out of compliance with the 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 stations S4, S5, S6, S10, S11, and S12.
 - The single sample maximum (SSM) standard for fecal coliforms was exceeded at stations S4, S5, S6, S8, S10, S11, and S12.
 - The 6-week running geometric mean 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 statistical threshold value (STV) standard for *Enterococcus* was exceeded at stations S4, S5, S6, S8, S10, S11, and S12.
 - The 30-day running median standard for total coliforms was exceeded at stations S4, S5, S6, S8, S9, S10, S11, and S12.
 - The STV standard for total coliforms was exceeded at stations S4, S5, S6, S8, S9, S10, S11, and S12.
- Nothing of sewage origin was observed at SBOO shore stations in March.
- Historical analyses of Ocean Plan compliance rates for the South Bay outfall shore and kelp monitoring stations, combined with the results of satellite imagery data, suggest that outflows from the Tijuana River and Los Buenos Creek, as well as surface runoff during or after rain events (storms), are likely to be the cause of impacted water quality along the shore and in near shore recreational waters in the South Bay region. See the City of San Diego’s most recent *Biennial Receiving Waters Monitoring and Assessment Report for the Point Loma and South Bay Ocean Outfalls* for details (<https://www.sandiego.gov/public-utilities/sustainability/ocean-monitoring/reports>).

➤ **Kelp Bed Water Quality Sampling**

- The seven kelp bed water quality stations (I19, I24, I25, I26, I32, I39, I40) were sampled on March 7, 14, 24, and 28. A 2 m sample from station I25 was re-collected on March 17 following suspected contamination of the March 14 sample due to a cracked bottle.
- During March, each of the seven kelp bed stations were out of compliance with the various 2019 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 stations I19, I24, I25, and I40.
 - The SSM standard for fecal coliforms was exceeded at stations I19, I24, I25, I32, I39, and I40.
 - The 6-week running geometric mean standard for *Enterococcus* was exceeded at stations I19, I24, I25, I26, I32, and 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 coliforms was exceeded at stations I19, I24, I25, I26, I32, I39, and I40.
 - The STV standard for total coliforms was exceeded at stations I19, I24, I25, I26, I32, I39, and I40.
- Water column temperatures ranged from 11.02 to 15.20°C. The difference between surface and bottom waters ranged from 0.15 to 3.65°C.
- Concentrations of chlorophyll *a* ranged from 0.55 to 5.41 µg/L at the kelp bed stations.
- A sewage-like odor was observed at station I40 on one or more days in March.

➤ **Offshore Water Quality Sampling**

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



TABLES AND FIGURES

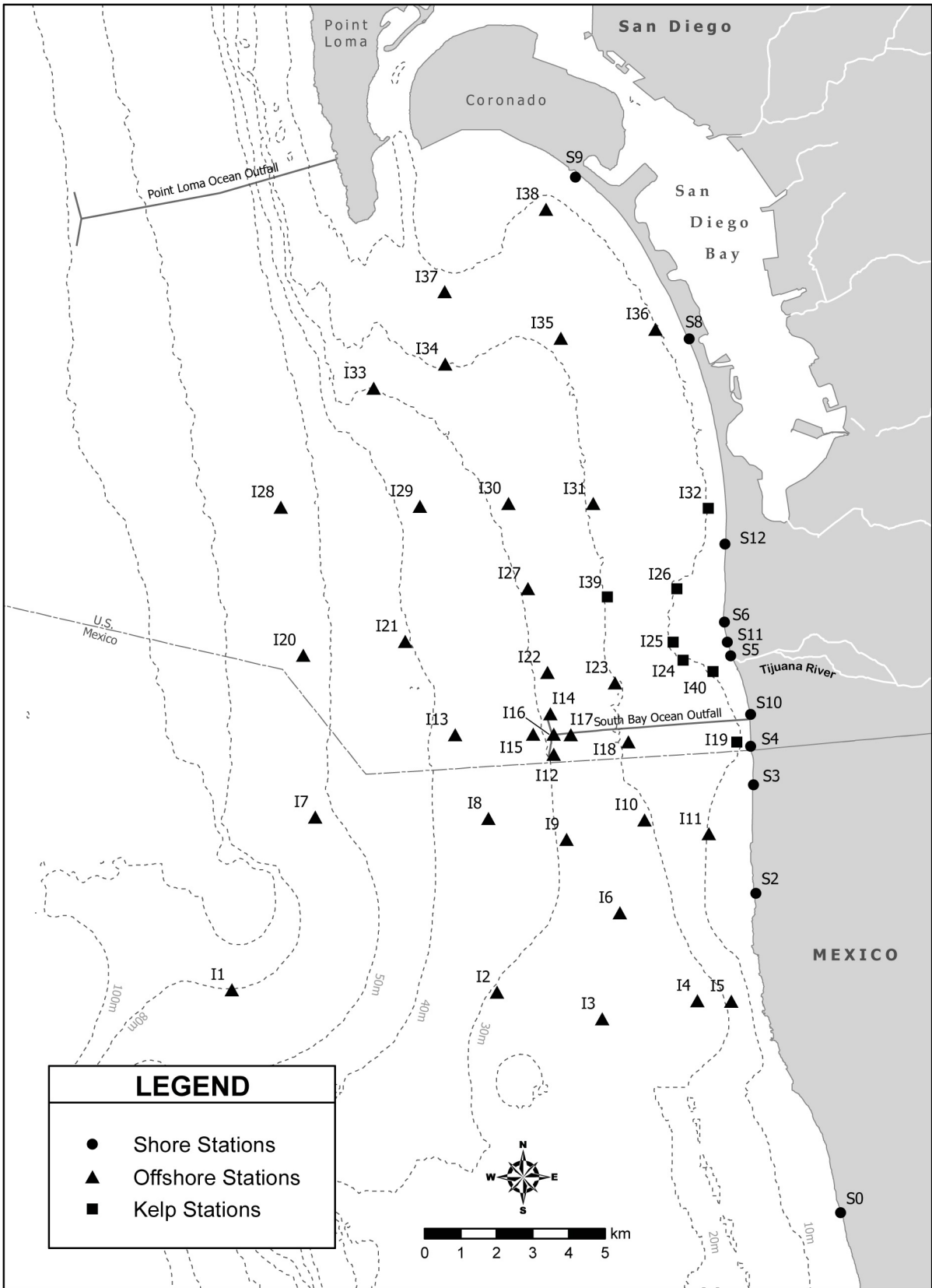


Figure 1.1 Station Map

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 Mar 2023	1232	1656	527	13	2	2630	1045	83
02 Mar 2023	1784	1009	241	7	2	2368	567	66
03 Mar 2023	1784	1009	241	7	2	2368	567	66
04 Mar 2023	1784	1009	241	7	2	2368	567	66
05 Mar 2023	1784	1009	241	7	2	2368	567	66
06 Mar 2023	1784	1009	241	7	2	2368	567	66
07 Mar 2023	1784	730	106	6	3	2368	253	38
08 Mar 2023	2137	730	106	6	3	1282	253	38
09 Mar 2023	4487	2425	241	7	3	2856	849	79
10 Mar 2023	4487	2425	241	7	3	2856	849	79
11 Mar 2023	4487	2425	241	7	3	2856	849	79
12 Mar 2023	4487	2425	241	7	3	2856	849	79
13 Mar 2023	4487	2425	241	7	3	2856	849	79
14 Mar 2023	5463	3338	222	8	3	3268	659	75
15 Mar 2023	5463	3338	222	8	3	3268	659	75
16 Mar 2023	4487	2425	125	4	4	2360	431	49
17 Mar 2023	4487	2425	125	4	4	2360	431	49
18 Mar 2023	4487	2425	125	4	4	2360	431	49
19 Mar 2023	4487	2425	125	4	4	2360	431	49
20 Mar 2023	4487	2425	125	4	4	2360	431	49
21 Mar 2023	4487	3219	248	20	10	2360	686	148
22 Mar 2023	4724	3219	248	20	10	2950	686	148
23 Mar 2023	7786	4120	250	36	14	2701	597	202
24 Mar 2023	7786	4120	250	36	14	2701	597	202
25 Mar 2023	7786	4120	250	36	14	2701	597	202
26 Mar 2023	7786	4120	250	36	14	2701	597	202
27 Mar 2023	7786	4120	250	36	14	2701	597	202
28 Mar 2023	5524	5102	188	32	15	3286	1069	146
29 Mar 2023	5524	5102	188	32	15	3286	1069	146
30 Mar 2023	4550	4120	110	46	21	2377	584	104
31 Mar 2023	4550	4120	110	46	21	2377	584	104

* 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
07 Mar 2023	ns	IC	IC	IC	IC	ns	IC	IC
08 Mar 2023	E	ns	ns	ns	ns	IC	ns	ns
14 Mar 2023	E	E	IC	IC	IC	E	IC	IC
21 Mar 2023	ns	E	E	E	IC	ns	E	E
22 Mar 2023	E	ns	ns	ns	ns	E	ns	ns
28 Mar 2023	E	E	IC	IC	IC	E	E	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 Mar 2023	596	1279	333	11	6	1621	566	77
02 Mar 2023	596	1279	333	11	6	1621	566	77
03 Mar 2023	596	1279	333	11	6	1621	566	77
04 Mar 2023	596	1279	333	11	6	1621	566	77
05 Mar 2023	596	1279	333	11	6	1621	566	77
06 Mar 2023	596	1279	333	11	6	1621	566	77
07 Mar 2023	489	1114	306	9	3	1669	479	60
08 Mar 2023	465	1114	306	9	3	1129	479	60
09 Mar 2023	465	1114	306	9	3	1129	479	60
10 Mar 2023	465	1114	306	9	3	1129	479	60
11 Mar 2023	465	1114	306	9	3	1129	479	60
12 Mar 2023	465	1114	306	9	3	1129	479	60
13 Mar 2023	465	1114	306	9	3	1129	479	60
14 Mar 2023	355	1114	159	6	3	550	233	55
15 Mar 2023	355	1114	159	6	3	550	233	55
16 Mar 2023	355	1114	159	6	3	550	233	55
17 Mar 2023	355	1114	159	6	3	550	233	55
18 Mar 2023	355	1114	159	6	3	550	233	55
19 Mar 2023	355	1114	159	6	3	550	233	55
20 Mar 2023	355	1114	159	6	3	550	233	55
21 Mar 2023	462	2855	281	18	4	773	424	137
22 Mar 2023	719	2855	281	18	4	1105	424	137
23 Mar 2023	719	2855	281	18	4	1105	424	137
24 Mar 2023	719	2855	281	18	4	1105	424	137
25 Mar 2023	719	2855	281	18	4	1105	424	137
26 Mar 2023	719	2855	281	18	4	1105	424	137
27 Mar 2023	719	2855	281	18	4	1105	424	137
28 Mar 2023	339	2855	210	16	4	698	389	102
29 Mar 2023	339	2855	210	16	4	698	389	102
30 Mar 2023	339	2855	210	16	4	698	389	102
31 Mar 2023	339	2855	210	16	4	698	389	102

* 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
March	E	E	E	E	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 Mar 2023	3800	16000	9400	200	40	16000	16000	2000
02 Mar 2023	8900	11100	5450	110	30	15500	14000	6150
03 Mar 2023	8900	11100	5450	110	30	15500	14000	6150
04 Mar 2023	8900	11100	5450	110	30	15500	14000	6150
05 Mar 2023	8900	11100	5450	110	30	15500	14000	6150
06 Mar 2023	8900	11100	5450	110	30	15500	14000	6150
07 Mar 2023	8900	6800	1500	20	20	15500	12000	300
08 Mar 2023	16000	6800	1500	20	20	16000	12000	300
09 Mar 2023	16000	11400	5450	110	20	16000	14000	6150
10 Mar 2023	16000	11400	5450	110	20	16000	14000	6150
11 Mar 2023	16000	11400	5450	110	20	16000	14000	6150
12 Mar 2023	16000	11400	5450	110	20	16000	14000	6150
13 Mar 2023	16000	11400	5450	110	20	16000	14000	6150
14 Mar 2023	16000	16000	9400	200	20	16000	16000	2200
15 Mar 2023	16000	16000	9400	200	20	16000	16000	2200
16 Mar 2023	16000	11400	6750	110	44	16000	14000	1250
17 Mar 2023	16000	11400	6750	110	44	16000	14000	1250
18 Mar 2023	16000	11400	6750	110	44	16000	14000	1250
19 Mar 2023	16000	11400	6750	110	44	16000	14000	1250
20 Mar 2023	16000	11400	6750	110	44	16000	14000	1250
21 Mar 2023	16000	16000	12000	200	68	16000	16000	2200
22 Mar 2023	16000	16000	12000	200	68	16000	16000	2200
23 Mar 2023	16000	16000	14000	200	74	16000	16000	7100
24 Mar 2023	16000	16000	14000	200	74	16000	16000	7100
25 Mar 2023	16000	16000	14000	200	74	16000	16000	7100
26 Mar 2023	16000	16000	14000	200	74	16000	16000	7100
27 Mar 2023	16000	16000	14000	200	74	16000	16000	7100
28 Mar 2023	16000	16000	12000	200	68	16000	16000	2200
29 Mar 2023	16000	16000	12000	200	68	16000	16000	2200
30 Mar 2023	16000	16000	6400	130	60	16000	16000	1180
31 Mar 2023	16000	16000	6400	130	60	16000	16000	1180

* 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
March	E	E	E	E	E	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	07 Mar 2023	950	15000	3200e	2200e
S0	14 Mar 2023	900	200e	20e	16e
S0	21 Mar 2023	1015	>16000	>12000	>12000
S0	28 Mar 2023	1050	9000	2200e	2200e
S2	07 Mar 2023	1045	10000	480	<20
S2	14 Mar 2023	935	260e	26e	4e
S2	21 Mar 2023	1115	>16000	4200	9200
S2	28 Mar 2023	1215	20e	20e	8e
S3	07 Mar 2023	1020	>16000	800e	200e
S3	14 Mar 2023	955	600	60e	8e
S3	21 Mar 2023	1045	>16000	>12000	>12000
S3	28 Mar 2023	1145	80e	<20	6e
S4	08 Mar 2023	1017	>16000	4400	360e
S4	14 Mar 2023	1036	>16000	>12000	64
S4	22 Mar 2023	1018	>16000	5800	6600
S4	28 Mar 2023	948	7600	1400e	110
S5	07 Mar 2023	926	6800	200e	96
S5	14 Mar 2023	933	>16000	>12000	>12000
S5	21 Mar 2023	943	>16000	10000	6800
S5	28 Mar 2023	909	>16000	>12000	>12000
S6	07 Mar 2023	954	40e	4e	24e
S6	14 Mar 2023	901	12000	160e	240e
S6	21 Mar 2023	1006	>16000	3800e	3000e
S6	28 Mar 2023	921	800e	60e	120e
S8	07 Mar 2023	835	<20	<2	<2
S8	14 Mar 2023	830	200e	10e	6e
S8	21 Mar 2023	844	>16000	11000	1400e
S8	28 Mar 2023	841	60e	<20	24e
S9	07 Mar 2023	822	20e	4e	2e
S9	14 Mar 2023	817	80e	8e	4e
S9	21 Mar 2023	830	3200e	320e	30e
S9	28 Mar 2023	828	40e	<20	4e
S10	08 Mar 2023	1023	>16000	110	160e
S10	14 Mar 2023	1049	>16000	5600	40e
S10	22 Mar 2023	1012	>16000	7200	6600
S10	28 Mar 2023	954	>16000	7200	760
S11	07 Mar 2023	942	20e	10e	20e
S11	14 Mar 2023	949	>16000	240e	160e
S11	21 Mar 2023	957	>16000	4400	2800e
S11	28 Mar 2023	915	>16000	11000	1200
S12	07 Mar 2023	849	60e	4e	8e
S12	14 Mar 2023	847	2200e	60e	24e
S12	21 Mar 2023	907	>16000	>12000	>12000

Station	Date	Time	Total	Fecal	Entero
S12	28 Mar 2023	856	160e	40e	140e

ns = not sampled

ND = no data

Comments

Station	Date	Depth	Parameter	Comments
S4	08 Mar 2023			Station was inaccessible due to unsafe conditions on previous day
S10	08 Mar 2023			Station was inaccessible due to unsafe conditions on previous day
S10	22 Mar 2023			Station was inaccessible due to unsafe conditions on previous day
S4	22 Mar 2023			Station was inaccessible due to unsafe conditions on previous day

Table 2.8

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

Station	Date	Parameter	Value
S0	07 Mar 2023	Arrive Time	950
S0	07 Mar 2023	Weather	Sunny
S0	07 Mar 2023	Wind Speed (kts)	1.3
S0	07 Mar 2023	Wind Dir	NE
S0	07 Mar 2023	Animal Life	Bird-20; Dog-4;
S0	07 Mar 2023	Floatables	None
S0	07 Mar 2023	Water Color	Green
S0	07 Mar 2023	Current Direction	N
S0	07 Mar 2023	Water Temp (C)	11
S0	07 Mar 2023	Wave Height Low (ft)	5
S0	07 Mar 2023	High Tide (ft)	5.18
S0	07 Mar 2023	High Tide Time	839
S0	07 Mar 2023	Low Tide (ft)	0.92
S0	07 Mar 2023	Low Tide Time	245
S0	07 Mar 2023	Comments	Water clear; Trash-0; Kelp; Person/Walker/Jogger-2; 0.5 L/sec water flowing from storm drain
S0	14 Mar 2023	Arrive Time	900
S0	14 Mar 2023	Weather	Sunny
S0	14 Mar 2023	Wind Speed (kts)	1.8
S0	14 Mar 2023	Wind Dir	SW
S0	14 Mar 2023	Animal Life	Seagull-20;
S0	14 Mar 2023	Floatables	None
S0	14 Mar 2023	Water Color	Green
S0	14 Mar 2023	Current Direction	S
S0	14 Mar 2023	Water Temp (C)	12
S0	14 Mar 2023	Wave Height Low (ft)	2
S0	14 Mar 2023	High Tide (ft)	4.55
S0	14 Mar 2023	High Tide Time	131
S0	14 Mar 2023	Low Tide (ft)	0.56
S0	14 Mar 2023	Low Tide Time	1020
S0	14 Mar 2023	Comments	Water turbid; Trash-0; Kelp; 1.0 L/sec water flowing from storm drain
S0	21 Mar 2023	Arrive Time	1015
S0	21 Mar 2023	Weather	Moderate rain
S0	21 Mar 2023	Wind Speed (kts)	9.8
S0	21 Mar 2023	Wind Dir	NW
S0	21 Mar 2023	Animal Life	Bird-20;
S0	21 Mar 2023	Floatables	None
S0	21 Mar 2023	Water Color	Brown
S0	21 Mar 2023	Current Direction	N
S0	21 Mar 2023	Water Temp (C)	12
S0	21 Mar 2023	Wave Height Low (ft)	5
S0	21 Mar 2023	High Tide (ft)	5.69
S0	21 Mar 2023	High Tide Time	929
S0	21 Mar 2023	Low Tide (ft)	0.07
S0	21 Mar 2023	Low Tide Time	332
S0	21 Mar 2023	Comments	Water turbid; Trash-0; Kelp; 30.5 L/sec water flowing from storm drain
S0	28 Mar 2023	Arrive Time	1050
S0	28 Mar 2023	Weather	Sunny
S0	28 Mar 2023	Wind Speed (kts)	1
S0	28 Mar 2023	Wind Dir	NE
S0	28 Mar 2023	Animal Life	Bird-10; Dog-2;

Station	Date	Parameter	Value
S0	28 Mar 2023	Floatables	None
S0	28 Mar 2023	Water Color	Green
S0	28 Mar 2023	Current Direction	N
S0	28 Mar 2023	Water Temp (C)	13
S0	28 Mar 2023	Wave Height Low (ft)	3
S0	28 Mar 2023	High Tide (ft)	4.09
S0	28 Mar 2023	High Tide Time	150
S0	28 Mar 2023	Low Tide (ft)	0.66
S0	28 Mar 2023	Low Tide Time	1053
S0	28 Mar 2023	Comments	Water clear; Trash-0; Kelp; Person/Walker/Jogger-3; 0.5 L/sec water flowing from storm drain
S2	07 Mar 2023	Arrive Time	2245
S2	07 Mar 2023	Weather	Sunny
S2	07 Mar 2023	Wind Speed (kts)	1
S2	07 Mar 2023	Wind Dir	NE
S2	07 Mar 2023	Animal Life	Bird-20; Dog-4;
S2	07 Mar 2023	Floatables	None
S2	07 Mar 2023	Water Color	Green
S2	07 Mar 2023	Current Direction	N
S2	07 Mar 2023	Water Temp (C)	11
S2	07 Mar 2023	Wave Height Low (ft)	5
S2	07 Mar 2023	High Tide (ft)	5.18
S2	07 Mar 2023	High Tide Time	839
S2	07 Mar 2023	Low Tide (ft)	0.92
S2	07 Mar 2023	Low Tide Time	245
S2	07 Mar 2023	Comments	Water clear; Trash-0; Kelp; Person/Walker/Jogger-4; No flow from storm drain
S2	14 Mar 2023	Arrive Time	935
S2	14 Mar 2023	Weather	Cloudy
S2	14 Mar 2023	Wind Speed (kts)	1.3
S2	14 Mar 2023	Wind Dir	SW
S2	14 Mar 2023	Animal Life	Seagull-20;
S2	14 Mar 2023	Floatables	None
S2	14 Mar 2023	Water Color	Green
S2	14 Mar 2023	Current Direction	S
S2	14 Mar 2023	Water Temp (C)	12
S2	14 Mar 2023	Wave Height Low (ft)	2
S2	14 Mar 2023	High Tide (ft)	4.55
S2	14 Mar 2023	High Tide Time	131
S2	14 Mar 2023	Low Tide (ft)	0.56
S2	14 Mar 2023	Low Tide Time	1020
S2	14 Mar 2023	Comments	Water turbid; Trash-0; No flow from storm drain
S2	21 Mar 2023	Arrive Time	1115
S2	21 Mar 2023	Weather	Moderate rain
S2	21 Mar 2023	Wind Speed (kts)	9.4
S2	21 Mar 2023	Wind Dir	NW
S2	21 Mar 2023	Animal Life	Bird-20;
S2	21 Mar 2023	Floatables	None
S2	21 Mar 2023	Water Color	Green
S2	21 Mar 2023	Current Direction	N
S2	21 Mar 2023	Water Temp (C)	12
S2	21 Mar 2023	Wave Height Low (ft)	5
S2	21 Mar 2023	High Tide (ft)	5.69
S2	21 Mar 2023	High Tide Time	929
S2	21 Mar 2023	Low Tide (ft)	0.07
S2	21 Mar 2023	Low Tide Time	332
S2	21 Mar 2023	Comments	Water turbid; Trash-0; Kelp; 10 L/sec water flowing from storm drain

Station	Date	Parameter	Value
S2	28 Mar 2023	Arrive Time	1215
S2	28 Mar 2023	Weather	Sunny
S2	28 Mar 2023	Wind Speed (kts)	1.3
S2	28 Mar 2023	Wind Dir	NE
S2	28 Mar 2023	Animal Life	Bird-20; Dog-3;
S2	28 Mar 2023	Floatables	None
S2	28 Mar 2023	Water Color	Green
S2	28 Mar 2023	Current Direction	N
S2	28 Mar 2023	Water Temp (C)	13
S2	28 Mar 2023	Wave Height Low (ft)	3
S2	28 Mar 2023	High Tide (ft)	4.09
S2	28 Mar 2023	High Tide Time	150
S2	28 Mar 2023	Low Tide (ft)	0.66
S2	28 Mar 2023	Low Tide Time	1053
S2	28 Mar 2023	Comments	Water clear; Trash-0; Kelp; Person/Walker/Jogger-5; No flow from storm drain
S3	07 Mar 2023	Arrive Time	1020
S3	07 Mar 2023	Weather	Sunny
S3	07 Mar 2023	Wind Speed (kts)	1.1
S3	07 Mar 2023	Wind Dir	NE
S3	07 Mar 2023	Animal Life	Bird-20;
S3	07 Mar 2023	Floatables	None
S3	07 Mar 2023	Water Color	Green
S3	07 Mar 2023	Current Direction	N
S3	07 Mar 2023	Water Temp (C)	11
S3	07 Mar 2023	Wave Height Low (ft)	5
S3	07 Mar 2023	High Tide (ft)	5.18
S3	07 Mar 2023	High Tide Time	839
S3	07 Mar 2023	Low Tide (ft)	0.92
S3	07 Mar 2023	Low Tide Time	245
S3	07 Mar 2023	Comments	Water clear; Trash-0; Kelp; Person/Walker/Jogger-4; 0.5L/sec water flowing from storm drain.
S3	14 Mar 2023	Arrive Time	955
S3	14 Mar 2023	Weather	Cloudy
S3	14 Mar 2023	Wind Speed (kts)	1.5
S3	14 Mar 2023	Wind Dir	SW
S3	14 Mar 2023	Animal Life	Seagull-20;
S3	14 Mar 2023	Floatables	None
S3	14 Mar 2023	Water Color	Green
S3	14 Mar 2023	Current Direction	S
S3	14 Mar 2023	Water Temp (C)	12
S3	14 Mar 2023	Wave Height Low (ft)	2
S3	14 Mar 2023	High Tide (ft)	4.55
S3	14 Mar 2023	High Tide Time	131
S3	14 Mar 2023	Low Tide (ft)	0.56
S3	14 Mar 2023	Low Tide Time	1020
S3	14 Mar 2023	Comments	Water turbid; Trash-0; Kelp; No flow from storm drain
S3	21 Mar 2023	Arrive Time	1045
S3	21 Mar 2023	Weather	Moderate rain
S3	21 Mar 2023	Wind Speed (kts)	9.4
S3	21 Mar 2023	Wind Dir	NW
S3	21 Mar 2023	Animal Life	Bird-20;
S3	21 Mar 2023	Floatables	None
S3	21 Mar 2023	Water Color	Green
S3	21 Mar 2023	Current Direction	N
S3	21 Mar 2023	Water Temp (C)	12
S3	21 Mar 2023	Wave Height Low (ft)	5

Station	Date	Parameter	Value
S3	21 Mar 2023	High Tide (ft)	5.69
S3	21 Mar 2023	High Tide Time	929
S3	21 Mar 2023	Low Tide (ft)	0.07
S3	21 Mar 2023	Low Tide Time	332
S3	21 Mar 2023	Comments	Water turbid; Trash-0; Kelp; 10 L/sec water flowing from storm drain
S3	28 Mar 2023	Arrive Time	1145
S3	28 Mar 2023	Weather	Sunny
S3	28 Mar 2023	Wind Speed (kts)	1.1
S3	28 Mar 2023	Wind Dir	NE
S3	28 Mar 2023	Animal Life	Bird-10; Dog-2;
S3	28 Mar 2023	Floatables	None
S3	28 Mar 2023	Water Color	Green
S3	28 Mar 2023	Current Direction	N
S3	28 Mar 2023	Water Temp (C)	13
S3	28 Mar 2023	Wave Height Low (ft)	3
S3	28 Mar 2023	High Tide (ft)	4.09
S3	28 Mar 2023	High Tide Time	150
S3	28 Mar 2023	Low Tide (ft)	0.66
S3	28 Mar 2023	Low Tide Time	1053
S3	28 Mar 2023	Comments	Water clear; Trash-0; Kelp; Person/Walker/Jogger-6; 0.5 L/sec water flowing from storm drain
S4	08 Mar 2023	Arrive Time	1017
S4	08 Mar 2023	Weather	Partly cloudy
S4	08 Mar 2023	Wind Speed (kts)	3.3
S4	08 Mar 2023	Wind Dir	W
S4	08 Mar 2023	Animal Life	Bird-5;
S4	08 Mar 2023	Floatables	None
S4	08 Mar 2023	Water Color	Green
S4	08 Mar 2023	Current Direction	S
S4	08 Mar 2023	Water Temp (C)	10
S4	08 Mar 2023	Wave Height Low (ft)	5
S4	08 Mar 2023	High Tide (ft)	4.94
S4	08 Mar 2023	High Tide Time	909
S4	08 Mar 2023	Low Tide (ft)	0.74
S4	08 Mar 2023	Low Tide Time	317
S4	08 Mar 2023	Comments	Water clear; Trash-3; Seagrass; Station was unaccessible due to unsafe conditions on previous day
S4	14 Mar 2023	Arrive Time	1036
S4	14 Mar 2023	Weather	Foggy
S4	14 Mar 2023	Wind Speed (kts)	5.5
S4	14 Mar 2023	Wind Dir	W
S4	14 Mar 2023	Animal Life	
S4	14 Mar 2023	Floatables	None
S4	14 Mar 2023	Water Color	Green
S4	14 Mar 2023	Current Direction	S
S4	14 Mar 2023	Water Temp (C)	9
S4	14 Mar 2023	Wave Height Low (ft)	5
S4	14 Mar 2023	High Tide (ft)	4.55
S4	14 Mar 2023	High Tide Time	131
S4	14 Mar 2023	Low Tide (ft)	0.56
S4	14 Mar 2023	Low Tide Time	1020
S4	14 Mar 2023	Comments	Water clear; Trash-2; Kelp;Debris;Seagrass
S4	22 Mar 2023	Arrive Time	1018
S4	22 Mar 2023	Weather	Partly cloudy
S4	22 Mar 2023	Wind Speed (kts)	3.8
S4	22 Mar 2023	Wind Dir	SW

Station	Date	Parameter	Value
S4	22 Mar 2023	Animal Life	
S4	22 Mar 2023	Floatables	None
S4	22 Mar 2023	Water Color	Brown
S4	22 Mar 2023	Current Direction	S
S4	22 Mar 2023	Water Temp (C)	12
S4	22 Mar 2023	Wave Height Low (ft)	6
S4	22 Mar 2023	High Tide (ft)	5.25
S4	22 Mar 2023	High Tide Time	1012
S4	22 Mar 2023	Low Tide (ft)	-0.23
S4	22 Mar 2023	Low Tide Time	415
S4	22 Mar 2023	Comments	Water clear; Trash-3; Kelp;Seagrass;Debris; Station was un-accessible due to unsafe conditions on previous day
S4	28 Mar 2023	Arrive Time	948
S4	28 Mar 2023	Weather	Sunny
S4	28 Mar 2023	Wind Speed (kts)	4.5
S4	28 Mar 2023	Wind Dir	SW
S4	28 Mar 2023	Animal Life	Bird-3;
S4	28 Mar 2023	Floatables	None
S4	28 Mar 2023	Water Color	Green
S4	28 Mar 2023	Current Direction	S
S4	28 Mar 2023	Water Temp (C)	14
S4	28 Mar 2023	Wave Height Low (ft)	4
S4	28 Mar 2023	High Tide (ft)	4.09
S4	28 Mar 2023	High Tide Time	150
S4	28 Mar 2023	Low Tide (ft)	0.66
S4	28 Mar 2023	Low Tide Time	1053
S4	28 Mar 2023	Comments	Water clear; Trash-2; Kelp;Seagrass;Debris
S5	07 Mar 2023	Arrive Time	925
S5	07 Mar 2023	Weather	Partly cloudy
S5	07 Mar 2023	Wind Speed (kts)	3.7
S5	07 Mar 2023	Wind Dir	N
S5	07 Mar 2023	Animal Life	
S5	07 Mar 2023	Floatables	None
S5	07 Mar 2023	Water Color	Green
S5	07 Mar 2023	Current Direction	S
S5	07 Mar 2023	Water Temp (C)	10
S5	07 Mar 2023	Wave Height Low (ft)	4
S5	07 Mar 2023	High Tide (ft)	5.18
S5	07 Mar 2023	High Tide Time	839
S5	07 Mar 2023	Low Tide (ft)	0.92
S5	07 Mar 2023	Low Tide Time	245
S5	07 Mar 2023	Comments	Water clear; Trash-4; Kelp;Seagrass;Debris
S5	14 Mar 2023	Arrive Time	933
S5	14 Mar 2023	Weather	Cloudy
S5	14 Mar 2023	Wind Speed (kts)	5.6
S5	14 Mar 2023	Wind Dir	SW
S5	14 Mar 2023	Animal Life	Bird-5;
S5	14 Mar 2023	Floatables	Foam
S5	14 Mar 2023	Water Color	Brown
S5	14 Mar 2023	Current Direction	S
S5	14 Mar 2023	Water Temp (C)	10
S5	14 Mar 2023	Wave Height Low (ft)	4
S5	14 Mar 2023	High Tide (ft)	4.55
S5	14 Mar 2023	High Tide Time	131
S5	14 Mar 2023	Low Tide (ft)	0.56
S5	14 Mar 2023	Low Tide Time	1020
S5	14 Mar 2023	Comments	Water turbid; Trash-2; Kelp;Debris; Person/Walker/Jogger-1

Station	Date	Parameter	Value
S5	21 Mar 2023	Arrive Time	943
S5	21 Mar 2023	Weather	Heavy rain
S5	21 Mar 2023	Wind Speed (kts)	18.2
S5	21 Mar 2023	Wind Dir	SW
S5	21 Mar 2023	Animal Life	
S5	21 Mar 2023	Floatables	Foam
S5	21 Mar 2023	Water Color	Green
S5	21 Mar 2023	Current Direction	S
S5	21 Mar 2023	Water Temp (C)	11
S5	21 Mar 2023	Wave Height Low (ft)	4
S5	21 Mar 2023	High Tide (ft)	5.69
S5	21 Mar 2023	High Tide Time	929
S5	21 Mar 2023	Low Tide (ft)	0.07
S5	21 Mar 2023	Low Tide Time	332
S5	21 Mar 2023	Comments	Water turbid; Trash-3; Seagrass;Debris;Kelp
S5	28 Mar 2023	Arrive Time	909
S5	28 Mar 2023	Weather	Sunny
S5	28 Mar 2023	Wind Speed (kts)	1.4
S5	28 Mar 2023	Wind Dir	SW
S5	28 Mar 2023	Animal Life	Bird-20;
S5	28 Mar 2023	Floatables	Bits of indistinguishable garbage
S5	28 Mar 2023	Water Color	Brown
S5	28 Mar 2023	Current Direction	S
S5	28 Mar 2023	Water Temp (C)	13
S5	28 Mar 2023	Wave Height Low (ft)	2
S5	28 Mar 2023	High Tide (ft)	4.09
S5	28 Mar 2023	High Tide Time	150
S5	28 Mar 2023	Low Tide (ft)	0.66
S5	28 Mar 2023	Low Tide Time	1053
S5	28 Mar 2023	Comments	Water turbid; Trash-5; Kelp;Seagrass;Debris; Lots of debris on the shore
S6	07 Mar 2023	Arrive Time	954
S6	07 Mar 2023	Weather	Partly cloudy
S6	07 Mar 2023	Wind Speed (kts)	2
S6	07 Mar 2023	Wind Dir	W
S6	07 Mar 2023	Animal Life	
S6	07 Mar 2023	Floatables	None
S6	07 Mar 2023	Water Color	Green
S6	07 Mar 2023	Current Direction	S
S6	07 Mar 2023	Water Temp (C)	9
S6	07 Mar 2023	Wave Height Low (ft)	4
S6	07 Mar 2023	High Tide (ft)	5.18
S6	07 Mar 2023	High Tide Time	839
S6	07 Mar 2023	Low Tide (ft)	0.92
S6	07 Mar 2023	Low Tide Time	245
S6	07 Mar 2023	Comments	Water clear; Trash-2; Kelp;Seagrass;Debris; Person/Walker/Jogger-3
S6	14 Mar 2023	Arrive Time	901
S6	14 Mar 2023	Weather	Cloudy
S6	14 Mar 2023	Wind Speed (kts)	1.9
S6	14 Mar 2023	Wind Dir	SW
S6	14 Mar 2023	Animal Life	Dog-1;
S6	14 Mar 2023	Floatables	None
S6	14 Mar 2023	Water Color	Green
S6	14 Mar 2023	Current Direction	S
S6	14 Mar 2023	Water Temp (C)	10
S6	14 Mar 2023	Wave Height Low (ft)	5
S6	14 Mar 2023	High Tide (ft)	4.55

Station	Date	Parameter	Value
S6	14 Mar 2023	High Tide Time	131
S6	14 Mar 2023	Low Tide (ft)	0.56
S6	14 Mar 2023	Low Tide Time	1020
S6	14 Mar 2023	Comments	Water clear; Trash-1; Algae; Person/Walker/Jogger-2
S6	21 Mar 2023	Arrive Time	1006
S6	21 Mar 2023	Weather	Drizzle
S6	21 Mar 2023	Wind Speed (kts)	14.4
S6	21 Mar 2023	Wind Dir	S
S6	21 Mar 2023	Animal Life	
S6	21 Mar 2023	Floatables	Foam
S6	21 Mar 2023	Water Color	Green
S6	21 Mar 2023	Current Direction	S
S6	21 Mar 2023	Water Temp (C)	11
S6	21 Mar 2023	Wave Height Low (ft)	4
S6	21 Mar 2023	High Tide (ft)	5.69
S6	21 Mar 2023	High Tide Time	929
S6	21 Mar 2023	Low Tide (ft)	0.07
S6	21 Mar 2023	Low Tide Time	332
S6	21 Mar 2023	Comments	Water clear; Trash-3; Seagrass
S6	28 Mar 2023	Arrive Time	921
S6	28 Mar 2023	Weather	Sunny
S6	28 Mar 2023	Wind Speed (kts)	2
S6	28 Mar 2023	Wind Dir	SW
S6	28 Mar 2023	Animal Life	
S6	28 Mar 2023	Floatables	None
S6	28 Mar 2023	Water Color	Green
S6	28 Mar 2023	Current Direction	S
S6	28 Mar 2023	Water Temp (C)	14
S6	28 Mar 2023	Wave Height Low (ft)	3
S6	28 Mar 2023	High Tide (ft)	4.09
S6	28 Mar 2023	High Tide Time	150
S6	28 Mar 2023	Low Tide (ft)	0.66
S6	28 Mar 2023	Low Tide Time	1053
S6	28 Mar 2023	Comments	Water clear; Trash-2; Kelp;Seagrass;Debris;Algae
S8	07 Mar 2023	Arrive Time	835
S8	07 Mar 2023	Weather	Partly cloudy
S8	07 Mar 2023	Wind Speed (kts)	2.2
S8	07 Mar 2023	Wind Dir	SE
S8	07 Mar 2023	Animal Life	Bird-1;
S8	07 Mar 2023	Floatables	None
S8	07 Mar 2023	Water Color	Green
S8	07 Mar 2023	Current Direction	S
S8	07 Mar 2023	Water Temp (C)	10
S8	07 Mar 2023	Wave Height Low (ft)	3
S8	07 Mar 2023	High Tide (ft)	5.18
S8	07 Mar 2023	High Tide Time	839
S8	07 Mar 2023	Low Tide (ft)	0.92
S8	07 Mar 2023	Low Tide Time	245
S8	07 Mar 2023	Comments	Water clear; Trash-2; Kelp;Seagrass;Debris
S8	14 Mar 2023	Arrive Time	830
S8	14 Mar 2023	Weather	Partly cloudy
S8	14 Mar 2023	Wind Speed (kts)	3.7
S8	14 Mar 2023	Wind Dir	S
S8	14 Mar 2023	Animal Life	Bird-5;
S8	14 Mar 2023	Floatables	None
S8	14 Mar 2023	Water Color	Green
S8	14 Mar 2023	Current Direction	S

Station	Date	Parameter	Value
S8	14 Mar 2023	Water Temp (C)	10
S8	14 Mar 2023	Wave Height Low (ft)	5
S8	14 Mar 2023	High Tide (ft)	4.55
S8	14 Mar 2023	High Tide Time	131
S8	14 Mar 2023	Low Tide (ft)	0.56
S8	14 Mar 2023	Low Tide Time	1020
S8	14 Mar 2023	Comments	Water clear; Trash-1; Kelp;Seagrass;Debris; Person/Walker/Jogger-5
S8	21 Mar 2023	Arrive Time	844
S8	21 Mar 2023	Weather	Heavy rain
S8	21 Mar 2023	Wind Speed (kts)	4.2
S8	21 Mar 2023	Wind Dir	SW
S8	21 Mar 2023	Animal Life	
S8	21 Mar 2023	Floatables	None
S8	21 Mar 2023	Water Color	Green
S8	21 Mar 2023	Current Direction	S
S8	21 Mar 2023	Water Temp (C)	12
S8	21 Mar 2023	Wave Height Low (ft)	3
S8	21 Mar 2023	High Tide (ft)	5.69
S8	21 Mar 2023	High Tide Time	929
S8	21 Mar 2023	Low Tide (ft)	0.07
S8	21 Mar 2023	Low Tide Time	332
S8	21 Mar 2023	Comments	Water clear; Trash-3; Kelp;Seagrass;Debris
S8	28 Mar 2023	Arrive Time	841
S8	28 Mar 2023	Weather	Sunny
S8	28 Mar 2023	Wind Speed (kts)	1
S8	28 Mar 2023	Wind Dir	S
S8	28 Mar 2023	Animal Life	
S8	28 Mar 2023	Floatables	None
S8	28 Mar 2023	Water Color	Green
S8	28 Mar 2023	Current Direction	S
S8	28 Mar 2023	Water Temp (C)	11
S8	28 Mar 2023	Wave Height Low (ft)	2
S8	28 Mar 2023	High Tide (ft)	4.09
S8	28 Mar 2023	High Tide Time	150
S8	28 Mar 2023	Low Tide (ft)	0.66
S8	28 Mar 2023	Low Tide Time	1053
S8	28 Mar 2023	Comments	Water clear; Trash-3; Seagrass;Kelp;Debris; Person/Walker/Jogger-2
S9	07 Mar 2023	Arrive Time	822
S9	07 Mar 2023	Weather	Partly cloudy
S9	07 Mar 2023	Wind Speed (kts)	1.3
S9	07 Mar 2023	Wind Dir	W
S9	07 Mar 2023	Animal Life	
S9	07 Mar 2023	Floatables	None
S9	07 Mar 2023	Water Color	Green
S9	07 Mar 2023	Current Direction	S
S9	07 Mar 2023	Water Temp (C)	8
S9	07 Mar 2023	Wave Height Low (ft)	4
S9	07 Mar 2023	High Tide (ft)	5.18
S9	07 Mar 2023	High Tide Time	839
S9	07 Mar 2023	Low Tide (ft)	0.92
S9	07 Mar 2023	Low Tide Time	245
S9	07 Mar 2023	Comments	Water clear; Trash-1; Kelp
S9	14 Mar 2023	Arrive Time	817
S9	14 Mar 2023	Weather	Partly cloudy
S9	14 Mar 2023	Wind Speed (kts)	3.6

Station	Date	Parameter	Value
S9	14 Mar 2023	Wind Dir	S
S9	14 Mar 2023	Animal Life	Bird-20;
S9	14 Mar 2023	Floatables	None
S9	14 Mar 2023	Water Color	Green
S9	14 Mar 2023	Current Direction	S
S9	14 Mar 2023	Water Temp (C)	9
S9	14 Mar 2023	Wave Height Low (ft)	3
S9	14 Mar 2023	High Tide (ft)	4.55
S9	14 Mar 2023	High Tide Time	131
S9	14 Mar 2023	Low Tide (ft)	0.56
S9	14 Mar 2023	Low Tide Time	1020
S9	14 Mar 2023	Comments	Water clear; Trash-1; Kelp; Person/Walker/Jogger-2
S9	21 Mar 2023	Arrive Time	830
S9	21 Mar 2023	Weather	Heavy rain
S9	21 Mar 2023	Wind Speed (kts)	15
S9	21 Mar 2023	Wind Dir	SW
S9	21 Mar 2023	Animal Life	
S9	21 Mar 2023	Floatables	None
S9	21 Mar 2023	Water Color	Green
S9	21 Mar 2023	Current Direction	S
S9	21 Mar 2023	Water Temp (C)	12
S9	21 Mar 2023	Wave Height Low (ft)	4
S9	21 Mar 2023	High Tide (ft)	5.69
S9	21 Mar 2023	High Tide Time	929
S9	21 Mar 2023	Low Tide (ft)	0.07
S9	21 Mar 2023	Low Tide Time	332
S9	21 Mar 2023	Comments	Water clear; Trash-1; Kelp;Seagrass;Debris
S9	28 Mar 2023	Arrive Time	828
S9	28 Mar 2023	Weather	Sunny
S9	28 Mar 2023	Wind Speed (kts)	1.4
S9	28 Mar 2023	Wind Dir	SW
S9	28 Mar 2023	Animal Life	
S9	28 Mar 2023	Floatables	None
S9	28 Mar 2023	Water Color	Green
S9	28 Mar 2023	Current Direction	S
S9	28 Mar 2023	Water Temp (C)	8
S9	28 Mar 2023	Wave Height Low (ft)	2
S9	28 Mar 2023	High Tide (ft)	4.09
S9	28 Mar 2023	High Tide Time	150
S9	28 Mar 2023	Low Tide (ft)	0.66
S9	28 Mar 2023	Low Tide Time	1053
S9	28 Mar 2023	Comments	Water clear; Trash-1; Person/Walker/Jogger-3
S10	08 Mar 2023	Arrive Time	1023
S10	08 Mar 2023	Weather	Partly cloudy
S10	08 Mar 2023	Wind Speed (kts)	4.4
S10	08 Mar 2023	Wind Dir	W
S10	08 Mar 2023	Animal Life	
S10	08 Mar 2023	Floatables	None
S10	08 Mar 2023	Water Color	Green
S10	08 Mar 2023	Current Direction	S
S10	08 Mar 2023	Water Temp (C)	11
S10	08 Mar 2023	Wave Height Low (ft)	5
S10	08 Mar 2023	High Tide (ft)	4.94
S10	08 Mar 2023	High Tide Time	909
S10	08 Mar 2023	Low Tide (ft)	0.74
S10	08 Mar 2023	Low Tide Time	317

Station	Date	Parameter	Value
S10	08 Mar 2023	Comments	Water clear; Trash-3; Kelp;Seagrass;Debris; Person/Walker/Jogger-2; Station was unaccessible due to unsafe conditions on previous day
S10	14 Mar 2023	Arrive Time	1049
S10	14 Mar 2023	Weather	Foggy
S10	14 Mar 2023	Wind Speed (kts)	3.5
S10	14 Mar 2023	Wind Dir	W
S10	14 Mar 2023	Animal Life	Bird-10;
S10	14 Mar 2023	Floatables	None
S10	14 Mar 2023	Water Color	Green
S10	14 Mar 2023	Current Direction	S
S10	14 Mar 2023	Water Temp (C)	8
S10	14 Mar 2023	Wave Height Low (ft)	6
S10	14 Mar 2023	High Tide (ft)	4.55
S10	14 Mar 2023	High Tide Time	131
S10	14 Mar 2023	Low Tide (ft)	0.56
S10	14 Mar 2023	Low Tide Time	1020
S10	14 Mar 2023	Comments	Water clear; Trash-2; Kelp;Seagrass;Debris
S10	22 Mar 2023	Arrive Time	1012
S10	22 Mar 2023	Weather	Partly cloudy
S10	22 Mar 2023	Wind Speed (kts)	3.2
S10	22 Mar 2023	Wind Dir	SW
S10	22 Mar 2023	Animal Life	
S10	22 Mar 2023	Floatables	None; Foam
S10	22 Mar 2023	Water Color	Brown
S10	22 Mar 2023	Current Direction	S
S10	22 Mar 2023	Water Temp (C)	12
S10	22 Mar 2023	Wave Height Low (ft)	6
S10	22 Mar 2023	High Tide (ft)	5.25
S10	22 Mar 2023	High Tide Time	1012
S10	22 Mar 2023	Low Tide (ft)	-0.23
S10	22 Mar 2023	Low Tide Time	415
S10	22 Mar 2023	Comments	Water clear; Trash-3; Kelp;Seagrass;Debris; Station was unaccessible due to unsafe conditions on previous day
S10	28 Mar 2023	Arrive Time	954
S10	28 Mar 2023	Weather	Sunny
S10	28 Mar 2023	Wind Speed (kts)	6.5
S10	28 Mar 2023	Wind Dir	SW
S10	28 Mar 2023	Animal Life	
S10	28 Mar 2023	Floatables	None
S10	28 Mar 2023	Water Color	Green
S10	28 Mar 2023	Current Direction	S
S10	28 Mar 2023	Water Temp (C)	14
S10	28 Mar 2023	Wave Height Low (ft)	3
S10	28 Mar 2023	High Tide (ft)	4.09
S10	28 Mar 2023	High Tide Time	150
S10	28 Mar 2023	Low Tide (ft)	0.66
S10	28 Mar 2023	Low Tide Time	1053
S10	28 Mar 2023	Comments	Water clear; Trash-2; Debris
S11	07 Mar 2023	Arrive Time	942
S11	07 Mar 2023	Weather	Partly cloudy
S11	07 Mar 2023	Wind Speed (kts)	3.5
S11	07 Mar 2023	Wind Dir	W
S11	07 Mar 2023	Animal Life	
S11	07 Mar 2023	Floatables	None
S11	07 Mar 2023	Water Color	Green
S11	07 Mar 2023	Current Direction	S

Station	Date	Parameter	Value
S11	07 Mar 2023	Water Temp (C)	10
S11	07 Mar 2023	Wave Height Low (ft)	4
S11	07 Mar 2023	High Tide (ft)	5.18
S11	07 Mar 2023	High Tide Time	839
S11	07 Mar 2023	Low Tide (ft)	0.92
S11	07 Mar 2023	Low Tide Time	245
S11	07 Mar 2023	Comments	Water clear; Trash-2; Kelp;Seagrass;Debris; Person/Walker/Jogger-2
S11	14 Mar 2023	Arrive Time	949
S11	14 Mar 2023	Weather	Foggy
S11	14 Mar 2023	Wind Speed (kts)	6.6
S11	14 Mar 2023	Wind Dir	W
S11	14 Mar 2023	Animal Life	Dog-1;
S11	14 Mar 2023	Floatables	None
S11	14 Mar 2023	Water Color	Green
S11	14 Mar 2023	Current Direction	S
S11	14 Mar 2023	Water Temp (C)	8
S11	14 Mar 2023	Wave Height Low (ft)	5
S11	14 Mar 2023	High Tide (ft)	4.55
S11	14 Mar 2023	High Tide Time	131
S11	14 Mar 2023	Low Tide (ft)	0.56
S11	14 Mar 2023	Low Tide Time	1020
S11	14 Mar 2023	Comments	Water clear; Trash-2; Debris;Kelp;Seagrass; Person/Walker/Jogger-3
S11	21 Mar 2023	Arrive Time	957
S11	21 Mar 2023	Weather	Moderate rain
S11	21 Mar 2023	Wind Speed (kts)	20.1
S11	21 Mar 2023	Wind Dir	SW
S11	21 Mar 2023	Animal Life	
S11	21 Mar 2023	Floatables	None
S11	21 Mar 2023	Water Color	Green
S11	21 Mar 2023	Current Direction	S
S11	21 Mar 2023	Water Temp (C)	10
S11	21 Mar 2023	Wave Height Low (ft)	4
S11	21 Mar 2023	High Tide (ft)	5.69
S11	21 Mar 2023	High Tide Time	929
S11	21 Mar 2023	Low Tide (ft)	0.07
S11	21 Mar 2023	Low Tide Time	332
S11	21 Mar 2023	Comments	Water clear; Trash-2; Kelp;Seagrass;Debris
S11	28 Mar 2023	Arrive Time	915
S11	28 Mar 2023	Weather	Sunny
S11	28 Mar 2023	Wind Speed (kts)	1.6
S11	28 Mar 2023	Wind Dir	SW
S11	28 Mar 2023	Animal Life	
S11	28 Mar 2023	Floatables	None
S11	28 Mar 2023	Water Color	Green
S11	28 Mar 2023	Current Direction	S
S11	28 Mar 2023	Water Temp (C)	14
S11	28 Mar 2023	Wave Height Low (ft)	3
S11	28 Mar 2023	High Tide (ft)	4.09
S11	28 Mar 2023	High Tide Time	150
S11	28 Mar 2023	Low Tide (ft)	0.66
S11	28 Mar 2023	Low Tide Time	1053
S11	28 Mar 2023	Comments	Water clear; Trash-2; Kelp;Debris;Seagrass
S12	07 Mar 2023	Arrive Time	849
S12	07 Mar 2023	Weather	Partly cloudy
S12	07 Mar 2023	Wind Speed (kts)	1.3

Station	Date	Parameter	Value
S12	07 Mar 2023	Wind Dir	W
S12	07 Mar 2023	Animal Life	Bird-20;
S12	07 Mar 2023	Floatables	None
S12	07 Mar 2023	Water Color	Green
S12	07 Mar 2023	Current Direction	S
S12	07 Mar 2023	Water Temp (C)	10
S12	07 Mar 2023	Wave Height Low (ft)	4
S12	07 Mar 2023	High Tide (ft)	5.18
S12	07 Mar 2023	High Tide Time	839
S12	07 Mar 2023	Low Tide (ft)	0.92
S12	07 Mar 2023	Low Tide Time	245
S12	07 Mar 2023	Comments	Water clear; Trash-2; Seagrass;Debris;Kelp
S12	14 Mar 2023	Arrive Time	847
S12	14 Mar 2023	Weather	Cloudy
S12	14 Mar 2023	Wind Speed (kts)	2.5
S12	14 Mar 2023	Wind Dir	SW
S12	14 Mar 2023	Animal Life	Bird-50;
S12	14 Mar 2023	Floatables	None
S12	14 Mar 2023	Water Color	Green
S12	14 Mar 2023	Current Direction	S
S12	14 Mar 2023	Water Temp (C)	9
S12	14 Mar 2023	Wave Height Low (ft)	6
S12	14 Mar 2023	High Tide (ft)	4.55
S12	14 Mar 2023	High Tide Time	131
S12	14 Mar 2023	Low Tide (ft)	0.56
S12	14 Mar 2023	Low Tide Time	1020
S12	14 Mar 2023	Comments	Water clear; Trash-2; Kelp;Seagrass;Debris; Person/Walker/Jogger-6
S12	21 Mar 2023	Arrive Time	907
S12	21 Mar 2023	Weather	Moderate rain
S12	21 Mar 2023	Wind Speed (kts)	3.2
S12	21 Mar 2023	Wind Dir	SW
S12	21 Mar 2023	Animal Life	
S12	21 Mar 2023	Floatables	None
S12	21 Mar 2023	Water Color	Green
S12	21 Mar 2023	Current Direction	S
S12	21 Mar 2023	Water Temp (C)	11
S12	21 Mar 2023	Wave Height Low (ft)	3
S12	21 Mar 2023	High Tide (ft)	5.69
S12	21 Mar 2023	High Tide Time	929
S12	21 Mar 2023	Low Tide (ft)	0.07
S12	21 Mar 2023	Low Tide Time	332
S12	21 Mar 2023	Comments	Water clear; Trash-2; Kelp;Seagrass;Debris
S12	28 Mar 2023	Arrive Time	856
S12	28 Mar 2023	Weather	Sunny
S12	28 Mar 2023	Wind Speed (kts)	2.5
S12	28 Mar 2023	Wind Dir	SW
S12	28 Mar 2023	Animal Life	Bird-10;
S12	28 Mar 2023	Floatables	None
S12	28 Mar 2023	Water Color	Green
S12	28 Mar 2023	Current Direction	S
S12	28 Mar 2023	Water Temp (C)	12
S12	28 Mar 2023	Wave Height Low (ft)	3
S12	28 Mar 2023	High Tide (ft)	4.09
S12	28 Mar 2023	High Tide Time	150
S12	28 Mar 2023	Low Tide (ft)	0.66
S12	28 Mar 2023	Low Tide Time	1053

Station	Date	Parameter	Value
S12	28 Mar 2023	Comments	Water clear; Trash-2; Kelp;Seagrass;Debris

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 Mar 2023	692	569	815	124	146	26	1326
02 Mar 2023	908	432	632	66	137	23	890
03 Mar 2023	908	432	632	66	137	23	890
04 Mar 2023	908	432	632	66	137	23	890
05 Mar 2023	908	432	632	66	137	23	890
06 Mar 2023	908	432	632	66	137	23	890
07 Mar 2023	662	169	200	35	68	17	398
08 Mar 2023	662	169	200	35	68	17	398
09 Mar 2023	662	169	200	35	68	17	398
10 Mar 2023	662	169	200	35	68	17	398
11 Mar 2023	662	169	200	35	68	17	398
12 Mar 2023	646	85	86	55	163	16	190
13 Mar 2023	646	85	86	55	163	16	190
14 Mar 2023	815	229	104	40	105	14	354
15 Mar 2023	428	111	42	18	50	11	188
16 Mar 2023	428	111	42	18	50	11	188
17 Mar 2023	428	111	54	18	50	11	188
18 Mar 2023	428	111	54	18	50	11	188
19 Mar 2023	428	111	54	18	50	11	188
20 Mar 2023	428	111	54	18	50	11	188
21 Mar 2023	428	111	54	18	50	11	188
22 Mar 2023	428	111	54	18	50	11	188
23 Mar 2023	773*	282*	55	10*	30*	6*	319*
24 Mar 2023	907	429	103	21	51	23	473
25 Mar 2023	907	429	103	21	51	23	473
26 Mar 2023	907	429	103	21	51	23	473
27 Mar 2023	907	429	103	21	51	23	473
28 Mar 2023	915	429	122	13	51	14	560
29 Mar 2023	857	420	122	10	31	18	585
30 Mar 2023	857	420	122	10	31	18	585
31 Mar 2023	857	420	122	10	31	18	585

* 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
07 Mar 2023	IC	IC	IC	IC	IC	IC	IC
14 Mar 2023	E	E	IC	IC	IC	IC	E
17 Mar 2023	ns	ns	IC	ns	ns	ns	ns
24 Mar 2023	E	E	E	IC	E	E	E
28 Mar 2023	E	E	E	IC	IC	IC	E

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 Mar 2023	338	383	346	41	78	18	920
02 Mar 2023	338	383	346	41	78	18	920
03 Mar 2023	338	383	346	41	78	18	920
04 Mar 2023	338	383	346	41	78	18	920
05 Mar 2023	338	383	346	41	78	18	920
06 Mar 2023	338	383	346	41	78	18	920
07 Mar 2023	244	197	151	29	57	11	477
08 Mar 2023	244	197	151	29	57	11	477
09 Mar 2023	244	197	151	29	57	11	477
10 Mar 2023	244	197	151	29	57	11	477
11 Mar 2023	244	197	151	29	57	11	477
12 Mar 2023	244	197	151	29	57	11	477
13 Mar 2023	244	197	151	29	57	11	477
14 Mar 2023	196	225	78	12	49	7	388
15 Mar 2023	196	225	78	12	49	7	388
16 Mar 2023	196	225	78	12	49	7	388
17 Mar 2023	196	225	64	12	49	7	388
18 Mar 2023	196	225	64	12	49	7	388
19 Mar 2023	196	225	64	12	49	7	388
20 Mar 2023	196	225	64	12	49	7	388
21 Mar 2023	196	225	64	12	49	7	388
22 Mar 2023	196	225	64	12	49	7	388
23 Mar 2023	196	225	64	12	49	7	388
24 Mar 2023	276	232	56	28	90	11	338
25 Mar 2023	276	232	56	28	90	11	338
26 Mar 2023	276	232	56	28	90	11	338
27 Mar 2023	164	136	30	21	66	9	204
28 Mar 2023	163	109	31	18	77	7	210
29 Mar 2023	163	109	31	18	77	7	210
30 Mar 2023	163	109	31	18	77	7	210
31 Mar 2023	163	109	31	18	77	7	210

* 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
March	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. Median calculated using n<5

Date	H19		H124		H125		H126		H152		H159		H140				
	2m	6m	2m	6m	2m	6m	2m	6m	2m	6m	2m	6m	2m	6m			
01 Mar 2023	3600	7200	16000	1400	16000	5200	5800	900	940	520	1200	980	96	200	16000	16000	7000
02 Mar 2023	9300	6300	15500	10400	8700	3800	3240	840	740	710	5500	6990	87	170	13500	13500	4700
03 Mar 2023	9300	6300	15500	10400	8700	3800	3240	840	740	710	5500	6990	87	170	13500	13500	4700
04 Mar 2023	9300	6300	15500	10400	8700	3800	3240	840	740	710	5500	6990	87	170	13500	13500	4700
05 Mar 2023	9300	6300	15500	10400	8700	3800	3240	840	740	710	5500	6990	87	170	13500	13500	4700
06 Mar 2023	9300	6300	15500	10400	8700	3800	3240	840	740	710	5500	6990	87	170	13500	13500	4700
07 Mar 2023	3600	5000	15000	1200	1400	2400	680	780	540	220	1200	980	78	140	11000	11000	2400
08 Mar 2023	3600	5000	15000	1200	1400	2400	680	780	540	220	1200	980	78	140	11000	11000	2400
09 Mar 2023	3600	5000	15000	1200	1400	2400	680	780	540	220	1200	980	78	140	11000	11000	2400
10 Mar 2023	3600	5000	15000	1200	1400	2400	680	780	540	220	1200	980	78	140	11000	11000	2400
11 Mar 2023	3600	5000	15000	1200	1400	2400	680	780	540	220	1200	980	78	140	11000	11000	2400
12 Mar 2023	9200	5600	8012	636	1250	1290	400	575	840	740	710	5500	65	130	5504	5590	1500
13 Mar 2023	15000	7600	16000	1200	1400	2400	680	780	940	220	3400	6990	65	130	11000	6000	2400
14 Mar 2023	9200	5600	8012	636	1250	1290	400	575	840	740	710	5500	60	140	11000	6000	2400
15 Mar 2023	9200	5600	8012	636	1250	1290	400	575	840	740	710	5500	56	170	5504	3090	3800
16 Mar 2023	9200	5600	8012	636	1250	1290	400	575	840	740	710	5500	56	170	5504	3090	3800
17 Mar 2023	9200	5600	8012	636	1250	1290	400	575	840	740	710	5500	56	170	5504	3090	3800
18 Mar 2023	9200	5600	8012	636	1250	1290	400	575	840	740	710	5500	56	170	5504	3090	3800
19 Mar 2023	9200	5600	8012	636	1250	1290	400	575	840	740	710	5500	56	170	5504	3090	3800
20 Mar 2023	9200	5600	8012	636	1250	1290	400	575	840	740	710	5500	56	170	5504	3090	3800
21 Mar 2023	9200	5600	8012	636	1250	1290	400	575	840	740	710	5500	56	170	5504	3090	3800
22 Mar 2023	15000*	7600*	16000*	13000*	1100	1390	2960	113	720	740	180	2300	56	170	5504	3090	3800
23 Mar 2023	9200	5600	8012	636	1250	1290	400	575	840	740	710	5500	56	170	5504	3090	3800
24 Mar 2023	15500	11800	16000	9900	5300	3800	6000	113	720	970	180	2400	56	120	12000	7000	7400
25 Mar 2023	15500	11800	16000	9900	5300	3800	6000	113	720	970	180	2400	56	120	12000	7000	7400
26 Mar 2023	15500	11800	16000	9900	5300	3800	6000	113	720	970	180	2400	56	120	12000	7000	7400
27 Mar 2023	15500	11800	16000	9900	5300	3800	6000	113	720	970	180	2400	56	120	12000	7000	7400
28 Mar 2023	15000	9600	16000	6800	7200	1100	2600	5800	76	660	940	220	1400	6000	8000	7800	
29 Mar 2023	10400	12900	9400	4800	4800	1050	1340	360	350	510	360	950	31	21	14500	7000	11600
30 Mar 2023	10400	12900	9400	4800	4800	1050	1340	360	350	510	360	950	31	21	14500	7000	11600
31 Mar 2023	10400	12900	9400	4800	4800	1050	1340	350	350	510	360	950	31	21	14500	7000	11600

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
March	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	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
119	07 Mar 2023	1020	2	3400e	380e	32e	13.0	56.91	7.2	33.39	8.0
119	07 Mar 2023	1020	6	3600e	64	64	11.9	64.93	4.7	33.56	7.9
119	07 Mar 2023	1020	11	6600	120	180e	11.7	37.27	4.3	33.61	7.8
119	14 Mar 2023	1021	2	>16000	5400	140e	12.8	51.83	7.0	33.45	8.0
119	14 Mar 2023	1021	6	>16000	400e	84	11.7	49.96	4.6	33.65	7.8
119	14 Mar 2023	1021	11	12000	400	60e	11.4	29.34	3.5	33.72	7.7
119	24 Mar 2023	1118	2	>16000	2200e	840	14.6	9.83	8.6	33.07	8.0
119	24 Mar 2023	1118	6	>16000	1200e	860	14.6	15.18	8.5	33.11	8.0
119	24 Mar 2023	1118	11	11000	1000	520	14.5	15.13	8.3	33.16	8.0
119	28 Mar 2023	1051	2	4800	1000	56	14.8	53.39	8.4	33.19	8.1
119	28 Mar 2023	1051	6	9800	1600e	320e	12.9	35.71	6.2	33.46	8.0
119	28 Mar 2023	1051	11	7400	240e	92	11.6	13.88	3.8	33.67	7.7
124	07 Mar 2023	1040	2	4e	<2	<2	13.2	55.79	7.5	33.44	8.1
124	07 Mar 2023	1040	6	72	2e	6e	12.1	59.97	4.7	33.56	7.9
124	07 Mar 2023	1040	11	420	8e	20e	11.8	21.87	4.2	33.59	7.8
124	14 Mar 2023	1039	2	>16000	>12000	2200e	12.8	53.48	7.4	33.30	8.0
124	14 Mar 2023	1039	6	>16000	>12000	3600e	12.5	47.39	6.8	33.36	7.9
124	14 Mar 2023	1039	11	>16000	>12000	900	11.5	45.90	4.2	33.70	7.8
124	24 Mar 2023	1140	2	>16000	3200e	660	14.9	14.97	8.3	32.68	8.0
124	24 Mar 2023	1140	6	6800	760	640	14.7	22.57	8.0	32.99	8.0
124	24 Mar 2023	1140	11	7200	580	700	14.5	8.35	7.8	33.15	8.0
124	28 Mar 2023	1115	2	2800e	1200	58	14.3	71.51	8.6	33.24	8.1
124	28 Mar 2023	1115	6	2800e	44	16e	12.1	64.52	4.4	33.62	7.8
124	28 Mar 2023	1115	11	7600	44	32e	11.8	22.63	3.9	33.65	7.7
125	07 Mar 2023	1047	2	<2	<2	<2	13.3	61.75	7.6	33.42	8.1
125	07 Mar 2023	1047	6	10e	<2	2e	11.9	77.42	5.0	33.57	7.9
125	07 Mar 2023	1047	9	22e	<2	<2	11.9	72.17	5.0	33.57	7.9
125	14 Mar 2023	1044	2	CTNA	CTNA	CTNA	13.3	70.18	7.5	33.45	8.0
125	14 Mar 2023	1044	6	2600e	140e	14e	12.6	63.47	6.5	33.53	8.0
125	14 Mar 2023	1044	9	7800	320e	40e	11.6	53.43	4.9	33.68	7.8
125	17 Mar 2023	1355	2	1100	160e	20e	ns	ns	ns	ns	ns
125	24 Mar 2023	1150	2	>16000	2400e	460	15.2	11.12	8.4	32.48	8.0
125	24 Mar 2023	1150	6	8600	560	280e	14.6	10.46	8.2	33.09	8.0
125	24 Mar 2023	1150	9	6200	900	300e	14.4	15.20	8.0	33.16	8.0
125	28 Mar 2023	1128	2	1000	800e	98	14.6	73.95	8.8	33.08	8.2
125	28 Mar 2023	1128	6	80e	54	10e	12.2	70.12	4.5	33.61	7.8
125	28 Mar 2023	1128	9	130	16e	10e	12.0	74.19	4.2	33.61	7.8
126	07 Mar 2023	1056	2	<2	<2	<2	13.1	67.59	7.5	33.41	8.1

Station	Date	Time	Depth	Total	Fecal	Entero	Temp	XMS	DO	Sal	pH
I26	07 Mar 2023	1056	6	18e	2e	<2	11.8	78.75	4.7	33.59	7.9
I26	07 Mar 2023	1056	9	16e	4e	<2	11.8	77.27	4.7	33.59	7.9
I26	14 Mar 2023	1053	2	76	2e	2e	13.3	64.00	8.1	33.46	8.0
I26	14 Mar 2023	1053	6	660	4e	<2	12.5	62.25	5.8	33.55	7.9
I26	14 Mar 2023	1053	9	1000	28e	22e	11.2	66.88	3.4	33.76	7.7
I26	24 Mar 2023	1201	2	6800	220e	260e	14.5	31.88	8.2	33.19	8.1
I26	24 Mar 2023	1201	6	7200	220e	460	14.3	17.80	7.9	33.21	8.0
I26	24 Mar 2023	1201	9	2800e	160e	400	14.0	48.87	7.7	33.26	8.0
I26	28 Mar 2023	1142	2	<2	<2	<2	14.8	75.78	8.8	33.26	8.2
I26	28 Mar 2023	1142	6	40e	2e	20e	13.2	69.47	6.6	33.46	8.1
I26	28 Mar 2023	1142	9	<20	2e	6e	11.6	74.51	3.9	33.68	7.8
I32	07 Mar 2023	1105	2	<2	<2	<2	12.9	45.90	7.1	33.48	8.0
I32	07 Mar 2023	1105	6	60e	6e	28e	11.9	35.83	4.4	33.59	7.8
I32	07 Mar 2023	1105	9	100e	4e	36e	11.8	40.54	4.4	33.60	7.8
I32	14 Mar 2023	1105	2	140	4e	<2	12.9	53.29	7.3	33.52	8.0
I32	14 Mar 2023	1105	6	3400e	36e	8e	11.4	40.89	3.8	33.73	7.8
I32	14 Mar 2023	1105	9	1800e	14e	40	11.2	43.87	3.5	33.76	7.7
I32	24 Mar 2023	1214	2	2200e	160e	76	14.9	15.39	8.3	33.13	8.0
I32	24 Mar 2023	1214	6	1400e	140e	62	14.4	53.45	8.5	33.21	8.1
I32	24 Mar 2023	1214	9	8200	460	920	14.4	46.73	7.8	33.22	8.0
I32	28 Mar 2023	1155	2	580	32e	100e	14.3	71.31	7.9	33.34	8.1
I32	28 Mar 2023	1155	6	500	44	240e	11.9	23.76	3.9	33.66	7.8
I32	28 Mar 2023	1155	9	380e	80e	140e	11.6	17.89	3.6	33.70	7.7
I39	07 Mar 2023	1001	2	<2	<2	<2	13.3	75.04	8.4	33.37	8.1
I39	07 Mar 2023	1001	12	<2	<2	<2	13.0	77.27	7.9	33.37	8.1
I39	07 Mar 2023	1001	18	100e	14e	2e	11.5	81.46	4.0	33.65	7.8
I39	14 Mar 2023	1000	2	60	2e	<2	13.4	72.60	8.1	33.42	8.0
I39	14 Mar 2023	1000	12	260e	16e	2e	11.5	84.05	4.5	33.67	7.8
I39	14 Mar 2023	1000	18	240e	6e	2e	11.0	79.35	3.4	33.79	7.7
I39	24 Mar 2023	1055	2	>16000	3200e	620	14.8	21.58	8.5	32.69	8.1
I39	24 Mar 2023	1055	12	40e	8e	2e	14.1	70.00	7.9	33.25	8.1
I39	24 Mar 2023	1055	18	120e	2e	6e	13.2	74.41	6.7	33.40	7.9
I39	28 Mar 2023	1028	2	<2	<2	<2	14.7	81.48	9.2	33.24	8.2
I39	28 Mar 2023	1028	12	<2	<2	<2	11.4	91.77	4.1	33.69	7.8
I39	28 Mar 2023	1028	18	<2	<2	<2	11.1	87.75	3.4	33.80	7.7
I40	07 Mar 2023	1031	2	6e	<2	<2	13.1	38.75	7.9	33.44	8.0
I40	07 Mar 2023	1031	6	180e	12e	4e	11.9	64.69	4.5	33.58	7.9
I40	07 Mar 2023	1031	9	600	34e	66	11.8	27.21	4.3	33.58	7.8
I40	14 Mar 2023	1032	2	>16000	>12000	8200	13.0	31.35	7.3	32.43	7.9
I40	14 Mar 2023	1032	6	6000	460	78	11.6	44.06	3.8	33.68	7.8
I40	14 Mar 2023	1032	9	7800	440	28e	11.4	51.80	3.4	33.71	7.7
I40	24 Mar 2023	1131	2	13000	1800e	620	14.7	6.55	8.3	32.84	8.0
I40	24 Mar 2023	1131	6	8000	1200e	740	14.6	18.29	8.2	33.04	8.0
I40	24 Mar 2023	1131	9	>16000	1600e	1100	14.3	48.97	7.9	33.21	8.0
I40	28 Mar 2023	1105	2	>16000	880	240e	14.4	50.04	8.0	32.77	8.1
I40	28 Mar 2023	1105	6	>16000	1600e	220e	12.1	13.49	3.9	33.60	7.8

Station	Date	Time	Depth	Total	Fecal	Enteroc	Temp	XMS	DO	Sal	pH
I40	28 Mar 2023	1105	9	>16000	840	260e	11.8	9.74	3.8	33.64	7.8

ns = not sampled

ND = no data

Comments

Station	Date	Depth	Parameter	Comments
I25	14 Mar 2023	2		Sample bottle for 2m broke and sample was collected again on 3/17/23

Table 3.8

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

Station	Date	Parameter	Value
I19	07 Mar 2023	Depth (m)	10
I19	07 Mar 2023	Arrive Time	1020
I19	07 Mar 2023	Depart Time	1025
I19	07 Mar 2023	Air Temp (C)	12.3
I19	07 Mar 2023	Weather	Partly Cloudy
I19	07 Mar 2023	Visibility (mi)	10
I19	07 Mar 2023	Wind Speed (kts)	17.9
I19	07 Mar 2023	Wind Dir	W
I19	07 Mar 2023	Water Color	Blueish-Green
I19	07 Mar 2023	Wave Ht Low (ft)	4
I19	07 Mar 2023	Wave Period (sec)	12
I19	07 Mar 2023	Sea State	Confused Swell
I19	07 Mar 2023	High Tide (ft)	5.24
I19	07 Mar 2023	High Tide Time	842
I19	07 Mar 2023	Low Tide (ft)	-0.33
I19	07 Mar 2023	Low Tide Time	1512
I19	07 Mar 2023	Comments	none
I19	14 Mar 2023	Depth (m)	10
I19	14 Mar 2023	Arrive Time	1021
I19	14 Mar 2023	Depart Time	1024
I19	14 Mar 2023	Air Temp (C)	12.7
I19	14 Mar 2023	Weather	Fog
I19	14 Mar 2023	Visibility (mi)	1
I19	14 Mar 2023	Wind Speed (kts)	7.6
I19	14 Mar 2023	Wind Dir	S
I19	14 Mar 2023	Water Color	Green
I19	14 Mar 2023	Wave Ht Low (ft)	5
I19	14 Mar 2023	Wave Period (sec)	12
I19	14 Mar 2023	Sea State	Wind Ripples
I19	14 Mar 2023	High Tide (ft)	4.64
I19	14 Mar 2023	High Tide Time	130
I19	14 Mar 2023	Low Tide (ft)	0.45
I19	14 Mar 2023	Low Tide Time	1012
I19	14 Mar 2023	Comments	none
I19	24 Mar 2023	Depth (m)	11
I19	24 Mar 2023	Arrive Time	1118
I19	24 Mar 2023	Depart Time	1125
I19	24 Mar 2023	Air Temp (C)	13.3
I19	24 Mar 2023	Weather	Partly Cloudy
I19	24 Mar 2023	Visibility (mi)	10
I19	24 Mar 2023	Wind Speed (kts)	5
I19	24 Mar 2023	Wind Dir	SW
I19	24 Mar 2023	Water Color	Brownish-Green
I19	24 Mar 2023	Wave Ht Low (ft)	7.9
I19	24 Mar 2023	Wave Period (sec)	9
I19	24 Mar 2023	Sea State	Rough
I19	24 Mar 2023	High Tide (ft)	5.27
I19	24 Mar 2023	High Tide Time	2342
I19	24 Mar 2023	Low Tide (ft)	-0.28
I19	24 Mar 2023	Low Tide Time	536
I19	24 Mar 2023	Comments	Freshwater Lens
I19	28 Mar 2023	Depth (m)	10
I19	28 Mar 2023	Arrive Time	1051

Station	Date	Parameter	Value
I19	28 Mar 2023	Depart Time	1100
I19	28 Mar 2023	Air Temp (C)	14.1
I19	28 Mar 2023	Weather	Clear
I19	28 Mar 2023	Visibility (mi)	12
I19	28 Mar 2023	Wind Speed (kts)	11.9
I19	28 Mar 2023	Wind Dir	S
I19	28 Mar 2023	Water Color	Brownish-Green
I19	28 Mar 2023	Wave Ht Low (ft)	3
I19	28 Mar 2023	Wave Period (sec)	9
I19	28 Mar 2023	Sea State	Light Chop
I19	28 Mar 2023	High Tide (ft)	4.13
I19	28 Mar 2023	High Tide Time	136
I19	28 Mar 2023	Low Tide (ft)	0.49
I19	28 Mar 2023	Low Tide Time	1042
I19	28 Mar 2023	Comments	none
I24	07 Mar 2023	Depth (m)	10
I24	07 Mar 2023	Arrive Time	1040
I24	07 Mar 2023	Depart Time	1043
I24	07 Mar 2023	Air Temp (C)	12.2
I24	07 Mar 2023	Weather	Partly Cloudy
I24	07 Mar 2023	Visibility (mi)	10
I24	07 Mar 2023	Wind Speed (kts)	12.9
I24	07 Mar 2023	Wind Dir	SW
I24	07 Mar 2023	Water Color	Blueish-Green
I24	07 Mar 2023	Wave Ht Low (ft)	4
I24	07 Mar 2023	Wave Period (sec)	12
I24	07 Mar 2023	Sea State	Confused Swell
I24	07 Mar 2023	High Tide (ft)	5.24
I24	07 Mar 2023	High Tide Time	842
I24	07 Mar 2023	Low Tide (ft)	-0.33
I24	07 Mar 2023	Low Tide Time	1512
I24	07 Mar 2023	Comments	none
I24	14 Mar 2023	Depth (m)	9
I24	14 Mar 2023	Arrive Time	1039
I24	14 Mar 2023	Depart Time	1041
I24	14 Mar 2023	Air Temp (C)	12.8
I24	14 Mar 2023	Weather	Fog
I24	14 Mar 2023	Visibility (mi)	1
I24	14 Mar 2023	Wind Speed (kts)	8.9
I24	14 Mar 2023	Wind Dir	W
I24	14 Mar 2023	Water Color	Green
I24	14 Mar 2023	Wave Ht Low (ft)	5
I24	14 Mar 2023	Wave Period (sec)	12
I24	14 Mar 2023	Sea State	Wind Ripples
I24	14 Mar 2023	High Tide (ft)	4.64
I24	14 Mar 2023	High Tide Time	130
I24	14 Mar 2023	Low Tide (ft)	0.45
I24	14 Mar 2023	Low Tide Time	1012
I24	14 Mar 2023	Comments	none
I24	24 Mar 2023	Depth (m)	10
I24	24 Mar 2023	Arrive Time	1140
I24	24 Mar 2023	Depart Time	1149
I24	24 Mar 2023	Air Temp (C)	13.5
I24	24 Mar 2023	Weather	Partly Cloudy
I24	24 Mar 2023	Visibility (mi)	10
I24	24 Mar 2023	Wind Speed (kts)	4.1
I24	24 Mar 2023	Wind Dir	SW
I24	24 Mar 2023	Water Color	Brownish-Green

Station	Date	Parameter	Value
I24	24 Mar 2023	Wave Ht Low (ft)	7.9
I24	24 Mar 2023	Wave Period (sec)	9
I24	24 Mar 2023	Sea State	Rough
I24	24 Mar 2023	High Tide (ft)	5.27
I24	24 Mar 2023	High Tide Time	2342
I24	24 Mar 2023	Low Tide (ft)	-0.28
I24	24 Mar 2023	Low Tide Time	536
I24	24 Mar 2023	Comments	Niskin 1 misfire; used side davit for surface sample; Freshwater Lens
I24	28 Mar 2023	Depth (m)	11
I24	28 Mar 2023	Arrive Time	1115
I24	28 Mar 2023	Depart Time	1122
I24	28 Mar 2023	Air Temp (C)	14.2
I24	28 Mar 2023	Weather	Clear
I24	28 Mar 2023	Visibility (mi)	12
I24	28 Mar 2023	Wind Speed (kts)	7.9
I24	28 Mar 2023	Wind Dir	SW
I24	28 Mar 2023	Water Color	Brownish-Green
I24	28 Mar 2023	Wave Ht Low (ft)	3
I24	28 Mar 2023	Wave Period (sec)	9
I24	28 Mar 2023	Sea State	Light Chop
I24	28 Mar 2023	High Tide (ft)	4.13
I24	28 Mar 2023	High Tide Time	136
I24	28 Mar 2023	Low Tide (ft)	0.49
I24	28 Mar 2023	Low Tide Time	1042
I24	28 Mar 2023	Comments	none
I25	07 Mar 2023	Depth (m)	9
I25	07 Mar 2023	Arrive Time	1047
I25	07 Mar 2023	Depart Time	1050
I25	07 Mar 2023	Air Temp (C)	12.3
I25	07 Mar 2023	Weather	Partly Cloudy
I25	07 Mar 2023	Visibility (mi)	10
I25	07 Mar 2023	Wind Speed (kts)	12.7
I25	07 Mar 2023	Wind Dir	SW
I25	07 Mar 2023	Water Color	Green
I25	07 Mar 2023	Wave Ht Low (ft)	4
I25	07 Mar 2023	Wave Period (sec)	12
I25	07 Mar 2023	Sea State	Confused Swell
I25	07 Mar 2023	High Tide (ft)	5.24
I25	07 Mar 2023	High Tide Time	842
I25	07 Mar 2023	Low Tide (ft)	-0.33
I25	07 Mar 2023	Low Tide Time	1512
I25	07 Mar 2023	Comments	none
I25	14 Mar 2023	Depth (m)	8
I25	14 Mar 2023	Arrive Time	1044
I25	14 Mar 2023	Depart Time	1048
I25	14 Mar 2023	Air Temp (C)	12.7
I25	14 Mar 2023	Weather	Fog
I25	14 Mar 2023	Visibility (mi)	1
I25	14 Mar 2023	Wind Speed (kts)	14.2
I25	14 Mar 2023	Wind Dir	W
I25	14 Mar 2023	Water Color	Green
I25	14 Mar 2023	Wave Ht Low (ft)	5
I25	14 Mar 2023	Wave Period (sec)	12
I25	14 Mar 2023	Sea State	Wind Ripples
I25	14 Mar 2023	High Tide (ft)	4.64
I25	14 Mar 2023	High Tide Time	130
I25	14 Mar 2023	Low Tide (ft)	0.45

Station	Date	Parameter	Value
I25	14 Mar 2023	Low Tide Time	1012
I25	14 Mar 2023	Comments	Sample bottle for 2m broke and it was resampled on 3/17/23
I25	24 Mar 2023	Depth (m)	10
I25	24 Mar 2023	Arrive Time	1150
I25	24 Mar 2023	Depart Time	1155
I25	24 Mar 2023	Air Temp (C)	13.7
I25	24 Mar 2023	Weather	Partly Cloudy
I25	24 Mar 2023	Visibility (mi)	10
I25	24 Mar 2023	Wind Speed (kts)	3
I25	24 Mar 2023	Wind Dir	SW
I25	24 Mar 2023	Water Color	Brownish-Green
I25	24 Mar 2023	Wave Ht Low (ft)	7.9
I25	24 Mar 2023	Wave Period (sec)	9
I25	24 Mar 2023	Sea State	Rough
I25	24 Mar 2023	High Tide (ft)	5.27
I25	24 Mar 2023	High Tide Time	2342
I25	24 Mar 2023	Low Tide (ft)	-0.28
I25	24 Mar 2023	Low Tide Time	536
I25	24 Mar 2023	Comments	Freshwater Lens
I25	28 Mar 2023	Depth (m)	8
I25	28 Mar 2023	Arrive Time	1128
I25	28 Mar 2023	Depart Time	1137
I25	28 Mar 2023	Air Temp (C)	14.4
I25	28 Mar 2023	Weather	Clear
I25	28 Mar 2023	Visibility (mi)	12
I25	28 Mar 2023	Wind Speed (kts)	3.1
I25	28 Mar 2023	Wind Dir	SW
I25	28 Mar 2023	Water Color	Brownish-Green
I25	28 Mar 2023	Wave Ht Low (ft)	3
I25	28 Mar 2023	Wave Period (sec)	9
I25	28 Mar 2023	Sea State	Light Chop
I25	28 Mar 2023	High Tide (ft)	4.13
I25	28 Mar 2023	High Tide Time	136
I25	28 Mar 2023	Low Tide (ft)	0.49
I25	28 Mar 2023	Low Tide Time	1042
I25	28 Mar 2023	Comments	Shallow station depth due to low tide and possible sandbar movement
I26	07 Mar 2023	Depth (m)	9
I26	07 Mar 2023	Arrive Time	1056
I26	07 Mar 2023	Depart Time	1058
I26	07 Mar 2023	Air Temp (C)	12.4
I26	07 Mar 2023	Weather	Partly Cloudy
I26	07 Mar 2023	Visibility (mi)	10
I26	07 Mar 2023	Wind Speed (kts)	5.5
I26	07 Mar 2023	Wind Dir	SW
I26	07 Mar 2023	Water Color	Green
I26	07 Mar 2023	Wave Ht Low (ft)	4
I26	07 Mar 2023	Wave Period (sec)	12
I26	07 Mar 2023	Sea State	Confused Swell
I26	07 Mar 2023	High Tide (ft)	5.24
I26	07 Mar 2023	High Tide Time	842
I26	07 Mar 2023	Low Tide (ft)	-0.33
I26	07 Mar 2023	Low Tide Time	1512
I26	07 Mar 2023	Comments	none
I26	14 Mar 2023	Depth (m)	8
I26	14 Mar 2023	Arrive Time	1053
I26	14 Mar 2023	Depart Time	1056

Station	Date	Parameter	Value
I26	14 Mar 2023	Air Temp (C)	12.7
I26	14 Mar 2023	Weather	Fog
I26	14 Mar 2023	Visibility (mi)	1
I26	14 Mar 2023	Wind Speed (kts)	6.5
I26	14 Mar 2023	Wind Dir	NW
I26	14 Mar 2023	Water Color	Green
I26	14 Mar 2023	Wave Ht Low (ft)	5
I26	14 Mar 2023	Wave Period (sec)	12
I26	14 Mar 2023	Sea State	Wind Ripples
I26	14 Mar 2023	High Tide (ft)	4.64
I26	14 Mar 2023	High Tide Time	130
I26	14 Mar 2023	Low Tide (ft)	0.45
I26	14 Mar 2023	Low Tide Time	1012
I26	14 Mar 2023	Comments	none
I26	24 Mar 2023	Depth (m)	10
I26	24 Mar 2023	Arrive Time	1201
I26	24 Mar 2023	Depart Time	1205
I26	24 Mar 2023	Air Temp (C)	13.6
I26	24 Mar 2023	Weather	Partly Cloudy
I26	24 Mar 2023	Visibility (mi)	10
I26	24 Mar 2023	Wind Speed (kts)	3.6
I26	24 Mar 2023	Wind Dir	W
I26	24 Mar 2023	Water Color	Brownish-Green
I26	24 Mar 2023	Wave Ht Low (ft)	7.9
I26	24 Mar 2023	Wave Period (sec)	9
I26	24 Mar 2023	Sea State	Rough
I26	24 Mar 2023	High Tide (ft)	5.27
I26	24 Mar 2023	High Tide Time	2342
I26	24 Mar 2023	Low Tide (ft)	-0.28
I26	24 Mar 2023	Low Tide Time	536
I26	24 Mar 2023	Comments	Visible floating trash in the water; Freshwater Lens
I26	28 Mar 2023	Depth (m)	9
I26	28 Mar 2023	Arrive Time	1142
I26	28 Mar 2023	Depart Time	1146
I26	28 Mar 2023	Air Temp (C)	14.6
I26	28 Mar 2023	Weather	Clear
I26	28 Mar 2023	Visibility (mi)	12
I26	28 Mar 2023	Wind Speed (kts)	5.5
I26	28 Mar 2023	Wind Dir	SW
I26	28 Mar 2023	Water Color	Brownish-Green
I26	28 Mar 2023	Wave Ht Low (ft)	3
I26	28 Mar 2023	Wave Period (sec)	9
I26	28 Mar 2023	Sea State	Light Chop
I26	28 Mar 2023	High Tide (ft)	4.13
I26	28 Mar 2023	High Tide Time	136
I26	28 Mar 2023	Low Tide (ft)	0.49
I26	28 Mar 2023	Low Tide Time	1042
I26	28 Mar 2023	Comments	none
I32	07 Mar 2023	Depth (m)	9
I32	07 Mar 2023	Arrive Time	1105
I32	07 Mar 2023	Depart Time	1108
I32	07 Mar 2023	Air Temp (C)	12.4
I32	07 Mar 2023	Weather	Partly Cloudy
I32	07 Mar 2023	Visibility (mi)	10
I32	07 Mar 2023	Wind Speed (kts)	16.7
I32	07 Mar 2023	Wind Dir	W
I32	07 Mar 2023	Water Color	Green
I32	07 Mar 2023	Wave Ht Low (ft)	4

Station	Date	Parameter	Value
I32	07 Mar 2023	Wave Period (sec)	12
I32	07 Mar 2023	Sea State	Confused Swell
I32	07 Mar 2023	High Tide (ft)	5.24
I32	07 Mar 2023	High Tide Time	842
I32	07 Mar 2023	Low Tide (ft)	-0.33
I32	07 Mar 2023	Low Tide Time	1512
I32	07 Mar 2023	Comments	none
I32	14 Mar 2023	Depth (m)	10
I32	14 Mar 2023	Arrive Time	1105
I32	14 Mar 2023	Depart Time	1108
I32	14 Mar 2023	Air Temp (C)	12.8
I32	14 Mar 2023	Weather	Fog
I32	14 Mar 2023	Visibility (mi)	1
I32	14 Mar 2023	Wind Speed (kts)	5.5
I32	14 Mar 2023	Wind Dir	W
I32	14 Mar 2023	Water Color	Green
I32	14 Mar 2023	Wave Ht Low (ft)	5
I32	14 Mar 2023	Wave Period (sec)	12
I32	14 Mar 2023	Sea State	Wind Ripples
I32	14 Mar 2023	High Tide (ft)	4.64
I32	14 Mar 2023	High Tide Time	130
I32	14 Mar 2023	Low Tide (ft)	0.45
I32	14 Mar 2023	Low Tide Time	1012
I32	14 Mar 2023	Comments	none
I32	24 Mar 2023	Depth (m)	10
I32	24 Mar 2023	Arrive Time	1214
I32	24 Mar 2023	Depart Time	1220
I32	24 Mar 2023	Air Temp (C)	13.6
I32	24 Mar 2023	Weather	Partly Cloudy
I32	24 Mar 2023	Visibility (mi)	10
I32	24 Mar 2023	Wind Speed (kts)	7.1
I32	24 Mar 2023	Wind Dir	W
I32	24 Mar 2023	Water Color	Brownish-Green
I32	24 Mar 2023	Wave Ht Low (ft)	7.9
I32	24 Mar 2023	Wave Period (sec)	9
I32	24 Mar 2023	Sea State	Rough
I32	24 Mar 2023	High Tide (ft)	5.27
I32	24 Mar 2023	High Tide Time	2342
I32	24 Mar 2023	Low Tide (ft)	-0.28
I32	24 Mar 2023	Low Tide Time	536
I32	24 Mar 2023	Comments	Freshwater Lens
I32	28 Mar 2023	Depth (m)	10
I32	28 Mar 2023	Arrive Time	1155
I32	28 Mar 2023	Depart Time	1158
I32	28 Mar 2023	Air Temp (C)	14.5
I32	28 Mar 2023	Weather	Clear
I32	28 Mar 2023	Visibility (mi)	12
I32	28 Mar 2023	Wind Speed (kts)	5.9
I32	28 Mar 2023	Wind Dir	SW
I32	28 Mar 2023	Water Color	Brownish-Green
I32	28 Mar 2023	Wave Ht Low (ft)	3
I32	28 Mar 2023	Wave Period (sec)	9
I32	28 Mar 2023	Sea State	Light Chop
I32	28 Mar 2023	High Tide (ft)	4.13
I32	28 Mar 2023	High Tide Time	136
I32	28 Mar 2023	Low Tide (ft)	0.49
I32	28 Mar 2023	Low Tide Time	1042
I32	28 Mar 2023	Comments	none

Station	Date	Parameter	Value
I39	07 Mar 2023	Depth (m)	20
I39	07 Mar 2023	Arrive Time	1001
I39	07 Mar 2023	Depart Time	1010
I39	07 Mar 2023	Air Temp (C)	12.2
I39	07 Mar 2023	Weather	Partly Cloudy
I39	07 Mar 2023	Visibility (mi)	10
I39	07 Mar 2023	Wind Speed (kts)	3.1
I39	07 Mar 2023	Wind Dir	W
I39	07 Mar 2023	Water Color	Blueish-Green
I39	07 Mar 2023	Wave Ht Low (ft)	4
I39	07 Mar 2023	Wave Period (sec)	12
I39	07 Mar 2023	Sea State	Confused Swell
I39	07 Mar 2023	High Tide (ft)	5.24
I39	07 Mar 2023	High Tide Time	842
I39	07 Mar 2023	Low Tide (ft)	-0.33
I39	07 Mar 2023	Low Tide Time	1512
I39	07 Mar 2023	Comments	none
I39	14 Mar 2023	Depth (m)	17
I39	14 Mar 2023	Arrive Time	1000
I39	14 Mar 2023	Depart Time	1003
I39	14 Mar 2023	Air Temp (C)	13.3
I39	14 Mar 2023	Weather	Fog
I39	14 Mar 2023	Visibility (mi)	3
I39	14 Mar 2023	Wind Speed (kts)	7.3
I39	14 Mar 2023	Wind Dir	W
I39	14 Mar 2023	Water Color	Green
I39	14 Mar 2023	Wave Ht Low (ft)	5
I39	14 Mar 2023	Wave Period (sec)	12
I39	14 Mar 2023	Sea State	Wind Ripples
I39	14 Mar 2023	High Tide (ft)	4.64
I39	14 Mar 2023	High Tide Time	130
I39	14 Mar 2023	Low Tide (ft)	0.45
I39	14 Mar 2023	Low Tide Time	1012
I39	14 Mar 2023	Comments	none
I39	24 Mar 2023	Depth (m)	20
I39	24 Mar 2023	Arrive Time	1055
I39	24 Mar 2023	Depart Time	1102
I39	24 Mar 2023	Air Temp (C)	13.4
I39	24 Mar 2023	Weather	Partly Cloudy
I39	24 Mar 2023	Visibility (mi)	10
I39	24 Mar 2023	Wind Speed (kts)	3.2
I39	24 Mar 2023	Wind Dir	SW
I39	24 Mar 2023	Water Color	Brownish-Green
I39	24 Mar 2023	Wave Ht Low (ft)	7.9
I39	24 Mar 2023	Wave Period (sec)	9
I39	24 Mar 2023	Sea State	Rough
I39	24 Mar 2023	High Tide (ft)	5.27
I39	24 Mar 2023	High Tide Time	2342
I39	24 Mar 2023	Low Tide (ft)	-0.28
I39	24 Mar 2023	Low Tide Time	536
I39	24 Mar 2023	Comments	Inside brown freshwater plume; Freshwater Lens
I39	28 Mar 2023	Depth (m)	18
I39	28 Mar 2023	Arrive Time	1028
I39	28 Mar 2023	Depart Time	1033
I39	28 Mar 2023	Air Temp (C)	14
I39	28 Mar 2023	Weather	Clear
I39	28 Mar 2023	Visibility (mi)	12

Station	Date	Parameter	Value
I39	28 Mar 2023	Wind Speed (kts)	12.4
I39	28 Mar 2023	Wind Dir	SW
I39	28 Mar 2023	Water Color	Green
I39	28 Mar 2023	Wave Ht Low (ft)	3
I39	28 Mar 2023	Wave Period (sec)	9
I39	28 Mar 2023	Sea State	Light Chop
I39	28 Mar 2023	High Tide (ft)	4.13
I39	28 Mar 2023	High Tide Time	136
I39	28 Mar 2023	Low Tide (ft)	0.49
I39	28 Mar 2023	Low Tide Time	1042
I39	28 Mar 2023	Comments	none
I40	07 Mar 2023	Depth (m)	10
I40	07 Mar 2023	Arrive Time	1031
I40	07 Mar 2023	Depart Time	1035
I40	07 Mar 2023	Air Temp (C)	12.3
I40	07 Mar 2023	Weather	Partly Cloudy
I40	07 Mar 2023	Visibility (mi)	10
I40	07 Mar 2023	Wind Speed (kts)	13.6
I40	07 Mar 2023	Wind Dir	W
I40	07 Mar 2023	Water Color	Blueish-Green
I40	07 Mar 2023	Wave Ht Low (ft)	4
I40	07 Mar 2023	Wave Period (sec)	12
I40	07 Mar 2023	Sea State	Confused Swell
I40	07 Mar 2023	High Tide (ft)	5.24
I40	07 Mar 2023	High Tide Time	842
I40	07 Mar 2023	Low Tide (ft)	-0.33
I40	07 Mar 2023	Low Tide Time	1512
I40	07 Mar 2023	Comments	none
I40	14 Mar 2023	Depth (m)	9
I40	14 Mar 2023	Arrive Time	1032
I40	14 Mar 2023	Depart Time	1035
I40	14 Mar 2023	Air Temp (C)	12.8
I40	14 Mar 2023	Weather	Fog
I40	14 Mar 2023	Visibility (mi)	1
I40	14 Mar 2023	Wind Speed (kts)	8.7
I40	14 Mar 2023	Wind Dir	W
I40	14 Mar 2023	Water Color	Brownish-Green
I40	14 Mar 2023	Wave Ht Low (ft)	5
I40	14 Mar 2023	Wave Period (sec)	12
I40	14 Mar 2023	Sea State	Wind Ripples
I40	14 Mar 2023	High Tide (ft)	4.64
I40	14 Mar 2023	High Tide Time	130
I40	14 Mar 2023	Low Tide (ft)	0.45
I40	14 Mar 2023	Low Tide Time	1012
I40	14 Mar 2023	Comments	none
I40	24 Mar 2023	Depth (m)	10
I40	24 Mar 2023	Arrive Time	1131
I40	24 Mar 2023	Depart Time	1135
I40	24 Mar 2023	Air Temp (C)	13.4
I40	24 Mar 2023	Weather	Partly Cloudy
I40	24 Mar 2023	Visibility (mi)	10
I40	24 Mar 2023	Wind Speed (kts)	2.3
I40	24 Mar 2023	Wind Dir	SW
I40	24 Mar 2023	Water Color	Brownish-Green
I40	24 Mar 2023	Wave Ht Low (ft)	7.9
I40	24 Mar 2023	Wave Period (sec)	9
I40	24 Mar 2023	Sea State	Rough
I40	24 Mar 2023	High Tide (ft)	5.27

Station	Date	Parameter	Value
I40	24 Mar 2023	High Tide Time	2342
I40	24 Mar 2023	Low Tide (ft)	-0.28
I40	24 Mar 2023	Low Tide Time	536
I40	24 Mar 2023	Comments	Foul odor from brown plume on station; Freshwater Lens
I40	28 Mar 2023	Depth (m)	9
I40	28 Mar 2023	Arrive Time	1105
I40	28 Mar 2023	Depart Time	1110
I40	28 Mar 2023	Air Temp (C)	14.3
I40	28 Mar 2023	Weather	Clear
I40	28 Mar 2023	Visibility (mi)	12
I40	28 Mar 2023	Wind Speed (kts)	11.3
I40	28 Mar 2023	Wind Dir	SW
I40	28 Mar 2023	Water Color	Brownish-Green
I40	28 Mar 2023	Wave Ht Low (ft)	3
I40	28 Mar 2023	Wave Period (sec)	9
I40	28 Mar 2023	Sea State	Light Chop
I40	28 Mar 2023	High Tide (ft)	4.13
I40	28 Mar 2023	High Tide Time	136
I40	28 Mar 2023	Low Tide (ft)	0.49
I40	28 Mar 2023	Low Tide Time	1042
I40	28 Mar 2023	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 (µg/L)
I19	07 Mar 2023	1	13.05	56.69	7.3	33.39	8.0	25.1	0.97
I19	07 Mar 2023	2	13.03	56.91	7.2	33.39	8.0	25.1	1.10
I19	07 Mar 2023	3	12.51	53.71	6.6	33.49	8.0	25.3	1.93
I19	07 Mar 2023	4	12.29	61.81	5.8	33.51	7.9	25.4	2.26
I19	07 Mar 2023	5	11.96	76.25	5.1	33.55	7.9	25.5	2.28
I19	07 Mar 2023	6	11.94	64.93	4.7	33.56	7.9	25.5	2.69
I19	07 Mar 2023	7	11.92	34.49	4.6	33.57	7.8	25.5	3.11
I19	07 Mar 2023	8	11.82	45.30	4.6	33.58	7.8	25.5	2.91
I19	07 Mar 2023	9	11.82	42.35	4.6	33.58	7.8	25.5	2.77
I19	07 Mar 2023	10	11.70	37.27	4.3	33.61	7.8	25.6	2.65
I19	14 Mar 2023	1	12.97	52.33	7.3	33.43	7.9	25.2	2.66
I19	14 Mar 2023	2	12.84	51.83	7.0	33.45	8.0	25.2	3.21
I19	14 Mar 2023	3	12.35	51.84	6.4	33.52	7.9	25.4	3.94
I19	14 Mar 2023	4	12.05	51.99	6.1	33.56	7.9	25.5	3.63
I19	14 Mar 2023	5	11.88	51.22	5.4	33.61	7.8	25.5	3.62
I19	14 Mar 2023	6	11.68	49.96	4.6	33.65	7.8	25.6	3.21
I19	14 Mar 2023	7	11.55	52.72	4.0	33.68	7.8	25.6	3.29
I19	14 Mar 2023	8	11.45	43.62	3.6	33.70	7.7	25.7	3.06
I19	14 Mar 2023	9	11.39	34.95	3.5	33.71	7.7	25.7	3.09
I19	14 Mar 2023	10	11.38	29.34	3.5	33.72	7.7	25.7	3.17
I19	24 Mar 2023	1	14.62	10.70	8.6	33.06	8.0	24.6	1.39
I19	24 Mar 2023	2	14.61	9.83	8.6	33.07	8.0	24.6	1.39
I19	24 Mar 2023	3	14.60	11.76	8.5	33.09	8.0	24.6	1.55
I19	24 Mar 2023	4	14.62	13.24	8.5	33.10	8.0	24.6	1.65
I19	24 Mar 2023	5	14.62	14.05	8.5	33.11	8.0	24.6	1.69
I19	24 Mar 2023	6	14.62	15.18	8.5	33.11	8.0	24.6	1.71
I19	24 Mar 2023	7	14.62	15.06	8.4	33.11	8.0	24.6	1.75
I19	24 Mar 2023	8	14.59	14.46	8.4	33.12	8.0	24.6	1.75
I19	24 Mar 2023	9	14.54	15.30	8.4	33.14	8.0	24.6	1.77
I19	24 Mar 2023	10	14.47	15.13	8.3	33.16	8.0	24.7	1.87
I19	28 Mar 2023	1	14.78	53.66	8.5	33.18	8.1	24.6	1.78
I19	28 Mar 2023	2	14.77	53.39	8.4	33.19	8.1	24.6	1.80
I19	28 Mar 2023	3	14.54	52.68	8.2	33.22	8.1	24.7	2.13
I19	28 Mar 2023	4	14.25	48.34	8.0	33.24	8.1	24.8	2.64
I19	28 Mar 2023	5	13.87	41.00	7.5	33.26	8.0	24.9	3.37
I19	28 Mar 2023	6	12.93	35.71	6.2	33.46	8.0	25.2	3.28
I19	28 Mar 2023	7	12.42	31.96	4.8	33.56	7.9	25.4	2.54
I19	28 Mar 2023	8	11.67	31.21	3.9	33.67	7.8	25.6	2.12
I19	28 Mar 2023	9	11.55	22.17	3.7	33.68	7.7	25.7	2.12
I19	28 Mar 2023	10	11.63	13.88	3.8	33.67	7.7	25.6	2.14
I24	07 Mar 2023	1	13.31	56.27	7.5	33.43	8.1	25.1	1.16
I24	07 Mar 2023	2	13.17	55.79	7.5	33.44	8.1	25.1	1.26
I24	07 Mar 2023	3	12.93	50.74	7.2	33.45	8.0	25.2	2.18
I24	07 Mar 2023	4	12.70	49.12	6.3	33.48	8.0	25.3	3.02
I24	07 Mar 2023	5	12.23	55.41	5.1	33.55	7.9	25.4	3.02
I24	07 Mar 2023	6	12.10	59.97	4.7	33.56	7.9	25.5	2.76
I24	07 Mar 2023	7	12.00	61.66	4.6	33.57	7.9	25.5	2.58
I24	07 Mar 2023	8	11.92	62.58	4.4	33.58	7.8	25.5	2.49
I24	07 Mar 2023	9	11.83	38.19	4.2	33.59	7.8	25.5	2.54
I24	07 Mar 2023	10	11.84	23.52	4.2	33.59	7.8	25.5	2.77
I24	07 Mar 2023	11	11.84	21.87	4.2	33.59	7.8	25.5	2.89

Station	Date	Depth (m)	Temp (°C)	XMS (‰)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (µg/L)
I24	14 Mar 2023	1	12.93	53.37	7.6	33.28	8.0	25.1	2.37
I24	14 Mar 2023	2	12.82	53.48	7.4	33.30	8.0	25.1	2.80
I24	14 Mar 2023	3	12.71	53.17	7.2	33.30	8.0	25.1	3.67
I24	14 Mar 2023	4	12.59	53.31	7.0	33.33	7.9	25.2	4.43
I24	14 Mar 2023	5	12.52	50.98	6.9	33.35	7.9	25.2	4.34
I24	14 Mar 2023	6	12.49	47.39	6.8	33.36	7.9	25.2	4.09
I24	14 Mar 2023	7	12.25	46.91	6.2	33.43	7.9	25.3	3.98
I24	14 Mar 2023	8	11.54	46.84	4.9	33.70	7.8	25.7	3.39
I24	14 Mar 2023	9	11.48	45.90	4.2	33.70	7.8	25.7	3.12
I24	24 Mar 2023	1	14.90	16.26	8.4	32.62	8.0	24.2	1.88
I24	24 Mar 2023	2	14.86	14.97	8.3	32.68	8.0	24.2	2.08
I24	24 Mar 2023	3	14.74	15.31	8.2	32.90	8.0	24.4	2.32
I24	24 Mar 2023	4	14.74	19.23	8.2	32.92	8.0	24.4	2.27
I24	24 Mar 2023	5	14.70	22.54	8.0	32.99	8.0	24.5	2.14
I24	24 Mar 2023	6	14.69	22.57	8.0	32.99	8.0	24.5	2.14
I24	24 Mar 2023	7	14.63	21.49	7.9	33.02	8.0	24.5	2.23
I24	24 Mar 2023	8	14.55	18.08	7.8	33.11	8.0	24.6	2.25
I24	24 Mar 2023	9	14.51	16.10	7.7	33.15	8.0	24.7	2.32
I24	24 Mar 2023	10	14.50	8.35	7.8	33.15	8.0	24.7	2.79
I24	28 Mar 2023	1	14.64	71.88	8.6	33.10	8.1	24.6	1.10
I24	28 Mar 2023	2	14.30	71.51	8.6	33.24	8.1	24.8	1.57
I24	28 Mar 2023	3	14.06	68.73	8.3	33.30	8.1	24.9	3.14
I24	28 Mar 2023	4	13.38	59.13	6.8	33.43	8.1	25.1	3.65
I24	28 Mar 2023	5	12.92	59.93	5.5	33.49	7.9	25.2	2.50
I24	28 Mar 2023	6	12.12	64.52	4.4	33.62	7.8	25.5	1.80
I24	28 Mar 2023	7	11.82	46.00	4.1	33.63	7.8	25.6	1.81
I24	28 Mar 2023	8	11.77	37.38	4.0	33.64	7.8	25.6	1.70
I24	28 Mar 2023	9	11.75	27.53	3.9	33.65	7.8	25.6	1.81
I24	28 Mar 2023	10	11.76	22.63	3.9	33.65	7.7	25.6	1.88
I25	07 Mar 2023	1	13.50	61.65	7.7	33.41	8.1	25.1	0.99
I25	07 Mar 2023	2	13.30	61.75	7.6	33.42	8.1	25.1	1.23
I25	07 Mar 2023	3	12.94	62.60	6.9	33.45	8.0	25.2	1.80
I25	07 Mar 2023	4	12.34	67.75	5.8	33.52	8.0	25.4	1.98
I25	07 Mar 2023	5	12.13	74.88	5.3	33.54	7.9	25.4	2.03
I25	07 Mar 2023	6	11.93	77.42	5.0	33.57	7.9	25.5	2.06
I25	07 Mar 2023	7	11.93	76.26	5.0	33.57	7.9	25.5	2.18
I25	07 Mar 2023	8	11.90	76.22	5.0	33.57	7.9	25.5	2.40
I25	07 Mar 2023	9	11.90	72.17	5.0	33.57	7.9	25.5	2.33
I25	14 Mar 2023	1	13.33	70.63	6.2	33.36	8.0	25.1	3.85
I25	14 Mar 2023	2	13.28	70.18	7.5	33.45	8.0	25.1	4.22
I25	14 Mar 2023	3	13.19	68.63	8.1	33.46	8.0	25.2	5.19
I25	14 Mar 2023	4	13.06	66.66	7.7	33.47	8.0	25.2	5.29
I25	14 Mar 2023	5	12.80	65.54	7.1	33.51	8.0	25.3	4.70
I25	14 Mar 2023	6	12.63	63.47	6.5	33.53	8.0	25.3	4.19
I25	14 Mar 2023	7	11.95	62.38	5.6	33.63	7.9	25.5	3.54
I25	14 Mar 2023	8	11.60	53.43	4.9	33.68	7.8	25.6	3.25
I25	24 Mar 2023	1	15.20	11.43	8.5	32.26	8.0	23.8	1.86
I25	24 Mar 2023	2	15.18	11.12	8.4	32.48	8.0	24.0	1.92
I25	24 Mar 2023	3	15.12	11.03	8.4	32.67	8.0	24.1	2.07
I25	24 Mar 2023	4	14.82	10.17	8.3	33.00	8.0	24.5	2.30
I25	24 Mar 2023	5	14.68	9.68	8.3	33.08	8.0	24.6	2.44
I25	24 Mar 2023	6	14.64	10.46	8.2	33.09	8.0	24.6	2.44
I25	24 Mar 2023	7	14.55	12.18	8.1	33.11	8.0	24.6	2.41
I25	24 Mar 2023	8	14.42	16.11	8.0	33.17	8.0	24.7	2.20
I25	24 Mar 2023	9	14.44	15.20	8.0	33.16	8.0	24.7	2.22

Station	Date	Depth (m)	Temp (°C)	XMS (‰)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (µg/L)
I25	28 Mar 2023	1	14.82	74.39	8.8	32.95	8.2	24.4	1.04
I25	28 Mar 2023	2	14.61	73.95	8.8	33.08	8.2	24.6	1.26
I25	28 Mar 2023	3	14.26	72.21	8.6	33.26	8.2	24.8	2.16
I25	28 Mar 2023	4	14.15	68.88	8.2	33.28	8.1	24.8	3.47
I25	28 Mar 2023	5	13.25	65.91	6.4	33.47	8.1	25.2	3.31
I25	28 Mar 2023	6	12.20	70.12	4.5	33.61	7.8	25.5	1.88
I25	28 Mar 2023	7	12.01	75.39	4.1	33.62	7.8	25.5	1.28
I25	28 Mar 2023	8	12.01	74.19	4.2	33.61	7.8	25.5	1.19
I26	07 Mar 2023	1	13.35	66.15	7.7	33.40	8.1	25.1	1.14
I26	07 Mar 2023	2	13.05	67.59	7.5	33.41	8.1	25.2	1.31
I26	07 Mar 2023	3	12.55	74.72	6.3	33.49	8.1	25.3	1.50
I26	07 Mar 2023	4	11.84	77.93	4.9	33.60	7.9	25.5	1.19
I26	07 Mar 2023	5	11.93	79.52	4.8	33.57	7.9	25.5	1.12
I26	07 Mar 2023	6	11.78	78.75	4.7	33.59	7.9	25.5	1.17
I26	07 Mar 2023	7	11.78	78.56	4.7	33.59	7.9	25.5	1.31
I26	07 Mar 2023	8	11.78	77.88	4.7	33.59	7.9	25.5	1.40
I26	07 Mar 2023	9	11.78	77.27	4.7	33.59	7.9	25.5	1.64
I26	14 Mar 2023	1	13.34	64.46	8.1	33.46	8.0	25.1	4.66
I26	14 Mar 2023	2	13.34	64.00	8.1	33.46	8.0	25.1	4.88
I26	14 Mar 2023	3	13.25	64.35	7.9	33.47	8.0	25.2	5.41
I26	14 Mar 2023	4	13.12	63.22	7.5	33.48	8.0	25.2	5.34
I26	14 Mar 2023	5	12.73	61.47	6.6	33.53	8.0	25.3	4.40
I26	14 Mar 2023	6	12.48	62.25	5.8	33.55	7.9	25.4	3.77
I26	14 Mar 2023	7	11.75	66.00	4.7	33.67	7.9	25.6	3.14
I26	14 Mar 2023	8	11.16	68.19	3.6	33.77	7.8	25.8	2.60
I26	14 Mar 2023	9	11.17	66.88	3.4	33.76	7.7	25.8	2.37
I26	24 Mar 2023	1	14.63	32.70	8.2	33.16	8.1	24.6	1.36
I26	24 Mar 2023	2	14.52	31.88	8.2	33.19	8.1	24.7	1.45
I26	24 Mar 2023	3	14.50	32.28	8.2	33.21	8.1	24.7	1.44
I26	24 Mar 2023	4	14.47	39.52	7.8	33.21	8.1	24.7	1.53
I26	24 Mar 2023	5	14.39	31.69	7.7	33.21	8.0	24.7	1.73
I26	24 Mar 2023	6	14.30	17.80	7.9	33.21	8.0	24.7	2.06
I26	24 Mar 2023	7	14.22	24.83	8.0	33.21	8.0	24.8	2.15
I26	24 Mar 2023	8	14.14	35.84	8.0	33.23	8.0	24.8	2.05
I26	24 Mar 2023	9	14.01	48.87	7.7	33.26	8.0	24.8	2.12
I26	28 Mar 2023	1	14.79	76.34	8.8	33.26	8.2	24.7	0.95
I26	28 Mar 2023	2	14.76	75.78	8.8	33.26	8.2	24.7	1.02
I26	28 Mar 2023	3	14.60	75.32	8.7	33.27	8.2	24.7	1.25
I26	28 Mar 2023	4	14.49	74.29	8.5	33.27	8.2	24.8	1.71
I26	28 Mar 2023	5	14.17	73.33	8.1	33.31	8.2	24.8	3.21
I26	28 Mar 2023	6	13.25	69.47	6.6	33.46	8.1	25.1	4.19
I26	28 Mar 2023	7	12.16	62.56	4.7	33.62	7.9	25.5	2.71
I26	28 Mar 2023	8	11.68	62.20	3.9	33.68	7.8	25.6	1.56
I26	28 Mar 2023	9	11.65	74.51	3.9	33.68	7.8	25.6	1.21
I32	07 Mar 2023	1	13.03	49.01	7.6	33.47	8.0	25.2	1.25
I32	07 Mar 2023	2	12.86	45.90	7.1	33.48	8.0	25.2	1.63
I32	07 Mar 2023	3	12.24	45.31	5.6	33.56	7.9	25.4	2.32
I32	07 Mar 2023	4	11.99	47.33	4.5	33.58	7.9	25.5	2.47
I32	07 Mar 2023	5	11.95	39.88	4.4	33.58	7.8	25.5	2.98
I32	07 Mar 2023	6	11.90	35.83	4.4	33.59	7.8	25.5	3.16
I32	07 Mar 2023	7	11.90	38.36	4.4	33.59	7.8	25.5	2.85
I32	07 Mar 2023	8	11.88	37.67	4.4	33.59	7.8	25.5	2.91
I32	07 Mar 2023	9	11.85	40.54	4.4	33.60	7.8	25.5	2.48
I32	07 Mar 2023	10	11.86	48.79	4.4	33.60	7.8	25.5	2.54

Station	Date	Depth (m)	Temp (°C)	XMS (‰)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (µg/L)
I32	14 Mar 2023	1	12.95	53.40	7.5	33.52	8.0	25.3	2.22
I32	14 Mar 2023	2	12.94	53.29	7.3	33.52	8.0	25.3	2.55
I32	14 Mar 2023	3	12.51	53.02	6.4	33.59	7.9	25.4	3.16
I32	14 Mar 2023	4	12.25	52.59	5.6	33.61	7.9	25.5	3.62
I32	14 Mar 2023	5	11.67	49.23	4.6	33.70	7.8	25.6	3.59
I32	14 Mar 2023	6	11.38	40.89	3.8	33.73	7.8	25.7	2.72
I32	14 Mar 2023	7	11.29	39.43	3.6	33.74	7.7	25.7	2.41
I32	14 Mar 2023	8	11.24	45.35	3.6	33.74	7.7	25.8	2.29
I32	14 Mar 2023	9	11.18	43.87	3.5	33.76	7.7	25.8	2.41
I32	24 Mar 2023	1	15.17	18.77	8.2	33.08	8.0	24.5	1.31
I32	24 Mar 2023	2	14.93	15.39	8.3	33.13	8.0	24.5	1.67
I32	24 Mar 2023	3	14.74	9.92	8.3	33.16	8.0	24.6	1.99
I32	24 Mar 2023	4	14.55	8.72	8.4	33.19	8.0	24.7	1.86
I32	24 Mar 2023	5	14.46	24.12	8.5	33.20	8.1	24.7	1.66
I32	24 Mar 2023	6	14.40	53.45	8.5	33.21	8.1	24.7	1.53
I32	24 Mar 2023	7	14.40	68.31	8.5	33.22	8.1	24.7	1.44
I32	24 Mar 2023	8	14.40	69.27	8.3	33.22	8.1	24.7	1.39
I32	24 Mar 2023	9	14.41	46.73	7.8	33.22	8.0	24.7	1.45
I32	24 Mar 2023	10	14.42	16.54	7.4	33.22	8.0	24.7	1.64
I32	28 Mar 2023	1	14.43	71.72	8.2	33.32	8.1	24.8	1.32
I32	28 Mar 2023	2	14.27	71.31	7.9	33.34	8.1	24.8	1.49
I32	28 Mar 2023	3	13.62	63.40	7.3	33.42	8.1	25.0	3.03
I32	28 Mar 2023	4	13.17	43.74	5.9	33.47	8.0	25.2	4.77
I32	28 Mar 2023	5	12.54	30.56	4.7	33.56	7.9	25.4	4.19
I32	28 Mar 2023	6	11.91	23.76	3.9	33.66	7.8	25.6	3.43
I32	28 Mar 2023	7	11.74	14.56	3.7	33.67	7.8	25.6	2.84
I32	28 Mar 2023	8	11.65	22.61	3.6	33.68	7.8	25.6	2.30
I32	28 Mar 2023	9	11.59	17.89	3.6	33.70	7.7	25.7	2.14
I39	07 Mar 2023	1	13.36	73.79	8.4	33.37	8.1	25.1	1.12
I39	07 Mar 2023	2	13.27	75.04	8.4	33.37	8.1	25.1	1.22
I39	07 Mar 2023	3	13.18	75.26	8.4	33.37	8.1	25.1	1.57
I39	07 Mar 2023	4	13.15	75.40	8.4	33.37	8.1	25.1	2.02
I39	07 Mar 2023	5	13.13	75.46	8.3	33.37	8.1	25.1	2.70
I39	07 Mar 2023	6	13.12	75.77	8.3	33.37	8.1	25.1	3.22
I39	07 Mar 2023	7	13.10	75.59	8.3	33.37	8.1	25.1	3.79
I39	07 Mar 2023	8	13.09	75.81	8.3	33.37	8.1	25.1	3.99
I39	07 Mar 2023	9	13.05	76.54	8.2	33.37	8.1	25.1	4.16
I39	07 Mar 2023	10	13.04	76.56	8.2	33.37	8.1	25.1	4.34
I39	07 Mar 2023	11	13.04	77.30	8.2	33.37	8.1	25.1	4.25
I39	07 Mar 2023	12	13.02	77.27	7.9	33.37	8.1	25.1	4.20
I39	07 Mar 2023	13	12.49	77.44	6.8	33.48	8.1	25.3	3.49
I39	07 Mar 2023	14	12.22	80.55	5.9	33.52	8.0	25.4	2.83
I39	07 Mar 2023	15	12.10	84.33	5.5	33.54	8.0	25.4	2.30
I39	07 Mar 2023	16	11.70	85.93	4.7	33.62	7.9	25.6	1.61
I39	07 Mar 2023	17	11.39	86.52	3.9	33.69	7.8	25.7	1.00
I39	07 Mar 2023	18	11.51	81.46	4.0	33.65	7.8	25.6	0.92
I39	14 Mar 2023	1	13.45	73.04	8.2	33.42	8.0	25.1	2.94
I39	14 Mar 2023	2	13.43	72.60	8.1	33.42	8.0	25.1	3.14
I39	14 Mar 2023	3	13.14	72.41	7.5	33.45	8.0	25.2	3.55
I39	14 Mar 2023	4	12.49	72.95	6.4	33.53	8.0	25.4	3.22
I39	14 Mar 2023	5	12.00	75.77	5.7	33.59	7.9	25.5	3.24
I39	14 Mar 2023	6	11.87	80.31	5.4	33.60	7.9	25.5	3.09
I39	14 Mar 2023	7	11.79	82.03	5.3	33.60	7.9	25.5	3.03
I39	14 Mar 2023	8	11.70	83.05	5.2	33.62	7.8	25.6	3.00
I39	14 Mar 2023	9	11.67	84.05	5.1	33.63	7.8	25.6	2.72
I39	14 Mar 2023	10	11.63	84.03	4.9	33.64	7.8	25.6	2.89
I39	14 Mar 2023	11	11.56	84.26	4.7	33.66	7.8	25.6	2.63

Station	Date	Depth (m)	Temp (°C)	XMS (‰)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (µg/L)
I39	14 Mar 2023	12	11.49	84.05	4.5	33.67	7.8	25.7	2.58
I39	14 Mar 2023	13	11.37	84.41	4.3	33.70	7.8	25.7	2.24
I39	14 Mar 2023	14	11.29	84.08	4.2	33.72	7.8	25.7	1.97
I39	14 Mar 2023	15	11.24	83.27	4.0	33.73	7.8	25.7	1.73
I39	14 Mar 2023	16	11.19	82.26	3.8	33.75	7.8	25.8	1.48
I39	14 Mar 2023	17	11.07	81.42	3.6	33.78	7.7	25.8	1.42
I39	14 Mar 2023	18	11.02	79.35	3.4	33.79	7.7	25.8	1.25
I39	24 Mar 2023	1	15.20	21.57	8.4	31.90	8.0	23.5	1.67
I39	24 Mar 2023	2	14.82	21.58	8.5	32.69	8.1	24.2	2.53
I39	24 Mar 2023	3	14.68	31.70	8.6	32.88	8.1	24.4	3.27
I39	24 Mar 2023	4	14.67	39.51	8.5	32.88	8.1	24.4	3.03
I39	24 Mar 2023	5	14.62	40.57	8.5	32.94	8.1	24.5	2.52
I39	24 Mar 2023	6	14.45	39.97	8.6	33.13	8.1	24.7	2.21
I39	24 Mar 2023	7	14.35	55.94	8.6	33.16	8.1	24.7	1.99
I39	24 Mar 2023	8	14.24	72.50	8.6	33.20	8.1	24.7	1.75
I39	24 Mar 2023	9	14.29	79.35	8.6	33.16	8.1	24.7	1.71
I39	24 Mar 2023	10	14.24	79.11	8.4	33.21	8.1	24.8	1.63
I39	24 Mar 2023	11	14.20	75.37	8.2	33.22	8.1	24.8	1.68
I39	24 Mar 2023	12	14.09	70.00	7.9	33.25	8.1	24.8	1.53
I39	24 Mar 2023	13	13.93	67.72	7.7	33.29	8.0	24.9	1.36
I39	24 Mar 2023	14	13.74	68.66	7.5	33.32	8.0	24.9	1.29
I39	24 Mar 2023	15	13.62	69.27	7.4	33.33	8.0	25.0	1.14
I39	24 Mar 2023	16	13.53	70.25	7.3	33.34	8.0	25.0	1.12
I39	24 Mar 2023	17	13.37	71.34	7.1	33.37	8.0	25.1	1.14
I39	24 Mar 2023	18	13.20	74.41	6.7	33.40	7.9	25.1	1.35
I39	28 Mar 2023	1	14.70	81.55	9.2	33.24	8.2	24.7	0.98
I39	28 Mar 2023	2	14.67	81.48	9.2	33.24	8.2	24.7	1.12
I39	28 Mar 2023	3	14.65	81.23	9.2	33.24	8.2	24.7	1.32
I39	28 Mar 2023	4	14.60	80.92	9.2	33.24	8.2	24.7	1.89
I39	28 Mar 2023	5	14.57	80.27	9.1	33.24	8.2	24.7	3.01
I39	28 Mar 2023	6	14.25	79.63	8.3	33.30	8.2	24.8	3.51
I39	28 Mar 2023	7	13.76	82.05	7.1	33.36	8.1	25.0	2.88
I39	28 Mar 2023	8	12.45	83.84	5.6	33.57	8.0	25.4	2.00
I39	28 Mar 2023	9	11.74	88.73	4.6	33.64	7.8	25.6	1.07
I39	28 Mar 2023	10	11.63	91.54	4.4	33.65	7.8	25.6	0.88
I39	28 Mar 2023	11	11.41	91.83	4.2	33.68	7.8	25.7	0.72
I39	28 Mar 2023	12	11.39	91.77	4.1	33.69	7.8	25.7	0.63
I39	28 Mar 2023	13	11.13	90.87	3.7	33.77	7.8	25.8	0.60
I39	28 Mar 2023	14	11.12	89.53	3.5	33.77	7.7	25.8	0.55
I39	28 Mar 2023	15	11.10	89.02	3.4	33.78	7.7	25.8	0.59
I39	28 Mar 2023	16	11.05	88.37	3.4	33.80	7.7	25.8	0.60
I39	28 Mar 2023	17	11.05	87.96	3.4	33.80	7.7	25.8	0.58
I39	28 Mar 2023	18	11.05	87.75	3.4	33.80	7.7	25.8	0.59
I40	07 Mar 2023	1	13.27	40.79	8.0	33.44	8.0	25.1	1.38
I40	07 Mar 2023	2	13.07	38.75	7.9	33.44	8.0	25.2	2.16
I40	07 Mar 2023	3	12.89	43.30	7.4	33.46	8.0	25.2	3.10
I40	07 Mar 2023	4	12.61	54.34	6.3	33.49	8.0	25.3	3.54
I40	07 Mar 2023	5	11.97	64.34	4.9	33.58	7.9	25.5	3.13
I40	07 Mar 2023	6	11.88	64.69	4.5	33.58	7.9	25.5	2.53
I40	07 Mar 2023	7	11.89	58.13	4.5	33.58	7.8	25.5	2.34
I40	07 Mar 2023	8	11.82	38.47	4.4	33.58	7.8	25.5	2.37
I40	07 Mar 2023	9	11.83	27.21	4.3	33.58	7.8	25.5	2.59
I40	07 Mar 2023	10	11.83	20.25	4.3	33.59	7.8	25.5	2.81
I40	14 Mar 2023	1	12.95	31.33	6.9	32.30	7.9	24.3	3.49
I40	14 Mar 2023	2	12.99	31.35	7.3	32.43	7.9	24.4	3.95
I40	14 Mar 2023	3	13.01	30.43	6.8	33.36	7.9	25.1	4.26
I40	14 Mar 2023	4	12.40	33.48	5.2	33.58	7.9	25.4	3.63

Station	Date	Depth (m)	Temp (°C)	XMS (‰)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (µg/L)
I40	14 Mar 2023	5	11.98	36.86	4.3	33.63	7.8	25.5	3.01
I40	14 Mar 2023	6	11.65	44.06	3.8	33.68	7.8	25.6	2.81
I40	14 Mar 2023	7	11.56	51.74	3.6	33.69	7.7	25.7	2.61
I40	14 Mar 2023	8	11.52	53.20	3.6	33.69	7.7	25.7	2.52
I40	14 Mar 2023	9	11.44	51.80	3.4	33.71	7.7	25.7	3.30
I40	14 Mar 2023	10	11.46	34.31	3.3	33.71	7.7	25.7	4.99
I40	24 Mar 2023	1	14.76	6.60	8.3	32.78	8.0	24.3	2.16
I40	24 Mar 2023	2	14.70	6.55	8.3	32.84	8.0	24.4	2.24
I40	24 Mar 2023	3	14.72	9.16	8.3	32.82	8.0	24.4	2.26
I40	24 Mar 2023	4	14.62	12.42	8.3	32.92	8.0	24.4	2.19
I40	24 Mar 2023	5	14.61	14.59	8.3	32.97	8.0	24.5	2.11
I40	24 Mar 2023	6	14.63	18.29	8.2	33.04	8.0	24.5	1.93
I40	24 Mar 2023	7	14.43	29.19	8.2	33.17	8.1	24.7	1.79
I40	24 Mar 2023	8	14.37	47.82	8.1	33.19	8.0	24.7	1.72
I40	24 Mar 2023	9	14.27	48.97	7.9	33.21	8.0	24.7	2.05
I40	24 Mar 2023	10	14.24	31.95	7.7	33.21	8.0	24.8	2.55
I40	28 Mar 2023	1	14.42	51.04	8.4	32.75	8.1	24.4	2.43
I40	28 Mar 2023	2	14.36	50.04	8.0	32.77	8.1	24.4	2.82
I40	28 Mar 2023	3	13.31	45.20	6.4	33.36	8.0	25.1	3.55
I40	28 Mar 2023	4	12.65	42.73	4.7	33.55	7.9	25.3	2.91
I40	28 Mar 2023	5	12.24	21.27	4.0	33.59	7.8	25.4	2.94
I40	28 Mar 2023	6	12.12	13.49	3.9	33.60	7.8	25.5	2.88
I40	28 Mar 2023	7	11.96	9.95	3.6	33.63	7.8	25.5	3.26
I40	28 Mar 2023	8	11.84	6.17	3.7	33.64	7.7	25.6	3.04
I40	28 Mar 2023	9	11.84	9.74	3.8	33.64	7.8	25.6	2.67

NA = not available

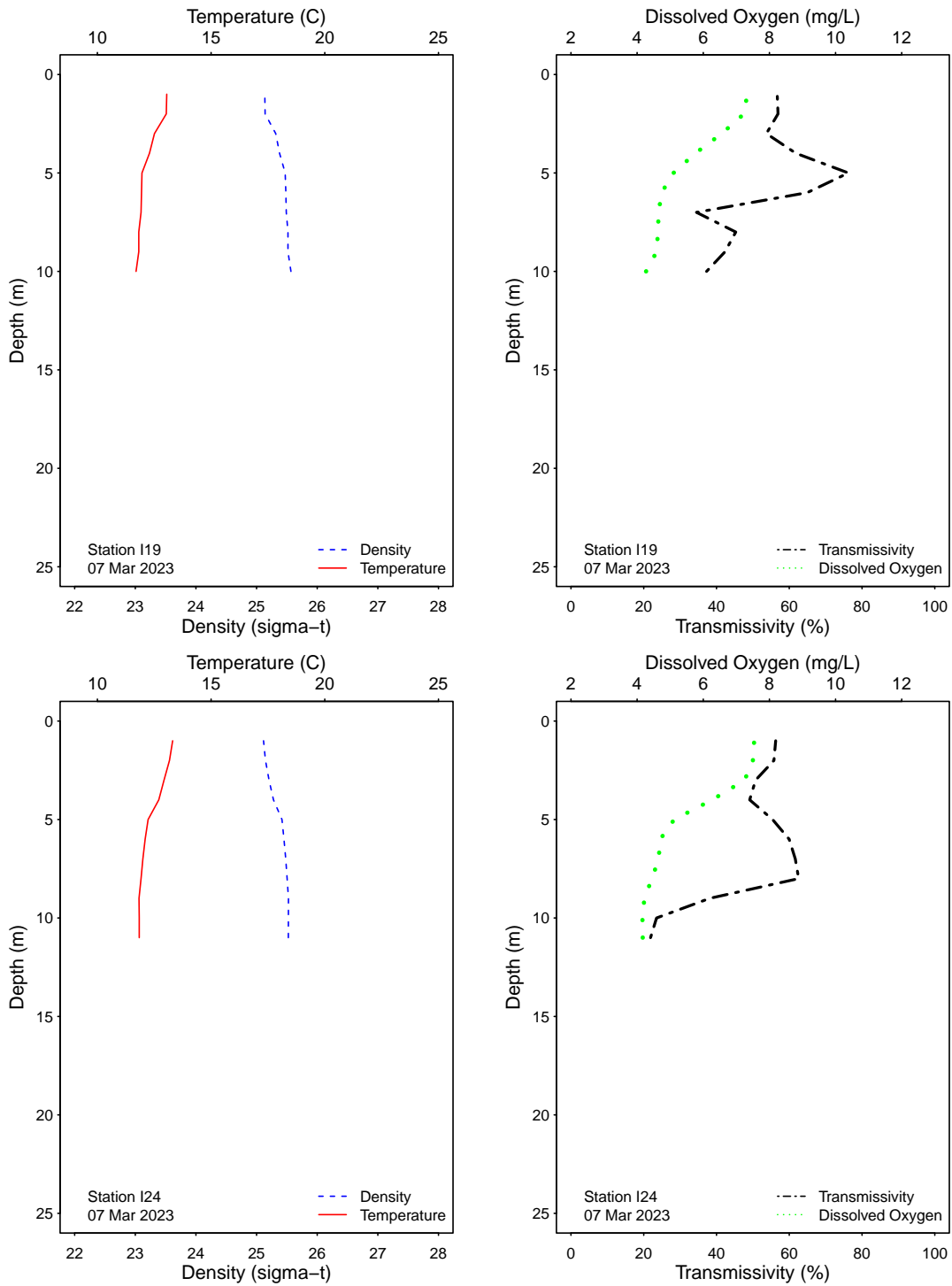


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

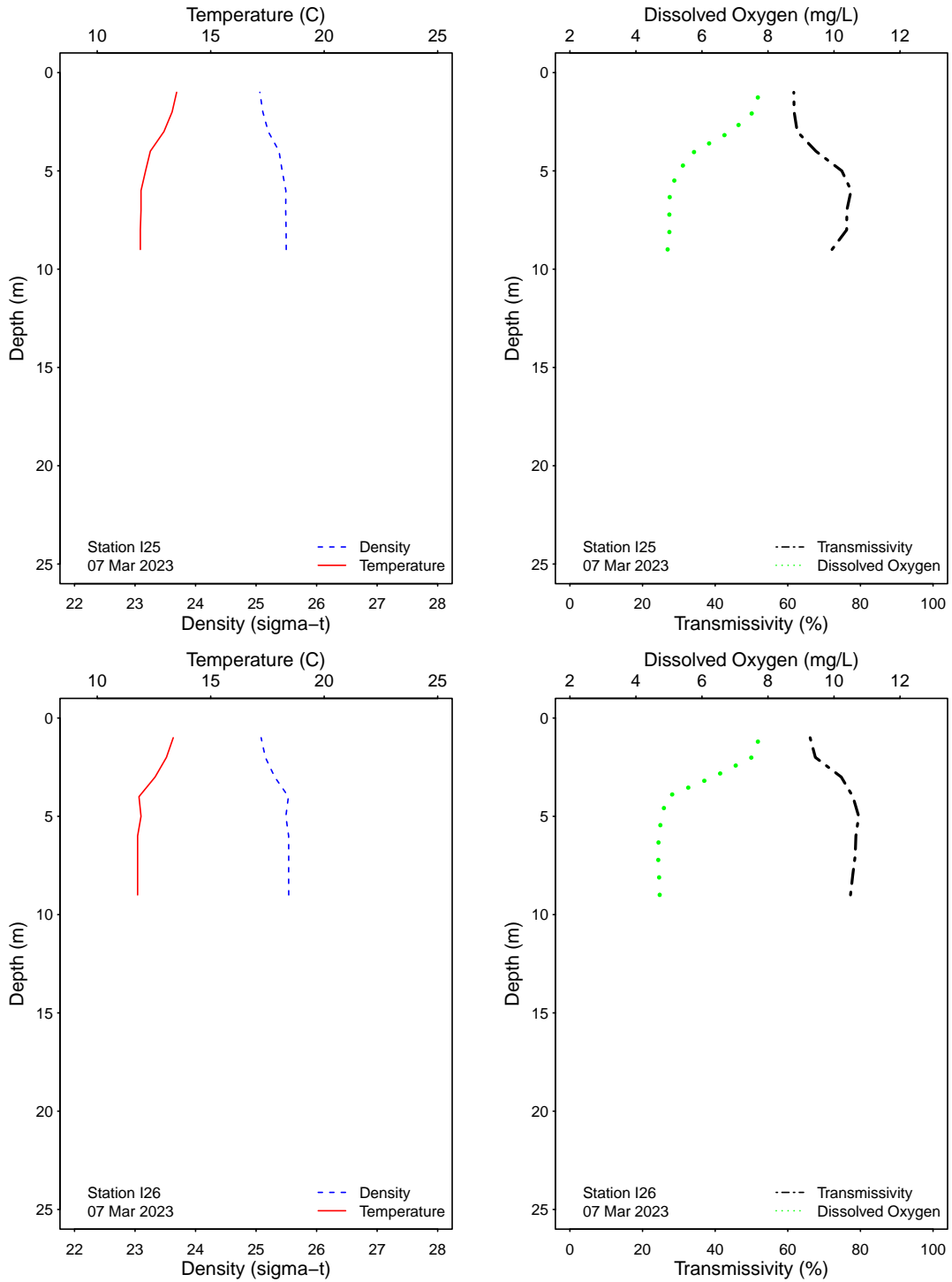


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

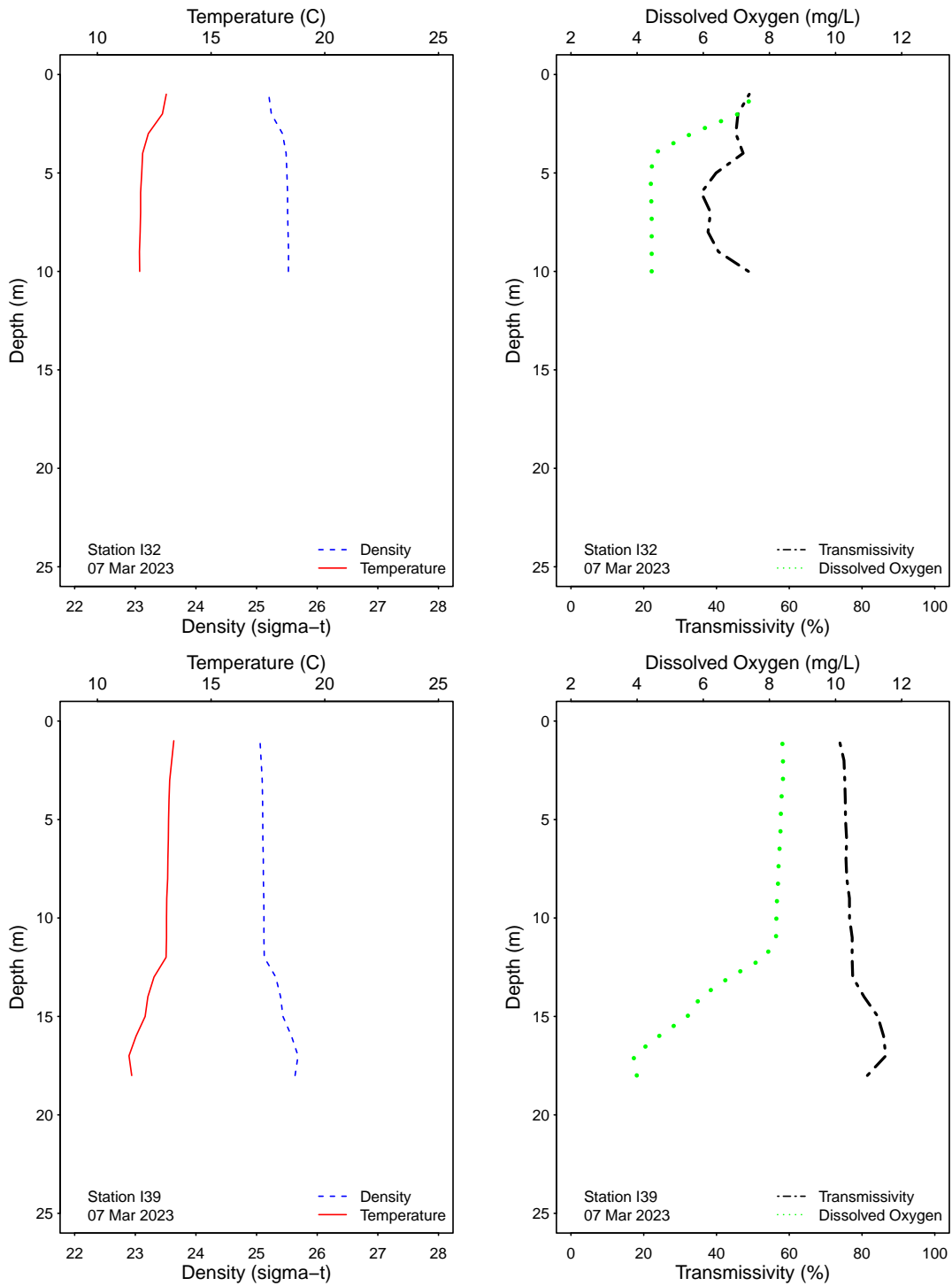


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

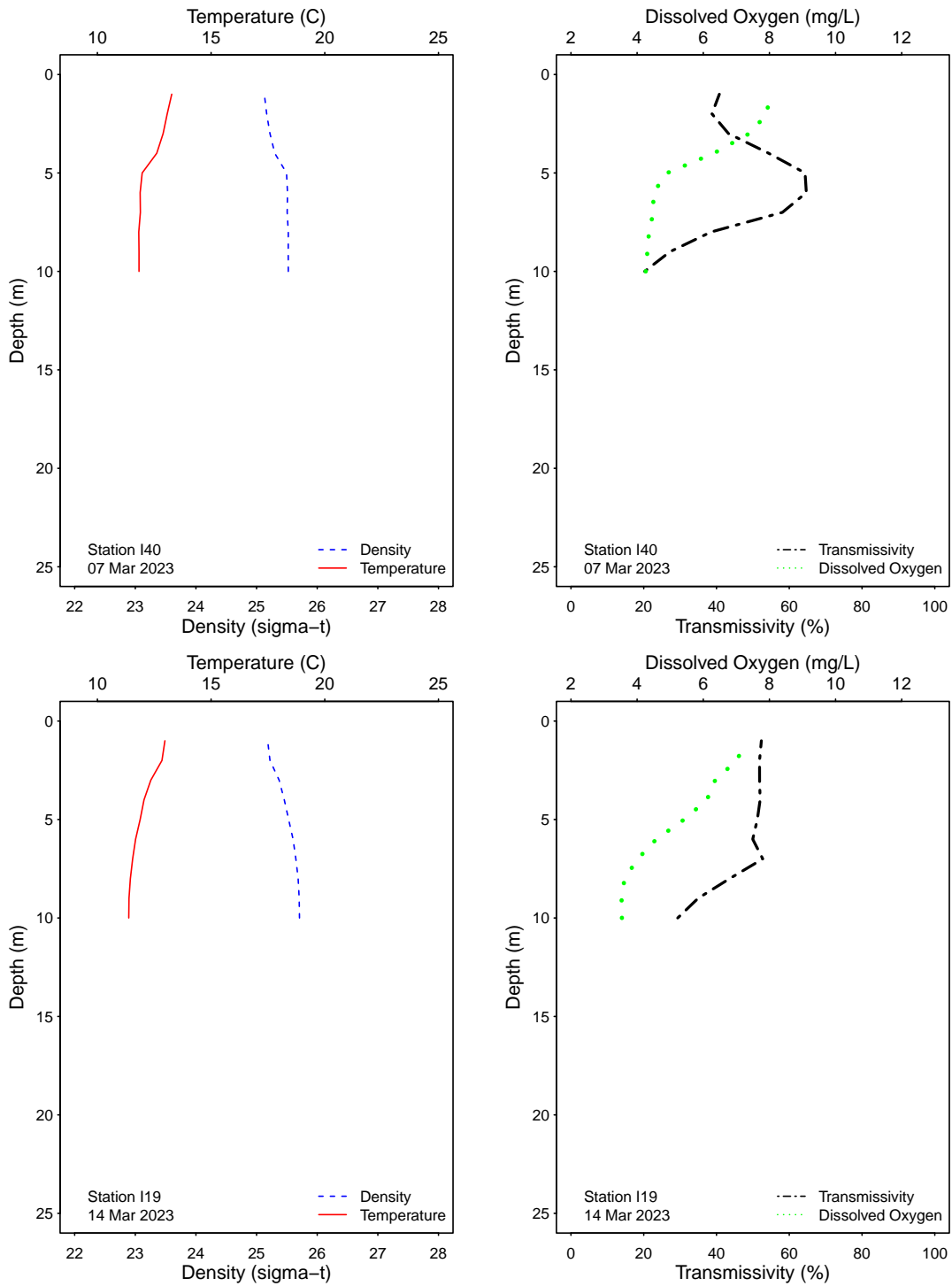


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

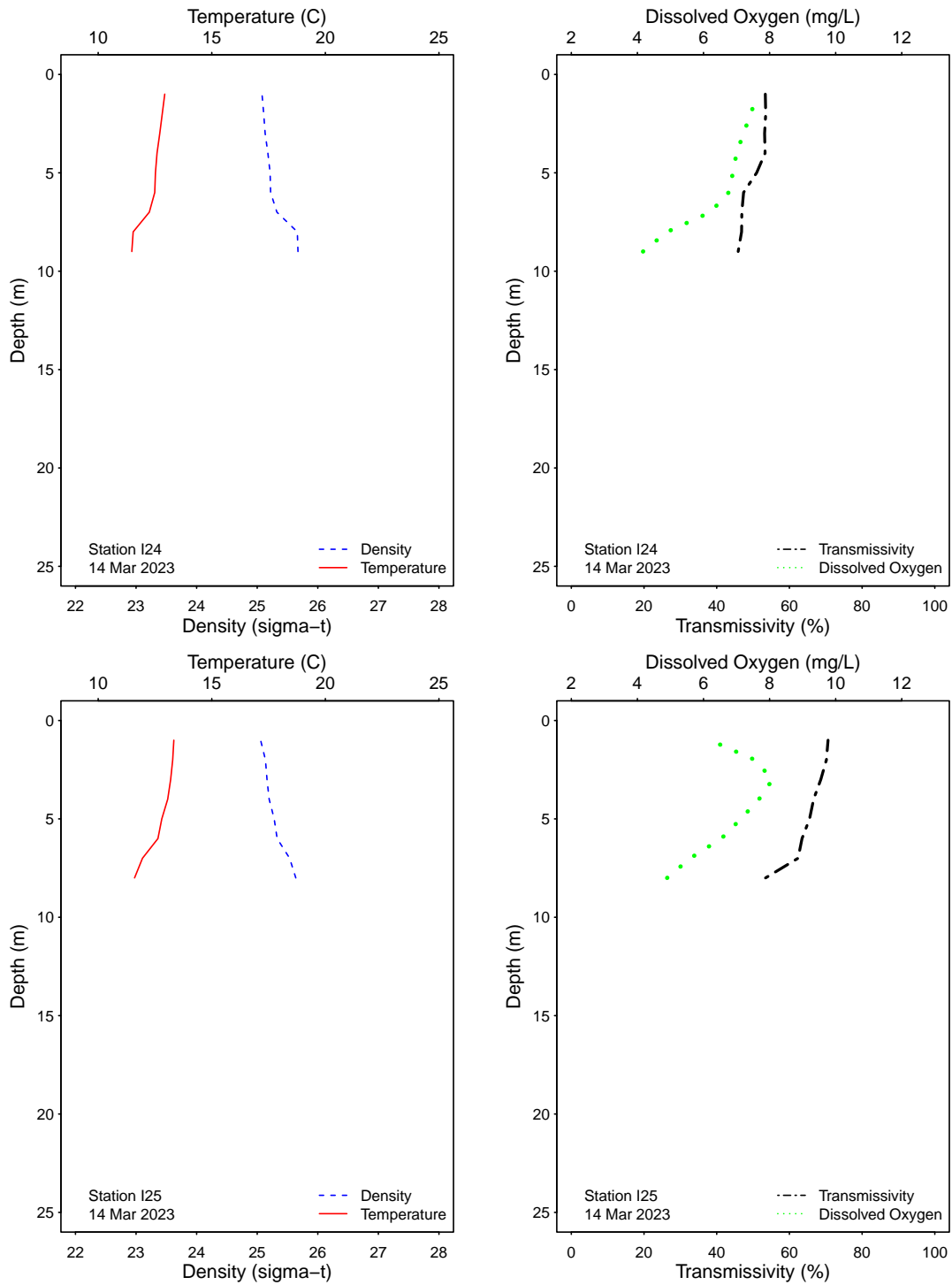


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

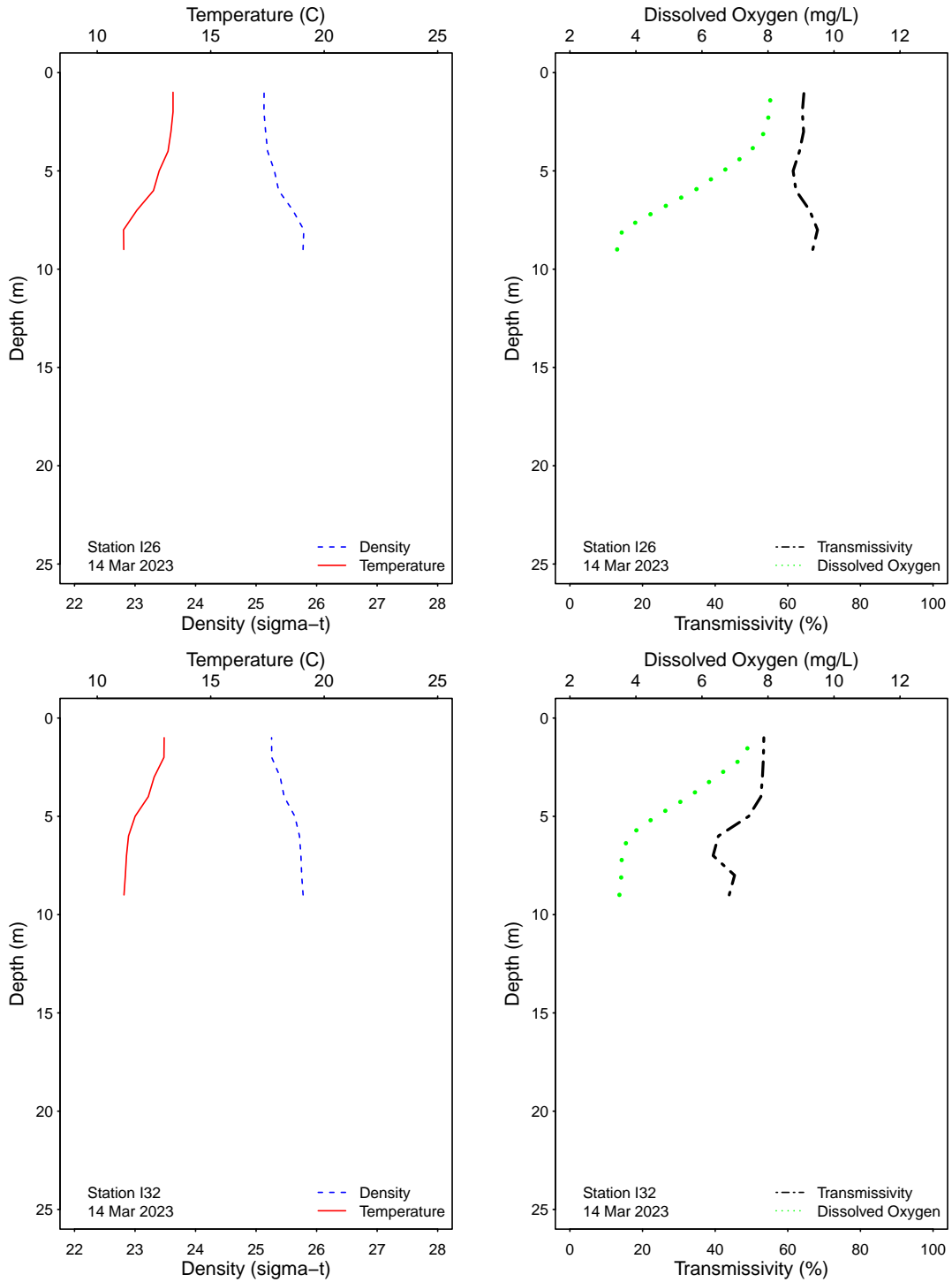


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

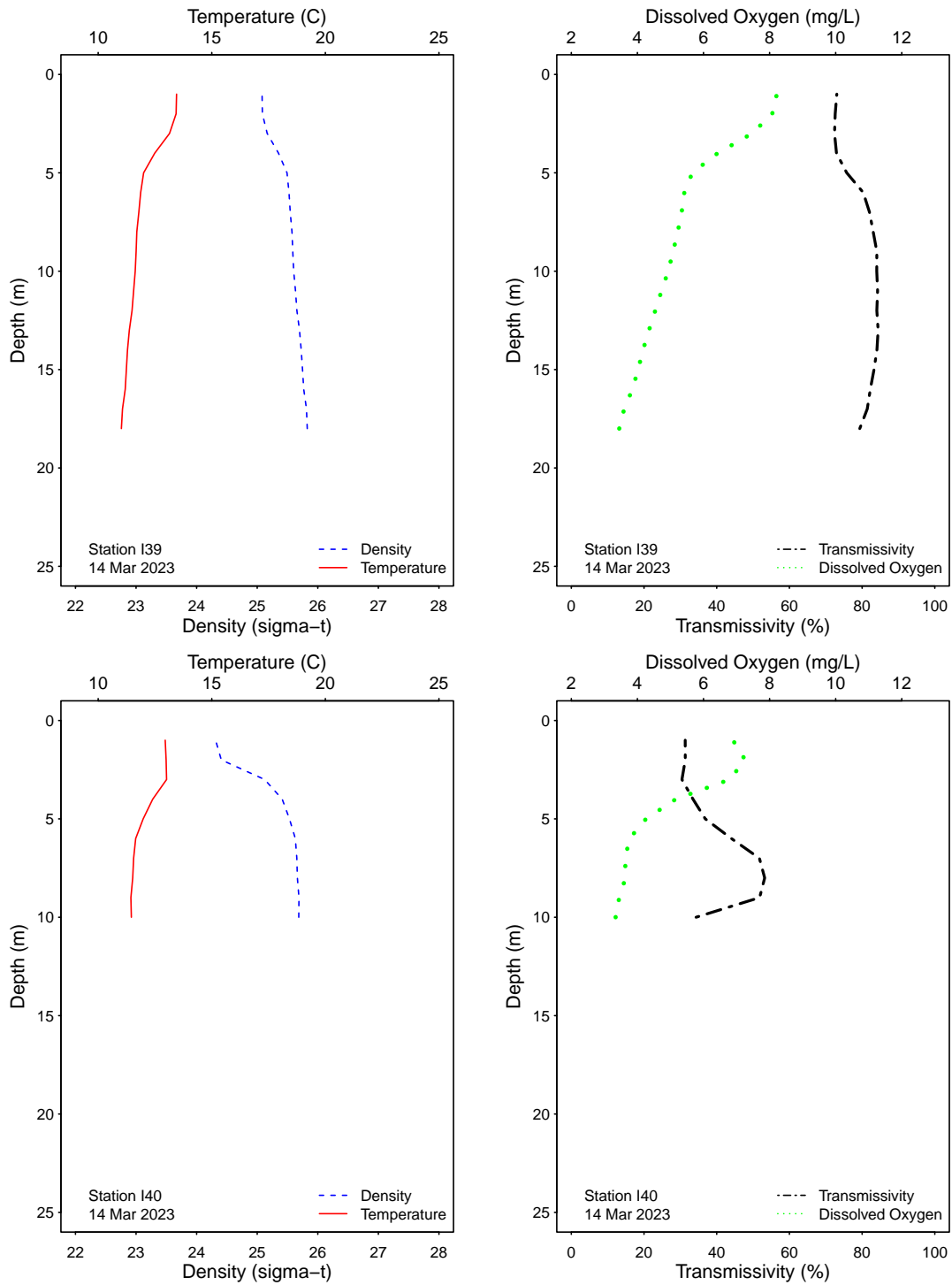


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

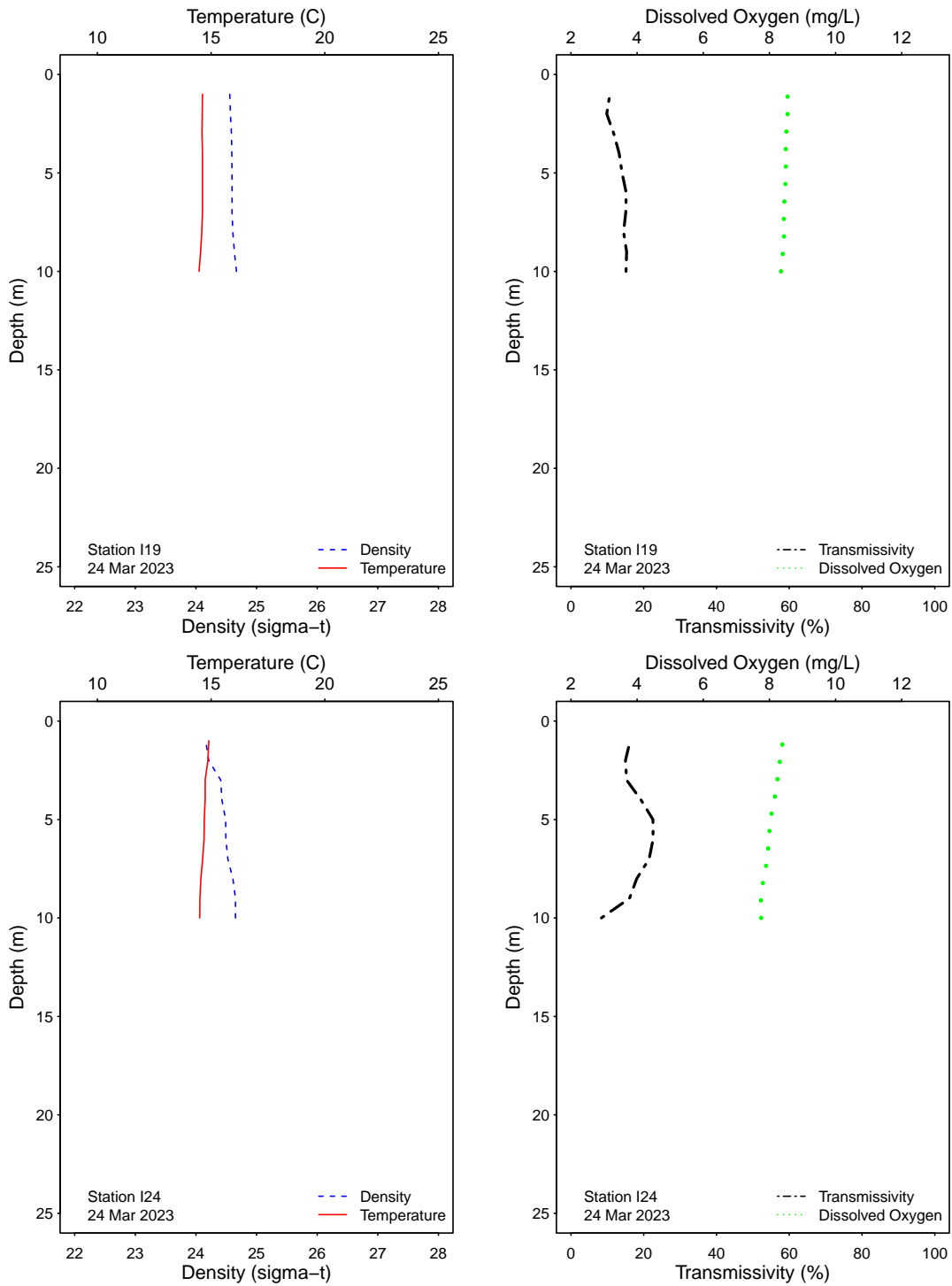


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

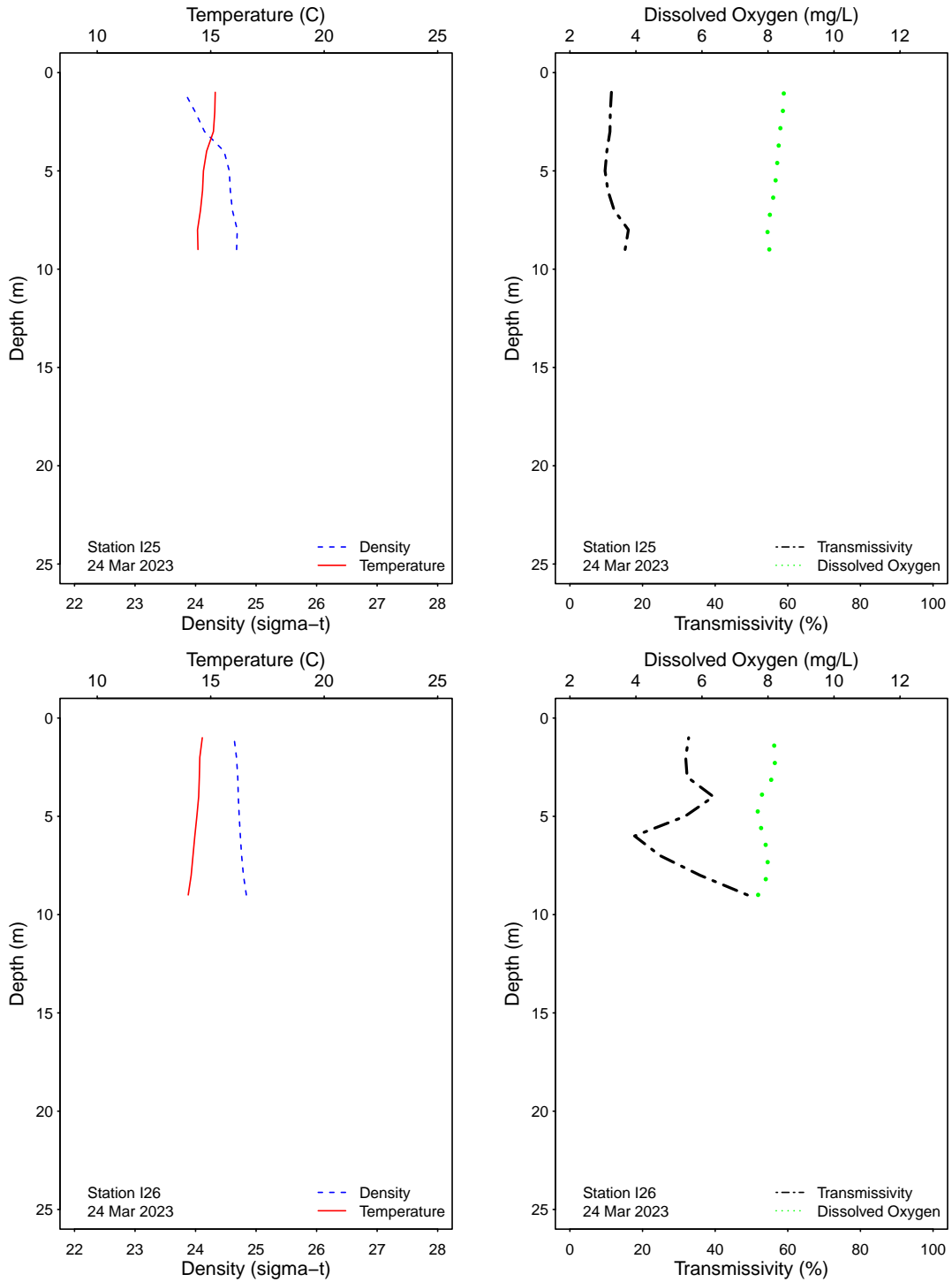


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

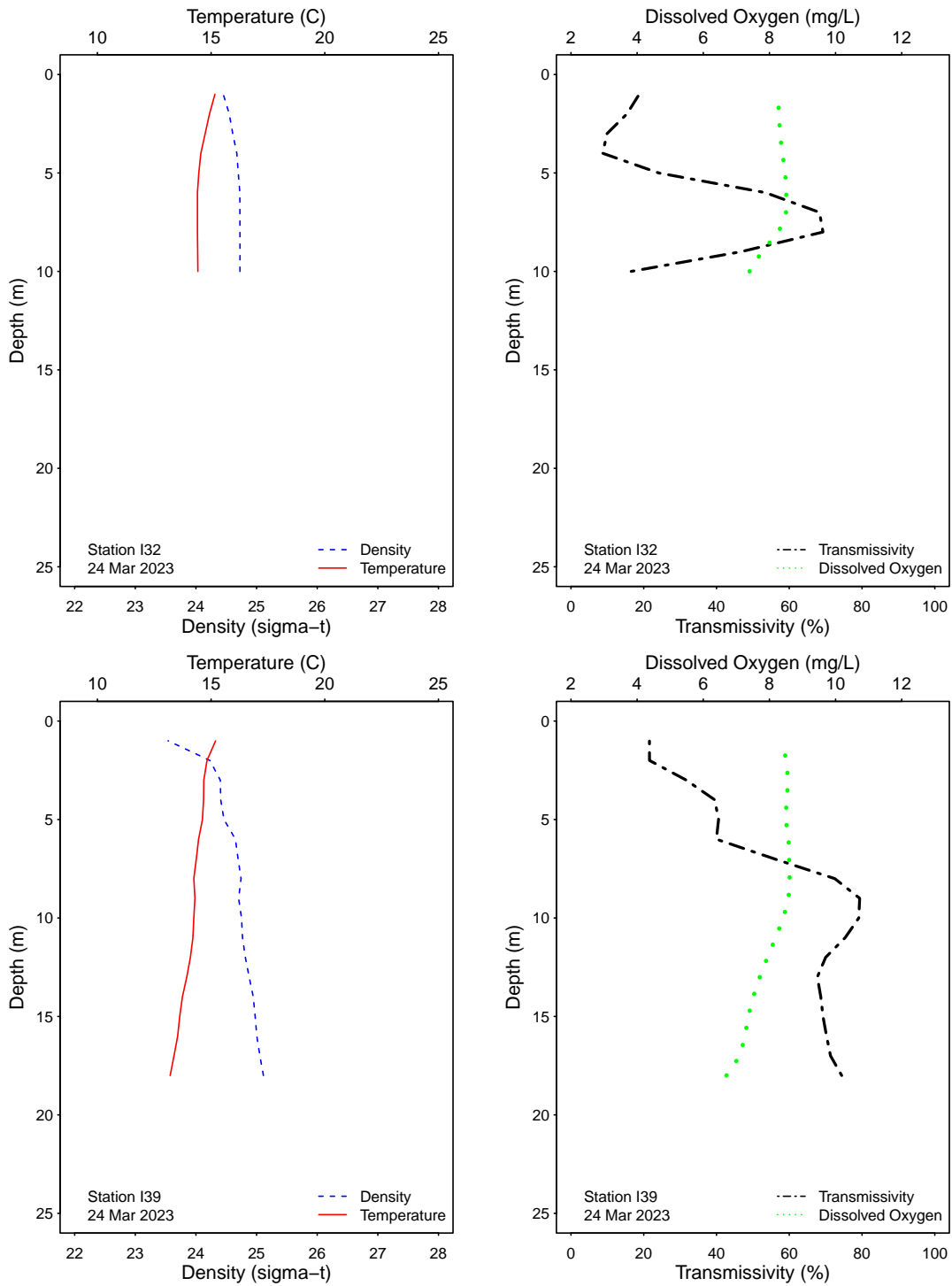


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

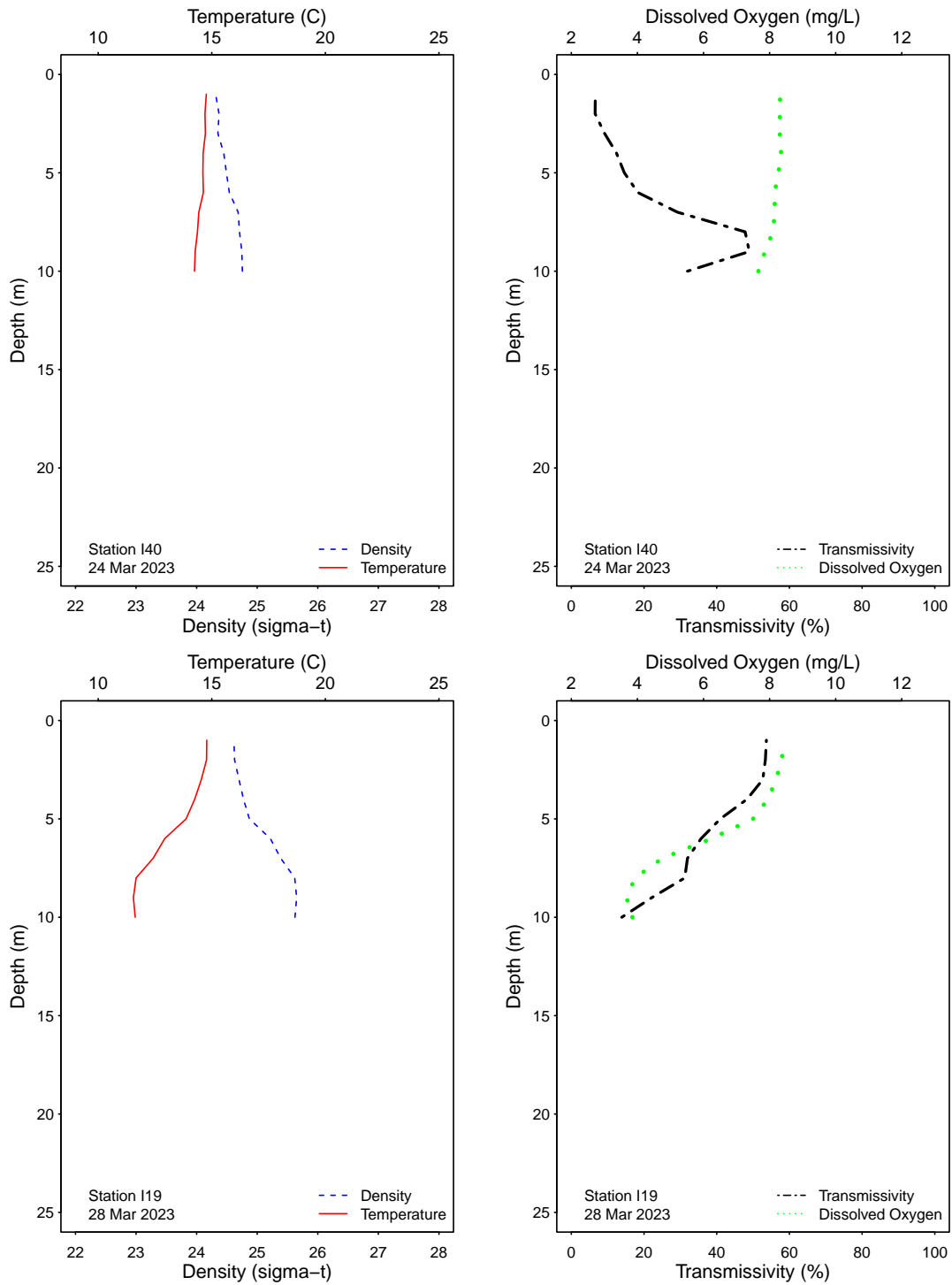


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

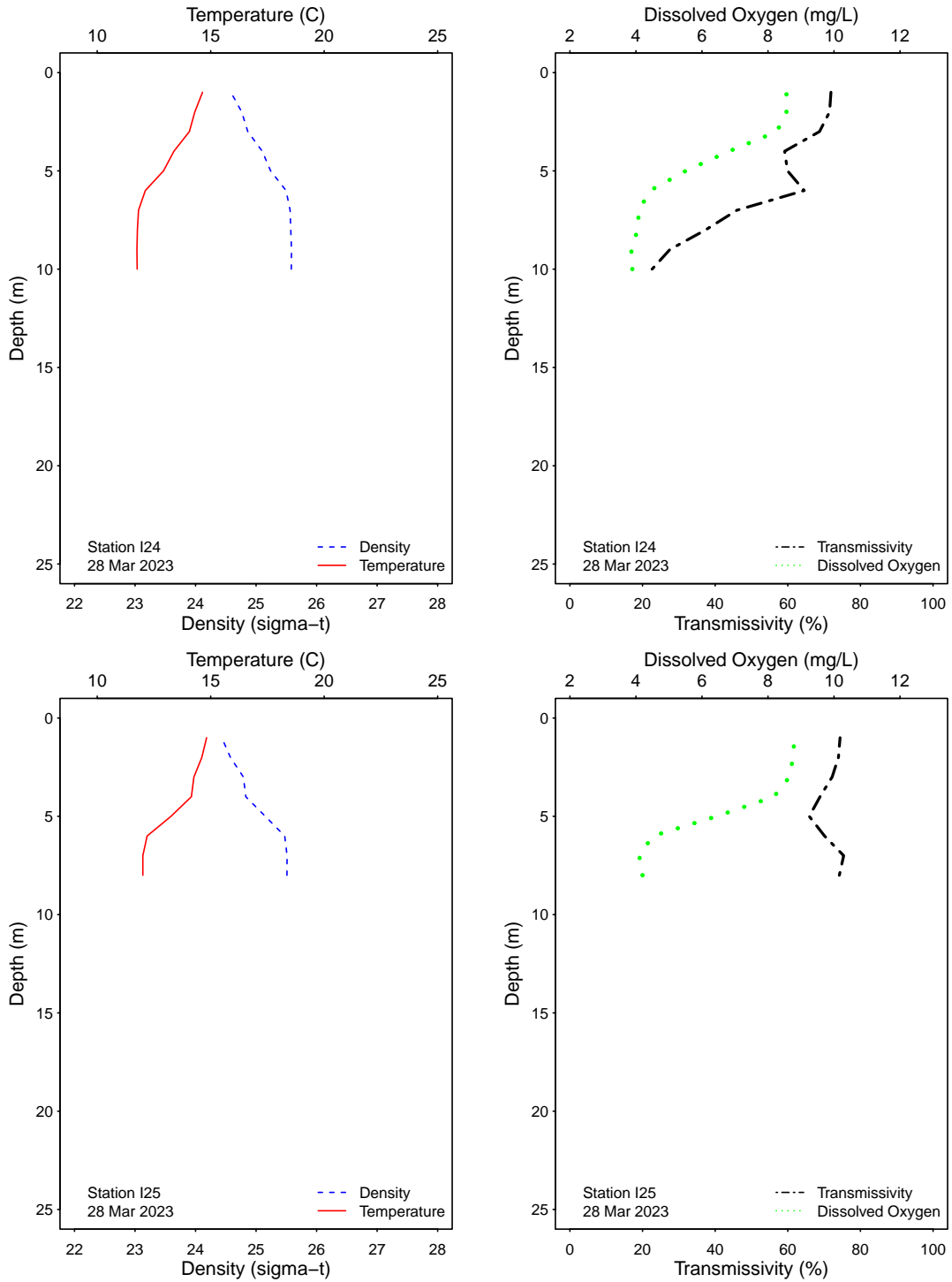


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

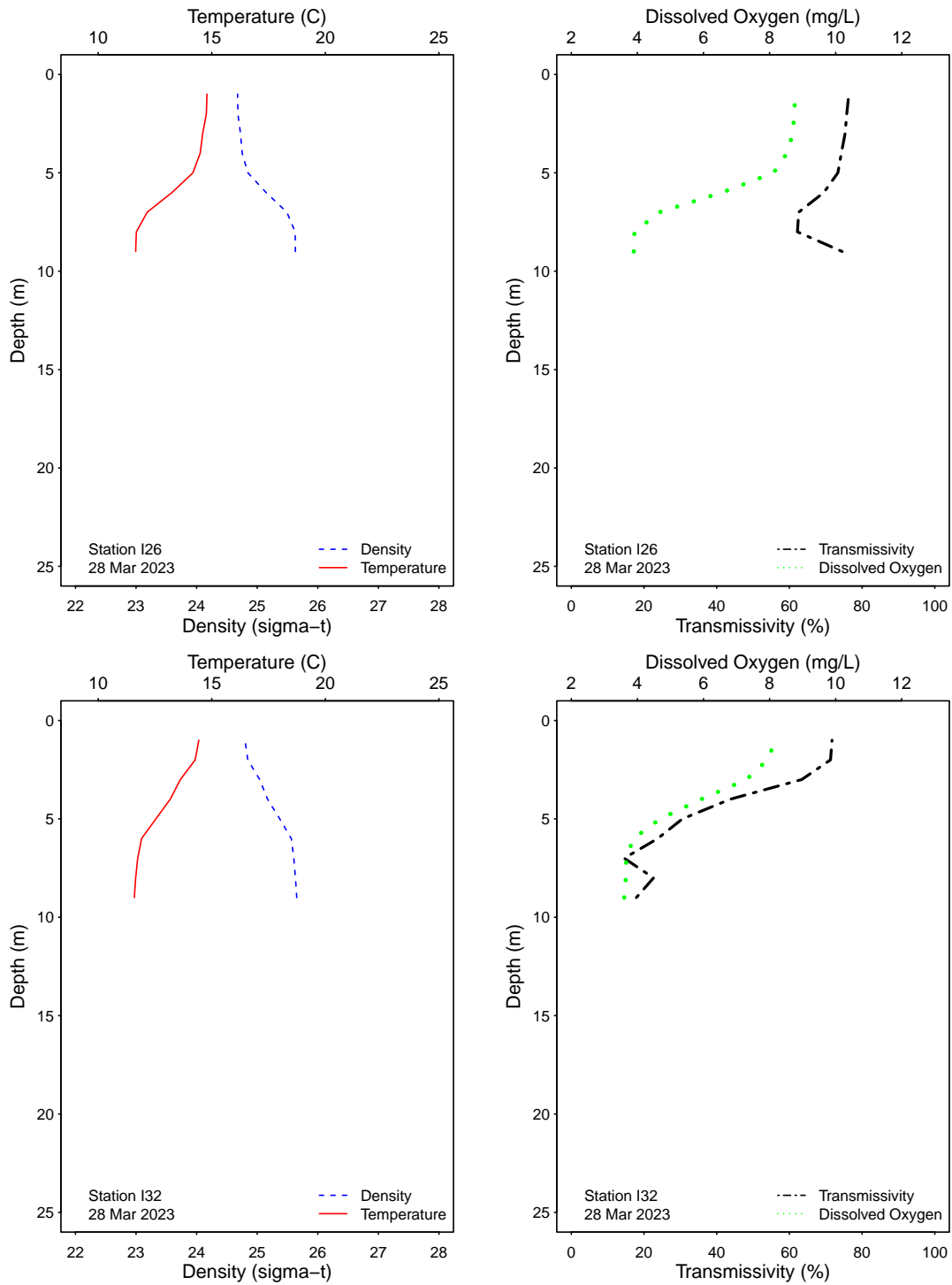


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

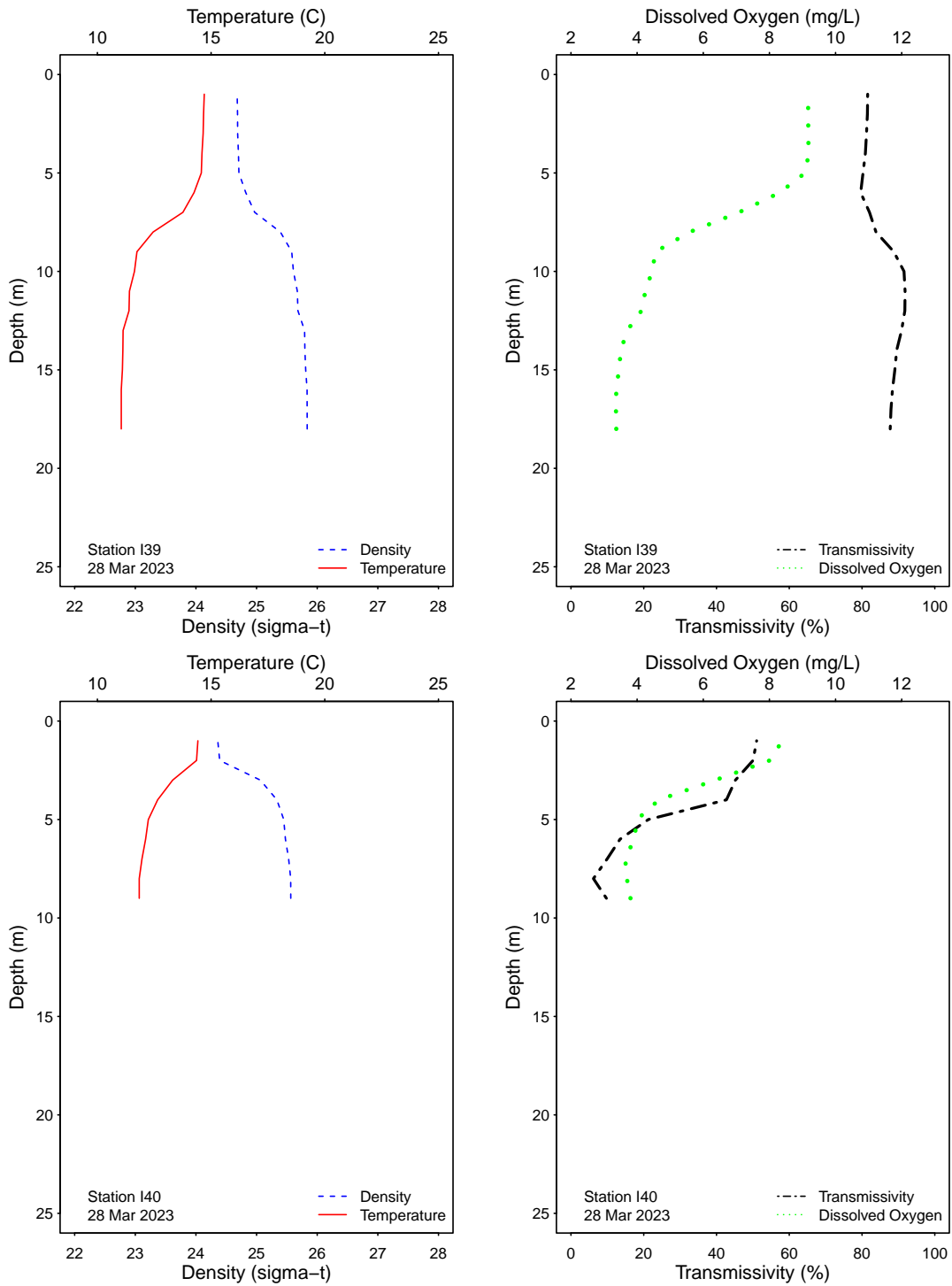


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

APPENDIX A
Quality Assurance

Table A.1

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

Station	Date	Depth	Analyst	Procedure	Total	Fecal	Entero
I19	07 Mar 2023	6	KA	LAB DUPLICATE	2800e	66	68
I19	14 Mar 2023	6	CRE	LAB DUPLICATE	>16000	600e	80e
I19	24 Mar 2023	6	KT	LAB DUPLICATE	>16000	1000e	640
I19	28 Mar 2023	6	CRE	LAB DUPLICATE	>16000	3000e	460
I40	07 Mar 2023	6	KA	LAB DUPLICATE	100e	6e	12e
I40	14 Mar 2023	6	CRE	LAB DUPLICATE	6600	400	48
I40	24 Mar 2023	6	KT	LAB DUPLICATE	>16000	720	<20
I40	28 Mar 2023	6	CRE	LAB DUPLICATE	>16000	1200e	320e
S12	07 Mar 2023		KT	FIELD DUPLICATE	100e	6e	12e
S12	07 Mar 2023		KT	LAB DUPLICATE	60e	10e	18e
S12	14 Mar 2023		KT	FIELD DUPLICATE	1200	36e	26e
S12	14 Mar 2023		KT	LAB DUPLICATE	3800e	54	16e
S12	21 Mar 2023		JF	FIELD DUPLICATE	>16000	>12000	12000
S12	21 Mar 2023		JF	LAB DUPLICATE	>16000	>12000	9600
S12	28 Mar 2023		JF	FIELD DUPLICATE	380e	16e	120e
S12	28 Mar 2023		JF	LAB DUPLICATE	360e	30e	40e

ns = not sampled

ND = no data

