

SOUTH BAY OCEAN OUTFALL MONTHLY RECEIVING WATERS MONITORING REPORT

SOUTH BAY WATER RECLAMATION PLANT

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

SEPTEMBER 2023

Environmental Monitoring and Technical Services
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October 31, 2023

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

Attention: POTW Compliance Unit

Dear Mr. Gibson:

Enclosed is the September 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 September, 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, S8, S11, and S12.
 - The single sample maximum (SSM) standard for fecal coliforms was exceeded at stations S4, S5, S6, S8, S11, and S12.
 - The 6-week running geometric mean standard for *Enterococcus* was exceeded at stations S4, S5, S6, S8, S9, 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.
- A sewage-like odor was observed at station S4 on one or more days in September.
- 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 September 5, 11, 18, and 25.
- During September, six 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 station I32.
 - The SSM standard for fecal coliforms was exceeded at station I32.
 - The 6-week running geometric mean standard for *Enterococcus* was exceeded at station I32.
 - The STV standard for *Enterococcus* was exceeded at stations I19, I26, and I32.
 - The 30-day running median standard for total coliforms was exceeded at stations I19, I24, I25, I26, I32, and I40.
 - The STV standard for total coliforms was exceeded at stations I19, I26, I32, and I40.
- Water column temperatures ranged from 14.99 to 20.36°C. The difference between surface and bottom waters ranged from 0.56 to 4.04°C.
- Concentrations of chlorophyll a ranged from 0.50 to 13.35 µg/L at the kelp bed stations.
- Nothing of sewage origin was observed at SBOO kelp stations in September.

➤ **Offshore Water Quality Sampling**

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



TABLES AND FIGURES

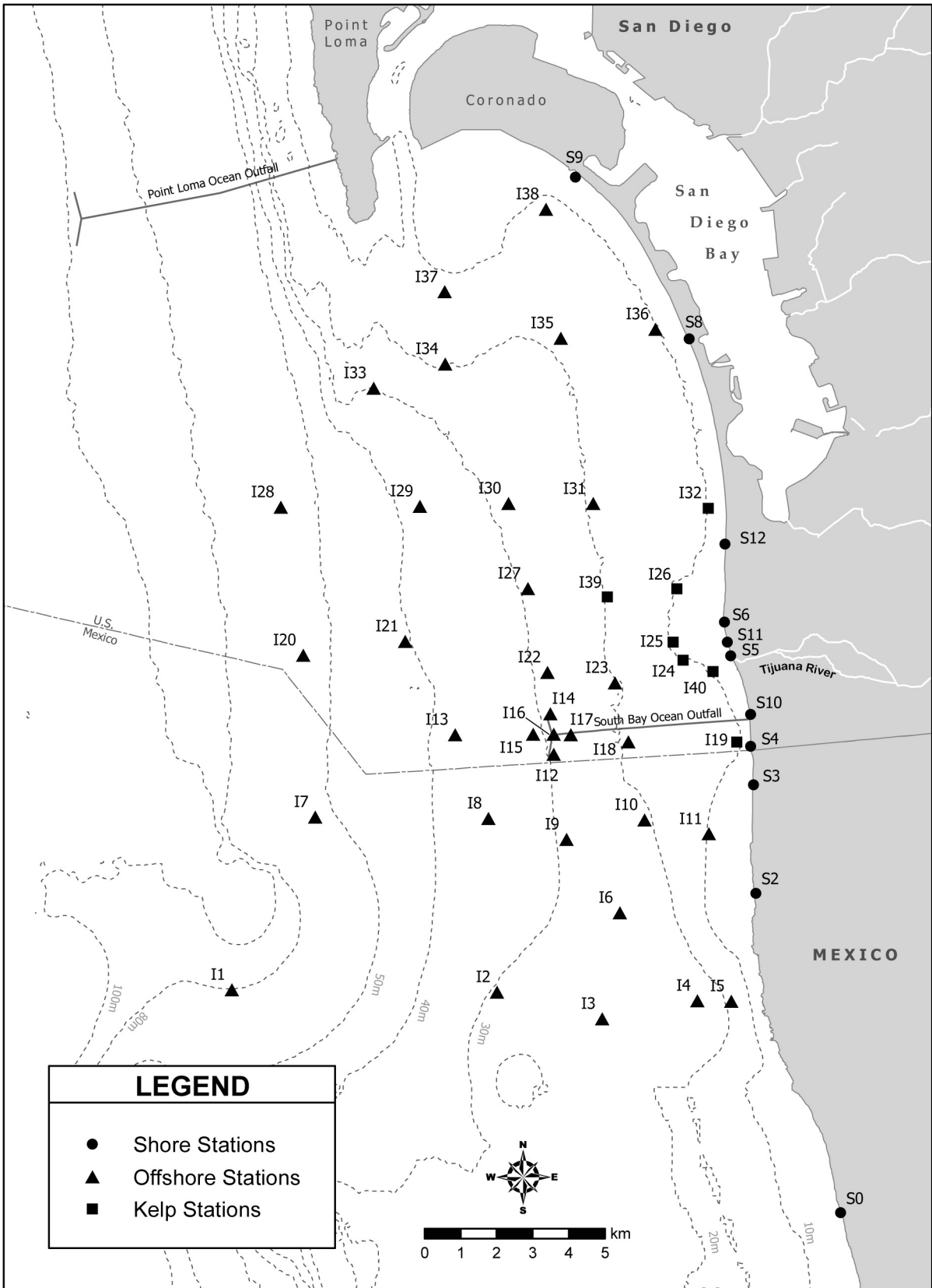


Figure 1.1 Station Map

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 Sep 2023	69	2293	1470	26	50	27	1033	513
02 Sep 2023	69	2293	1470	26	50	27	1033	513
03 Sep 2023	69	2293	1470	26	50	27	1033	513
04 Sep 2023	69	2293	1470	26	50	27	1033	513
05 Sep 2023	96	1829	1411	61	52	43	976	963
06 Sep 2023	96	1829	1411	61	52	43	976	963
07 Sep 2023	162	1143	2362	144	83	92	1026	3191
08 Sep 2023	162	1143	2362	144	83	92	1026	3191
09 Sep 2023	162	1143	2362	144	83	92	1026	3191
10 Sep 2023	162	1143	2362	144	83	92	1026	3191
11 Sep 2023	162	1143	2362	144	83	92	1026	3191
12 Sep 2023	117	1404	3044	97	45	59	1489	3063
13 Sep 2023	117	1404	3044	97	45	59	1489	3063
14 Sep 2023	182	2184	5744	256	59	78	2600	8187
15 Sep 2023	182	2184	5744	256	59	78	2600	8187
16 Sep 2023	182	2184	5744	256	59	78	2600	8187
17 Sep 2023	182	2184	5744	256	59	78	2600	8187
18 Sep 2023	182	2184	5744	256	59	78	2600	8187
19 Sep 2023	219	1570	3553	97	48	85	1450	2459
20 Sep 2023	219	1570	3553	97	48	85	1450	2459
21 Sep 2023	106	944	2621	29	13	46	855	1654
22 Sep 2023	106	944	2621	29	13	46	855	1654
23 Sep 2023	106	944	2621	29	13	46	855	1654
24 Sep 2023	106	944	2621	29	13	46	855	1654
25 Sep 2023	106	944	2621	29	13	46	855	1654
26 Sep 2023	96	1206	968	17	9	34	437	432
27 Sep 2023	96	1206	968	17	9	34	437	432
28 Sep 2023	136	1336	554	19	10	42	383	188
29 Sep 2023	136	1336	554	19	10	42	383	188
30 Sep 2023	136	1336	554	19	10	42	383	188

* 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
05 Sep 2023	IC	E	E	E	IC	IC	E	E
12 Sep 2023	IC	E	E	IC	IC	IC	E	E
19 Sep 2023	E	E	E	IC	IC	IC	IC	IC
26 Sep 2023	IC	E	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 2.3

Summary of compliance with the Ocean Plan's 6-week Geometric Mean standard for *Enterococcus* at the SBOO shore stations. Data are based on the geometric mean of the five most recent samples from each site over the previous 6 weeks unless otherwise noted (*). Values >30 CFU/100 mL exceed the standard.

Date	S4	S5	S6	S8	S9	S10	S11	S12
01 Sep 2023	35	734	394	20	55	16	409	270
02 Sep 2023	35	734	394	20	55	16	409	270
03 Sep 2023	35	734	394	20	55	16	409	270
04 Sep 2023	35	734	394	20	55	16	409	270
05 Sep 2023	70	734	1019	60	63	36	813	744
06 Sep 2023	70	734	1019	60	63	36	813	744
07 Sep 2023	70	734	1019	60	63	36	813	744
08 Sep 2023	70	734	1019	60	63	36	813	744
09 Sep 2023	70	734	1019	60	63	36	813	744
10 Sep 2023	70	734	1019	60	63	36	813	744
11 Sep 2023	70	734	1019	60	63	36	813	744
12 Sep 2023	77	1255	1877	66	44	34	1641	1109
13 Sep 2023	77	1255	1877	66	44	34	1641	1109
14 Sep 2023	77	1255	1877	66	44	34	1641	1109
15 Sep 2023	77	1255	1877	66	44	34	1641	1109
16 Sep 2023	77	1255	1877	66	44	34	1641	1109
17 Sep 2023	77	1255	1877	66	44	34	1641	1109
18 Sep 2023	77	1255	1877	66	44	34	1641	1109
19 Sep 2023	128	710	1601	45	45	64	1133	1142
20 Sep 2023	128	710	1601	45	45	64	1133	1142
21 Sep 2023	128	710	1601	45	45	64	1133	1142
22 Sep 2023	128	710	1601	45	45	64	1133	1142
23 Sep 2023	128	710	1601	45	45	64	1133	1142
24 Sep 2023	128	710	1601	45	45	64	1133	1142
25 Sep 2023	128	710	1601	45	45	64	1133	1142
26 Sep 2023	229	936	935	45	26	137	753	595
27 Sep 2023	229	936	935	45	26	137	753	595
28 Sep 2023	229	936	935	45	26	137	753	595
29 Sep 2023	229	936	935	45	26	137	753	595
30 Sep 2023	229	936	935	45	26	137	753	595

* 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
September	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 Sep 2023	70	12200	12100	240	200	60	10700	8600
02 Sep 2023	70	12200	12100	240	200	60	10700	8600
03 Sep 2023	70	12200	12100	240	200	60	10700	8600
04 Sep 2023	70	12200	12100	240	200	60	10700	8600
05 Sep 2023	80	8400	8200	280	200	80	9400	16000
06 Sep 2023	80	8400	8200	280	200	80	9400	16000
07 Sep 2023	740	6200	12100	8100	300	440	6900	16000
08 Sep 2023	740	6200	12100	8100	300	440	6900	16000
09 Sep 2023	740	6200	12100	8100	300	440	6900	16000
10 Sep 2023	740	6200	12100	8100	300	440	6900	16000
11 Sep 2023	740	6200	12100	8100	300	440	6900	16000
12 Sep 2023	260	8400	16000	200	200	80	9400	16000
13 Sep 2023	260	8400	16000	200	200	80	9400	16000
14 Sep 2023	830	8700	16000	8050	300	440	12700	16000
15 Sep 2023	830	8700	16000	8050	300	440	12700	16000
16 Sep 2023	830	8700	16000	8050	300	440	12700	16000
17 Sep 2023	830	8700	16000	8050	300	440	12700	16000
18 Sep 2023	830	8700	16000	8050	300	440	12700	16000
19 Sep 2023	1400	8400	16000	100	200	640	9400	16000
20 Sep 2023	1400	8400	16000	100	200	640	9400	16000
21 Sep 2023	830	5900	11600	90	200	360	6900	15000
22 Sep 2023	830	5900	11600	90	200	360	6900	15000
23 Sep 2023	830	5900	11600	90	200	360	6900	15000
24 Sep 2023	830	5900	11600	90	200	360	6900	15000
25 Sep 2023	830	5900	11600	90	200	360	6900	15000
26 Sep 2023	340	8400	7200	80	200	80	4400	14000
27 Sep 2023	340	8400	7200	80	200	80	4400	14000
28 Sep 2023	870	6200	5400	60	200	360	2600	7100
29 Sep 2023	870	6200	5400	60	200	360	2600	7100
30 Sep 2023	870	6200	5400	60	200	360	2600	7100

* 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
September	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	05 Sep 2023	1010	600e	30e	40
S0	12 Sep 2023	820	9800	2200e	1200
S0	19 Sep 2023	750	>=16000	8200	5600
S0	26 Sep 2023	1201	11000	1200e	1800e
S2	05 Sep 2023	1110	2800e	260e	380e
S2	12 Sep 2023	928	460	40e	60e
S2	19 Sep 2023	845	400e	<20	180e
S2	26 Sep 2023	1233	<20	<2	2e
S3	05 Sep 2023	1040	1200e	220e	280e
S3	12 Sep 2023	900	>=16000	>12000	>12000
S3	19 Sep 2023	825	2600e	240e	420
S3	26 Sep 2023	1259	<20	8e	4e
S4	05 Sep 2023	949	1400e	360e	380e
S4	12 Sep 2023	937	260e	32e	30e
S4	19 Sep 2023	812	2800e	460	380e
S4	26 Sep 2023	1005	340e	64	260e
S5	05 Sep 2023	854	2200e	740	140e
S5	12 Sep 2023	844	9000	3200e	1400e
S5	19 Sep 2023	945	3400e	420	360e
S5	26 Sep 2023	901	9000	3200e	2200e
S6	05 Sep 2023	910	7200	1200e	600
S6	12 Sep 2023	904	>16000	8400	3600e
S6	19 Sep 2023	1022	3600e	520	540
S6	26 Sep 2023	918	80e	18e	34e
S8	05 Sep 2023	822	>=16000	1800e	1600e
S8	12 Sep 2023	800	100e	<20	22e
S8	19 Sep 2023	1056	<20	<2	2e
S8	26 Sep 2023	815	<20	2e	<2
S9	05 Sep 2023	806	400e	60e	44
S9	12 Sep 2023	745	200e	4e	4e
S9	19 Sep 2023	1113	<200	20e	14e
S9	26 Sep 2023	758	<200	2e	2e
S10	05 Sep 2023	957	800e	260e	240e
S10	12 Sep 2023	947	80e	10e	16e
S10	19 Sep 2023	828	640	120e	360e
S10	26 Sep 2023	1039	80e	10e	400
S11	05 Sep 2023	903	4400	780	620
S11	12 Sep 2023	859	>16000	6600	4600
S11	19 Sep 2023	1006	800e	140e	260e
S11	26 Sep 2023	910	140e	30e	62
S12	05 Sep 2023	840	>=16000	>12000	8800
S12	12 Sep 2023	820	14000	2600e	1100
S12	19 Sep 2023	1036	<200	20e	100

Station	Date	Time	Total	Fecal	Entero
S12	26 Sep 2023	833	<20	<2	2e

ns = not sampled

ND = no data

Table 2.8

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

Station	Date	Parameter	Value
S0	05 Sep 2023	Arrive Time	1010
S0	05 Sep 2023	Weather	Cloudy
S0	05 Sep 2023	Wind Speed (kts)	1.3
S0	05 Sep 2023	Wind Dir	NE
S0	05 Sep 2023	Animal Life	Dog-2; Seagull-20;
S0	05 Sep 2023	Floatables	None
S0	05 Sep 2023	Water Color	Green
S0	05 Sep 2023	Current Direction	N
S0	05 Sep 2023	Water Temp (C)	17
S0	05 Sep 2023	Wave Height Low (ft)	3
S0	05 Sep 2023	High Tide (ft)	3.51
S0	05 Sep 2023	High Tide Time	144
S0	05 Sep 2023	Low Tide (ft)	2.07
S0	05 Sep 2023	Low Tide Time	657
S0	05 Sep 2023	Comments	Water clear; Trash-1; Kelp;Algae; Person/Walker/Jogger-4; 0.5 L/s flowing from storm drain
S0	12 Sep 2023	Arrive Time	820
S0	12 Sep 2023	Weather	Sunny
S0	12 Sep 2023	Wind Speed (kts)	1.8
S0	12 Sep 2023	Wind Dir	NE
S0	12 Sep 2023	Animal Life	Dog-1; Seagull-20;
S0	12 Sep 2023	Floatables	None
S0	12 Sep 2023	Water Color	Green
S0	12 Sep 2023	Current Direction	N
S0	12 Sep 2023	Water Temp (C)	15
S0	12 Sep 2023	Wave Height Low (ft)	2
S0	12 Sep 2023	High Tide (ft)	4.38
S0	12 Sep 2023	High Tide Time	903
S0	12 Sep 2023	Low Tide (ft)	0.05
S0	12 Sep 2023	Low Tide Time	253
S0	12 Sep 2023	Comments	Water turbid; Trash-1; Kelp;Algae; 1.0 L/s water flowing from storm drain
S0	19 Sep 2023	Arrive Time	750
S0	19 Sep 2023	Weather	Sunny
S0	19 Sep 2023	Wind Speed (kts)	1.1
S0	19 Sep 2023	Wind Dir	SE
S0	19 Sep 2023	Animal Life	Seagull-20;
S0	19 Sep 2023	Floatables	None
S0	19 Sep 2023	Water Color	Green
S0	19 Sep 2023	Current Direction	N
S0	19 Sep 2023	Water Temp (C)	14
S0	19 Sep 2023	Wave Height Low (ft)	2
S0	19 Sep 2023	High Tide (ft)	5.15
S0	19 Sep 2023	High Tide Time	1129
S0	19 Sep 2023	Low Tide (ft)	1.78
S0	19 Sep 2023	Low Tide Time	510
S0	19 Sep 2023	Comments	Water turbid; Trash-1; Kelp;Algae; 2 lps water flowing from storm drain
S0	26 Sep 2023	Arrive Time	1201
S0	26 Sep 2023	Weather	Sunny
S0	26 Sep 2023	Wind Speed (kts)	3
S0	26 Sep 2023	Wind Dir	N
S0	26 Sep 2023	Animal Life	Seagull-5;

Station	Date	Parameter	Value
S0	26 Sep 2023	Floatables	None
S0	26 Sep 2023	Water Color	Blue
S0	26 Sep 2023	Current Direction	N
S0	26 Sep 2023	Water Temp (C)	16
S0	26 Sep 2023	Wave Height Low (ft)	3
S0	26 Sep 2023	High Tide (ft)	4.66
S0	26 Sep 2023	High Tide Time	802
S0	26 Sep 2023	Low Tide (ft)	-0.51
S0	26 Sep 2023	Low Tide Time	147
S0	26 Sep 2023	Comments	Water clear; Trash-1; Kelp;Algae; Person/Walker/Jogger-2; 4.0 L/s water flowing from storm drain
S2	05 Sep 2023	Arrive Time	1110
S2	05 Sep 2023	Weather	Cloudy
S2	05 Sep 2023	Wind Speed (kts)	1.5
S2	05 Sep 2023	Wind Dir	N
S2	05 Sep 2023	Animal Life	Dog-6; Seagull-10;
S2	05 Sep 2023	Floatables	None
S2	05 Sep 2023	Water Color	Green
S2	05 Sep 2023	Current Direction	N
S2	05 Sep 2023	Water Temp (C)	17
S2	05 Sep 2023	Wave Height Low (ft)	3
S2	05 Sep 2023	High Tide (ft)	3.51
S2	05 Sep 2023	High Tide Time	144
S2	05 Sep 2023	Low Tide (ft)	2.07
S2	05 Sep 2023	Low Tide Time	657
S2	05 Sep 2023	Comments	Water clear; Trash-1; Kelp;Algae; Person/Walker/Jogger-10; No water flow from storm drain
S2	12 Sep 2023	Arrive Time	928
S2	12 Sep 2023	Weather	Sunny
S2	12 Sep 2023	Wind Speed (kts)	1.6
S2	12 Sep 2023	Wind Dir	NE
S2	12 Sep 2023	Animal Life	Dog-1; Seagull-20;, Dog-2; Seagull-20;
S2	12 Sep 2023	Floatables	None
S2	12 Sep 2023	Water Color	Green
S2	12 Sep 2023	Current Direction	N
S2	12 Sep 2023	Water Temp (C)	15
S2	12 Sep 2023	Wave Height Low (ft)	2
S2	12 Sep 2023	High Tide (ft)	4.38
S2	12 Sep 2023	High Tide Time	903
S2	12 Sep 2023	Low Tide (ft)	0.05
S2	12 Sep 2023	Low Tide Time	253
S2	12 Sep 2023	Comments	Water turbid; Trash-1; Kelp;Algae; 1.0 L/s water flowing from the storm drain, Water turbid; Trash-1; Kelp;Algae; No water flow from storm drain
S2	19 Sep 2023	Arrive Time	845
S2	19 Sep 2023	Weather	Sunny
S2	19 Sep 2023	Wind Speed (kts)	1.9
S2	19 Sep 2023	Wind Dir	SE
S2	19 Sep 2023	Animal Life	Dog-3; Seagull-20;
S2	19 Sep 2023	Floatables	None
S2	19 Sep 2023	Water Color	Green
S2	19 Sep 2023	Current Direction	N
S2	19 Sep 2023	Water Temp (C)	15
S2	19 Sep 2023	Wave Height Low (ft)	2
S2	19 Sep 2023	High Tide (ft)	5.15
S2	19 Sep 2023	High Tide Time	1129
S2	19 Sep 2023	Low Tide (ft)	1.78
S2	19 Sep 2023	Low Tide Time	510

Station	Date	Parameter	Value
S2	19 Sep 2023	Comments	Water turbid; Trash-1; Kelp;Algae; No water flow from storm drain
S2	26 Sep 2023	Arrive Time	1233
S2	26 Sep 2023	Weather	Sunny
S2	26 Sep 2023	Wind Speed (kts)	3
S2	26 Sep 2023	Wind Dir	N
S2	26 Sep 2023	Animal Life	Seagull-5;
S2	26 Sep 2023	Floatables	None
S2	26 Sep 2023	Water Color	Blue
S2	26 Sep 2023	Current Direction	N
S2	26 Sep 2023	Water Temp (C)	15
S2	26 Sep 2023	Wave Height Low (ft)	3
S2	26 Sep 2023	High Tide (ft)	4.66
S2	26 Sep 2023	High Tide Time	802
S2	26 Sep 2023	Low Tide (ft)	-0.51
S2	26 Sep 2023	Low Tide Time	147
S2	26 Sep 2023	Comments	Water clear; Trash-1; Kelp;Algae; Person/Walker/Jogger-4; No water flow from storm drain
S3	05 Sep 2023	Arrive Time	1040
S3	05 Sep 2023	Weather	Cloudy
S3	05 Sep 2023	Wind Speed (kts)	1.2
S3	05 Sep 2023	Wind Dir	N
S3	05 Sep 2023	Animal Life	Dog-4; Seagull-10;
S3	05 Sep 2023	Floatables	None
S3	05 Sep 2023	Water Color	Green
S3	05 Sep 2023	Current Direction	N
S3	05 Sep 2023	Water Temp (C)	17
S3	05 Sep 2023	Wave Height Low (ft)	3
S3	05 Sep 2023	High Tide (ft)	3.51
S3	05 Sep 2023	High Tide Time	144
S3	05 Sep 2023	Low Tide (ft)	2.07
S3	05 Sep 2023	Low Tide Time	657
S3	05 Sep 2023	Comments	Water clear; Trash-1; Kelp;Algae; Person/Walker/Jogger-10; No water flow from the storm drain
S3	12 Sep 2023	Arrive Time	900
S3	12 Sep 2023	Weather	Sunny
S3	12 Sep 2023	Wind Speed (kts)	1.1
S3	12 Sep 2023	Wind Dir	NE
S3	12 Sep 2023	Animal Life	Dog-3; Seagull-20;
S3	12 Sep 2023	Floatables	None
S3	12 Sep 2023	Water Color	Green
S3	12 Sep 2023	Current Direction	N
S3	12 Sep 2023	Water Temp (C)	15
S3	12 Sep 2023	Wave Height Low (ft)	2
S3	12 Sep 2023	High Tide (ft)	4.38
S3	12 Sep 2023	High Tide Time	903
S3	12 Sep 2023	Low Tide (ft)	0.05
S3	12 Sep 2023	Low Tide Time	253
S3	12 Sep 2023	Comments	Water turbid; Trash-1; Kelp;Algae; 1.0 L/s water flowing from storm drain
S3	19 Sep 2023	Arrive Time	825
S3	19 Sep 2023	Weather	Sunny
S3	19 Sep 2023	Wind Speed (kts)	1.6
S3	19 Sep 2023	Wind Dir	SE
S3	19 Sep 2023	Animal Life	Dog-8; Seagull-20;
S3	19 Sep 2023	Floatables	None
S3	19 Sep 2023	Water Color	Green

Station	Date	Parameter	Value
S3	19 Sep 2023	Current Direction	N
S3	19 Sep 2023	Water Temp (C)	14
S3	19 Sep 2023	Wave Height Low (ft)	2
S3	19 Sep 2023	High Tide (ft)	5.15
S3	19 Sep 2023	High Tide Time	1129
S3	19 Sep 2023	Low Tide (ft)	1.78
S3	19 Sep 2023	Low Tide Time	510
S3	19 Sep 2023	Comments	Water turbid; Trash-1; Algae;Kelp; No water flow from storm drain
S3	26 Sep 2023	Arrive Time	1259
S3	26 Sep 2023	Weather	Sunny
S3	26 Sep 2023	Wind Speed (kts)	2
S3	26 Sep 2023	Wind Dir	N
S3	26 Sep 2023	Animal Life	Dog-15; Seagull-15;
S3	26 Sep 2023	Floatables	None
S3	26 Sep 2023	Water Color	Blue
S3	26 Sep 2023	Current Direction	N
S3	26 Sep 2023	Water Temp (C)	15
S3	26 Sep 2023	Wave Height Low (ft)	3
S3	26 Sep 2023	High Tide (ft)	4.66
S3	26 Sep 2023	High Tide Time	802
S3	26 Sep 2023	Low Tide (ft)	-0.51
S3	26 Sep 2023	Low Tide Time	147
S3	26 Sep 2023	Comments	Water clear; Trash-1; Kelp;Algae; Person/Walker/Jogger-30; No water flow from storm drain
S4	05 Sep 2023	Arrive Time	949
S4	05 Sep 2023	Weather	Cloudy
S4	05 Sep 2023	Wind Speed (kts)	2.8
S4	05 Sep 2023	Wind Dir	SW
S4	05 Sep 2023	Animal Life	
S4	05 Sep 2023	Floatables	None
S4	05 Sep 2023	Water Color	Green
S4	05 Sep 2023	Current Direction	S
S4	05 Sep 2023	Water Temp (C)	17
S4	05 Sep 2023	Wave Height Low (ft)	3
S4	05 Sep 2023	High Tide (ft)	3.51
S4	05 Sep 2023	High Tide Time	144
S4	05 Sep 2023	Low Tide (ft)	2.07
S4	05 Sep 2023	Low Tide Time	657
S4	05 Sep 2023	Comments	Water clear; Trash-5; Debris;Kelp;Seagrass
S4	12 Sep 2023	Arrive Time	937
S4	12 Sep 2023	Weather	Partly cloudy
S4	12 Sep 2023	Wind Speed (kts)	3.8
S4	12 Sep 2023	Wind Dir	SW
S4	12 Sep 2023	Animal Life	
S4	12 Sep 2023	Floatables	None
S4	12 Sep 2023	Water Color	Green
S4	12 Sep 2023	Current Direction	S
S4	12 Sep 2023	Water Temp (C)	20
S4	12 Sep 2023	Wave Height Low (ft)	3
S4	12 Sep 2023	High Tide (ft)	4.38
S4	12 Sep 2023	High Tide Time	903
S4	12 Sep 2023	Low Tide (ft)	0.05
S4	12 Sep 2023	Low Tide Time	253
S4	12 Sep 2023	Comments	Water clear; Trash-1; Kelp;Seagrass;Debris
S4	19 Sep 2023	Arrive Time	812
S4	19 Sep 2023	Weather	Sunny

Station	Date	Parameter	Value
S4	19 Sep 2023	Wind Speed (kts)	0
S4	19 Sep 2023	Wind Dir	
S4	19 Sep 2023	Animal Life	Bird-5;
S4	19 Sep 2023	Floatables	None
S4	19 Sep 2023	Water Color	Green
S4	19 Sep 2023	Current Direction	S
S4	19 Sep 2023	Water Temp (C)	21.5
S4	19 Sep 2023	Wave Height Low (ft)	2
S4	19 Sep 2023	High Tide (ft)	5.15
S4	19 Sep 2023	High Tide Time	1129
S4	19 Sep 2023	Low Tide (ft)	1.78
S4	19 Sep 2023	Low Tide Time	510
S4	19 Sep 2023	Comments	Water clear; Trash-1; Kelp;Seagrass
S4	26 Sep 2023	Arrive Time	1005
S4	26 Sep 2023	Weather	Partly cloudy
S4	26 Sep 2023	Wind Speed (kts)	2.3
S4	26 Sep 2023	Wind Dir	NW
S4	26 Sep 2023	Animal Life	
S4	26 Sep 2023	Floatables	None
S4	26 Sep 2023	Water Color	Green
S4	26 Sep 2023	Current Direction	S
S4	26 Sep 2023	Water Temp (C)	16
S4	26 Sep 2023	Wave Height Low (ft)	4
S4	26 Sep 2023	High Tide (ft)	4.66
S4	26 Sep 2023	High Tide Time	802
S4	26 Sep 2023	Low Tide (ft)	-0.51
S4	26 Sep 2023	Low Tide Time	147
S4	26 Sep 2023	Comments	Water clear; Trash-4; Kelp;Seagrass;Debris; Sewage-like odor
S5	05 Sep 2023	Arrive Time	854
S5	05 Sep 2023	Weather	Cloudy
S5	05 Sep 2023	Wind Speed (kts)	1.8
S5	05 Sep 2023	Wind Dir	W
S5	05 Sep 2023	Animal Life	
S5	05 Sep 2023	Floatables	None
S5	05 Sep 2023	Water Color	Green
S5	05 Sep 2023	Current Direction	S
S5	05 Sep 2023	Water Temp (C)	18
S5	05 Sep 2023	Wave Height Low (ft)	4
S5	05 Sep 2023	High Tide (ft)	3.51
S5	05 Sep 2023	High Tide Time	144
S5	05 Sep 2023	Low Tide (ft)	2.07
S5	05 Sep 2023	Low Tide Time	657
S5	05 Sep 2023	Comments	Water clear; Trash-2; Kelp;Debris;Seagrass
S5	12 Sep 2023	Arrive Time	844
S5	12 Sep 2023	Weather	Cloudy
S5	12 Sep 2023	Wind Speed (kts)	3
S5	12 Sep 2023	Wind Dir	SW
S5	12 Sep 2023	Animal Life	
S5	12 Sep 2023	Floatables	None
S5	12 Sep 2023	Water Color	Green
S5	12 Sep 2023	Current Direction	S
S5	12 Sep 2023	Water Temp (C)	18
S5	12 Sep 2023	Wave Height Low (ft)	4
S5	12 Sep 2023	High Tide (ft)	4.38
S5	12 Sep 2023	High Tide Time	903
S5	12 Sep 2023	Low Tide (ft)	0.05
S5	12 Sep 2023	Low Tide Time	253

Station	Date	Parameter	Value
S5	12 Sep 2023	Comments	Water clear; Trash-2; Kelp;Seagrass;Debris
S5	19 Sep 2023	Arrive Time	945
S5	19 Sep 2023	Weather	Cloudy
S5	19 Sep 2023	Wind Speed (kts)	3.3
S5	19 Sep 2023	Wind Dir	W
S5	19 Sep 2023	Animal Life	
S5	19 Sep 2023	Floatables	None
S5	19 Sep 2023	Water Color	Green
S5	19 Sep 2023	Current Direction	S
S5	19 Sep 2023	Water Temp (C)	17.5
S5	19 Sep 2023	Wave Height Low (ft)	2
S5	19 Sep 2023	High Tide (ft)	5.15
S5	19 Sep 2023	High Tide Time	1129
S5	19 Sep 2023	Low Tide (ft)	1.78
S5	19 Sep 2023	Low Tide Time	510
S5	19 Sep 2023	Comments	Water clear; Trash-1; Kelp;Seagrass; Person/Walker/Jogger-1
S5	26 Sep 2023	Arrive Time	901
S5	26 Sep 2023	Weather	Cloudy
S5	26 Sep 2023	Wind Speed (kts)	1.7
S5	26 Sep 2023	Wind Dir	NW
S5	26 Sep 2023	Animal Life	Bird-10;
S5	26 Sep 2023	Floatables	None
S5	26 Sep 2023	Water Color	Green
S5	26 Sep 2023	Current Direction	S
S5	26 Sep 2023	Water Temp (C)	15
S5	26 Sep 2023	Wave Height Low (ft)	4
S5	26 Sep 2023	High Tide (ft)	4.66
S5	26 Sep 2023	High Tide Time	802
S5	26 Sep 2023	Low Tide (ft)	-0.51
S5	26 Sep 2023	Low Tide Time	147
S5	26 Sep 2023	Comments	Water clear; Trash-4; Kelp;Seagrass;Debris
S6	05 Sep 2023	Arrive Time	910
S6	05 Sep 2023	Weather	Cloudy
S6	05 Sep 2023	Wind Speed (kts)	2.4
S6	05 Sep 2023	Wind Dir	SW
S6	05 Sep 2023	Animal Life	
S6	05 Sep 2023	Floatables	None
S6	05 Sep 2023	Water Color	Green
S6	05 Sep 2023	Current Direction	S
S6	05 Sep 2023	Water Temp (C)	17
S6	05 Sep 2023	Wave Height Low (ft)	4
S6	05 Sep 2023	High Tide (ft)	3.51
S6	05 Sep 2023	High Tide Time	144
S6	05 Sep 2023	Low Tide (ft)	2.07
S6	05 Sep 2023	Low Tide Time	657
S6	05 Sep 2023	Comments	Water clear; Trash-2; Seagrass;Debris
S6	12 Sep 2023	Arrive Time	904
S6	12 Sep 2023	Weather	Cloudy
S6	12 Sep 2023	Wind Speed (kts)	1.6
S6	12 Sep 2023	Wind Dir	SW
S6	12 Sep 2023	Animal Life	
S6	12 Sep 2023	Floatables	None
S6	12 Sep 2023	Water Color	Green
S6	12 Sep 2023	Current Direction	S
S6	12 Sep 2023	Water Temp (C)	18
S6	12 Sep 2023	Wave Height Low (ft)	4

Station	Date	Parameter	Value
S6	12 Sep 2023	High Tide (ft)	4.38
S6	12 Sep 2023	High Tide Time	903
S6	12 Sep 2023	Low Tide (ft)	0.05
S6	12 Sep 2023	Low Tide Time	253
S6	12 Sep 2023	Comments	Water clear; Trash-2; Kelp;Seagrass;Debris;Algae; Person/Walker/Jogger-1
S6	19 Sep 2023	Arrive Time	1022
S6	19 Sep 2023	Weather	Cloudy
S6	19 Sep 2023	Wind Speed (kts)	3.6
S6	19 Sep 2023	Wind Dir	W
S6	19 Sep 2023	Animal Life	Bird-150; Dolphin-3;
S6	19 Sep 2023	Floatables	None
S6	19 Sep 2023	Water Color	Green
S6	19 Sep 2023	Current Direction	S
S6	19 Sep 2023	Water Temp (C)	16.5
S6	19 Sep 2023	Wave Height Low (ft)	3
S6	19 Sep 2023	High Tide (ft)	5.15
S6	19 Sep 2023	High Tide Time	1129
S6	19 Sep 2023	Low Tide (ft)	1.78
S6	19 Sep 2023	Low Tide Time	510
S6	19 Sep 2023	Comments	Water clear; Trash-1; Kelp;Seagrass;Algae; Person/Walker/Jogger-1
S6	26 Sep 2023	Arrive Time	918
S6	26 Sep 2023	Weather	Cloudy
S6	26 Sep 2023	Wind Speed (kts)	1.7
S6	26 Sep 2023	Wind Dir	NW
S6	26 Sep 2023	Animal Life	
S6	26 Sep 2023	Floatables	None
S6	26 Sep 2023	Water Color	Green
S6	26 Sep 2023	Current Direction	S
S6	26 Sep 2023	Water Temp (C)	14
S6	26 Sep 2023	Wave Height Low (ft)	3
S6	26 Sep 2023	High Tide (ft)	4.66
S6	26 Sep 2023	High Tide Time	802
S6	26 Sep 2023	Low Tide (ft)	-0.51
S6	26 Sep 2023	Low Tide Time	147
S6	26 Sep 2023	Comments	Water clear; Trash-4; Kelp;Seagrass;Algae;Debris
S8	05 Sep 2023	Arrive Time	822
S8	05 Sep 2023	Weather	Cloudy
S8	05 Sep 2023	Wind Speed (kts)	0.6
S8	05 Sep 2023	Wind Dir	E
S8	05 Sep 2023	Animal Life	Bird-1;
S8	05 Sep 2023	Floatables	None
S8	05 Sep 2023	Water Color	Green
S8	05 Sep 2023	Current Direction	S
S8	05 Sep 2023	Water Temp (C)	18
S8	05 Sep 2023	Wave Height Low (ft)	3
S8	05 Sep 2023	High Tide (ft)	3.51
S8	05 Sep 2023	High Tide Time	144
S8	05 Sep 2023	Low Tide (ft)	2.07
S8	05 Sep 2023	Low Tide Time	657
S8	05 Sep 2023	Comments	Water clear; Trash-2; Kelp;Seagrass;Debris
S8	12 Sep 2023	Arrive Time	800
S8	12 Sep 2023	Weather	Partly cloudy
S8	12 Sep 2023	Wind Speed (kts)	2.5
S8	12 Sep 2023	Wind Dir	W
S8	12 Sep 2023	Animal Life	

Station	Date	Parameter	Value
S8	12 Sep 2023	Floatables	None
S8	12 Sep 2023	Water Color	Green
S8	12 Sep 2023	Current Direction	S
S8	12 Sep 2023	Water Temp (C)	18
S8	12 Sep 2023	Wave Height Low (ft)	2
S8	12 Sep 2023	High Tide (ft)	4.38
S8	12 Sep 2023	High Tide Time	903
S8	12 Sep 2023	Low Tide (ft)	0.05
S8	12 Sep 2023	Low Tide Time	253
S8	12 Sep 2023	Comments	Water clear; Trash-2; Kelp;Seagrass;Debris
S8	19 Sep 2023	Arrive Time	1056
S8	19 Sep 2023	Weather	Sunny
S8	19 Sep 2023	Wind Speed (kts)	5.1
S8	19 Sep 2023	Wind Dir	W
S8	19 Sep 2023	Animal Life	Bird-10;
S8	19 Sep 2023	Floatables	None
S8	19 Sep 2023	Water Color	Green
S8	19 Sep 2023	Current Direction	S
S8	19 Sep 2023	Water Temp (C)	16.5
S8	19 Sep 2023	Wave Height Low (ft)	1
S8	19 Sep 2023	High Tide (ft)	5.15
S8	19 Sep 2023	High Tide Time	1129
S8	19 Sep 2023	Low Tide (ft)	1.78
S8	19 Sep 2023	Low Tide Time	510
S8	19 Sep 2023	Comments	Water clear; Trash-1; Kelp;Seagrass
S8	26 Sep 2023	Arrive Time	815
S8	26 Sep 2023	Weather	Cloudy
S8	26 Sep 2023	Wind Speed (kts)	0.9
S8	26 Sep 2023	Wind Dir	NW
S8	26 Sep 2023	Animal Life	
S8	26 Sep 2023	Floatables	None
S8	26 Sep 2023	Water Color	Green
S8	26 Sep 2023	Current Direction	S
S8	26 Sep 2023	Water Temp (C)	14
S8	26 Sep 2023	Wave Height Low (ft)	3
S8	26 Sep 2023	High Tide (ft)	4.66
S8	26 Sep 2023	High Tide Time	802
S8	26 Sep 2023	Low Tide (ft)	-0.51
S8	26 Sep 2023	Low Tide Time	147
S8	26 Sep 2023	Comments	Water clear; Trash-3; Kelp;Seagrass;Debris
S9	05 Sep 2023	Arrive Time	806
S9	05 Sep 2023	Weather	Cloudy
S9	05 Sep 2023	Wind Speed (kts)	1.3
S9	05 Sep 2023	Wind Dir	W
S9	05 Sep 2023	Animal Life	
S9	05 Sep 2023	Floatables	None
S9	05 Sep 2023	Water Color	Green
S9	05 Sep 2023	Current Direction	S
S9	05 Sep 2023	Water Temp (C)	18
S9	05 Sep 2023	Wave Height Low (ft)	2
S9	05 Sep 2023	High Tide (ft)	3.51
S9	05 Sep 2023	High Tide Time	144
S9	05 Sep 2023	Low Tide (ft)	2.07
S9	05 Sep 2023	Low Tide Time	657
S9	05 Sep 2023	Comments	Water turbid; Trash-2; Debris;Kelp;Seagrass
S9	12 Sep 2023	Arrive Time	745
S9	12 Sep 2023	Weather	Partly cloudy

Station	Date	Parameter	Value
S9	12 Sep 2023	Wind Speed (kts)	0
S9	12 Sep 2023	Wind Dir	
S9	12 Sep 2023	Animal Life	Bird-1;
S9	12 Sep 2023	Floatables	None
S9	12 Sep 2023	Water Color	Green
S9	12 Sep 2023	Current Direction	S
S9	12 Sep 2023	Water Temp (C)	17
S9	12 Sep 2023	Wave Height Low (ft)	2
S9	12 Sep 2023	High Tide (ft)	4.38
S9	12 Sep 2023	High Tide Time	903
S9	12 Sep 2023	Low Tide (ft)	0.05
S9	12 Sep 2023	Low Tide Time	253
S9	12 Sep 2023	Comments	Water clear; Trash-2; Kelp;Seagrass;Debris
S9	19 Sep 2023	Arrive Time	1113
S9	19 Sep 2023	Weather	Cloudy
S9	19 Sep 2023	Wind Speed (kts)	2.9
S9	19 Sep 2023	Wind Dir	W
S9	19 Sep 2023	Animal Life	
S9	19 Sep 2023	Floatables	None
S9	19 Sep 2023	Water Color	Green
S9	19 Sep 2023	Current Direction	S
S9	19 Sep 2023	Water Temp (C)	16.5
S9	19 Sep 2023	Wave Height Low (ft)	1
S9	19 Sep 2023	High Tide (ft)	5.15
S9	19 Sep 2023	High Tide Time	1129
S9	19 Sep 2023	Low Tide (ft)	1.78
S9	19 Sep 2023	Low Tide Time	510
S9	19 Sep 2023	Comments	Water clear; Trash-1; Kelp;Seagrass
S9	26 Sep 2023	Arrive Time	758
S9	26 Sep 2023	Weather	Cloudy
S9	26 Sep 2023	Wind Speed (kts)	0
S9	26 Sep 2023	Wind Dir	
S9	26 Sep 2023	Animal Life	
S9	26 Sep 2023	Floatables	None
S9	26 Sep 2023	Water Color	Green
S9	26 Sep 2023	Current Direction	S
S9	26 Sep 2023	Water Temp (C)	13
S9	26 Sep 2023	Wave Height Low (ft)	3
S9	26 Sep 2023	High Tide (ft)	4.66
S9	26 Sep 2023	High Tide Time	802
S9	26 Sep 2023	Low Tide (ft)	-0.51
S9	26 Sep 2023	Low Tide Time	147
S9	26 Sep 2023	Comments	Water clear; Trash-2; Kelp;Seagrass;Debris
S10	05 Sep 2023	Arrive Time	957
S10	05 Sep 2023	Weather	Cloudy
S10	05 Sep 2023	Wind Speed (kts)	2.3
S10	05 Sep 2023	Wind Dir	SW
S10	05 Sep 2023	Animal Life	Bird-1;
S10	05 Sep 2023	Floatables	None
S10	05 Sep 2023	Water Color	Green
S10	05 Sep 2023	Current Direction	S
S10	05 Sep 2023	Water Temp (C)	18
S10	05 Sep 2023	Wave Height Low (ft)	4
S10	05 Sep 2023	High Tide (ft)	3.51
S10	05 Sep 2023	High Tide Time	144
S10	05 Sep 2023	Low Tide (ft)	2.07
S10	05 Sep 2023	Low Tide Time	657
S10	05 Sep 2023	Comments	Water clear; Trash-5; Debris

Station	Date	Parameter	Value
S10	12 Sep 2023	Arrive Time	947
S10	12 Sep 2023	Weather	Partly cloudy
S10	12 Sep 2023	Wind Speed (kts)	3.6
S10	12 Sep 2023	Wind Dir	SW
S10	12 Sep 2023	Animal Life	
S10	12 Sep 2023	Floatables	None
S10	12 Sep 2023	Water Color	Green
S10	12 Sep 2023	Current Direction	S
S10	12 Sep 2023	Water Temp (C)	18
S10	12 Sep 2023	Wave Height Low (ft)	4
S10	12 Sep 2023	High Tide (ft)	4.38
S10	12 Sep 2023	High Tide Time	903
S10	12 Sep 2023	Low Tide (ft)	0.05
S10	12 Sep 2023	Low Tide Time	253
S10	12 Sep 2023	Comments	Water clear; Trash-3; Kelp;Seagrass;Debris
S10	19 Sep 2023	Arrive Time	828
S10	19 Sep 2023	Weather	Sunny
S10	19 Sep 2023	Wind Speed (kts)	0.7
S10	19 Sep 2023	Wind Dir	W
S10	19 Sep 2023	Animal Life	
S10	19 Sep 2023	Floatables	None
S10	19 Sep 2023	Water Color	Green
S10	19 Sep 2023	Current Direction	S
S10	19 Sep 2023	Water Temp (C)	22.5
S10	19 Sep 2023	Wave Height Low (ft)	2
S10	19 Sep 2023	High Tide (ft)	5.15
S10	19 Sep 2023	High Tide Time	1129
S10	19 Sep 2023	Low Tide (ft)	1.78
S10	19 Sep 2023	Low Tide Time	510
S10	19 Sep 2023	Comments	Water clear; Trash-1
S10	26 Sep 2023	Arrive Time	1039
S10	26 Sep 2023	Weather	Sunny
S10	26 Sep 2023	Wind Speed (kts)	2.9
S10	26 Sep 2023	Wind Dir	NW
S10	26 Sep 2023	Animal Life	
S10	26 Sep 2023	Floatables	None
S10	26 Sep 2023	Water Color	Green
S10	26 Sep 2023	Current Direction	S
S10	26 Sep 2023	Water Temp (C)	17
S10	26 Sep 2023	Wave Height Low (ft)	4
S10	26 Sep 2023	High Tide (ft)	4.66
S10	26 Sep 2023	High Tide Time	802
S10	26 Sep 2023	Low Tide (ft)	-0.51
S10	26 Sep 2023	Low Tide Time	147
S10	26 Sep 2023	Comments	Water clear; Trash-2; Kelp;Seagrass
S11	05 Sep 2023	Arrive Time	903
S11	05 Sep 2023	Weather	Cloudy
S11	05 Sep 2023	Wind Speed (kts)	1.1
S11	05 Sep 2023	Wind Dir	SW
S11	05 Sep 2023	Animal Life	Bird-1;
S11	05 Sep 2023	Floatables	None
S11	05 Sep 2023	Water Color	Green
S11	05 Sep 2023	Current Direction	S
S11	05 Sep 2023	Water Temp (C)	17
S11	05 Sep 2023	Wave Height Low (ft)	3
S11	05 Sep 2023	High Tide (ft)	3.51
S11	05 Sep 2023	High Tide Time	144

Station	Date	Parameter	Value
S11	05 Sep 2023	Low Tide (ft)	2.07
S11	05 Sep 2023	Low Tide Time	657
S11	05 Sep 2023	Comments	Water clear; Trash-3; Debris;Seagrass
S11	12 Sep 2023	Arrive Time	859
S11	12 Sep 2023	Weather	Cloudy
S11	12 Sep 2023	Wind Speed (kts)	2.8
S11	12 Sep 2023	Wind Dir	SW
S11	12 Sep 2023	Animal Life	Bird-1;
S11	12 Sep 2023	Floatables	None
S11	12 Sep 2023	Water Color	Green
S11	12 Sep 2023	Current Direction	S
S11	12 Sep 2023	Water Temp (C)	18
S11	12 Sep 2023	Wave Height Low (ft)	4
S11	12 Sep 2023	High Tide (ft)	4.38
S11	12 Sep 2023	High Tide Time	903
S11	12 Sep 2023	Low Tide (ft)	0.05
S11	12 Sep 2023	Low Tide Time	253
S11	12 Sep 2023	Comments	Water clear; Trash-3; Kelp;Debris;Seagrass
S11	19 Sep 2023	Arrive Time	1006
S11	19 Sep 2023	Weather	Cloudy
S11	19 Sep 2023	Wind Speed (kts)	4
S11	19 Sep 2023	Wind Dir	W
S11	19 Sep 2023	Animal Life	Bird-100;
S11	19 Sep 2023	Floatables	None
S11	19 Sep 2023	Water Color	Green
S11	19 Sep 2023	Current Direction	S
S11	19 Sep 2023	Water Temp (C)	16.5
S11	19 Sep 2023	Wave Height Low (ft)	2
S11	19 Sep 2023	High Tide (ft)	5.15
S11	19 Sep 2023	High Tide Time	1129
S11	19 Sep 2023	Low Tide (ft)	1.78
S11	19 Sep 2023	Low Tide Time	510
S11	19 Sep 2023	Comments	Water clear; Trash-1; Kelp;Seagrass
S11	26 Sep 2023	Arrive Time	910
S11	26 Sep 2023	Weather	Cloudy
S11	26 Sep 2023	Wind Speed (kts)	2.5
S11	26 Sep 2023	Wind Dir	NW
S11	26 Sep 2023	Animal Life	Bird-10;
S11	26 Sep 2023	Floatables	None
S11	26 Sep 2023	Water Color	Green
S11	26 Sep 2023	Current Direction	S
S11	26 Sep 2023	Water Temp (C)	14
S11	26 Sep 2023	Wave Height Low (ft)	4
S11	26 Sep 2023	High Tide (ft)	4.66
S11	26 Sep 2023	High Tide Time	802
S11	26 Sep 2023	Low Tide (ft)	-0.51
S11	26 Sep 2023	Low Tide Time	147
S11	26 Sep 2023	Comments	Water clear; Trash-4; Kelp;Seagrass;Debris
S12	05 Sep 2023	Arrive Time	840
S12	05 Sep 2023	Weather	Cloudy
S12	05 Sep 2023	Wind Speed (kts)	3.5
S12	05 Sep 2023	Wind Dir	SW
S12	05 Sep 2023	Animal Life	
S12	05 Sep 2023	Floatables	None
S12	05 Sep 2023	Water Color	Green
S12	05 Sep 2023	Current Direction	S
S12	05 Sep 2023	Water Temp (C)	18

Station	Date	Parameter	Value
S12	05 Sep 2023	Wave Height Low (ft)	3
S12	05 Sep 2023	High Tide (ft)	3.51
S12	05 Sep 2023	High Tide Time	144
S12	05 Sep 2023	Low Tide (ft)	2.07
S12	05 Sep 2023	Low Tide Time	657
S12	05 Sep 2023	Comments	Water clear; Trash-2; Kelp;Seagrass;Debris
S12	12 Sep 2023	Arrive Time	820
S12	12 Sep 2023	Weather	Cloudy
S12	12 Sep 2023	Wind Speed (kts)	1.9
S12	12 Sep 2023	Wind Dir	SW
S12	12 Sep 2023	Animal Life	
S12	12 Sep 2023	Floatables	None
S12	12 Sep 2023	Water Color	Green
S12	12 Sep 2023	Current Direction	
S12	12 Sep 2023	Water Temp (C)	18
S12	12 Sep 2023	Wave Height Low (ft)	3
S12	12 Sep 2023	High Tide (ft)	4.38
S12	12 Sep 2023	High Tide Time	903
S12	12 Sep 2023	Low Tide (ft)	0.05
S12	12 Sep 2023	Low Tide Time	253
S12	12 Sep 2023	Comments	Water clear; Trash-2; Kelp;Seagrass;Debris
S12	19 Sep 2023	Arrive Time	1036
S12	19 Sep 2023	Weather	Cloudy
S12	19 Sep 2023	Wind Speed (kts)	3.2
S12	19 Sep 2023	Wind Dir	W
S12	19 Sep 2023	Animal Life	
S12	19 Sep 2023	Floatables	None
S12	19 Sep 2023	Water Color	Green
S12	19 Sep 2023	Current Direction	S
S12	19 Sep 2023	Water Temp (C)	18.5
S12	19 Sep 2023	Wave Height Low (ft)	2
S12	19 Sep 2023	High Tide (ft)	5.15
S12	19 Sep 2023	High Tide Time	1129
S12	19 Sep 2023	Low Tide (ft)	1.78
S12	19 Sep 2023	Low Tide Time	510
S12	19 Sep 2023	Comments	Water clear; Trash-1; Kelp;Seagrass; Person/Walker/Jogger-1
S12	26 Sep 2023	Arrive Time	833
S12	26 Sep 2023	Weather	Cloudy
S12	26 Sep 2023	Wind Speed (kts)	2.6
S12	26 Sep 2023	Wind Dir	NW
S12	26 Sep 2023	Animal Life	
S12	26 Sep 2023	Floatables	None
S12	26 Sep 2023	Water Color	Green
S12	26 Sep 2023	Current Direction	S
S12	26 Sep 2023	Water Temp (C)	14
S12	26 Sep 2023	Wave Height Low (ft)	3
S12	26 Sep 2023	High Tide (ft)	4.66
S12	26 Sep 2023	High Tide Time	802
S12	26 Sep 2023	Low Tide (ft)	-0.51
S12	26 Sep 2023	Low Tide Time	147
S12	26 Sep 2023	Comments	Water clear; Trash-4; Seagrass;Kelp;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 Sep 2023	6	10	13	12	42	11	11
02 Sep 2023	6	10	13	12	42	11	11
03 Sep 2023	8	14	10	20	84	14	16
04 Sep 2023	8	14	10	20	84	14	16
05 Sep 2023	9	11	8	17	128	10	11
06 Sep 2023	13	17	11	29	362	15	16
07 Sep 2023	13	17	11	29	362	15	16
08 Sep 2023	13	17	11	29	362	15	16
09 Sep 2023	13	17	11	29	362	15	16
10 Sep 2023	13	17	11	29	362	15	16
11 Sep 2023	18	15	9	38	359	10	17
12 Sep 2023	18	15	9	38	359	10	17
13 Sep 2023	31	26	14	80	1315	15	27
14 Sep 2023	31	26	14	80	1315	15	27
15 Sep 2023	31	26	14	80	1315	15	27
16 Sep 2023	31	26	14	80	1315	15	27
17 Sep 2023	31	26	14	80	1315	15	27
18 Sep 2023	36	15	9	38	359	10	23
19 Sep 2023	36	15	9	38	359	10	23
20 Sep 2023	36	15	9	38	359	10	23
21 Sep 2023	36	15	9	38	359	10	23
22 Sep 2023	26	8	5	31	158	7	14
23 Sep 2023	26	8	5	31	158	7	14
24 Sep 2023	26	8	5	31	158	7	14
25 Sep 2023	18	7	4	18	66	5	18
26 Sep 2023	18	7	4	18	66	5	18
27 Sep 2023	21	4	3	8	31	2	13
28 Sep 2023	21	4	3	8	31	2	13
29 Sep 2023	21	4	3	8	31	2	13
30 Sep 2023	21	4	3	8	31	2	13

* 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
05 Sep 2023	IC	IC	IC	IC	E	IC	IC
11 Sep 2023	IC	IC	IC	IC	E	IC	IC
18 Sep 2023	IC	IC	IC	IC	IC	IC	IC
25 Sep 2023	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 3.3

Summary of compliance with the Ocean Plan's 6-week Geometric Mean standard for *Enterococcus* at the SBOO kelp stations. Data are based on the geometric mean of the five most recent samples from each site over the previous 6 weeks unless otherwise noted (*). Values >30 CFU/100 mL exceed the standard.

Date	I19	I24	I25	I26	I32	I39	I40
01 Sep 2023	6	8	8	6	9	6	9
02 Sep 2023	6	8	8	6	9	6	9
03 Sep 2023	6	8	8	6	9	6	9
04 Sep 2023	6	8	8	6	9	6	9
05 Sep 2023	7	7	7	5	16	5	7
06 Sep 2023	7	7	7	5	16	5	7
07 Sep 2023	8	9	8	6	23	6	9
08 Sep 2023	8	9	8	6	23	6	9
09 Sep 2023	8	9	8	6	23	6	9
10 Sep 2023	8	9	8	6	23	6	9
11 Sep 2023	11	9	11	10	30	6	10
12 Sep 2023	11	9	11	10	30	6	10
13 Sep 2023	11	9	11	10	30	6	10
14 Sep 2023	11	9	11	10	30	6	10
15 Sep 2023	14	10	10	14	46	7	13
16 Sep 2023	14	10	10	14	46	7	13
17 Sep 2023	14	10	10	14	46	7	13
18 Sep 2023	28	10	10	14	46	7	18
19 Sep 2023	28	10	10	14	46	7	18
20 Sep 2023	28	10	10	14	46	7	18
21 Sep 2023	28	10	10	14	46	7	18
22 Sep 2023	28	10	10	14	46	7	18
23 Sep 2023	28	10	10	14	46	7	18
24 Sep 2023	28	10	10	14	46	7	18
25 Sep 2023	28	11	12	14	46	7	19
26 Sep 2023	28	11	12	14	46	7	19
27 Sep 2023	28	11	12	14	46	7	19
28 Sep 2023	28	11	12	14	46	7	19
29 Sep 2023	28	11	12	14	46	7	19
30 Sep 2023	28	11	12	14	46	7	19

* 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
September	E	IC	IC	E	E	IC	IC

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	119			124			125			126			132			139			140		
	2m	6m	11m	2m	6m	11m	2m	6m	9m	2m	6m	9m	2m	6m	9m	2m	12m	18m	2m	6m	9m
01 Sep 2023	20	20	20	28	40	200	2	140	80	20	200	60	20	200	14	8	4	20	60	200	
02 Sep 2023	20	20	20	28	40	200	2	140	80	20	200	60	20	200	14	8	4	20	60	200	
03 Sep 2023	30	20	50	19	32	410	2	90	50	20	200	40	8010	8010	11	14	21	40	40	410	
04 Sep 2023	30	20	50	19	32	410	2	90	50	20	200	40	8010	8010	11	14	21	40	40	410	
05 Sep 2023	20	20	44	10	26	20	2	40	20	20	200	60	2800	3200	2	8	20	20	20	20	
06 Sep 2023	27	40	62	19	33	410	2	90	50	20	200	730	9400	9600	11	11	29	34	40	410	
07 Sep 2023	27	40	62	19	33	410	2	90	50	20	200	730	9400	9600	11	11	29	34	40	410	
08 Sep 2023	27	40	62	19	33	410	2	90	50	20	200	730	9400	9600	11	11	29	34	40	410	
09 Sep 2023	27	40	62	19	33	410	2	90	50	20	200	730	9400	9600	11	11	29	34	40	410	
10 Sep 2023	27	40	62	19	33	410	2	90	50	20	200	730	9400	9600	11	11	29	34	40	410	
11 Sep 2023	14	60	80	20	40	40	2	120	80	20	200	60	2800	4600	2	20	20	60	60	80	
12 Sep 2023	14	60	80	20	40	40	2	120	80	20	200	60	2800	4600	2	20	20	60	60	80	
13 Sep 2023	14	230	140	15	113	420	12	130	140	110	600	730	9400	10300	2	20	29	34	130	440	
14 Sep 2023	14	230	140	15	113	420	12	130	140	110	600	730	9400	10300	2	20	29	34	130	440	
15 Sep 2023	14	230	140	15	113	420	12	130	140	110	600	730	9400	10300	2	20	29	34	130	440	
16 Sep 2023	14	230	140	15	113	420	12	130	140	110	600	730	9400	10300	2	20	29	34	130	440	
17 Sep 2023	14	230	140	15	113	420	12	130	140	110	600	730	9400	10300	2	20	29	34	130	440	
18 Sep 2023	14	60	80	10	26	40	2	120	80	20	200	60	2800	4600	2	20	20	60	60	80	
19 Sep 2023	14	60	80	10	26	40	2	120	80	20	200	60	2800	4600	2	20	20	60	60	80	
20 Sep 2023	14	60	80	10	26	40	2	120	80	20	200	60	2800	4600	2	20	20	60	60	80	
21 Sep 2023	14	60	80	10	26	40	2	120	80	20	200	60	2800	4600	2	20	20	60	60	80	
22 Sep 2023	14	40	62	13	25	30	12	70	50	101	510	40	1500	3900	2	11	20	59	40	43	
23 Sep 2023	14	40	62	13	25	30	12	70	50	101	510	40	1500	3900	2	11	20	59	40	43	
24 Sep 2023	14	40	62	13	25	30	12	70	50	101	510	40	1500	3900	2	11	20	59	40	43	
25 Sep 2023	14	20	44	6	26	20	2	26	20	2	200	20	200	3200	2	2	20	110	60	80	
26 Sep 2023	14	20	44	6	26	20	2	26	20	2	200	20	200	3200	2	2	20	110	60	80	
27 Sep 2023	19	34	42	4	42	16	2	23	13	2	11	11	101	1610	2	2	11	135	110	43	
28 Sep 2023	19	34	42	4	42	16	2	23	13	2	11	11	101	1610	2	2	11	135	110	43	
29 Sep 2023	19	34	42	4	42	16	2	23	13	2	11	11	101	1610	2	2	11	135	110	43	
30 Sep 2023	19	34	42	4	42	16	2	23	13	2	11	11	101	1610	2	2	11	135	110	43	

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
September	E	E	IC	IC	IC	IC	IC	IC	IC	IC	E	IC	E	E	E	IC	IC	IC	IC	E	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 3.7

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

Station	Date	Time	Depth	Total	Fecal	Entero	Temp	XMS	DO	Sal	pH
I19	05 Sep 2023	1100	2	8e	4e	8e	19.3	73.57	9.2	33.19	8.3
I19	05 Sep 2023	1100	6	60e	14e	16e	18.7	68.62	9.0	33.18	8.3
I19	05 Sep 2023	1100	11	44	18e	12e	18.4	68.86	8.8	33.18	8.2
I19	11 Sep 2023	1039	2	14e	<2	2e	17.9	72.05	8.3	33.16	8.2
I19	11 Sep 2023	1039	6	400e	120e	80e	16.7	74.58	7.9	33.21	8.1
I19	11 Sep 2023	1039	11	200e	84	64	16.5	63.04	6.8	33.22	8.1
I19	18 Sep 2023	1108	2	580	180e	340e	17.6	73.24	6.3	33.19	8.0
I19	18 Sep 2023	1108	6	8e	2e	8e	16.6	80.20	6.5	33.24	8.0
I19	18 Sep 2023	1108	11	40e	12e	4e	16.2	73.08	6.1	33.24	8.0
I19	25 Sep 2023	1125	2	24e	8e	40	17.6	70.08	7.6	33.19	8.1
I19	25 Sep 2023	1125	6	<2	<2	6e	16.1	75.72	7.2	33.24	8.0
I19	25 Sep 2023	1125	11	<20	<2	4e	15.6	66.97	6.7	33.24	8.0
I24	05 Sep 2023	1124	2	6e	<2	2e	18.8	79.53	9.4	33.20	8.3
I24	05 Sep 2023	1124	6	26e	10e	4e	18.1	77.82	9.1	33.18	8.3
I24	05 Sep 2023	1124	11	20e	<2	6e	18.0	64.32	8.7	33.18	8.2
I24	11 Sep 2023	1101	2	<20	<2	<2	17.4	76.73	9.2	33.18	8.3
I24	11 Sep 2023	1101	6	<200	<20	10e	16.4	73.61	7.1	33.21	8.1
I24	11 Sep 2023	1101	11	40e	8e	10e	16.3	67.85	6.4	33.21	8.0
I24	18 Sep 2023	1128	2	<2	<2	<2	18.2	64.67	7.4	33.20	8.2
I24	18 Sep 2023	1128	6	<2	<2	<2	16.5	77.35	5.4	33.23	7.9
I24	18 Sep 2023	1128	11	<2	<2	2e	16.2	66.39	6.0	33.24	8.0
I24	25 Sep 2023	1150	2	<2	<2	<2	17.9	80.38	8.1	33.22	8.1
I24	25 Sep 2023	1150	6	58	8e	48	16.2	75.74	6.8	33.23	8.0
I24	25 Sep 2023	1150	11	12e	2e	6e	15.8	77.67	6.2	33.24	7.9
I25	05 Sep 2023	1131	2	2e	<2	<2	18.8	78.04	9.4	33.20	8.3
I25	05 Sep 2023	1131	6	<20	4e	4e	18.0	73.57	9.1	33.19	8.3
I25	05 Sep 2023	1131	9	20e	4e	2e	18.0	72.87	8.9	33.19	8.2
I25	11 Sep 2023	1109	2	100e	8e	100e	19.2	64.16	9.3	33.14	8.3
I25	11 Sep 2023	1109	6	120e	4e	60e	18.1	67.87	9.5	33.17	8.3
I25	11 Sep 2023	1109	9	<200	2e	6e	16.3	72.31	6.7	33.20	8.1
I25	18 Sep 2023	1137	2	<2	<2	<2	18.6	71.99	8.2	33.20	8.2
I25	18 Sep 2023	1137	6	<2	<2	<2	16.5	80.70	5.5	33.22	7.9
I25	18 Sep 2023	1137	9	<2	<2	<2	16.1	82.02	5.8	33.24	8.0
I25	25 Sep 2023	1200	2	2e	<2	<2	18.1	80.08	8.0	33.22	8.1
I25	25 Sep 2023	1200	6	26e	4e	32e	16.8	76.72	7.7	33.21	8.1
I25	25 Sep 2023	1200	9	6e	2e	8e	15.7	80.31	7.0	33.22	8.0
I26	05 Sep 2023	1139	2	2e	2e	<2	18.7	71.70	9.3	33.19	8.3
I26	05 Sep 2023	1139	6	<20	14e	2e	18.5	73.04	8.8	33.18	8.3
I26	05 Sep 2023	1139	9	60e	14e	6e	18.4	71.36	8.3	33.17	8.2

Station	Date	Time	Depth	Total	Fecal	Entero	Temp	XMS	DO	Sal	pH
I26	11 Sep 2023	1122	2	200e	38e	54	20.4	80.60	9.2	33.18	8.3
I26	11 Sep 2023	1122	6	1000e	260e	440	17.8	71.20	8.7	33.15	8.2
I26	11 Sep 2023	1122	9	200e	40e	60	16.6	73.29	7.5	33.19	8.1
I26	18 Sep 2023	1146	2	<2	<2	<2	18.1	79.59	8.1	33.20	8.2
I26	18 Sep 2023	1146	6	<2	<2	<2	16.2	83.08	5.6	33.23	7.9
I26	18 Sep 2023	1146	9	2e	<2	<2	16.1	76.55	5.6	33.23	7.9
I26	25 Sep 2023	1211	2	<2	<2	<2	18.0	78.92	7.9	33.22	8.1
I26	25 Sep 2023	1211	6	<2	<2	<2	16.8	79.97	7.9	33.21	8.1
I26	25 Sep 2023	1211	9	<2	<2	4e	15.7	74.09	6.8	33.23	8.0
I32	05 Sep 2023	1150	2	1400e	300e	540	19.6	68.52	8.5	33.04	8.3
I32	05 Sep 2023	1150	6	2800e	1000e	920	19.2	60.42	8.6	33.07	8.3
I32	05 Sep 2023	1150	9	3200e	820	260e	18.5	62.48	7.2	33.14	8.2
I32	11 Sep 2023	1140	2	<20	<2	<2	20.2	76.15	9.4	33.17	8.3
I32	11 Sep 2023	1140	6	200e	120e	64	19.1	60.50	8.5	33.11	8.2
I32	11 Sep 2023	1140	9	4600	920	300e	18.1	66.74	6.9	33.05	8.2
I32	18 Sep 2023	1159	2	<2	<2	<2	18.4	68.90	7.5	33.19	8.2
I32	18 Sep 2023	1159	6	<2	<2	<2	16.6	78.76	5.3	33.21	7.9
I32	18 Sep 2023	1159	9	<2	<2	<2	16.4	77.42	5.1	33.21	7.9
I32	25 Sep 2023	1224	2	<2	<2	<2	18.1	75.95	7.8	33.23	8.0
I32	25 Sep 2023	1224	6	<2	<2	<2	17.2	64.75	8.0	33.23	8.1
I32	25 Sep 2023	1224	9	<20	<2	<2	16.1	63.58	6.3	33.24	8.0
I39	05 Sep 2023	1037	2	<2	<2	<2	19.4	82.65	9.1	33.21	8.3
I39	05 Sep 2023	1037	12	<2	<2	<2	17.4	79.48	8.8	33.19	8.2
I39	05 Sep 2023	1037	18	20e	4e	6e	16.7	70.35	8.1	33.19	8.2
I39	11 Sep 2023	1018	2	<2	<2	<2	20.3	72.28	9.3	33.20	8.3
I39	11 Sep 2023	1018	12	<20	<2	<2	16.3	77.84	7.6	33.20	8.1
I39	11 Sep 2023	1018	18	<20	<2	6e	16.3	78.79	7.4	33.21	8.1
I39	18 Sep 2023	1045	2	<2	<2	<2	19.2	73.61	9.2	33.22	8.3
I39	18 Sep 2023	1045	12	<2	<2	<2	16.9	85.38	7.8	33.23	8.1
I39	18 Sep 2023	1045	18	2e	<2	<2	16.6	86.19	7.4	33.23	8.1
I39	25 Sep 2023	1054	2	<2	<2	<2	17.8	84.97	8.3	33.21	8.1
I39	25 Sep 2023	1054	12	<2	<2	<2	15.9	86.10	8.1	33.18	8.1
I39	25 Sep 2023	1054	18	<2	<2	<2	15.0	86.45	7.0	33.22	8.0
I40	05 Sep 2023	1117	2	<2	2e	2e	19.1	71.75	9.5	33.19	8.3
I40	05 Sep 2023	1117	6	20e	2e	2e	18.5	79.38	9.3	33.20	8.3
I40	05 Sep 2023	1117	9	4e	2e	4e	18.4	81.13	9.2	33.20	8.3
I40	11 Sep 2023	1053	2	160e	26e	10e	17.1	77.25	7.5	33.21	8.1
I40	11 Sep 2023	1053	6	<200	20e	20e	16.5	68.79	6.8	33.21	8.1
I40	11 Sep 2023	1053	9	80e	14e	22e	16.5	63.20	6.6	33.21	8.0
I40	18 Sep 2023	1120	2	110	34e	34e	17.8	75.03	5.8	33.18	8.0
I40	18 Sep 2023	1120	6	6e	<2	2e	16.4	84.34	6.2	33.23	8.0
I40	18 Sep 2023	1120	9	6e	<2	<2	16.4	83.45	6.1	33.23	8.0
I40	25 Sep 2023	1138	2	180e	16e	100	17.1	69.23	6.9	33.17	8.0
I40	25 Sep 2023	1138	6	400e	120e	78	16.1	69.27	6.2	33.22	8.0
I40	25 Sep 2023	1138	9	220e	20e	6e	15.7	65.31	6.2	33.24	7.9

ns = not sampled

ND = no data

Table 3.8

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

Station	Date	Parameter	Value
I19	05 Sep 2023	Depth (m)	11
I19	05 Sep 2023	Arrive Time	1100
I19	05 Sep 2023	Depart Time	1107
I19	05 Sep 2023	Air Temp (C)	19.7
I19	05 Sep 2023	Weather	Overcast
I19	05 Sep 2023	Visibility (mi)	8
I19	05 Sep 2023	Wind Speed (kts)	7.9
I19	05 Sep 2023	Wind Dir	SW
I19	05 Sep 2023	Water Color	Green
I19	05 Sep 2023	Wave Ht Low (ft)	3
I19	05 Sep 2023	Wave Period (sec)	15
I19	05 Sep 2023	Sea State	Calm
I19	05 Sep 2023	High Tide (ft)	5.3
I19	05 Sep 2023	High Tide Time	1330
I19	05 Sep 2023	Low Tide (ft)	0.99
I19	05 Sep 2023	Low Tide Time	2118
I19	05 Sep 2023	Comments	none
I19	11 Sep 2023	Depth (m)	11
I19	11 Sep 2023	Arrive Time	1039
I19	11 Sep 2023	Depart Time	1044
I19	11 Sep 2023	Air Temp (C)	21.4
I19	11 Sep 2023	Weather	Partly Cloudy
I19	11 Sep 2023	Visibility (mi)	6
I19	11 Sep 2023	Wind Speed (kts)	6.1
I19	11 Sep 2023	Wind Dir	NW
I19	11 Sep 2023	Water Color	Green
I19	11 Sep 2023	Wave Ht Low (ft)	4
I19	11 Sep 2023	Wave Period (sec)	10
I19	11 Sep 2023	Sea State	Light Chop
I19	11 Sep 2023	High Tide (ft)	5.57
I19	11 Sep 2023	High Tide Time	1948
I19	11 Sep 2023	Low Tide (ft)	0.02
I19	11 Sep 2023	Low Tide Time	224
I19	11 Sep 2023	Comments	none
I19	18 Sep 2023	Depth (m)	12
I19	18 Sep 2023	Arrive Time	1108
I19	18 Sep 2023	Depart Time	1112
I19	18 Sep 2023	Air Temp (C)	20
I19	18 Sep 2023	Weather	Clear
I19	18 Sep 2023	Visibility (mi)	10
I19	18 Sep 2023	Wind Speed (kts)	3.8
I19	18 Sep 2023	Wind Dir	NW
I19	18 Sep 2023	Water Color	Blueish-Green
I19	18 Sep 2023	Wave Ht Low (ft)	3
I19	18 Sep 2023	Wave Period (sec)	13
I19	18 Sep 2023	Sea State	Light Chop
I19	18 Sep 2023	High Tide (ft)	5.25
I19	18 Sep 2023	High Tide Time	1112
I19	18 Sep 2023	Low Tide (ft)	1.01
I19	18 Sep 2023	Low Tide Time	1748
I19	18 Sep 2023	Comments	none
I19	25 Sep 2023	Depth (m)	10
I19	25 Sep 2023	Arrive Time	1125

Station	Date	Parameter	Value
I19	25 Sep 2023	Depart Time	1132
I19	25 Sep 2023	Air Temp (C)	18.8
I19	25 Sep 2023	Weather	Overcast
I19	25 Sep 2023	Visibility (mi)	4
I19	25 Sep 2023	Wind Speed (kts)	12.3
I19	25 Sep 2023	Wind Dir	NW
I19	25 Sep 2023	Water Color	Green
I19	25 Sep 2023	Wave Ht Low (ft)	2
I19	25 Sep 2023	Wave Period (sec)	6
I19	25 Sep 2023	Sea State	Light Chop
I19	25 Sep 2023	High Tide (ft)	5.88
I19	25 Sep 2023	High Tide Time	1842
I19	25 Sep 2023	Low Tide (ft)	-0.29
I19	25 Sep 2023	Low Tide Time	100
I19	25 Sep 2023	Comments	none
I24	05 Sep 2023	Depth (m)	11
I24	05 Sep 2023	Arrive Time	1124
I24	05 Sep 2023	Depart Time	1128
I24	05 Sep 2023	Air Temp (C)	19.8
I24	05 Sep 2023	Weather	Overcast
I24	05 Sep 2023	Visibility (mi)	8
I24	05 Sep 2023	Wind Speed (kts)	7.4
I24	05 Sep 2023	Wind Dir	NW
I24	05 Sep 2023	Water Color	Green
I24	05 Sep 2023	Wave Ht Low (ft)	3
I24	05 Sep 2023	Wave Period (sec)	15
I24	05 Sep 2023	Sea State	Calm
I24	05 Sep 2023	High Tide (ft)	5.3
I24	05 Sep 2023	High Tide Time	1330
I24	05 Sep 2023	Low Tide (ft)	0.99
I24	05 Sep 2023	Low Tide Time	2118
I24	05 Sep 2023	Comments	none
I24	11 Sep 2023	Depth (m)	10
I24	11 Sep 2023	Arrive Time	1101
I24	11 Sep 2023	Depart Time	1106
I24	11 Sep 2023	Air Temp (C)	21.6
I24	11 Sep 2023	Weather	Partly Cloudy
I24	11 Sep 2023	Visibility (mi)	6
I24	11 Sep 2023	Wind Speed (kts)	7.9
I24	11 Sep 2023	Wind Dir	NW
I24	11 Sep 2023	Water Color	Green
I24	11 Sep 2023	Wave Ht Low (ft)	4
I24	11 Sep 2023	Wave Period (sec)	10
I24	11 Sep 2023	Sea State	Light Chop
I24	11 Sep 2023	High Tide (ft)	5.57
I24	11 Sep 2023	High Tide Time	1948
I24	11 Sep 2023	Low Tide (ft)	0.02
I24	11 Sep 2023	Low Tide Time	224
I24	11 Sep 2023	Comments	none
I24	18 Sep 2023	Depth (m)	11
I24	18 Sep 2023	Arrive Time	1128
I24	18 Sep 2023	Depart Time	1132
I24	18 Sep 2023	Air Temp (C)	19.7
I24	18 Sep 2023	Weather	Clear
I24	18 Sep 2023	Visibility (mi)	10
I24	18 Sep 2023	Wind Speed (kts)	12.7
I24	18 Sep 2023	Wind Dir	W
I24	18 Sep 2023	Water Color	Blueish-Green

Station	Date	Parameter	Value
I24	18 Sep 2023	Wave Ht Low (ft)	3
I24	18 Sep 2023	Wave Period (sec)	13
I24	18 Sep 2023	Sea State	Light Chop
I24	18 Sep 2023	High Tide (ft)	5.25
I24	18 Sep 2023	High Tide Time	1112
I24	18 Sep 2023	Low Tide (ft)	1.01
I24	18 Sep 2023	Low Tide Time	1748
I24	18 Sep 2023	Comments	none
I24	25 Sep 2023	Depth (m)	9
I24	25 Sep 2023	Arrive Time	1150
I24	25 Sep 2023	Depart Time	1158
I24	25 Sep 2023	Air Temp (C)	18.7
I24	25 Sep 2023	Weather	Overcast
I24	25 Sep 2023	Visibility (mi)	4
I24	25 Sep 2023	Wind Speed (kts)	11.1
I24	25 Sep 2023	Wind Dir	NW
I24	25 Sep 2023	Water Color	Green
I24	25 Sep 2023	Wave Ht Low (ft)	2
I24	25 Sep 2023	Wave Period (sec)	6
I24	25 Sep 2023	Sea State	Light Chop
I24	25 Sep 2023	High Tide (ft)	5.88
I24	25 Sep 2023	High Tide Time	1842
I24	25 Sep 2023	Low Tide (ft)	-0.29
I24	25 Sep 2023	Low Tide Time	100
I24	25 Sep 2023	Comments	none
I25	05 Sep 2023	Depth (m)	9
I25	05 Sep 2023	Arrive Time	1131
I25	05 Sep 2023	Depart Time	1135
I25	05 Sep 2023	Air Temp (C)	19.9
I25	05 Sep 2023	Weather	Overcast
I25	05 Sep 2023	Visibility (mi)	8
I25	05 Sep 2023	Wind Speed (kts)	10.3
I25	05 Sep 2023	Wind Dir	S
I25	05 Sep 2023	Water Color	Green
I25	05 Sep 2023	Wave Ht Low (ft)	3
I25	05 Sep 2023	Wave Period (sec)	15
I25	05 Sep 2023	Sea State	Calm
I25	05 Sep 2023	High Tide (ft)	5.3
I25	05 Sep 2023	High Tide Time	1330
I25	05 Sep 2023	Low Tide (ft)	0.99
I25	05 Sep 2023	Low Tide Time	2118
I25	05 Sep 2023	Comments	none
I25	11 Sep 2023	Depth (m)	9
I25	11 Sep 2023	Arrive Time	1109
I25	11 Sep 2023	Depart Time	1114
I25	11 Sep 2023	Air Temp (C)	22
I25	11 Sep 2023	Weather	Partly Cloudy
I25	11 Sep 2023	Visibility (mi)	6
I25	11 Sep 2023	Wind Speed (kts)	6.1
I25	11 Sep 2023	Wind Dir	NW
I25	11 Sep 2023	Water Color	Green
I25	11 Sep 2023	Wave Ht Low (ft)	4
I25	11 Sep 2023	Wave Period (sec)	10
I25	11 Sep 2023	Sea State	Light Chop
I25	11 Sep 2023	High Tide (ft)	5.57
I25	11 Sep 2023	High Tide Time	1948
I25	11 Sep 2023	Low Tide (ft)	0.02
I25	11 Sep 2023	Low Tide Time	224

Station	Date	Parameter	Value
I25	11 Sep 2023	Comments	none
I25	18 Sep 2023	Depth (m)	10
I25	18 Sep 2023	Arrive Time	1137
I25	18 Sep 2023	Depart Time	1139
I25	18 Sep 2023	Air Temp (C)	19.8
I25	18 Sep 2023	Weather	Clear
I25	18 Sep 2023	Visibility (mi)	10
I25	18 Sep 2023	Wind Speed (kts)	3.9
I25	18 Sep 2023	Wind Dir	NW
I25	18 Sep 2023	Water Color	Blueish-Green
I25	18 Sep 2023	Wave Ht Low (ft)	3
I25	18 Sep 2023	Wave Period (sec)	13
I25	18 Sep 2023	Sea State	Light Chop
I25	18 Sep 2023	High Tide (ft)	5.25
I25	18 Sep 2023	High Tide Time	1112
I25	18 Sep 2023	Low Tide (ft)	1.01
I25	18 Sep 2023	Low Tide Time	1748
I25	18 Sep 2023	Comments	none
I25	25 Sep 2023	Depth (m)	9
I25	25 Sep 2023	Arrive Time	1200
I25	25 Sep 2023	Depart Time	1206
I25	25 Sep 2023	Air Temp (C)	18.7
I25	25 Sep 2023	Weather	Haze
I25	25 Sep 2023	Visibility (mi)	4
I25	25 Sep 2023	Wind Speed (kts)	6.7
I25	25 Sep 2023	Wind Dir	NW
I25	25 Sep 2023	Water Color	Green
I25	25 Sep 2023	Wave Ht Low (ft)	2
I25	25 Sep 2023	Wave Period (sec)	6
I25	25 Sep 2023	Sea State	Light Chop
I25	25 Sep 2023	High Tide (ft)	5.88
I25	25 Sep 2023	High Tide Time	1842
I25	25 Sep 2023	Low Tide (ft)	-0.29
I25	25 Sep 2023	Low Tide Time	100
I25	25 Sep 2023	Comments	none
I26	05 Sep 2023	Depth (m)	9
I26	05 Sep 2023	Arrive Time	1139
I26	05 Sep 2023	Depart Time	1143
I26	05 Sep 2023	Air Temp (C)	20.2
I26	05 Sep 2023	Weather	Overcast
I26	05 Sep 2023	Visibility (mi)	8
I26	05 Sep 2023	Wind Speed (kts)	7.1
I26	05 Sep 2023	Wind Dir	S
I26	05 Sep 2023	Water Color	Green
I26	05 Sep 2023	Wave Ht Low (ft)	3
I26	05 Sep 2023	Wave Period (sec)	15
I26	05 Sep 2023	Sea State	Calm
I26	05 Sep 2023	High Tide (ft)	5.3
I26	05 Sep 2023	High Tide Time	1330
I26	05 Sep 2023	Low Tide (ft)	0.99
I26	05 Sep 2023	Low Tide Time	2118
I26	05 Sep 2023	Comments	none
I26	11 Sep 2023	Depth (m)	10
I26	11 Sep 2023	Arrive Time	1122
I26	11 Sep 2023	Depart Time	1125
I26	11 Sep 2023	Air Temp (C)	22.4
I26	11 Sep 2023	Weather	Partly Cloudy

Station	Date	Parameter	Value
I26	11 Sep 2023	Visibility (mi)	8
I26	11 Sep 2023	Wind Speed (kts)	7.7
I26	11 Sep 2023	Wind Dir	NW
I26	11 Sep 2023	Water Color	Green
I26	11 Sep 2023	Wave Ht Low (ft)	4
I26	11 Sep 2023	Wave Period (sec)	10
I26	11 Sep 2023	Sea State	Light Chop
I26	11 Sep 2023	High Tide (ft)	5.57
I26	11 Sep 2023	High Tide Time	1948
I26	11 Sep 2023	Low Tide (ft)	0.02
I26	11 Sep 2023	Low Tide Time	224
I26	11 Sep 2023	Comments	none
I26	18 Sep 2023	Depth (m)	10
I26	18 Sep 2023	Arrive Time	1146
I26	18 Sep 2023	Depart Time	1150
I26	18 Sep 2023	Air Temp (C)	19.7
I26	18 Sep 2023	Weather	Clear
I26	18 Sep 2023	Visibility (mi)	10
I26	18 Sep 2023	Wind Speed (kts)	9.9
I26	18 Sep 2023	Wind Dir	NW
I26	18 Sep 2023	Water Color	Blueish-Green
I26	18 Sep 2023	Wave Ht Low (ft)	3
I26	18 Sep 2023	Wave Period (sec)	13
I26	18 Sep 2023	Sea State	Light Chop
I26	18 Sep 2023	High Tide (ft)	5.25
I26	18 Sep 2023	High Tide Time	1112
I26	18 Sep 2023	Low Tide (ft)	1.01
I26	18 Sep 2023	Low Tide Time	1748
I26	18 Sep 2023	Comments	none
I26	25 Sep 2023	Depth (m)	9
I26	25 Sep 2023	Arrive Time	1211
I26	25 Sep 2023	Depart Time	1216
I26	25 Sep 2023	Air Temp (C)	18.9
I26	25 Sep 2023	Weather	Haze
I26	25 Sep 2023	Visibility (mi)	4
I26	25 Sep 2023	Wind Speed (kts)	11.5
I26	25 Sep 2023	Wind Dir	W
I26	25 Sep 2023	Water Color	Green
I26	25 Sep 2023	Wave Ht Low (ft)	2
I26	25 Sep 2023	Wave Period (sec)	6
I26	25 Sep 2023	Sea State	Light Chop
I26	25 Sep 2023	High Tide (ft)	5.88
I26	25 Sep 2023	High Tide Time	1842
I26	25 Sep 2023	Low Tide (ft)	-0.29
I26	25 Sep 2023	Low Tide Time	100
I26	25 Sep 2023	Comments	none
I32	05 Sep 2023	Depth (m)	10
I32	05 Sep 2023	Arrive Time	1150
I32	05 Sep 2023	Depart Time	1156
I32	05 Sep 2023	Air Temp (C)	20.2
I32	05 Sep 2023	Weather	Overcast
I32	05 Sep 2023	Visibility (mi)	8
I32	05 Sep 2023	Wind Speed (kts)	6.5
I32	05 Sep 2023	Wind Dir	SW
I32	05 Sep 2023	Water Color	Green
I32	05 Sep 2023	Wave Ht Low (ft)	3
I32	05 Sep 2023	Wave Period (sec)	15
I32	05 Sep 2023	Sea State	Calm

Station	Date	Parameter	Value
I32	05 Sep 2023	High Tide (ft)	5.3
I32	05 Sep 2023	High Tide Time	1330
I32	05 Sep 2023	Low Tide (ft)	0.99
I32	05 Sep 2023	Low Tide Time	2118
I32	05 Sep 2023	Comments	none
I32	11 Sep 2023	Depth (m)	11
I32	11 Sep 2023	Arrive Time	1140
I32	11 Sep 2023	Depart Time	1145
I32	11 Sep 2023	Air Temp (C)	21.9
I32	11 Sep 2023	Weather	Partly Cloudy
I32	11 Sep 2023	Visibility (mi)	8
I32	11 Sep 2023	Wind Speed (kts)	8.1
I32	11 Sep 2023	Wind Dir	W
I32	11 Sep 2023	Water Color	Green
I32	11 Sep 2023	Wave Ht Low (ft)	4
I32	11 Sep 2023	Wave Period (sec)	10
I32	11 Sep 2023	Sea State	Light Chop
I32	11 Sep 2023	High Tide (ft)	5.57
I32	11 Sep 2023	High Tide Time	1948
I32	11 Sep 2023	Low Tide (ft)	0.02
I32	11 Sep 2023	Low Tide Time	224
I32	11 Sep 2023	Comments	none
I32	18 Sep 2023	Depth (m)	11
I32	18 Sep 2023	Arrive Time	1159
I32	18 Sep 2023	Depart Time	1202
I32	18 Sep 2023	Air Temp (C)	19.8
I32	18 Sep 2023	Weather	Clear
I32	18 Sep 2023	Visibility (mi)	11
I32	18 Sep 2023	Wind Speed (kts)	5.9
I32	18 Sep 2023	Wind Dir	NW
I32	18 Sep 2023	Water Color	Blueish-Green
I32	18 Sep 2023	Wave Ht Low (ft)	3
I32	18 Sep 2023	Wave Period (sec)	13
I32	18 Sep 2023	Sea State	Light Chop
I32	18 Sep 2023	High Tide (ft)	5.25
I32	18 Sep 2023	High Tide Time	1112
I32	18 Sep 2023	Low Tide (ft)	1.01
I32	18 Sep 2023	Low Tide Time	1748
I32	18 Sep 2023	Comments	none
I32	25 Sep 2023	Depth (m)	10
I32	25 Sep 2023	Arrive Time	1224
I32	25 Sep 2023	Depart Time	1230
I32	25 Sep 2023	Air Temp (C)	18.8
I32	25 Sep 2023	Weather	Haze
I32	25 Sep 2023	Visibility (mi)	4
I32	25 Sep 2023	Wind Speed (kts)	11.9
I32	25 Sep 2023	Wind Dir	W
I32	25 Sep 2023	Water Color	Green
I32	25 Sep 2023	Wave Ht Low (ft)	2
I32	25 Sep 2023	Wave Period (sec)	6
I32	25 Sep 2023	Sea State	Light Chop
I32	25 Sep 2023	High Tide (ft)	5.88
I32	25 Sep 2023	High Tide Time	1842
I32	25 Sep 2023	Low Tide (ft)	-0.29
I32	25 Sep 2023	Low Tide Time	100
I32	25 Sep 2023	Comments	none
I39	05 Sep 2023	Depth (m)	20

Station	Date	Parameter	Value
I39	05 Sep 2023	Arrive Time	1037
I39	05 Sep 2023	Depart Time	1042
I39	05 Sep 2023	Air Temp (C)	19.9
I39	05 Sep 2023	Weather	Overcast
I39	05 Sep 2023	Visibility (mi)	8
I39	05 Sep 2023	Wind Speed (kts)	3.5
I39	05 Sep 2023	Wind Dir	SW
I39	05 Sep 2023	Water Color	Blueish-Green
I39	05 Sep 2023	Wave Ht Low (ft)	3
I39	05 Sep 2023	Wave Period (sec)	15
I39	05 Sep 2023	Sea State	Calm
I39	05 Sep 2023	High Tide (ft)	5.3
I39	05 Sep 2023	High Tide Time	1330
I39	05 Sep 2023	Low Tide (ft)	0.99
I39	05 Sep 2023	Low Tide Time	2118
I39	05 Sep 2023	Comments	none
I39	11 Sep 2023	Depth (m)	18
I39	11 Sep 2023	Arrive Time	1018
I39	11 Sep 2023	Depart Time	1022
I39	11 Sep 2023	Air Temp (C)	21.6
I39	11 Sep 2023	Weather	Partly Cloudy
I39	11 Sep 2023	Visibility (mi)	6
I39	11 Sep 2023	Wind Speed (kts)	4.7
I39	11 Sep 2023	Wind Dir	E
I39	11 Sep 2023	Water Color	Green
I39	11 Sep 2023	Wave Ht Low (ft)	4
I39	11 Sep 2023	Wave Period (sec)	10
I39	11 Sep 2023	Sea State	Light Chop
I39	11 Sep 2023	High Tide (ft)	5.57
I39	11 Sep 2023	High Tide Time	1948
I39	11 Sep 2023	Low Tide (ft)	0.02
I39	11 Sep 2023	Low Tide Time	224
I39	11 Sep 2023	Comments	none
I39	18 Sep 2023	Depth (m)	19
I39	18 Sep 2023	Arrive Time	1045
I39	18 Sep 2023	Depart Time	1051
I39	18 Sep 2023	Air Temp (C)	19.9
I39	18 Sep 2023	Weather	Drizzle
I39	18 Sep 2023	Visibility (mi)	10
I39	18 Sep 2023	Wind Speed (kts)	3.6
I39	18 Sep 2023	Wind Dir	W
I39	18 Sep 2023	Water Color	Greenish-Blue
I39	18 Sep 2023	Wave Ht Low (ft)	3
I39	18 Sep 2023	Wave Period (sec)	13
I39	18 Sep 2023	Sea State	Light Chop
I39	18 Sep 2023	High Tide (ft)	5.25
I39	18 Sep 2023	High Tide Time	1112
I39	18 Sep 2023	Low Tide (ft)	1.01
I39	18 Sep 2023	Low Tide Time	1748
I39	18 Sep 2023	Comments	none
I39	25 Sep 2023	Depth (m)	19
I39	25 Sep 2023	Arrive Time	1054
I39	25 Sep 2023	Depart Time	1120
I39	25 Sep 2023	Air Temp (C)	18.7
I39	25 Sep 2023	Weather	Overcast
I39	25 Sep 2023	Visibility (mi)	4
I39	25 Sep 2023	Wind Speed (kts)	4.5
I39	25 Sep 2023	Wind Dir	N

Station	Date	Parameter	Value
I39	25 Sep 2023	Water Color	Green
I39	25 Sep 2023	Wave Ht Low (ft)	2
I39	25 Sep 2023	Wave Period (sec)	6
I39	25 Sep 2023	Sea State	Light Chop
I39	25 Sep 2023	High Tide (ft)	5.88
I39	25 Sep 2023	High Tide Time	1842
I39	25 Sep 2023	Low Tide (ft)	-0.29
I39	25 Sep 2023	Low Tide Time	100
I39	25 Sep 2023	Comments	none
I40	05 Sep 2023	Depth (m)	11
I40	05 Sep 2023	Arrive Time	1117
I40	05 Sep 2023	Depart Time	1120
I40	05 Sep 2023	Air Temp (C)	20
I40	05 Sep 2023	Weather	Overcast
I40	05 Sep 2023	Visibility (mi)	8
I40	05 Sep 2023	Wind Speed (kts)	7.2
I40	05 Sep 2023	Wind Dir	SW
I40	05 Sep 2023	Water Color	Green
I40	05 Sep 2023	Wave Ht Low (ft)	3
I40	05 Sep 2023	Wave Period (sec)	15
I40	05 Sep 2023	Sea State	Calm
I40	05 Sep 2023	High Tide (ft)	5.3
I40	05 Sep 2023	High Tide Time	1330
I40	05 Sep 2023	Low Tide (ft)	0.99
I40	05 Sep 2023	Low Tide Time	2118
I40	05 Sep 2023	Comments	none
I40	11 Sep 2023	Depth (m)	10
I40	11 Sep 2023	Arrive Time	1053
I40	11 Sep 2023	Depart Time	1057
I40	11 Sep 2023	Air Temp (C)	21.2
I40	11 Sep 2023	Weather	Partly Cloudy
I40	11 Sep 2023	Visibility (mi)	6
I40	11 Sep 2023	Wind Speed (kts)	5.8
I40	11 Sep 2023	Wind Dir	N
I40	11 Sep 2023	Water Color	Green
I40	11 Sep 2023	Wave Ht Low (ft)	4
I40	11 Sep 2023	Wave Period (sec)	10
I40	11 Sep 2023	Sea State	Light Chop
I40	11 Sep 2023	High Tide (ft)	5.57
I40	11 Sep 2023	High Tide Time	1948
I40	11 Sep 2023	Low Tide (ft)	0.02
I40	11 Sep 2023	Low Tide Time	224
I40	11 Sep 2023	Comments	none
I40	18 Sep 2023	Depth (m)	10
I40	18 Sep 2023	Arrive Time	1120
I40	18 Sep 2023	Depart Time	1124
I40	18 Sep 2023	Air Temp (C)	19.6
I40	18 Sep 2023	Weather	Clear
I40	18 Sep 2023	Visibility (mi)	10
I40	18 Sep 2023	Wind Speed (kts)	10.1
I40	18 Sep 2023	Wind Dir	W
I40	18 Sep 2023	Water Color	Blueish-Green
I40	18 Sep 2023	Wave Ht Low (ft)	3
I40	18 Sep 2023	Wave Period (sec)	13
I40	18 Sep 2023	Sea State	Light Chop
I40	18 Sep 2023	High Tide (ft)	5.25
I40	18 Sep 2023	High Tide Time	1112
I40	18 Sep 2023	Low Tide (ft)	1.01

Station	Date	Parameter	Value
I40	18 Sep 2023	Low Tide Time	1748
I40	18 Sep 2023	Comments	none
I40	25 Sep 2023	Depth (m)	10
I40	25 Sep 2023	Arrive Time	1138
I40	25 Sep 2023	Depart Time	1147
I40	25 Sep 2023	Air Temp (C)	18.6
I40	25 Sep 2023	Weather	Overcast
I40	25 Sep 2023	Visibility (mi)	4
I40	25 Sep 2023	Wind Speed (kts)	15.8
I40	25 Sep 2023	Wind Dir	NW
I40	25 Sep 2023	Water Color	Green
I40	25 Sep 2023	Wave Ht Low (ft)	2
I40	25 Sep 2023	Wave Period (sec)	6
I40	25 Sep 2023	Sea State	Light Chop
I40	25 Sep 2023	High Tide (ft)	5.88
I40	25 Sep 2023	High Tide Time	1842
I40	25 Sep 2023	Low Tide (ft)	-0.29
I40	25 Sep 2023	Low Tide Time	100
I40	25 Sep 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 (μ g/L)
I19	05 Sep 2023	1	19.41	72.31	9.1	33.19	8.3	23.5	1.45
I19	05 Sep 2023	2	19.28	73.57	9.2	33.19	8.3	23.6	2.18
I19	05 Sep 2023	3	18.95	72.12	9.2	33.19	8.3	23.6	4.87
I19	05 Sep 2023	4	18.90	67.59	9.1	33.18	8.3	23.7	6.20
I19	05 Sep 2023	5	18.85	67.65	9.0	33.18	8.3	23.7	6.14
I19	05 Sep 2023	6	18.72	68.62	9.0	33.18	8.3	23.7	6.03
I19	05 Sep 2023	7	18.58	66.32	8.9	33.18	8.2	23.7	5.77
I19	05 Sep 2023	8	18.46	70.48	8.9	33.18	8.2	23.8	3.90
I19	05 Sep 2023	9	18.42	70.50	8.8	33.18	8.2	23.8	2.40
I19	05 Sep 2023	10	18.39	68.86	8.8	33.18	8.2	23.8	2.10
I19	11 Sep 2023	1	18.31	70.97	8.4	33.18	8.2	23.8	0.65
I19	11 Sep 2023	2	17.86	72.05	8.3	33.16	8.2	23.9	0.91
I19	11 Sep 2023	3	17.04	73.88	8.4	33.21	8.2	24.1	2.16
I19	11 Sep 2023	4	17.04	72.27	8.4	33.20	8.2	24.1	2.65
I19	11 Sep 2023	5	16.78	74.44	8.2	33.21	8.2	24.2	2.60
I19	11 Sep 2023	6	16.72	74.58	7.9	33.21	8.1	24.2	2.51
I19	11 Sep 2023	7	16.62	71.70	7.4	33.21	8.1	24.2	2.68
I19	11 Sep 2023	8	16.56	67.31	7.0	33.21	8.1	24.2	2.84
I19	11 Sep 2023	9	16.56	63.27	7.0	33.21	8.1	24.2	2.88
I19	11 Sep 2023	10	16.50	63.04	6.8	33.22	8.1	24.3	2.71
I19	18 Sep 2023	1	18.07	69.35	6.5	33.08	8.0	23.8	1.53
I19	18 Sep 2023	2	17.65	73.24	6.3	33.19	8.0	24.0	1.86
I19	18 Sep 2023	3	16.96	75.71	6.4	33.24	8.0	24.2	2.14
I19	18 Sep 2023	4	16.84	80.52	6.7	33.23	8.0	24.2	1.40
I19	18 Sep 2023	5	16.72	82.38	6.8	33.23	8.1	24.2	1.19
I19	18 Sep 2023	6	16.61	80.20	6.5	33.24	8.0	24.3	1.28
I19	18 Sep 2023	7	16.51	77.94	6.4	33.24	8.0	24.3	1.28
I19	18 Sep 2023	8	16.37	77.52	6.1	33.24	8.0	24.3	1.25
I19	18 Sep 2023	9	16.18	75.03	6.1	33.24	8.0	24.4	1.16
I19	18 Sep 2023	10	16.17	73.08	6.1	33.24	8.0	24.4	1.14
I19	25 Sep 2023	1	17.75	72.52	7.8	33.19	8.1	23.9	1.44
I19	25 Sep 2023	2	17.59	70.08	7.6	33.19	8.1	24.0	1.65
I19	25 Sep 2023	3	16.74	67.93	7.3	33.22	8.0	24.2	2.21
I19	25 Sep 2023	4	16.36	67.36	7.2	33.24	8.0	24.3	2.86
I19	25 Sep 2023	5	16.34	72.45	7.2	33.23	8.0	24.3	3.18
I19	25 Sep 2023	6	16.12	75.72	7.2	33.24	8.0	24.4	3.23
I19	25 Sep 2023	7	16.07	76.44	7.2	33.23	8.0	24.4	3.20
I19	25 Sep 2023	8	16.08	75.61	7.1	33.23	8.0	24.4	3.18
I19	25 Sep 2023	9	15.87	74.70	6.8	33.23	8.0	24.4	2.99
I19	25 Sep 2023	10	15.65	66.97	6.7	33.24	8.0	24.5	2.69
I24	05 Sep 2023	1	19.11	79.06	9.4	33.20	8.3	23.6	1.41
I24	05 Sep 2023	2	18.79	79.53	9.4	33.20	8.3	23.7	1.69
I24	05 Sep 2023	3	18.50	78.49	9.3	33.19	8.3	23.8	2.04
I24	05 Sep 2023	4	18.17	77.04	9.2	33.19	8.3	23.8	2.15
I24	05 Sep 2023	5	18.10	77.47	9.2	33.18	8.3	23.9	2.35
I24	05 Sep 2023	6	18.07	77.82	9.1	33.18	8.3	23.9	2.27
I24	05 Sep 2023	7	18.05	77.15	9.0	33.18	8.2	23.9	2.23
I24	05 Sep 2023	8	18.01	72.23	8.9	33.18	8.2	23.9	2.15
I24	05 Sep 2023	9	17.99	68.24	8.8	33.18	8.2	23.9	1.93
I24	05 Sep 2023	10	17.97	64.32	8.7	33.18	8.2	23.9	1.87

Station	Date	Depth (m)	Temp (°C)	XMS (‰)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
I24	11 Sep 2023	1	18.13	77.98	9.7	33.17	8.3	23.8	1.73
I24	11 Sep 2023	2	17.37	76.73	9.2	33.18	8.3	24.0	2.55
I24	11 Sep 2023	3	16.74	69.17	8.3	33.20	8.2	24.2	4.21
I24	11 Sep 2023	4	16.49	67.07	7.7	33.20	8.1	24.3	4.85
I24	11 Sep 2023	5	16.42	73.26	7.4	33.21	8.1	24.3	5.11
I24	11 Sep 2023	6	16.39	73.61	7.1	33.21	8.1	24.3	5.11
I24	11 Sep 2023	7	16.33	69.76	6.6	33.21	8.0	24.3	4.61
I24	11 Sep 2023	8	16.31	67.93	6.5	33.21	8.0	24.3	3.78
I24	11 Sep 2023	9	16.30	67.85	6.4	33.21	8.0	24.3	2.73
I24	18 Sep 2023	1	18.94	70.69	8.1	33.19	8.2	23.6	1.07
I24	18 Sep 2023	2	18.17	64.67	7.4	33.20	8.2	23.8	1.07
I24	18 Sep 2023	3	17.56	79.48	6.9	33.21	8.1	24.0	1.07
I24	18 Sep 2023	4	17.21	81.29	6.2	33.20	8.0	24.1	1.07
I24	18 Sep 2023	5	16.56	78.78	5.5	33.22	8.0	24.3	0.91
I24	18 Sep 2023	6	16.49	77.35	5.4	33.23	7.9	24.3	0.62
I24	18 Sep 2023	7	16.44	74.66	5.7	33.22	8.0	24.3	0.59
I24	18 Sep 2023	8	16.30	73.92	6.0	33.23	8.0	24.3	0.58
I24	18 Sep 2023	9	16.27	76.79	6.0	33.23	8.0	24.3	0.64
I24	18 Sep 2023	10	16.23	70.52	6.0	33.24	8.0	24.3	0.72
I24	18 Sep 2023	11	16.24	66.39	6.0	33.24	8.0	24.3	0.78
I24	25 Sep 2023	1	18.00	80.58	8.1	33.23	8.1	23.9	0.72
I24	25 Sep 2023	2	17.85	80.38	8.1	33.22	8.1	23.9	0.82
I24	25 Sep 2023	3	17.52	78.36	8.1	33.21	8.1	24.0	1.23
I24	25 Sep 2023	4	16.98	73.35	7.4	33.20	8.1	24.1	1.91
I24	25 Sep 2023	5	16.42	72.53	6.9	33.23	8.0	24.3	2.55
I24	25 Sep 2023	6	16.23	75.74	6.8	33.23	8.0	24.3	2.66
I24	25 Sep 2023	7	16.13	77.74	6.6	33.23	8.0	24.4	2.16
I24	25 Sep 2023	8	15.91	79.57	6.4	33.23	8.0	24.4	1.71
I24	25 Sep 2023	9	15.82	79.58	6.3	33.23	8.0	24.4	1.47
I24	25 Sep 2023	10	15.76	78.61	6.2	33.24	8.0	24.4	1.19
I24	25 Sep 2023	11	15.75	77.67	6.2	33.24	7.9	24.4	1.14
I25	05 Sep 2023	1	18.80	78.98	9.5	33.20	8.3	23.7	1.79
I25	05 Sep 2023	2	18.83	78.04	9.4	33.20	8.3	23.7	1.84
I25	05 Sep 2023	3	18.71	78.38	9.3	33.20	8.3	23.7	1.96
I25	05 Sep 2023	4	18.14	75.09	9.3	33.19	8.3	23.9	2.65
I25	05 Sep 2023	5	18.05	73.55	9.2	33.19	8.3	23.9	3.04
I25	05 Sep 2023	6	17.98	73.57	9.1	33.19	8.3	23.9	2.67
I25	05 Sep 2023	7	17.98	73.21	9.1	33.19	8.2	23.9	2.50
I25	05 Sep 2023	8	17.97	72.83	9.0	33.19	8.2	23.9	2.36
I25	05 Sep 2023	9	17.97	72.87	8.9	33.19	8.2	23.9	2.14
I25	11 Sep 2023	1	19.78	67.59	9.3	33.15	8.3	23.4	3.20
I25	11 Sep 2023	2	19.20	64.16	9.3	33.14	8.3	23.6	4.89
I25	11 Sep 2023	3	18.81	66.05	9.4	33.15	8.3	23.7	7.02
I25	11 Sep 2023	4	18.66	63.85	9.5	33.15	8.3	23.7	7.87
I25	11 Sep 2023	5	18.18	66.39	9.7	33.18	8.3	23.8	8.66
I25	11 Sep 2023	6	18.07	67.87	9.5	33.17	8.3	23.9	9.59
I25	11 Sep 2023	7	17.08	65.73	8.3	33.19	8.2	24.1	9.89
I25	11 Sep 2023	8	16.34	71.26	7.0	33.21	8.1	24.3	5.62
I25	11 Sep 2023	9	16.29	72.31	6.7	33.20	8.1	24.3	3.77
I25	18 Sep 2023	1	19.12	69.50	8.6	33.18	8.2	23.6	1.18
I25	18 Sep 2023	2	18.56	71.99	8.2	33.20	8.2	23.8	1.26
I25	18 Sep 2023	3	17.32	79.91	7.4	33.25	8.2	24.1	1.12
I25	18 Sep 2023	4	16.86	82.54	6.1	33.22	8.0	24.2	1.02
I25	18 Sep 2023	5	16.62	81.45	5.5	33.22	7.9	24.2	0.86
I25	18 Sep 2023	6	16.54	80.70	5.5	33.22	7.9	24.3	0.80
I25	18 Sep 2023	7	16.39	81.38	5.5	33.22	7.9	24.3	0.87

Station	Date	Depth (m)	Temp (°C)	XMS (‰)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
I25	18 Sep 2023	8	16.08	81.05	5.8	33.24	8.0	24.4	1.08
I25	18 Sep 2023	9	16.06	82.02	5.8	33.24	8.0	24.4	0.97
I25	25 Sep 2023	1	18.10	79.83	8.0	33.22	8.1	23.9	0.65
I25	25 Sep 2023	2	18.06	80.08	8.0	33.22	8.1	23.9	0.66
I25	25 Sep 2023	3	17.64	79.90	8.1	33.22	8.1	24.0	0.87
I25	25 Sep 2023	4	17.42	79.20	8.0	33.19	8.1	24.0	1.10
I25	25 Sep 2023	5	16.93	79.44	8.0	33.21	8.1	24.2	1.50
I25	25 Sep 2023	6	16.82	76.72	7.7	33.21	8.1	24.2	2.18
I25	25 Sep 2023	7	16.44	72.38	7.3	33.22	8.0	24.3	3.29
I25	25 Sep 2023	8	15.93	76.65	7.0	33.22	8.0	24.4	3.33
I25	25 Sep 2023	9	15.66	80.31	7.0	33.22	8.0	24.5	2.17
I26	05 Sep 2023	1	18.95	73.14	9.3	33.19	8.3	23.7	2.65
I26	05 Sep 2023	2	18.70	71.70	9.3	33.19	8.3	23.7	4.12
I26	05 Sep 2023	3	18.60	65.38	9.2	33.18	8.3	23.7	5.95
I26	05 Sep 2023	4	18.56	66.85	9.0	33.18	8.3	23.7	5.14
I26	05 Sep 2023	5	18.53	70.65	8.9	33.18	8.3	23.7	3.93
I26	05 Sep 2023	6	18.52	73.04	8.8	33.18	8.3	23.8	3.07
I26	05 Sep 2023	7	18.49	74.10	8.7	33.18	8.2	23.8	2.18
I26	05 Sep 2023	8	18.46	73.60	8.6	33.18	8.2	23.8	1.59
I26	05 Sep 2023	9	18.39	71.36	8.3	33.17	8.2	23.8	1.39
I26	11 Sep 2023	1	20.35	80.52	9.5	33.19	8.3	23.3	1.49
I26	11 Sep 2023	2	20.36	80.60	9.2	33.18	8.3	23.3	1.71
I26	11 Sep 2023	3	19.47	78.66	8.6	33.10	8.3	23.4	3.85
I26	11 Sep 2023	4	18.76	69.36	8.4	33.11	8.2	23.6	6.32
I26	11 Sep 2023	5	18.41	64.47	8.6	33.10	8.2	23.7	6.41
I26	11 Sep 2023	6	17.75	71.20	8.7	33.15	8.2	23.9	5.11
I26	11 Sep 2023	7	16.96	74.22	8.0	33.17	8.2	24.1	5.06
I26	11 Sep 2023	8	16.58	72.12	7.5	33.19	8.1	24.2	3.69
I26	11 Sep 2023	9	16.58	73.29	7.5	33.19	8.1	24.2	2.43
I26	18 Sep 2023	1	18.46	78.23	8.5	33.20	8.2	23.8	1.04
I26	18 Sep 2023	2	18.14	79.59	8.1	33.20	8.2	23.9	1.03
I26	18 Sep 2023	3	16.88	82.04	6.6	33.24	8.1	24.2	1.05
I26	18 Sep 2023	4	16.55	81.69	6.0	33.22	8.0	24.3	1.04
I26	18 Sep 2023	5	16.35	84.02	5.8	33.23	8.0	24.3	0.92
I26	18 Sep 2023	6	16.20	83.08	5.6	33.23	7.9	24.3	0.71
I26	18 Sep 2023	7	16.16	81.04	5.5	33.23	7.9	24.4	0.56
I26	18 Sep 2023	8	16.18	77.57	5.5	33.23	7.9	24.3	0.53
I26	18 Sep 2023	9	16.13	76.55	5.6	33.23	7.9	24.4	0.52
I26	25 Sep 2023	1	18.04	75.82	7.9	33.19	8.1	23.9	0.62
I26	25 Sep 2023	2	18.04	78.92	7.9	33.22	8.1	23.9	0.62
I26	25 Sep 2023	3	17.71	80.96	8.0	33.22	8.1	24.0	0.74
I26	25 Sep 2023	4	17.42	80.51	8.1	33.21	8.1	24.0	0.96
I26	25 Sep 2023	5	17.14	80.44	8.1	33.20	8.1	24.1	1.19
I26	25 Sep 2023	6	16.80	79.97	7.9	33.21	8.1	24.2	1.61
I26	25 Sep 2023	7	16.46	76.65	7.6	33.22	8.1	24.3	2.84
I26	25 Sep 2023	8	16.03	72.00	7.0	33.22	8.0	24.4	3.44
I26	25 Sep 2023	9	15.67	74.09	6.8	33.23	8.0	24.5	2.75
I32	05 Sep 2023	1	19.64	68.02	8.5	33.05	8.3	23.4	1.44
I32	05 Sep 2023	2	19.56	68.52	8.5	33.04	8.3	23.4	1.54
I32	05 Sep 2023	3	19.39	65.11	8.6	33.04	8.3	23.4	2.91
I32	05 Sep 2023	4	19.22	60.38	8.6	33.06	8.3	23.5	5.22
I32	05 Sep 2023	5	19.21	59.61	8.6	33.06	8.3	23.5	6.51
I32	05 Sep 2023	6	19.22	60.42	8.6	33.07	8.3	23.5	6.57
I32	05 Sep 2023	7	19.22	61.43	8.4	33.08	8.3	23.5	5.85
I32	05 Sep 2023	8	18.95	62.20	7.8	33.10	8.2	23.6	4.28

Station	Date	Depth (m)	Temp (°C)	XMS (‰)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
I32	05 Sep 2023	9	18.53	62.48	7.2	33.14	8.2	23.7	2.66
I32	05 Sep 2023	10	18.05	50.21	6.8	33.17	8.1	23.9	1.87
I32	11 Sep 2023	1	20.09	74.49	9.5	33.17	8.3	23.3	3.16
I32	11 Sep 2023	2	20.25	76.15	9.4	33.17	8.3	23.3	2.69
I32	11 Sep 2023	3	19.88	76.70	9.5	33.16	8.3	23.4	3.38
I32	11 Sep 2023	4	19.55	72.07	9.3	33.12	8.3	23.4	7.96
I32	11 Sep 2023	5	19.45	59.46	9.1	33.12	8.3	23.5	13.35
I32	11 Sep 2023	6	19.11	60.50	8.5	33.11	8.2	23.6	10.80
I32	11 Sep 2023	7	18.91	64.64	8.2	33.10	8.2	23.6	7.46
I32	11 Sep 2023	8	18.36	67.55	7.7	33.04	8.2	23.7	4.51
I32	11 Sep 2023	9	18.11	66.74	6.9	33.05	8.2	23.8	3.49
I32	11 Sep 2023	10	16.98	60.41	6.0	33.19	8.1	24.1	2.47
I32	18 Sep 2023	1	19.05	73.58	8.6	33.17	8.2	23.6	1.06
I32	18 Sep 2023	2	18.45	68.90	7.5	33.19	8.2	23.8	1.15
I32	18 Sep 2023	3	17.44	71.31	6.0	33.20	8.0	24.0	1.98
I32	18 Sep 2023	4	16.79	71.60	5.4	33.22	7.9	24.2	2.17
I32	18 Sep 2023	5	16.74	77.25	5.3	33.21	7.9	24.2	1.71
I32	18 Sep 2023	6	16.62	78.76	5.3	33.21	7.9	24.2	1.29
I32	18 Sep 2023	7	16.50	78.57	5.2	33.21	7.9	24.3	1.11
I32	18 Sep 2023	8	16.40	78.14	5.2	33.21	7.9	24.3	1.15
I32	18 Sep 2023	9	16.37	77.42	5.1	33.21	7.9	24.3	1.34
I32	18 Sep 2023	10	16.37	73.82	5.0	33.22	7.9	24.3	1.22
I32	25 Sep 2023	1	18.08	76.19	7.8	33.24	8.0	23.9	0.87
I32	25 Sep 2023	2	18.11	75.95	7.8	33.23	8.0	23.9	0.83
I32	25 Sep 2023	3	17.81	76.74	7.8	33.23	8.1	24.0	1.04
I32	25 Sep 2023	4	17.60	74.16	8.1	33.23	8.1	24.0	1.77
I32	25 Sep 2023	5	17.47	68.74	8.3	33.23	8.1	24.0	3.56
I32	25 Sep 2023	6	17.22	64.75	8.0	33.23	8.1	24.1	6.72
I32	25 Sep 2023	7	17.05	61.18	7.6	33.23	8.0	24.1	7.88
I32	25 Sep 2023	8	16.93	62.46	7.1	33.22	8.0	24.2	6.95
I32	25 Sep 2023	9	16.06	63.58	6.3	33.24	8.0	24.4	5.12
I32	25 Sep 2023	10	15.83	62.50	6.2	33.24	7.9	24.4	4.27
I39	05 Sep 2023	1	19.57	80.33	9.1	33.22	8.3	23.5	1.20
I39	05 Sep 2023	2	19.38	82.65	9.1	33.21	8.3	23.6	1.41
I39	05 Sep 2023	3	19.02	82.27	9.1	33.21	8.3	23.6	1.66
I39	05 Sep 2023	4	18.25	82.09	9.0	33.21	8.3	23.8	1.96
I39	05 Sep 2023	5	17.96	80.86	9.1	33.19	8.3	23.9	2.37
I39	05 Sep 2023	6	17.90	79.69	9.1	33.19	8.3	23.9	2.86
I39	05 Sep 2023	7	17.67	78.69	9.1	33.19	8.2	24.0	3.03
I39	05 Sep 2023	8	17.68	78.21	9.1	33.19	8.2	24.0	3.13
I39	05 Sep 2023	9	17.55	79.08	8.9	33.19	8.2	24.0	2.49
I39	05 Sep 2023	10	17.54	78.99	8.8	33.19	8.2	24.0	2.22
I39	05 Sep 2023	11	17.44	79.21	8.8	33.19	8.2	24.0	2.10
I39	05 Sep 2023	12	17.44	79.48	8.8	33.19	8.2	24.0	1.98
I39	05 Sep 2023	13	17.40	79.55	8.7	33.19	8.2	24.0	1.89
I39	05 Sep 2023	14	17.35	79.32	8.5	33.19	8.2	24.0	1.75
I39	05 Sep 2023	15	17.20	78.22	8.2	33.17	8.2	24.1	1.58
I39	05 Sep 2023	16	17.02	76.19	8.3	33.18	8.2	24.1	1.33
I39	05 Sep 2023	17	16.93	75.13	8.2	33.18	8.2	24.1	1.35
I39	05 Sep 2023	18	16.67	70.35	8.1	33.19	8.2	24.2	1.28
I39	11 Sep 2023	1	20.32	80.14	9.4	33.21	8.3	23.3	1.40
I39	11 Sep 2023	2	20.32	72.28	9.3	33.20	8.3	23.3	1.47
I39	11 Sep 2023	3	19.48	78.08	9.2	33.20	8.3	23.5	1.59
I39	11 Sep 2023	4	18.22	82.62	9.3	33.20	8.3	23.8	1.72
I39	11 Sep 2023	5	17.83	82.47	9.2	33.19	8.3	23.9	2.16
I39	11 Sep 2023	6	17.62	80.37	9.1	33.18	8.2	24.0	3.52

Station	Date	Depth (m)	Temp (°C)	XMS (‰)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
I39	11 Sep 2023	7	17.57	78.34	9.1	33.18	8.2	24.0	4.46
I39	11 Sep 2023	8	17.51	78.39	9.0	33.18	8.2	24.0	5.08
I39	11 Sep 2023	9	17.50	78.12	8.9	33.18	8.2	24.0	5.66
I39	11 Sep 2023	10	17.08	76.19	8.4	33.19	8.2	24.1	8.13
I39	11 Sep 2023	11	16.53	72.98	7.8	33.20	8.1	24.2	7.57
I39	11 Sep 2023	12	16.32	77.84	7.6	33.20	8.1	24.3	4.69
I39	11 Sep 2023	13	16.33	78.82	7.6	33.20	8.1	24.3	3.51
I39	11 Sep 2023	14	16.32	79.00	7.5	33.20	8.1	24.3	3.37
I39	11 Sep 2023	15	16.31	78.67	7.5	33.20	8.1	24.3	3.05
I39	11 Sep 2023	16	16.32	78.91	7.5	33.21	8.1	24.3	2.83
I39	11 Sep 2023	17	16.29	78.72	7.5	33.21	8.1	24.3	2.56
I39	11 Sep 2023	18	16.28	78.79	7.4	33.21	8.1	24.3	2.35
I39	18 Sep 2023	1	19.21	68.92	9.2	33.22	8.3	23.6	3.18
I39	18 Sep 2023	2	19.19	73.61	9.2	33.22	8.3	23.6	2.86
I39	18 Sep 2023	3	18.89	70.96	9.0	33.22	8.3	23.7	3.89
I39	18 Sep 2023	4	18.54	72.17	8.5	33.23	8.2	23.8	4.46
I39	18 Sep 2023	5	18.39	77.16	8.3	33.23	8.2	23.8	3.71
I39	18 Sep 2023	6	18.35	79.81	8.2	33.22	8.2	23.8	3.17
I39	18 Sep 2023	7	18.08	80.64	8.1	33.22	8.2	23.9	2.92
I39	18 Sep 2023	8	17.75	82.03	8.0	33.23	8.2	24.0	2.50
I39	18 Sep 2023	9	17.59	83.19	7.9	33.23	8.2	24.0	2.29
I39	18 Sep 2023	10	17.45	84.00	7.8	33.23	8.2	24.0	2.12
I39	18 Sep 2023	11	17.00	84.53	7.8	33.24	8.1	24.2	2.07
I39	18 Sep 2023	12	16.85	85.38	7.8	33.23	8.1	24.2	1.95
I39	18 Sep 2023	13	16.83	85.82	7.8	33.23	8.1	24.2	1.90
I39	18 Sep 2023	14	16.82	85.98	7.8	33.23	8.1	24.2	1.92
I39	18 Sep 2023	15	16.78	85.79	7.8	33.23	8.1	24.2	1.85
I39	18 Sep 2023	16	16.78	86.01	7.8	33.23	8.1	24.2	1.83
I39	18 Sep 2023	17	16.67	85.98	7.6	33.23	8.1	24.2	1.95
I39	18 Sep 2023	18	16.60	86.19	7.4	33.23	8.1	24.2	1.73
I39	25 Sep 2023	1	17.77	79.83	8.3	33.21	8.1	24.0	0.51
I39	25 Sep 2023	2	17.76	84.97	8.3	33.21	8.1	24.0	0.50
I39	25 Sep 2023	3	17.74	85.69	8.3	33.21	8.1	24.0	0.53
I39	25 Sep 2023	4	17.66	85.88	8.3	33.21	8.1	24.0	0.56
I39	25 Sep 2023	5	17.61	85.94	8.3	33.20	8.1	24.0	0.61
I39	25 Sep 2023	6	17.33	86.54	8.2	33.19	8.1	24.0	0.65
I39	25 Sep 2023	7	16.66	86.80	8.2	33.19	8.1	24.2	0.71
I39	25 Sep 2023	8	16.47	86.60	8.1	33.18	8.1	24.2	0.79
I39	25 Sep 2023	9	16.05	86.35	8.1	33.19	8.1	24.3	0.86
I39	25 Sep 2023	10	16.03	86.07	8.1	33.19	8.1	24.3	0.97
I39	25 Sep 2023	11	16.02	85.85	8.1	33.19	8.1	24.4	1.04
I39	25 Sep 2023	12	15.86	86.10	8.1	33.18	8.1	24.4	1.19
I39	25 Sep 2023	13	15.75	86.19	7.9	33.18	8.1	24.4	1.49
I39	25 Sep 2023	14	15.50	85.39	7.5	33.19	8.1	24.5	1.87
I39	25 Sep 2023	15	15.30	84.43	7.3	33.21	8.0	24.5	1.87
I39	25 Sep 2023	16	15.07	85.87	7.1	33.22	8.0	24.6	1.43
I39	25 Sep 2023	17	14.99	86.29	7.0	33.22	8.0	24.6	1.19
I39	25 Sep 2023	18	14.99	86.45	7.0	33.22	8.0	24.6	0.88
I40	05 Sep 2023	1	19.33	75.27	9.6	33.20	8.3	23.6	3.74
I40	05 Sep 2023	2	19.08	71.75	9.5	33.19	8.3	23.6	4.54
I40	05 Sep 2023	3	18.73	70.19	9.3	33.19	8.3	23.7	4.76
I40	05 Sep 2023	4	18.52	73.66	9.2	33.20	8.3	23.8	4.36
I40	05 Sep 2023	5	18.50	78.49	9.2	33.20	8.3	23.8	4.18
I40	05 Sep 2023	6	18.49	79.38	9.3	33.20	8.3	23.8	4.18
I40	05 Sep 2023	7	18.47	80.28	9.3	33.20	8.3	23.8	4.24
I40	05 Sep 2023	8	18.44	80.38	9.3	33.20	8.3	23.8	4.06
I40	05 Sep 2023	9	18.38	81.13	9.2	33.20	8.3	23.8	3.15
I40	05 Sep 2023	10	18.24	81.88	9.0	33.19	8.3	23.8	2.36

Station	Date	Depth (m)	Temp (°C)	XMS (‰)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
I40	11 Sep 2023	1	17.94	79.20	8.0	33.19	8.2	23.9	0.64
I40	11 Sep 2023	2	17.05	77.25	7.5	33.21	8.1	24.1	0.89
I40	11 Sep 2023	3	16.79	70.81	7.3	33.20	8.1	24.2	1.46
I40	11 Sep 2023	4	16.64	70.98	7.3	33.21	8.1	24.2	1.92
I40	11 Sep 2023	5	16.55	71.43	7.0	33.21	8.1	24.2	2.67
I40	11 Sep 2023	6	16.50	68.79	6.8	33.21	8.1	24.3	2.93
I40	11 Sep 2023	7	16.48	67.08	6.7	33.21	8.0	24.3	2.98
I40	11 Sep 2023	8	16.48	64.28	6.6	33.21	8.0	24.3	3.01
I40	11 Sep 2023	9	16.48	63.20	6.6	33.21	8.0	24.3	3.04
I40	11 Sep 2023	10	16.48	61.61	6.5	33.21	8.0	24.3	2.82
I40	18 Sep 2023	1	18.35	71.78	6.3	33.06	8.0	23.7	0.81
I40	18 Sep 2023	2	17.76	75.03	5.8	33.18	8.0	23.9	0.78
I40	18 Sep 2023	3	16.85	76.03	5.7	33.24	8.0	24.2	0.73
I40	18 Sep 2023	4	16.65	78.89	6.0	33.23	8.0	24.2	0.66
I40	18 Sep 2023	5	16.44	82.27	6.2	33.23	8.0	24.3	0.65
I40	18 Sep 2023	6	16.41	84.34	6.2	33.23	8.0	24.3	0.64
I40	18 Sep 2023	7	16.37	84.59	6.1	33.23	8.0	24.3	0.65
I40	18 Sep 2023	8	16.37	83.86	6.1	33.23	8.0	24.3	0.66
I40	18 Sep 2023	9	16.36	83.45	6.1	33.23	8.0	24.3	0.68
I40	18 Sep 2023	10	16.31	80.13	6.1	33.24	8.0	24.3	0.71
I40	25 Sep 2023	1	17.80	71.12	7.3	33.13	8.0	23.9	1.51
I40	25 Sep 2023	2	17.15	69.23	6.9	33.17	8.0	24.1	2.06
I40	25 Sep 2023	3	16.56	67.95	6.6	33.21	8.0	24.2	2.69
I40	25 Sep 2023	4	16.39	70.49	6.6	33.21	8.0	24.3	3.00
I40	25 Sep 2023	5	16.27	70.96	6.5	33.22	8.0	24.3	3.26
I40	25 Sep 2023	6	16.09	69.27	6.2	33.22	8.0	24.4	3.22
I40	25 Sep 2023	7	15.87	68.35	6.0	33.23	7.9	24.4	2.89
I40	25 Sep 2023	8	15.79	65.40	6.1	33.23	7.9	24.4	2.57
I40	25 Sep 2023	9	15.71	65.31	6.2	33.24	7.9	24.5	2.21

NA = not available

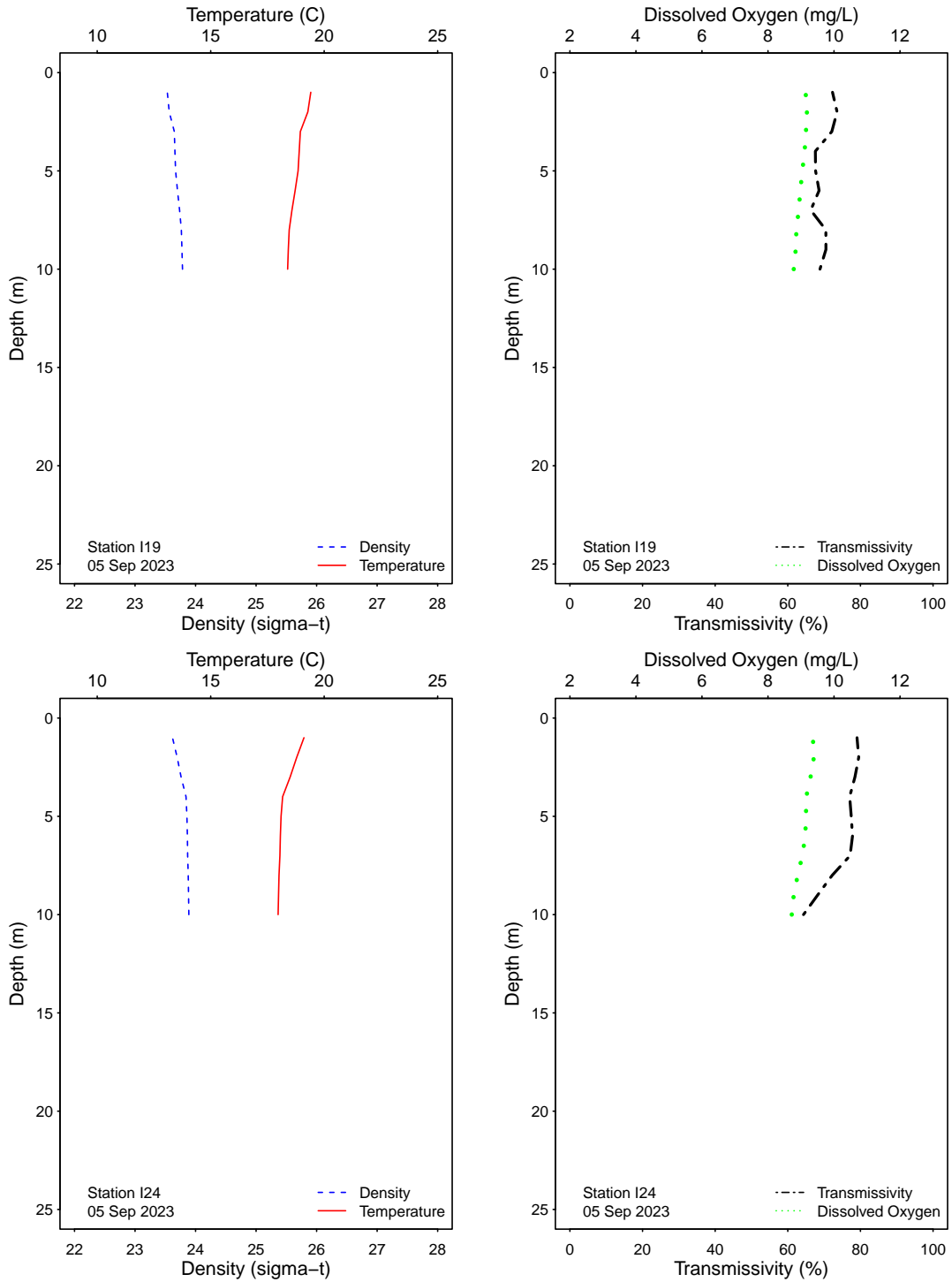


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

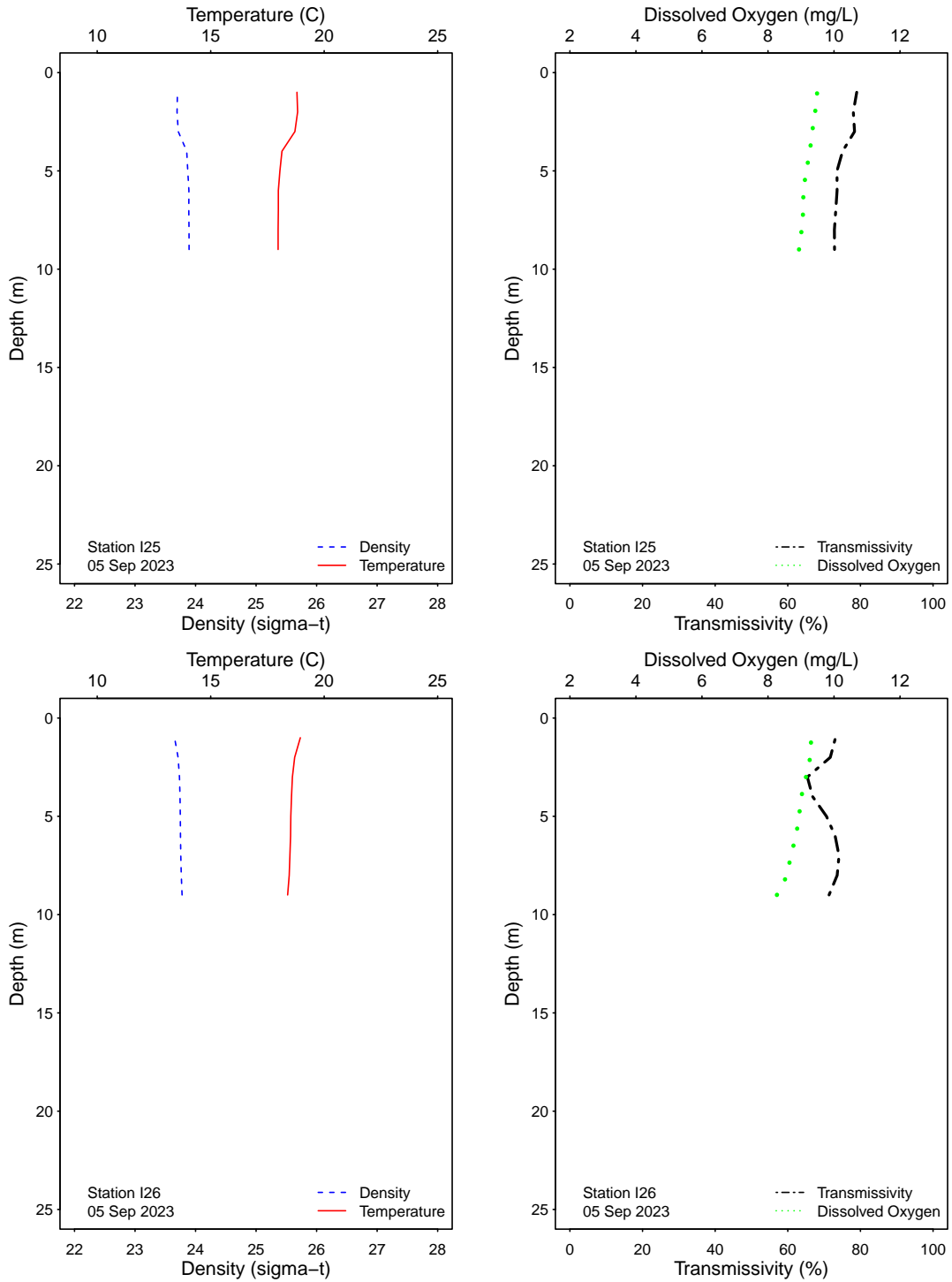


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

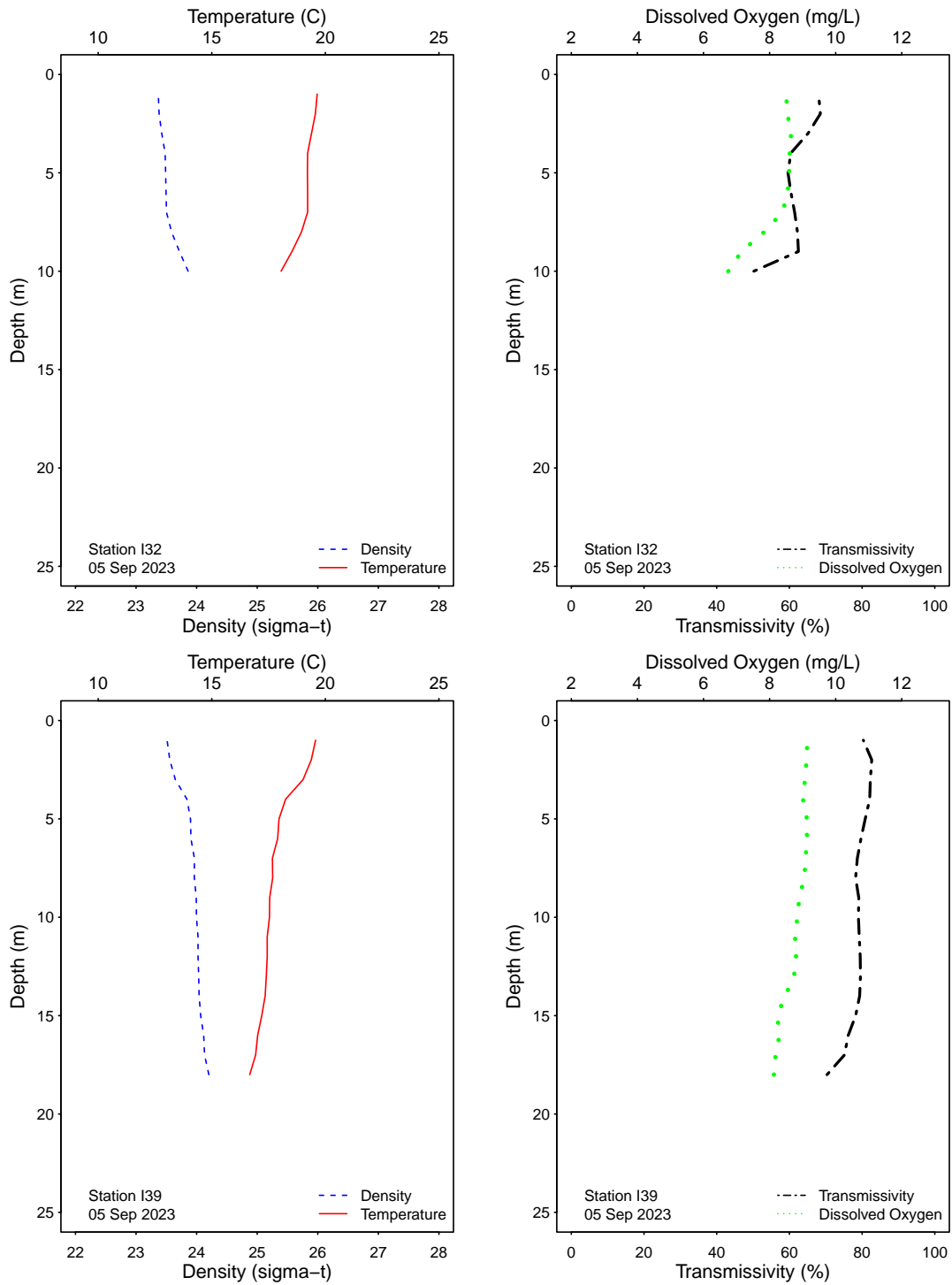


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

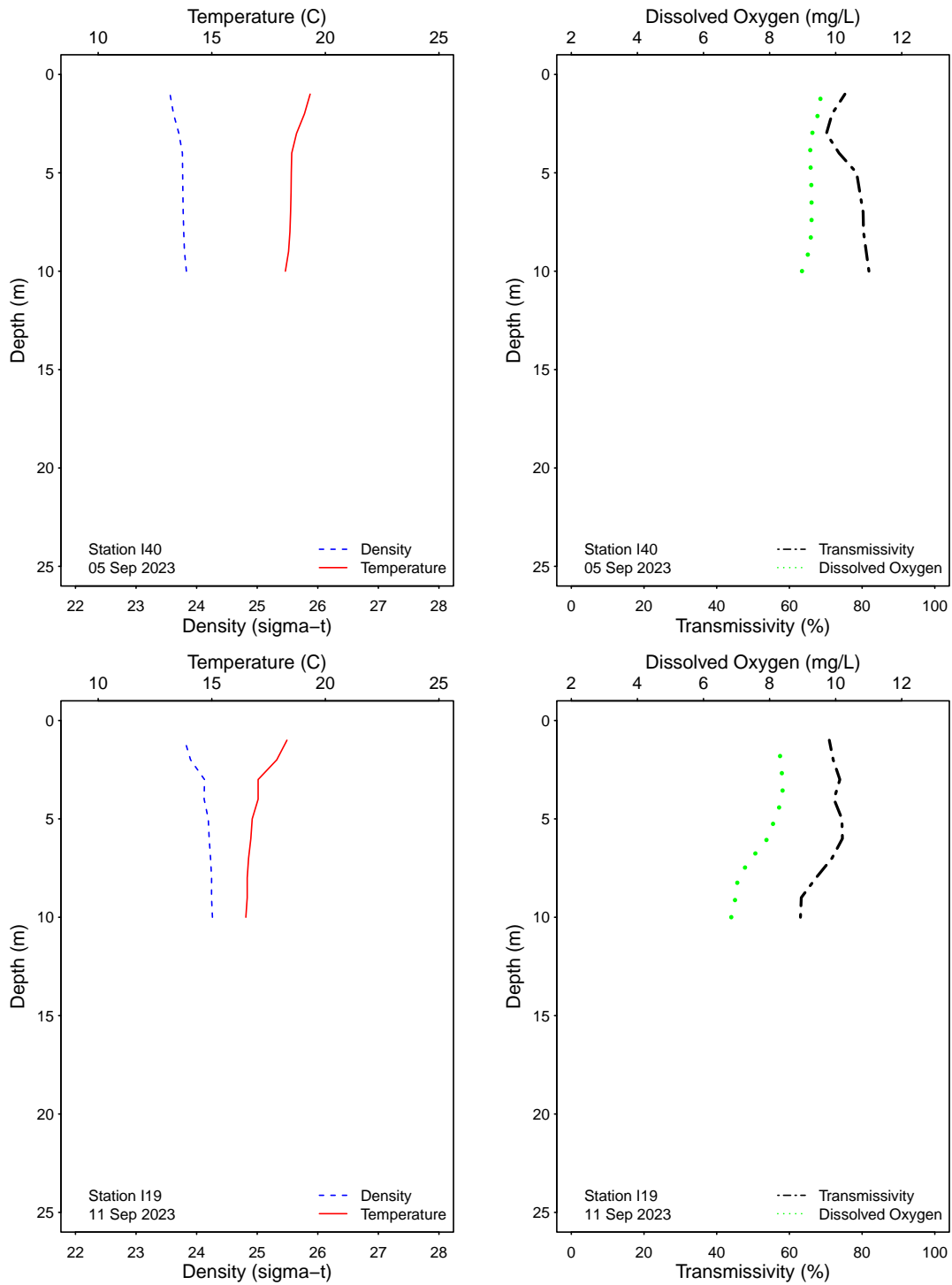


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

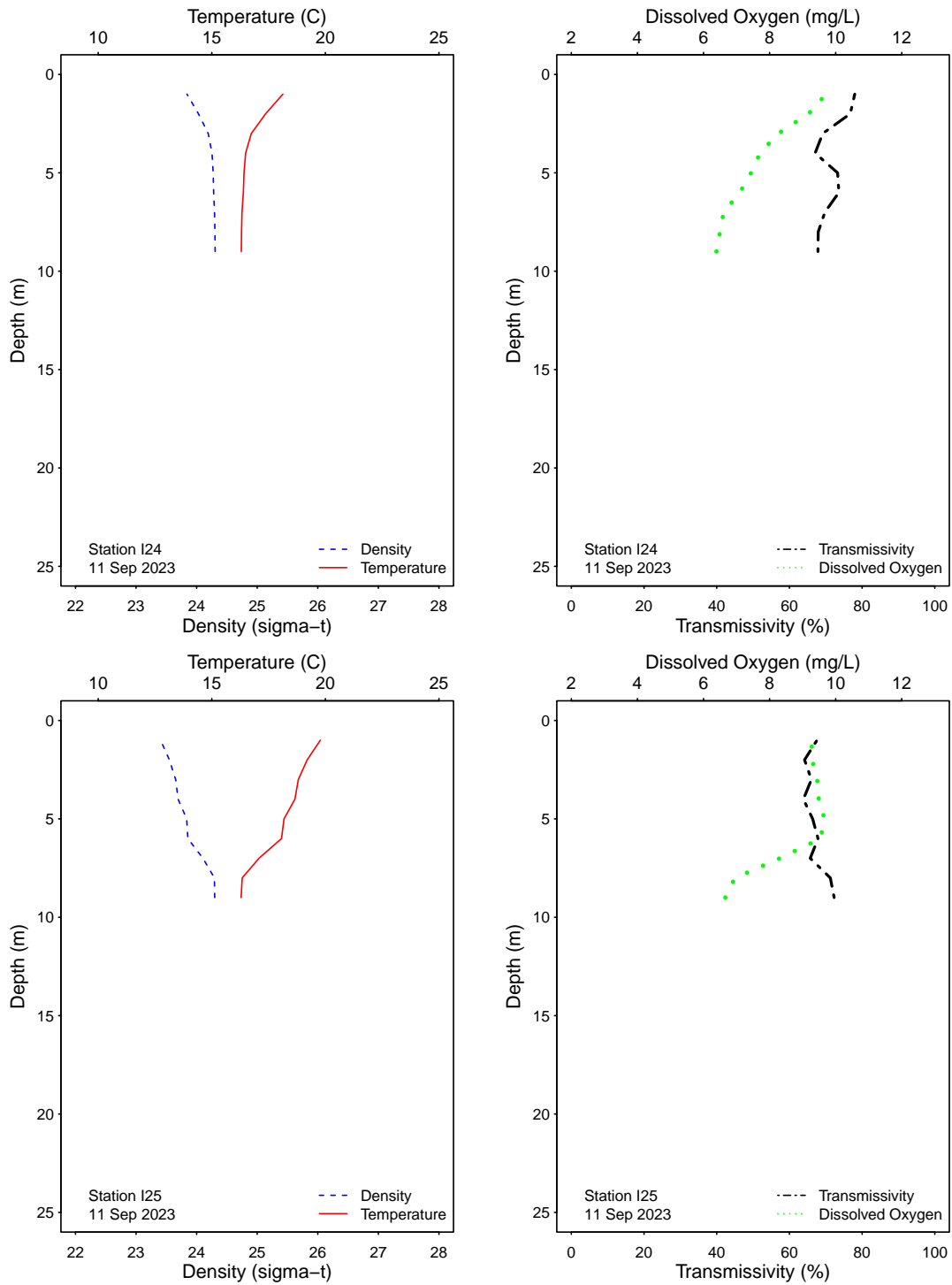


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

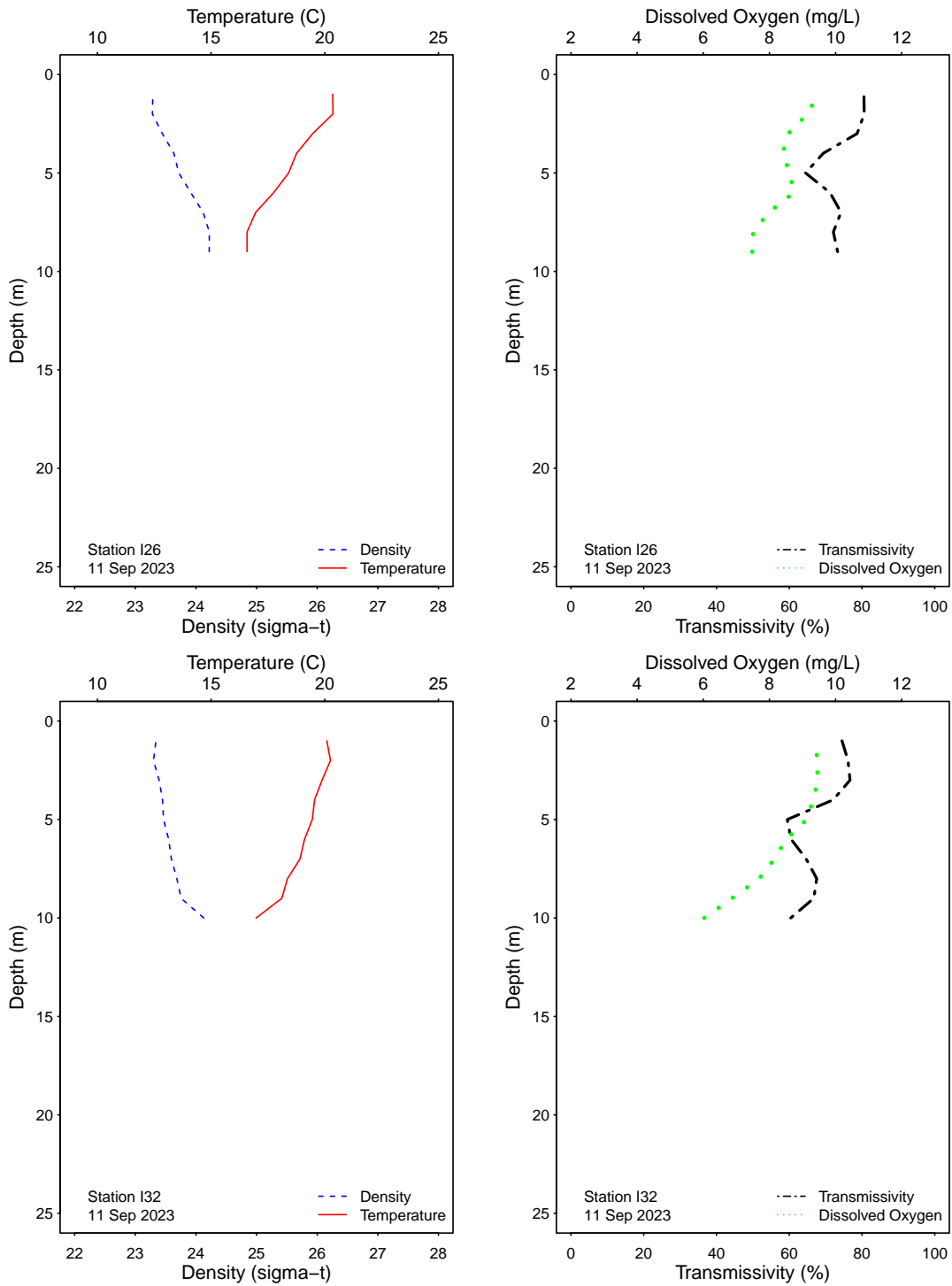


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

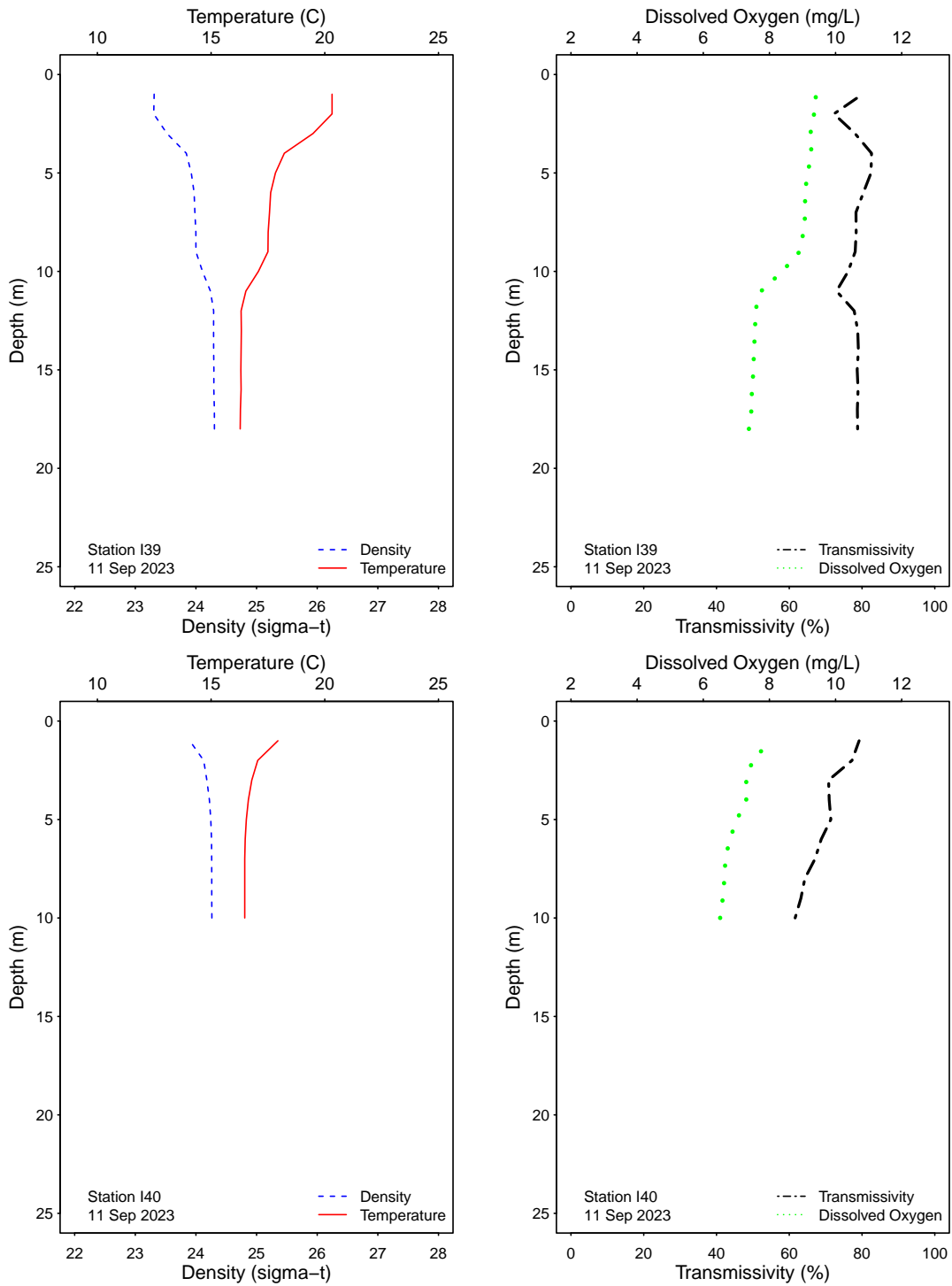


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

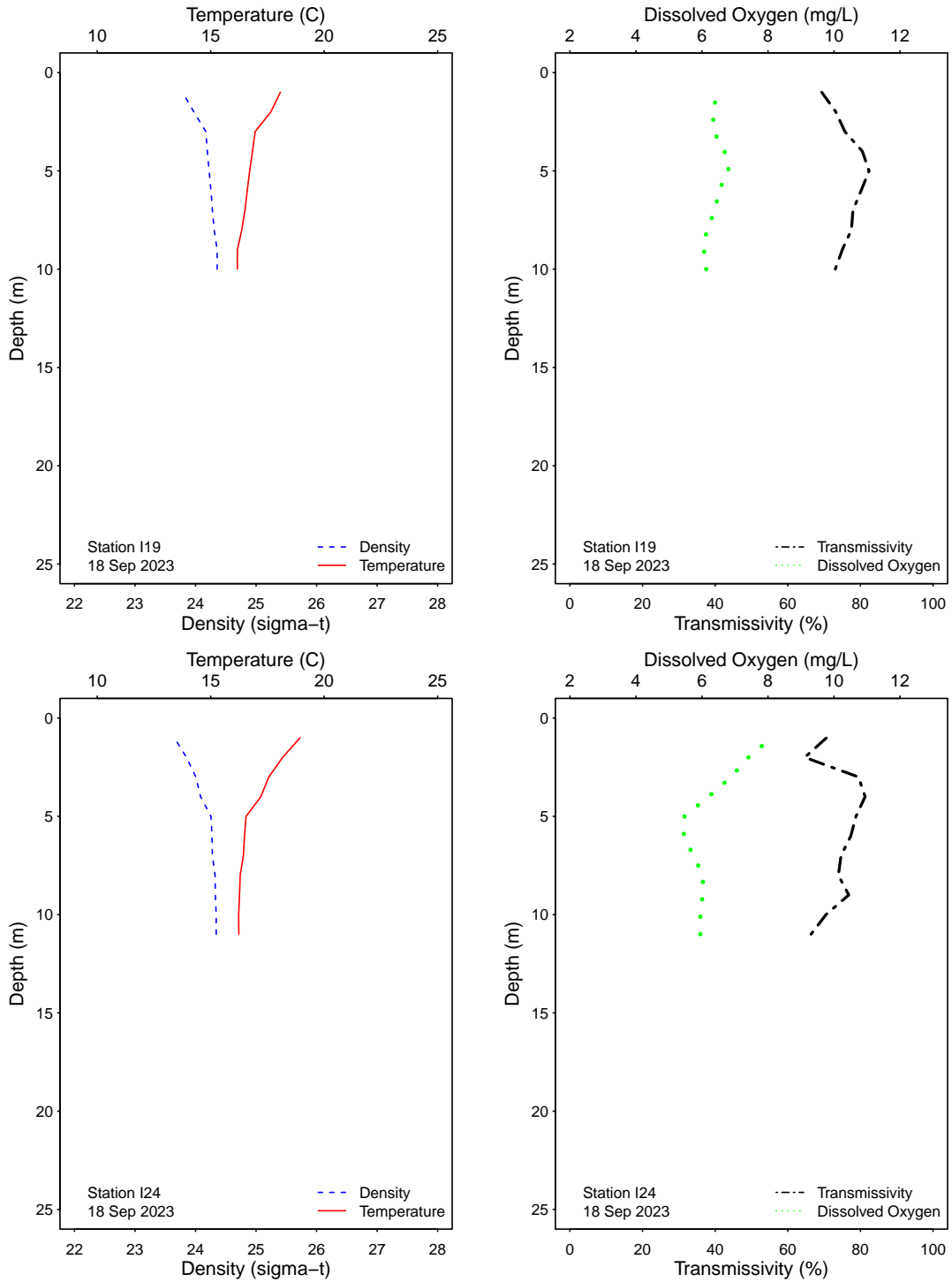


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

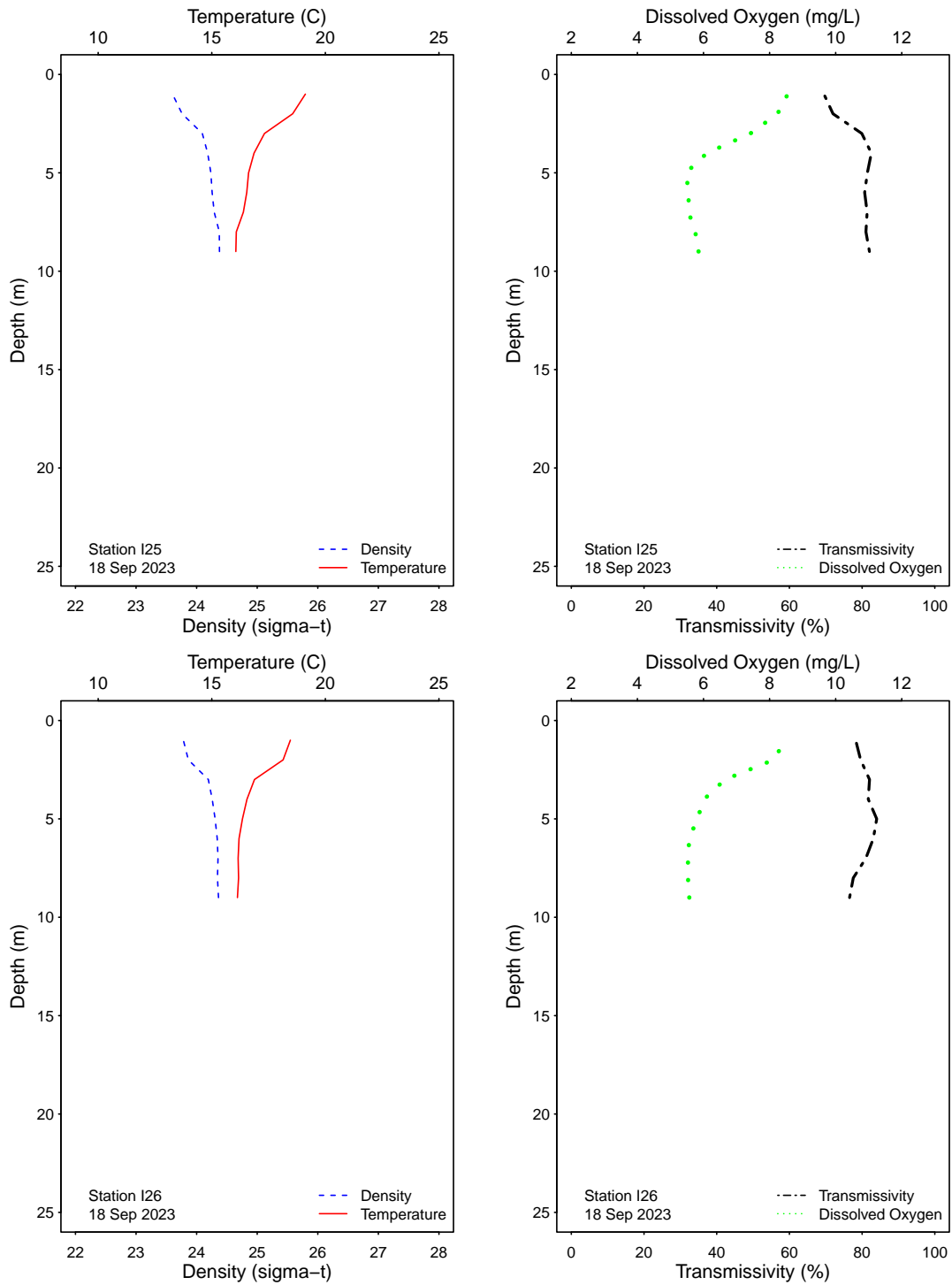


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

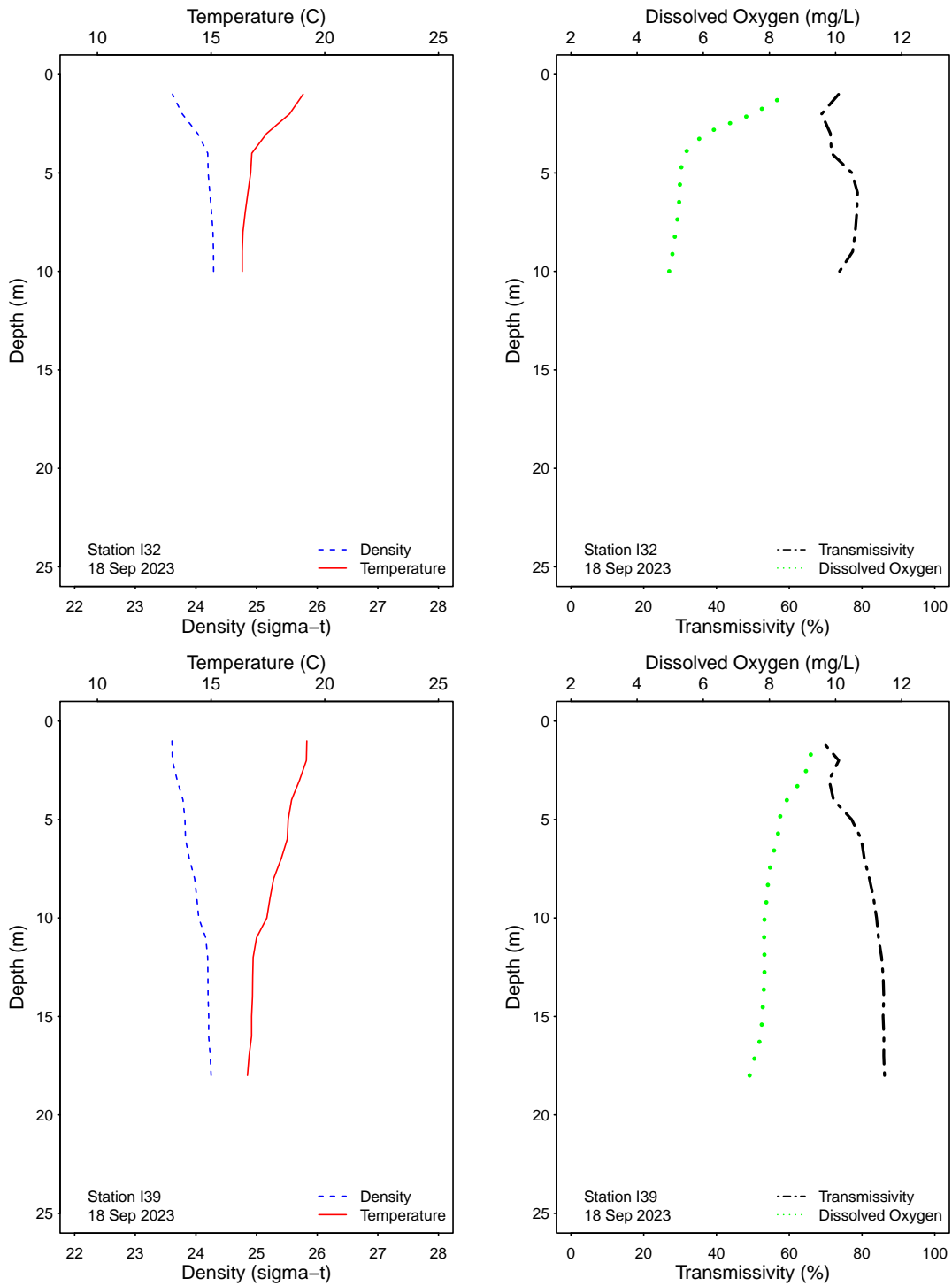


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

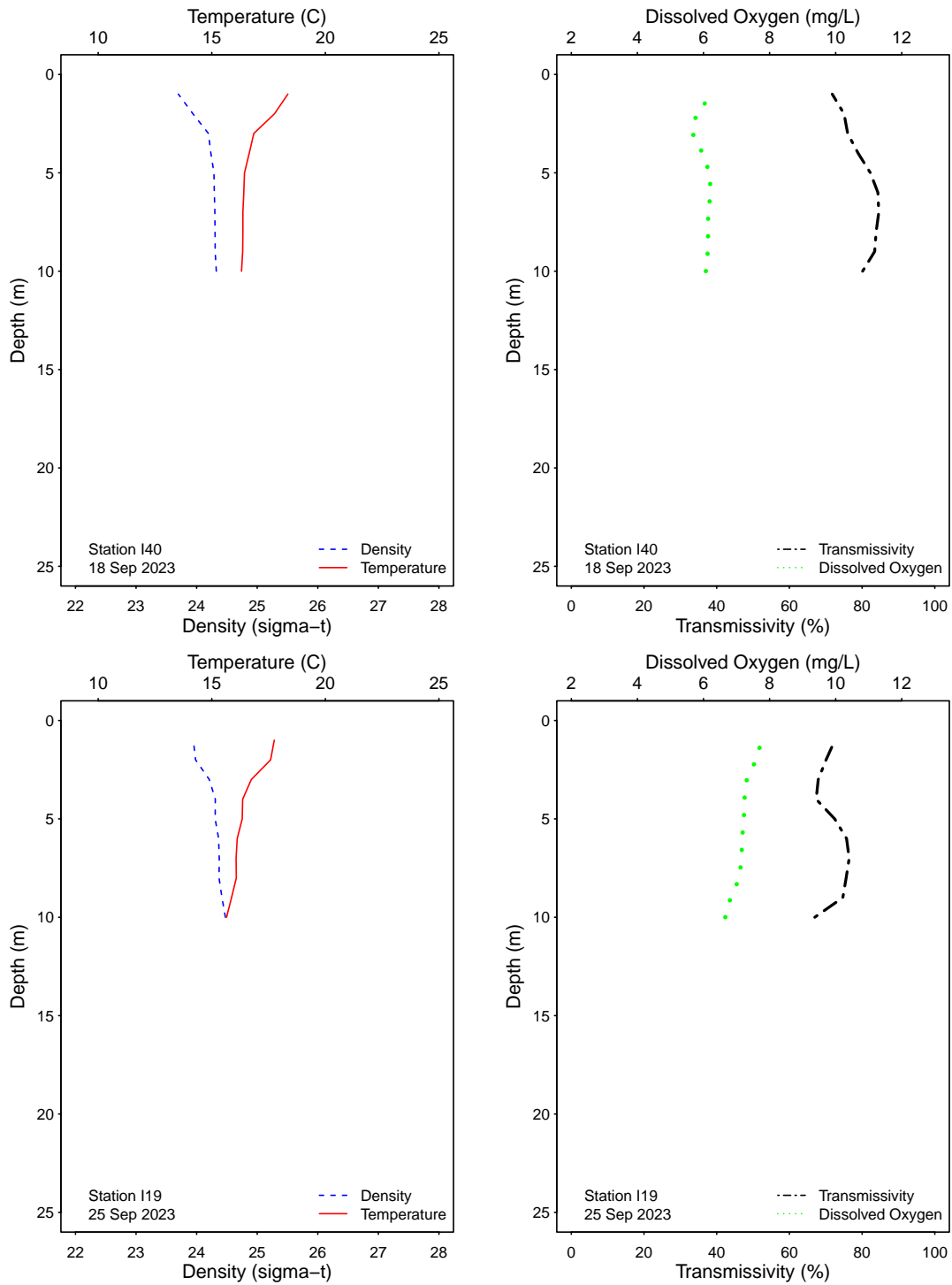


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

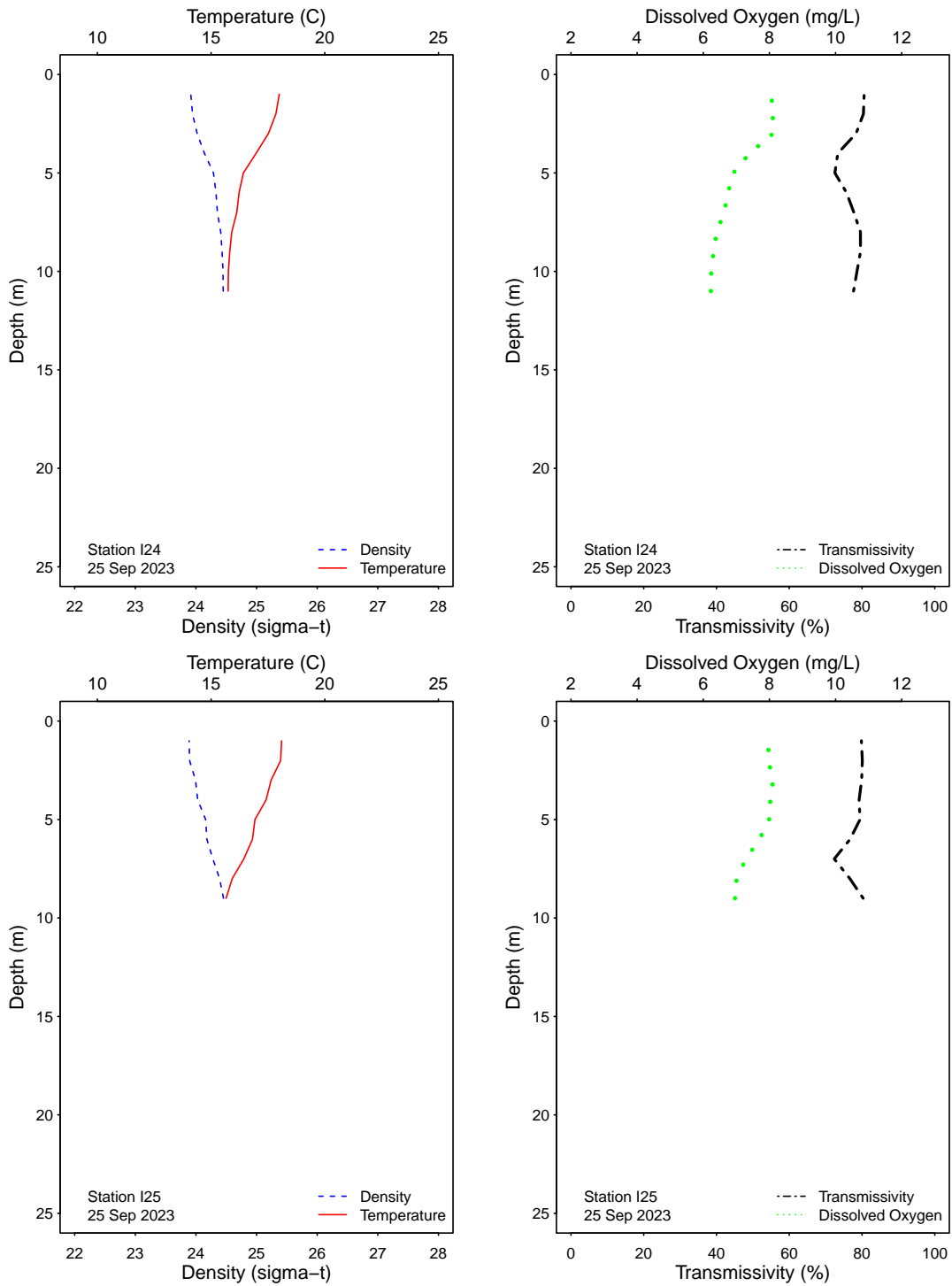


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

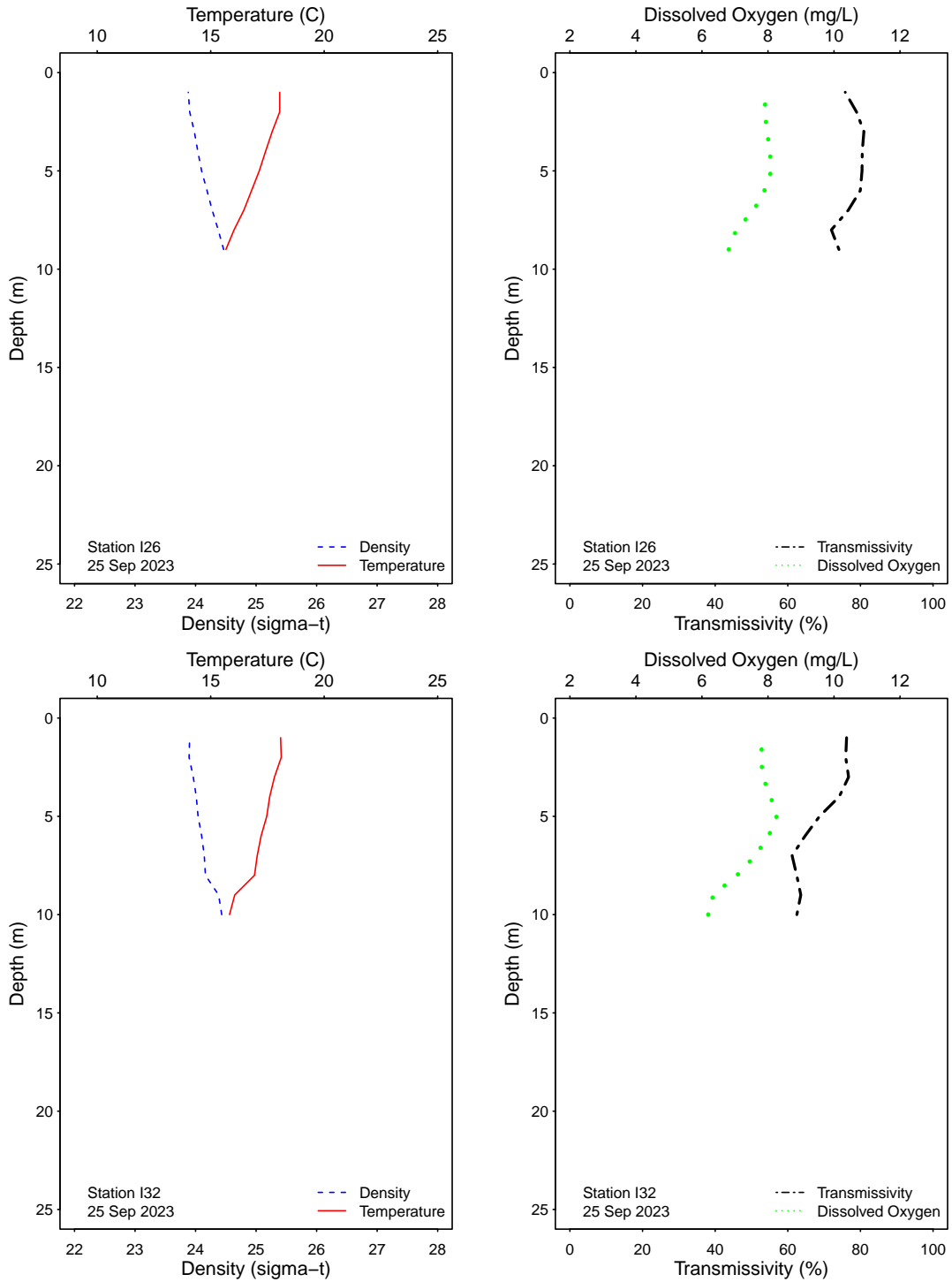


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

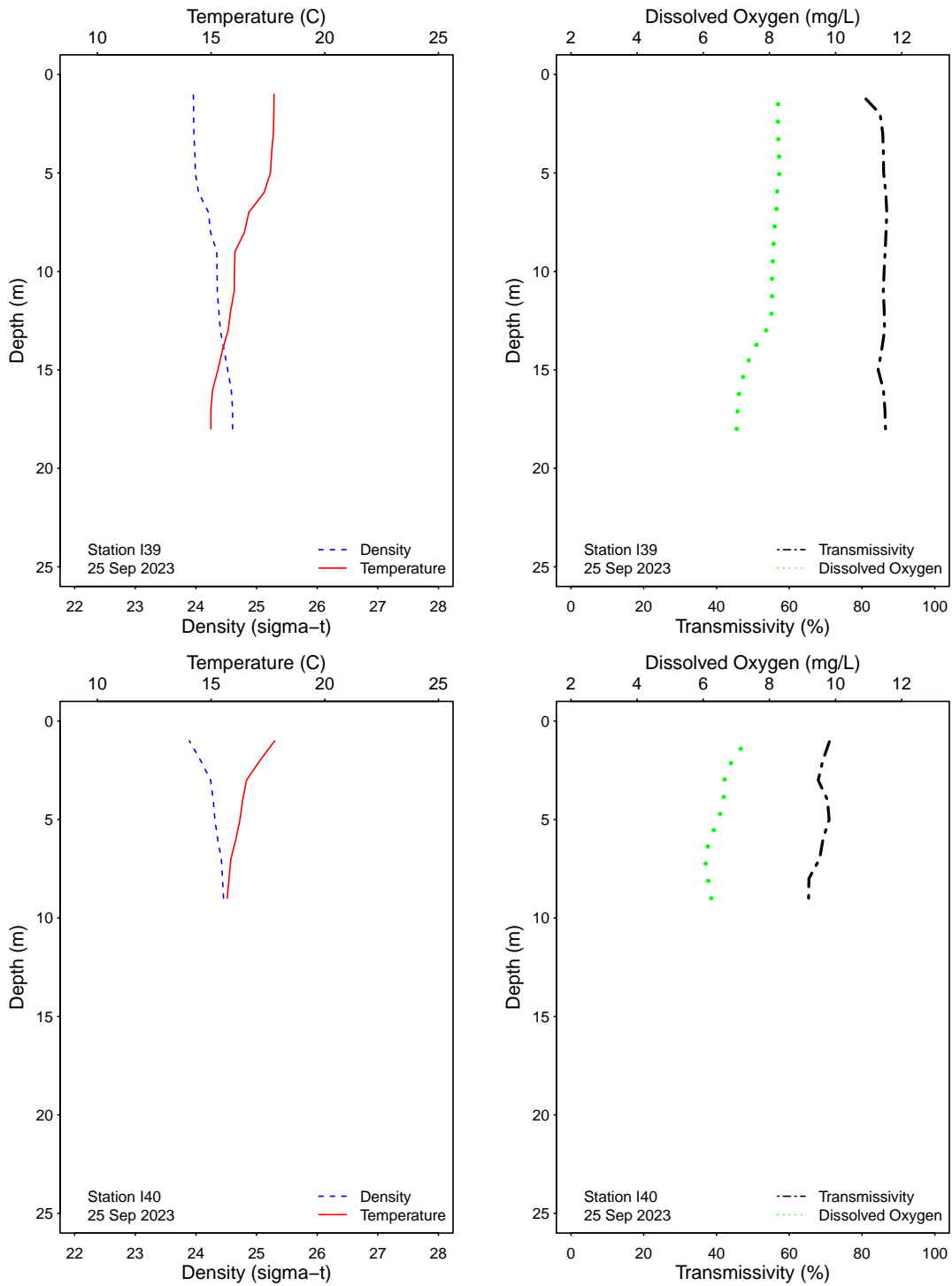


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

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

Station	Date	Depth	Analyst	Procedure	Total	Fecal	Enteroc
I19	05 Sep 2023	6	BS	LAB DUPLICATE	60e	10e	8e
I19	11 Sep 2023	6	CRE	LAB DUPLICATE	600e	100e	62
I19	18 Sep 2023	6	KA	LAB DUPLICATE	<20	4e	12e
I19	25 Sep 2023	6	BS	LAB DUPLICATE	4e	<2	6e
I40	05 Sep 2023	6	BS	LAB DUPLICATE	4e	2e	<2
I40	11 Sep 2023	6	CRE	LAB DUPLICATE	<200	8e	8e
I40	18 Sep 2023	6	KA	LAB DUPLICATE	4e	<2	4e
I40	25 Sep 2023	6	BS	LAB DUPLICATE	560	100e	110
S12	05 Sep 2023		WT	FIELD DUPLICATE	>=16000	>12000	11000
S12	05 Sep 2023		WT	LAB DUPLICATE	>=16000	>12000	11000
S12	12 Sep 2023		KA	FIELD DUPLICATE	>16000	4000	1800e
S12	12 Sep 2023		KA	LAB DUPLICATE	16000	3400e	1200
S12	19 Sep 2023		WT	FIELD DUPLICATE	<200	24e	92
S12	19 Sep 2023		KA	LAB DUPLICATE	<200	14e	100e
S12	26 Sep 2023		WT	FIELD DUPLICATE	<20	<2	6e
S12	26 Sep 2023		WT	LAB DUPLICATE	<20	<2	2e

ns = not sampled

ND = no data

