



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 2022

Environmental Monitoring and Technical Services
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Public Utilities Department
Environmental Monitoring & Technical Services Division

October 31, 2022

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 2022 Monthly Receiving Waters Monitoring Report for the South Bay Ocean Outfall, South Bay Water Reclamation Plant as required per Order No. R9-2021-0011, NPDES Permit No. CA0109045.

This report includes raw ocean monitoring data and summaries of water quality parameters and ocean conditions measured during the month for the South Bay outfall region. Also included are summaries of compliance with the bacterial water-contact standards specified in the California Ocean Plan. These data are also presented in the monthly report submitted by the International Boundary and Water Commission, U.S. Section for discharge from the South Bay International Wastewater Treatment Plant (Order No. R9-2021-0001, NPDES Permit No. CA0108928).

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

Sincerely,

A handwritten signature in blue ink that reads "Peter S. Vroom". The signature is fluid and cursive, with "Peter S." on top and "Vroom" on the bottom.

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 chromomorphic dissolved organic matter (CDOM). Visual observations of weather and water conditions were also recorded at all stations. Seawater samples for the analysis of indicator bacteria, suspended solids, and oil and grease concentrations were collected at 28 of the stations.

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

Bacteriological Reporting and Quality Assurance

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

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

Water-Contact Objectives

Fecal coliform:

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

Enterococci:

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

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

Shellfish Harvesting Standards

Total coliform:

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

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

Quality controls of bacteriological data include laboratory and field duplicate analyses. Laboratory duplicates are performed on approximately 10% of the water quality samples, while field duplicates are performed six times a month (see Appendix A). Laboratory duplicates represent two aliquots of the original sample that are split in the laboratory and analyzed by the same analyst using identical procedures within the same analytical run. The results of these analyses provide a measure of intra-analyst precision. In contrast, field duplicates represent two separate samples collected at the same time from the same site, which are handled under identical circumstances and treated exactly the same throughout field and lab procedures. The results of these analyses provide a measure of precision associated with sample collection, preservation, storage, and lab procedures. The sign test (see Gilbert, 1987²) is used to statistically compare both the results from the laboratory duplicates, as well as the results from the field duplicates. These data will be further analyzed in the City's 2022 Quality Assurance Report, which will be completed in March 2023.

SUMMARY OF RESULTS

➤ Shoreline Water Quality Sampling

- Due to site access restrictions in Mexico, the South Bay shoreline sampling is typically carried out on the same day each week (i.e., Tuesday) to coordinate sampling between the Mexican and USA based stations. Seawater samples at the three shore stations located south of the USA/Mexico border (i.e., stations S0, S2 and S3) are presently collected by the Comisión Internacional de Límites y Aguas (CILA) and transported to the USIBWC for subsequent delivery to the City's Marine Microbiology Lab, while samples from the eight stations located in USA waters are sampled by City staff.
- During September, seven of the eight shore stations located north of the border were out of compliance with 2019 California Ocean Plan (Ocean Plan) water contact standards on one or more days as follows:
 - The single sample maximum (SSM) standard for fecal coliforms was exceeded at stations S5, S8, S11 and S12.
 - The 6-week running geometric mean standard for *Enterococcus* was exceeded at stations S5 and S11.
 - The statistical threshold value (STV) standard for *Enterococcus* was exceeded at stations S5, S6, S11 and S12.
 - The 30-day running median standard for total coliform was exceeded at stations S4, S5, S6, S8, S9, S11 and S12.

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

- The STV standard for total coliforms was exceeded at stations S5, S6, S8, S11 and S12.
- A sewage-like odor was observed at station S12 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 7, 13, 20, and 29.
- During September, each of the seven kelp stations were out of compliance with 2019 Ocean Plan water contact standards on one or more days as follows:
 - The SSM for fecal coliforms was exceeded at stations I19, I25, I32, and I40.
 - The STV standard for *Enterococcus* was exceeded at stations I19, I24, I25, and I40.
 - The 30-day running median standard for total coliform was exceeded at stations I19, I24, I25, I39, and I40.
 - The STV standard for total coliform was exceeded at stations I19, I24, I25, I26, I32, I39, and I40.
- Water column temperatures ranged from 13.60 to 22.32°C. The difference between surface and bottom waters ranged from 1.07 to 5.89°C.
- Concentrations of chlorophyll *a* ranged from 0.35 to 13.25 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 2022.



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 2022	4	45	28	2	5	3	43	17
02 Sep 2022	4	45	28	2	5	3	43	17
03 Sep 2022	4	45	28	2	5	3	43	17
04 Sep 2022	4	45	28	2	5	3	43	17
05 Sep 2022	4	45	28	2	5	3	43	17
06 Sep 2022	4	28	21	2	4	4	23	11
07 Sep 2022	4	28	21	2	4	4	23	11
08 Sep 2022	3	21	11	2	4	4	14	3
09 Sep 2022	3	21	11	2	4	4	14	3
10 Sep 2022	3	21	11	2	4	4	14	3
11 Sep 2022	3	21	11	2	4	4	14	3
12 Sep 2022	3	21	11	2	4	4	14	3
13 Sep 2022	6	41	21	7	7	8	28	10
14 Sep 2022	6	41	21	7	7	8	28	10
15 Sep 2022	7	10	9	9	5	9	10	14
16 Sep 2022	7	10	9	9	5	9	10	14
17 Sep 2022	7	10	9	9	5	9	10	14
18 Sep 2022	7	10	9	9	5	9	10	14
19 Sep 2022	7	10	9	9	5	9	10	14
20 Sep 2022	5	41	10	7	4	6	12	15
21 Sep 2022	5	41	10	7	4	6	12	15
22 Sep 2022	5	87	14	9	5	9	18	19
23 Sep 2022	5	87	14	9	5	9	18	19
24 Sep 2022	5	87	14	9	5	9	18	19
25 Sep 2022	5	87	14	9	5	9	18	19
26 Sep 2022	5	87	14	9	5	9	18	19
27 Sep 2022	6	47	14	7	4	9	12	20
28 Sep 2022	6	47	14	7	4	9	12	20
29 Sep 2022	7	104	22	9	5	9	14	35
30 Sep 2022	7	104	22	9	5	9	14	35

* Geometric mean calculated using n<5

Table 2.2

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

Date	S4	S5	S6	S8	S9	S10	S11	S12
06 Sep 2022	IC	IC	IC	IC	IC	IC	IC	IC
13 Sep 2022	IC	E	IC	E	IC	IC	E	E
20 Sep 2022	IC	E	IC	IC	IC	IC	IC	IC
27 Sep 2022	IC	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 2.3

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

Date	S4	S5	S6	S8	S9	S10	S11	S12
01 Sep 2022	6	70	24	4	7	4	31	18
02 Sep 2022	6	70	24	4	7	4	31	18
03 Sep 2022	6	70	24	4	7	4	31	18
04 Sep 2022	6	70	24	4	7	4	31	18
05 Sep 2022	6	70	24	4	7	4	31	18
06 Sep 2022	6	70	24	4	4	4	31	18
07 Sep 2022	6	70	24	4	4	4	31	18
08 Sep 2022	6	70	24	4	4	4	31	18
09 Sep 2022	6	70	24	4	4	4	31	18
10 Sep 2022	6	70	24	4	4	4	31	18
11 Sep 2022	6	70	24	4	4	4	31	18
12 Sep 2022	6	70	24	4	4	4	31	18
13 Sep 2022	6	38	25	4	5	3	59	30
14 Sep 2022	6	38	25	4	5	3	59	30
15 Sep 2022	6	38	25	4	5	3	59	30
16 Sep 2022	6	38	25	4	5	3	59	30
17 Sep 2022	6	38	25	4	5	3	59	30
18 Sep 2022	6	38	25	4	5	3	59	30
19 Sep 2022	6	38	25	4	5	3	59	30
20 Sep 2022	4	99	18	4	4	3	47	17
21 Sep 2022	4	99	18	4	4	3	47	17
22 Sep 2022	4	99	18	4	4	3	47	17
23 Sep 2022	4	99	18	4	4	3	47	17
24 Sep 2022	4	99	18	4	4	3	47	17
25 Sep 2022	4	99	18	4	4	3	47	17
26 Sep 2022	4	99	18	4	4	3	47	17
27 Sep 2022	3	31	9	4	4	3	14	10
28 Sep 2022	3	31	9	4	4	3	14	10
29 Sep 2022	3	31	9	4	4	3	14	10
30 Sep 2022	3	31	9	4	4	3	14	10

* 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	IC	E	E	IC	IC	IC	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 2022	20	210	1610	20	20	20	1710	70
02 Sep 2022	20	210	1610	20	20	20	1710	70
03 Sep 2022	20	210	1610	20	20	20	1710	70
04 Sep 2022	20	210	1610	20	20	20	1710	70
05 Sep 2022	20	210	1610	20	20	20	1710	70
06 Sep 2022	20	120	40	20	20	20	40	40
07 Sep 2022	20	120	40	20	20	20	40	40
08 Sep 2022	20	80	30	20	20	30	30	30
09 Sep 2022	20	80	30	20	20	30	30	30
10 Sep 2022	20	80	30	20	20	30	30	30
11 Sep 2022	20	80	30	20	20	30	30	30
12 Sep 2022	20	80	30	20	20	30	30	30
13 Sep 2022	20	120	40	20	20	40	40	40
14 Sep 2022	20	120	40	20	20	40	40	40
15 Sep 2022	70	80	30	110	110	40	30	30
16 Sep 2022	70	80	30	110	110	40	30	30
17 Sep 2022	70	80	30	110	110	40	30	30
18 Sep 2022	70	80	30	110	110	40	30	30
19 Sep 2022	70	80	30	110	110	40	30	30
20 Sep 2022	20	120	40	20	40	40	40	40
21 Sep 2022	20	120	40	20	40	40	40	40
22 Sep 2022	70	1460	90	110	120	40	320	480
23 Sep 2022	70	1460	90	110	120	40	320	480
24 Sep 2022	70	1460	90	110	120	40	320	480
25 Sep 2022	70	1460	90	110	120	40	320	480
26 Sep 2022	70	1460	90	110	120	40	320	480
27 Sep 2022	40	120	120	20	200	40	40	200
28 Sep 2022	40	120	120	20	200	40	40	200
29 Sep 2022	80	1460	130	110	200	40	320	570
30 Sep 2022	80	1460	130	110	200	40	320	570

* 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	IC	E	E	E	IC	IC	E	E

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 2.7

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

Station	Date	Time	Total	Fecal	Entero
S0	06 Sep 2022	940	6400	2800e	3200e
S0	13 Sep 2022	920	9800	2800e	700
S0	20 Sep 2022	920	4000	2400e	800e
S0	27 Sep 2022	1048	2400e	1100	260e
S2	06 Sep 2022	1040	3400e	240e	50
S2	13 Sep 2022	800	9000	3000e	1000e
S2	20 Sep 2022	815	<20	<2	<2
S2	27 Sep 2022	955	20e	4e	2e
S3	06 Sep 2022	1020	7200	92	26e
S3	13 Sep 2022	738	2200e	1100	160e
S3	20 Sep 2022	745	6e	<2	<2
S3	27 Sep 2022	1015	<20	2e	6e
S4	06 Sep 2022	1258	120e	4e	2e
S4	13 Sep 2022	1252	200e	56	20e
S4	20 Sep 2022	952	20e	2e	2e
S4	27 Sep 2022	1026	40e	6e	<2
S5	06 Sep 2022	1117	120e	4e	<2
S5	13 Sep 2022	1110	2800e	600	60e
S5	20 Sep 2022	1059	>16000	>12000	>12000
S5	27 Sep 2022	831	80e	4e	12e
S6	06 Sep 2022	1142	40e	6e	2e
S6	13 Sep 2022	1141	1000e	280e	120e
S6	20 Sep 2022	1123	140e	12e	34e
S6	27 Sep 2022	859	120e	12e	16e
S8	06 Sep 2022	1045	<200	<2	<2
S8	13 Sep 2022	1017	800e	840	38e
S8	20 Sep 2022	844	<20	<2	<2
S8	27 Sep 2022	1119	<20	<2	2e
S9	06 Sep 2022	1022	<200	<2	4e
S9	13 Sep 2022	953	200e	80e	6e
S9	20 Sep 2022	817	40e	<2	<2
S9	27 Sep 2022	1144	<200	<2	<2
S10	06 Sep 2022	1231	40e	4e	<2
S10	13 Sep 2022	1302	40e	120e	10e
S10	20 Sep 2022	940	<20	<2	2e
S10	27 Sep 2022	1012	200e	8e	<2
S11	06 Sep 2022	1132	40e	2e	2e
S11	13 Sep 2022	1129	2000e	480	4400
S11	20 Sep 2022	1114	600	20e	120
S11	27 Sep 2022	849	40e	<2	2e
S12	06 Sep 2022	1102	2e	<2	<2
S12	13 Sep 2022	1036	6000	1800e	240e
S12	20 Sep 2022	1031	940	<20	30e

Station	Date	Time	Total	Fecal	Enteric
S12	27 Sep 2022	925	<200	20e	<2

ns = not sampled

ND = no data

Table 2.8

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

Station	Date	Parameter	Value
S0	06 Sep 2022	Arrive Time	1639
S0	06 Sep 2022	Weather	Sunny
S0	06 Sep 2022	Wind Speed (kts)	1.6
S0	06 Sep 2022	Wind Dir	S
S0	06 Sep 2022	Animal Life	Dog-3; Seagull-20
S0	06 Sep 2022	Floatables	None
S0	06 Sep 2022	Water Color	Green
S0	06 Sep 2022	Current Direction	S
S0	06 Sep 2022	Water Temp (C)	17
S0	06 Sep 2022	Wave Height Low (ft)	2
S0	06 Sep 2022	High Tide (ft)	3.9
S0	06 Sep 2022	High Tide Time	753
S0	06 Sep 2022	Low Tide (ft)	-0.35
S0	06 Sep 2022	Low Tide Time	113
S0	06 Sep 2022	Comments	Kelp; Algae; 1.0 L/Sec Water Flowing from Storm Drain
S0	13 Sep 2022	Arrive Time	1136
S0	13 Sep 2022	Weather	Sunny
S0	13 Sep 2022	Wind Speed (kts)	1.8
S0	13 Sep 2022	Wind Dir	SW
S0	13 Sep 2022	Animal Life	Dog-1; Seagull-20
S0	13 Sep 2022	Floatables	None
S0	13 Sep 2022	Water Color	Green
S0	13 Sep 2022	Current Direction	S
S0	13 Sep 2022	Water Temp (C)	17
S0	13 Sep 2022	Wave Height Low (ft)	2
S0	13 Sep 2022	High Tide (ft)	5.41
S0	13 Sep 2022	High Tide Time	1131
S0	13 Sep 2022	Low Tide (ft)	0.81
S0	13 Sep 2022	Low Tide Time	524
S0	13 Sep 2022	Comments	Kelp; Algae
S0	20 Sep 2022	Arrive Time	1642
S0	20 Sep 2022	Weather	Sunny
S0	20 Sep 2022	Wind Speed (kts)	1.3
S0	20 Sep 2022	Wind Dir	SW
S0	20 Sep 2022	Animal Life	Dog-3; Seagull-20
S0	20 Sep 2022	Floatables	None
S0	20 Sep 2022	Water Color	Green
S0	20 Sep 2022	Current Direction	S
S0	20 Sep 2022	Water Temp (C)	17
S0	20 Sep 2022	Wave Height Low (ft)	2
S0	20 Sep 2022	High Tide (ft)	3.96
S0	20 Sep 2022	High Tide Time	803
S0	20 Sep 2022	Low Tide (ft)	0.51
S0	20 Sep 2022	Low Tide Time	113
S0	20 Sep 2022	Comments	Kelp; Algae
S0	27 Sep 2022	Arrive Time	
S0	27 Sep 2022	Weather	Sunny
S0	27 Sep 2022	Wind Speed (kts)	2.8
S0	27 Sep 2022	Wind Dir	NW
S0	27 Sep 2022	Animal Life	
S0	27 Sep 2022	Floatables	None
S0	27 Sep 2022	Water Color	Green
S0	27 Sep 2022	Current Direction	N

Station	Date	Parameter	Value
S0	27 Sep 2022	Water Temp (C)	15
S0	27 Sep 2022	Wave Height Low (ft)	3
S0	27 Sep 2022	High Tide (ft)	5.57
S0	27 Sep 2022	High Tide Time	1020
S0	27 Sep 2022	Low Tide (ft)	0.64
S0	27 Sep 2022	Low Tide Time	414
S0	27 Sep 2022	Comments	none
S2	06 Sep 2022	Arrive Time	1637
S2	06 Sep 2022	Weather	Sunny
S2	06 Sep 2022	Wind Speed (kts)	1.1
S2	06 Sep 2022	Wind Dir	S
S2	06 Sep 2022	Animal Life	
S2	06 Sep 2022	Floatables	None
S2	06 Sep 2022	Water Color	Green
S2	06 Sep 2022	Current Direction	S
S2	06 Sep 2022	Water Temp (C)	17
S2	06 Sep 2022	Wave Height Low (ft)	2
S2	06 Sep 2022	High Tide (ft)	3.9
S2	06 Sep 2022	High Tide Time	753
S2	06 Sep 2022	Low Tide (ft)	-0.35
S2	06 Sep 2022	Low Tide Time	113
S2	06 Sep 2022	Comments	Kelp; Algae; No Water Flow from Storm Drain
S2	13 Sep 2022	Arrive Time	
S2	13 Sep 2022	Weather	Sunny
S2	13 Sep 2022	Wind Speed (kts)	2.1
S2	13 Sep 2022	Wind Dir	S
S2	13 Sep 2022	Animal Life	Dog-2; Seagull-20
S2	13 Sep 2022	Floatables	None
S2	13 Sep 2022	Water Color	Green
S2	13 Sep 2022	Current Direction	S
S2	13 Sep 2022	Water Temp (C)	19
S2	13 Sep 2022	Wave Height Low (ft)	2
S2	13 Sep 2022	High Tide (ft)	5.41
S2	13 Sep 2022	High Tide Time	1131
S2	13 Sep 2022	Low Tide (ft)	0.81
S2	13 Sep 2022	Low Tide Time	524
S2	13 Sep 2022	Comments	Kelp; Algae
S2	20 Sep 2022	Arrive Time	1639
S2	20 Sep 2022	Weather	Sunny
S2	20 Sep 2022	Wind Speed (kts)	1.9
S2	20 Sep 2022	Wind Dir	SW
S2	20 Sep 2022	Animal Life	Dog-5; Seagull-20
S2	20 Sep 2022	Floatables	None
S2	20 Sep 2022	Water Color	Green
S2	20 Sep 2022	Current Direction	S
S2	20 Sep 2022	Water Temp (C)	16
S2	20 Sep 2022	Wave Height Low (ft)	2
S2	20 Sep 2022	High Tide (ft)	3.96
S2	20 Sep 2022	High Tide Time	803
S2	20 Sep 2022	Low Tide (ft)	0.51
S2	20 Sep 2022	Low Tide Time	113
S2	20 Sep 2022	Comments	Kelp; Algae
S2	27 Sep 2022	Arrive Time	1659
S2	27 Sep 2022	Weather	Sunny
S2	27 Sep 2022	Wind Speed (kts)	2.2
S2	27 Sep 2022	Wind Dir	NW
S2	27 Sep 2022	Animal Life	

Station	Date	Parameter	Value
S2	27 Sep 2022	Floatables	None
S2	27 Sep 2022	Water Color	Green
S2	27 Sep 2022	Current Direction	N
S2	27 Sep 2022	Water Temp (C)	15
S2	27 Sep 2022	Wave Height Low (ft)	3
S2	27 Sep 2022	High Tide (ft)	5.57
S2	27 Sep 2022	High Tide Time	1020
S2	27 Sep 2022	Low Tide (ft)	0.64
S2	27 Sep 2022	Low Tide Time	414
S2	27 Sep 2022	Comments	none
S3	06 Sep 2022	Arrive Time	
S3	06 Sep 2022	Weather	Sunny
S3	06 Sep 2022	Wind Speed (kts)	1.8
S3	06 Sep 2022	Wind Dir	S
S3	06 Sep 2022	Animal Life	Seagull-20
S3	06 Sep 2022	Floatables	None
S3	06 Sep 2022	Water Color	Green
S3	06 Sep 2022	Current Direction	S
S3	06 Sep 2022	Water Temp (C)	17
S3	06 Sep 2022	Wave Height Low (ft)	2
S3	06 Sep 2022	High Tide (ft)	3.9
S3	06 Sep 2022	High Tide Time	753
S3	06 Sep 2022	Low Tide (ft)	-0.35
S3	06 Sep 2022	Low Tide Time	113
S3	06 Sep 2022	Comments	Kelp; Algae; No Water Flow from Storm Drain
S3	13 Sep 2022	Arrive Time	1127
S3	13 Sep 2022	Weather	Sunny
S3	13 Sep 2022	Wind Speed (kts)	2.7
S3	13 Sep 2022	Wind Dir	S
S3	13 Sep 2022	Animal Life	Dog-5; Seagull-20
S3	13 Sep 2022	Floatables	None
S3	13 Sep 2022	Water Color	Green
S3	13 Sep 2022	Current Direction	S
S3	13 Sep 2022	Water Temp (C)	20
S3	13 Sep 2022	Wave Height Low (ft)	2
S3	13 Sep 2022	High Tide (ft)	5.41
S3	13 Sep 2022	High Tide Time	1131
S3	13 Sep 2022	Low Tide (ft)	0.81
S3	13 Sep 2022	Low Tide Time	524
S3	13 Sep 2022	Comments	Kelp; Algae
S3	20 Sep 2022	Arrive Time	1634
S3	20 Sep 2022	Weather	Sunny
S3	20 Sep 2022	Wind Speed (kts)	2.1
S3	20 Sep 2022	Wind Dir	SW
S3	20 Sep 2022	Animal Life	Dog-2
S3	20 Sep 2022	Floatables	None
S3	20 Sep 2022	Water Color	Green
S3	20 Sep 2022	Current Direction	S
S3	20 Sep 2022	Water Temp (C)	16
S3	20 Sep 2022	Wave Height Low (ft)	2
S3	20 Sep 2022	High Tide (ft)	3.96
S3	20 Sep 2022	High Tide Time	803
S3	20 Sep 2022	Low Tide (ft)	0.51
S3	20 Sep 2022	Low Tide Time	113
S3	20 Sep 2022	Comments	Kelp; Algae
S3	27 Sep 2022	Arrive Time	
S3	27 Sep 2022	Weather	Sunny

Station	Date	Parameter	Value
S3	27 Sep 2022	Wind Speed (kts)	1.8
S3	27 Sep 2022	Wind Dir	NW
S3	27 Sep 2022	Animal Life	NaNNaN
S3	27 Sep 2022	Floatables	None
S3	27 Sep 2022	Water Color	Green
S3	27 Sep 2022	Current Direction	N
S3	27 Sep 2022	Water Temp (C)	15
S3	27 Sep 2022	Wave Height Low (ft)	3
S3	27 Sep 2022	High Tide (ft)	5.57
S3	27 Sep 2022	High Tide Time	1020
S3	27 Sep 2022	Low Tide (ft)	0.64
S3	27 Sep 2022	Low Tide Time	414
S3	27 Sep 2022	Comments	none
S4	06 Sep 2022	Arrive Time	1258
S4	06 Sep 2022	Weather	Sunny
S4	06 Sep 2022	Wind Speed (kts)	4
S4	06 Sep 2022	Wind Dir	SW
S4	06 Sep 2022	Animal Life	Bird-200
S4	06 Sep 2022	Floatables	Foam
S4	06 Sep 2022	Water Color	Green
S4	06 Sep 2022	Current Direction	N
S4	06 Sep 2022	Water Temp (C)	22.6
S4	06 Sep 2022	Wave Height Low (ft)	3
S4	06 Sep 2022	High Tide (ft)	3.9
S4	06 Sep 2022	High Tide Time	753
S4	06 Sep 2022	Low Tide (ft)	-0.35
S4	06 Sep 2022	Low Tide Time	113
S4	06 Sep 2022	Comments	Water clear; Trash-3; Kelp; Seagrass; Debris; Person/Walker/Jogger-4
S4	13 Sep 2022	Arrive Time	1252
S4	13 Sep 2022	Weather	Sunny
S4	13 Sep 2022	Wind Speed (kts)	6.6
S4	13 Sep 2022	Wind Dir	W
S4	13 Sep 2022	Animal Life	Bird-7
S4	13 Sep 2022	Floatables	None
S4	13 Sep 2022	Water Color	Green
S4	13 Sep 2022	Current Direction	N
S4	13 Sep 2022	Water Temp (C)	23.3
S4	13 Sep 2022	Wave Height Low (ft)	4
S4	13 Sep 2022	High Tide (ft)	5.41
S4	13 Sep 2022	High Tide Time	1131
S4	13 Sep 2022	Low Tide (ft)	0.81
S4	13 Sep 2022	Low Tide Time	524
S4	13 Sep 2022	Comments	Kelp; Seagrass; Debris
S4	20 Sep 2022	Arrive Time	952
S4	20 Sep 2022	Weather	Sunny
S4	20 Sep 2022	Wind Speed (kts)	3.7
S4	20 Sep 2022	Wind Dir	NW
S4	20 Sep 2022	Animal Life	
S4	20 Sep 2022	Floatables	Foam
S4	20 Sep 2022	Water Color	Green
S4	20 Sep 2022	Current Direction	S
S4	20 Sep 2022	Water Temp (C)	21.2
S4	20 Sep 2022	Wave Height Low (ft)	3
S4	20 Sep 2022	High Tide (ft)	3.96
S4	20 Sep 2022	High Tide Time	803
S4	20 Sep 2022	Low Tide (ft)	0.51
S4	20 Sep 2022	Low Tide Time	113

Station	Date	Parameter	Value
S4	20 Sep 2022	Comments	Kelp; Seagrass
S4	27 Sep 2022	Arrive Time	1026
S4	27 Sep 2022	Weather	Sunny
S4	27 Sep 2022	Wind Speed (kts)	4.9
S4	27 Sep 2022	Wind Dir	W
S4	27 Sep 2022	Animal Life	Bird-2; Pelican-2
S4	27 Sep 2022	Floatables	Foam
S4	27 Sep 2022	Water Color	Green
S4	27 Sep 2022	Current Direction	S
S4	27 Sep 2022	Water Temp (C)	17.5
S4	27 Sep 2022	Wave Height Low (ft)	2
S4	27 Sep 2022	High Tide (ft)	5.57
S4	27 Sep 2022	High Tide Time	1020
S4	27 Sep 2022	Low Tide (ft)	0.64
S4	27 Sep 2022	Low Tide Time	414
S4	27 Sep 2022	Comments	Kelp; Seagrass; Debris
S5	06 Sep 2022	Arrive Time	1117
S5	06 Sep 2022	Weather	Sunny
S5	06 Sep 2022	Wind Speed (kts)	6.6
S5	06 Sep 2022	Wind Dir	W
S5	06 Sep 2022	Animal Life	
S5	06 Sep 2022	Floatables	None
S5	06 Sep 2022	Water Color	Green
S5	06 Sep 2022	Current Direction	S
S5	06 Sep 2022	Water Temp (C)	22.7
S5	06 Sep 2022	Wave Height Low (ft)	3
S5	06 Sep 2022	High Tide (ft)	3.9
S5	06 Sep 2022	High Tide Time	753
S5	06 Sep 2022	Low Tide (ft)	-0.35
S5	06 Sep 2022	Low Tide Time	113
S5	06 Sep 2022	Comments	Kelp; Seagrass; Algae; Debris
S5	13 Sep 2022	Arrive Time	1110
S5	13 Sep 2022	Weather	Sunny
S5	13 Sep 2022	Wind Speed (kts)	8
S5	13 Sep 2022	Wind Dir	W
S5	13 Sep 2022	Animal Life	
S5	13 Sep 2022	Floatables	Foam
S5	13 Sep 2022	Water Color	Green
S5	13 Sep 2022	Current Direction	S
S5	13 Sep 2022	Water Temp (C)	23.2
S5	13 Sep 2022	Wave Height Low (ft)	2
S5	13 Sep 2022	High Tide (ft)	5.41
S5	13 Sep 2022	High Tide Time	1131
S5	13 Sep 2022	Low Tide (ft)	0.81
S5	13 Sep 2022	Low Tide Time	524
S5	13 Sep 2022	Comments	Kelp; Seagrass; Algae; Debris
S5	20 Sep 2022	Arrive Time	1059
S5	20 Sep 2022	Weather	Sunny
S5	20 Sep 2022	Wind Speed (kts)	9.9
S5	20 Sep 2022	Wind Dir	NW
S5	20 Sep 2022	Animal Life	Bird-2
S5	20 Sep 2022	Floatables	Foam
S5	20 Sep 2022	Water Color	Green
S5	20 Sep 2022	Current Direction	S
S5	20 Sep 2022	Water Temp (C)	22.2
S5	20 Sep 2022	Wave Height Low (ft)	1
S5	20 Sep 2022	High Tide (ft)	3.96

Station	Date	Parameter	Value
S5	20 Sep 2022	High Tide Time	803
S5	20 Sep 2022	Low Tide (ft)	0.51
S5	20 Sep 2022	Low Tide Time	113
S5	20 Sep 2022	Comments	Kelp; Seagrass
S5	27 Sep 2022	Arrive Time	831
S5	27 Sep 2022	Weather	Sunny
S5	27 Sep 2022	Wind Speed (kts)	2.3
S5	27 Sep 2022	Wind Dir	N
S5	27 Sep 2022	Animal Life	Bird-5; Dog-1; Pelican-2
S5	27 Sep 2022	Floatables	Foam
S5	27 Sep 2022	Water Color	Green
S5	27 Sep 2022	Current Direction	S
S5	27 Sep 2022	Water Temp (C)	18.5
S5	27 Sep 2022	Wave Height Low (ft)	1
S5	27 Sep 2022	High Tide (ft)	5.57
S5	27 Sep 2022	High Tide Time	1020
S5	27 Sep 2022	Low Tide (ft)	0.64
S5	27 Sep 2022	Low Tide Time	414
S5	27 Sep 2022	Comments	Water turbid; Trash-1; Seagrass; Kelp; Person/Walker/Jogger-4
S6	06 Sep 2022	Arrive Time	1142
S6	06 Sep 2022	Weather	Sunny
S6	06 Sep 2022	Wind Speed (kts)	6.3
S6	06 Sep 2022	Wind Dir	W
S6	06 Sep 2022	Animal Life	Bird-1
S6	06 Sep 2022	Floatables	None
S6	06 Sep 2022	Water Color	Green
S6	06 Sep 2022	Current Direction	N
S6	06 Sep 2022	Water Temp (C)	22.5
S6	06 Sep 2022	Wave Height Low (ft)	3
S6	06 Sep 2022	High Tide (ft)	3.9
S6	06 Sep 2022	High Tide Time	753
S6	06 Sep 2022	Low Tide (ft)	-0.35
S6	06 Sep 2022	Low Tide Time	113
S6	06 Sep 2022	Comments	Kelp; Algae
S6	13 Sep 2022	Arrive Time	1141
S6	13 Sep 2022	Weather	Sunny
S6	13 Sep 2022	Wind Speed (kts)	5.7
S6	13 Sep 2022	Wind Dir	W
S6	13 Sep 2022	Animal Life	
S6	13 Sep 2022	Floatables	Foam
S6	13 Sep 2022	Water Color	Green
S6	13 Sep 2022	Current Direction	N
S6	13 Sep 2022	Water Temp (C)	22.5
S6	13 Sep 2022	Wave Height Low (ft)	4
S6	13 Sep 2022	High Tide (ft)	5.41
S6	13 Sep 2022	High Tide Time	1131
S6	13 Sep 2022	Low Tide (ft)	0.81
S6	13 Sep 2022	Low Tide Time	524
S6	13 Sep 2022	Comments	Water clear; Boogie boarder/Swimmer-1; Trash-3; Kelp; Seagrass; Debris; Person/Walker/Jogger-3
S6	20 Sep 2022	Arrive Time	1123
S6	20 Sep 2022	Weather	Sunny
S6	20 Sep 2022	Wind Speed (kts)	8.2
S6	20 Sep 2022	Wind Dir	NW
S6	20 Sep 2022	Animal Life	Bird-14
S6	20 Sep 2022	Floatables	Foam

Station	Date	Parameter	Value
S6	20 Sep 2022	Water Color	Green
S6	20 Sep 2022	Current Direction	S
S6	20 Sep 2022	Water Temp (C)	22.8
S6	20 Sep 2022	Wave Height Low (ft)	2
S6	20 Sep 2022	High Tide (ft)	3.96
S6	20 Sep 2022	High Tide Time	803
S6	20 Sep 2022	Low Tide (ft)	0.51
S6	20 Sep 2022	Low Tide Time	113
S6	20 Sep 2022	Comments	Water turbid; Trash-1; Seagrass; Kelp; Person/Walker/Jogger-2
S6	27 Sep 2022	Arrive Time	859
S6	27 Sep 2022	Weather	Sunny
S6	27 Sep 2022	Wind Speed (kts)	2.7
S6	27 Sep 2022	Wind Dir	NW
S6	27 Sep 2022	Animal Life	Bird-1; Dog-1
S6	27 Sep 2022	Floatables	Foam
S6	27 Sep 2022	Water Color	Green
S6	27 Sep 2022	Current Direction	
S6	27 Sep 2022	Water Temp (C)	1.9
S6	27 Sep 2022	Wave Height Low (ft)	2
S6	27 Sep 2022	High Tide (ft)	5.57
S6	27 Sep 2022	High Tide Time	1020
S6	27 Sep 2022	Low Tide (ft)	0.64
S6	27 Sep 2022	Low Tide Time	414
S6	27 Sep 2022	Comments	Water turbid; Surfer/Paddle boarder-1; Trash-1; Seagrass; Kelp; Debris; Person/Walker/Jogger-2
S8	06 Sep 2022	Arrive Time	1045
S8	06 Sep 2022	Weather	Sunny
S8	06 Sep 2022	Wind Speed (kts)	4.4
S8	06 Sep 2022	Wind Dir	W
S8	06 Sep 2022	Animal Life	Seagull-15; Seal/Sea Lion-1
S8	06 Sep 2022	Floatables	None
S8	06 Sep 2022	Water Color	Green
S8	06 Sep 2022	Current Direction	N
S8	06 Sep 2022	Water Temp (C)	23.6
S8	06 Sep 2022	Wave Height Low (ft)	2
S8	06 Sep 2022	High Tide (ft)	3.9
S8	06 Sep 2022	High Tide Time	753
S8	06 Sep 2022	Low Tide (ft)	-0.35
S8	06 Sep 2022	Low Tide Time	113
S8	06 Sep 2022	Comments	Water turbid; Boogie boarder/Swimmer-4; Trash-1; Kelp; Seagrass; Person/Walker/Jogger-12
S8	13 Sep 2022	Arrive Time	1017
S8	13 Sep 2022	Weather	Sunny
S8	13 Sep 2022	Wind Speed (kts)	4
S8	13 Sep 2022	Wind Dir	W
S8	13 Sep 2022	Animal Life	
S8	13 Sep 2022	Floatables	Foam
S8	13 Sep 2022	Water Color	Green
S8	13 Sep 2022	Current Direction	N
S8	13 Sep 2022	Water Temp (C)	22.8
S8	13 Sep 2022	Wave Height Low (ft)	2
S8	13 Sep 2022	High Tide (ft)	5.41
S8	13 Sep 2022	High Tide Time	1131
S8	13 Sep 2022	Low Tide (ft)	0.81
S8	13 Sep 2022	Low Tide Time	524
S8	13 Sep 2022	Comments	Water turbid; Fisherperson-1; Trash-2; Kelp; Seagrass; Algae; Person/Walker/Jogger-4

Station	Date	Parameter	Value
S8	20 Sep 2022	Arrive Time	844
S8	20 Sep 2022	Weather	Sunny
S8	20 Sep 2022	Wind Speed (kts)	5
S8	20 Sep 2022	Wind Dir	NW
S8	20 Sep 2022	Animal Life	Dog-1; Pelican-1
S8	20 Sep 2022	Floatables	Foam
S8	20 Sep 2022	Water Color	Green
S8	20 Sep 2022	Current Direction	S
S8	20 Sep 2022	Water Temp (C)	22.9
S8	20 Sep 2022	Wave Height Low (ft)	1
S8	20 Sep 2022	High Tide (ft)	3.96
S8	20 Sep 2022	High Tide Time	803
S8	20 Sep 2022	Low Tide (ft)	0.51
S8	20 Sep 2022	Low Tide Time	113
S8	20 Sep 2022	Comments	Water turbid; Fisherperson-2; Trash-1; Seagrass; Kelp; Person/Walker/Jogger-2
S8	27 Sep 2022	Arrive Time	1119
S8	27 Sep 2022	Weather	Sunny
S8	27 Sep 2022	Wind Speed (kts)	7.1
S8	27 Sep 2022	Wind Dir	W
S8	27 Sep 2022	Animal Life	Bird-3
S8	27 Sep 2022	Floatables	Foam
S8	27 Sep 2022	Water Color	Green
S8	27 Sep 2022	Current Direction	S
S8	27 Sep 2022	Water Temp (C)	18.6
S8	27 Sep 2022	Wave Height Low (ft)	3
S8	27 Sep 2022	High Tide (ft)	5.57
S8	27 Sep 2022	High Tide Time	1020
S8	27 Sep 2022	Low Tide (ft)	0.64
S8	27 Sep 2022	Low Tide Time	414
S8	27 Sep 2022	Comments	Water turbid; Trash-1; Seagrass; Kelp; Person/Walker/Jogger-4
S9	06 Sep 2022	Arrive Time	1022
S9	06 Sep 2022	Weather	Sunny
S9	06 Sep 2022	Wind Speed (kts)	2.8
S9	06 Sep 2022	Wind Dir	W
S9	06 Sep 2022	Animal Life	Seagull-2
S9	06 Sep 2022	Floatables	None
S9	06 Sep 2022	Water Color	Green
S9	06 Sep 2022	Current Direction	S
S9	06 Sep 2022	Water Temp (C)	24.4
S9	06 Sep 2022	Wave Height Low (ft)	2
S9	06 Sep 2022	High Tide (ft)	3.9
S9	06 Sep 2022	High Tide Time	753
S9	06 Sep 2022	Low Tide (ft)	-0.35
S9	06 Sep 2022	Low Tide Time	113
S9	06 Sep 2022	Comments	Water clear; Surfer/Paddle boarder-1; Trash-1; Kelp; Seagrass; Algae; Person/Walker/Jogger-11
S9	13 Sep 2022	Arrive Time	953
S9	13 Sep 2022	Weather	Sunny
S9	13 Sep 2022	Wind Speed (kts)	4.4
S9	13 Sep 2022	Wind Dir	W
S9	13 Sep 2022	Animal Life	
S9	13 Sep 2022	Floatables	Foam
S9	13 Sep 2022	Water Color	Green
S9	13 Sep 2022	Current Direction	N
S9	13 Sep 2022	Water Temp (C)	24.1

Station	Date	Parameter	Value
S9	13 Sep 2022	Wave Height Low (ft)	1
S9	13 Sep 2022	High Tide (ft)	5.41
S9	13 Sep 2022	High Tide Time	1131
S9	13 Sep 2022	Low Tide (ft)	0.81
S9	13 Sep 2022	Low Tide Time	524
S9	13 Sep 2022	Comments	Water turbid; Trash-1; Kelp; Seagrass; Person/Walker/Jogger-6
S9	20 Sep 2022	Arrive Time	817
S9	20 Sep 2022	Weather	Sunny
S9	20 Sep 2022	Wind Speed (kts)	3.2
S9	20 Sep 2022	Wind Dir	N
S9	20 Sep 2022	Animal Life	Seagull-6
S9	20 Sep 2022	Floatables	Foam
S9	20 Sep 2022	Water Color	Green
S9	20 Sep 2022	Current Direction	S
S9	20 Sep 2022	Water Temp (C)	21.9
S9	20 Sep 2022	Wave Height Low (ft)	1
S9	20 Sep 2022	High Tide (ft)	3.96
S9	20 Sep 2022	High Tide Time	803
S9	20 Sep 2022	Low Tide (ft)	0.51
S9	20 Sep 2022	Low Tide Time	113
S9	20 Sep 2022	Comments	Water turbid; Trash-1; Seagrass; Kelp; Person/Walker/Jogger-8
S9	27 Sep 2022	Arrive Time	1144
S9	27 Sep 2022	Weather	Sunny
S9	27 Sep 2022	Wind Speed (kts)	8.9
S9	27 Sep 2022	Wind Dir	NW
S9	27 Sep 2022	Animal Life	Pelican-2; Seagull-1
S9	27 Sep 2022	Floatables	Foam
S9	27 Sep 2022	Water Color	Brown
S9	27 Sep 2022	Current Direction	S
S9	27 Sep 2022	Water Temp (C)	20.6
S9	27 Sep 2022	Wave Height Low (ft)	1
S9	27 Sep 2022	High Tide (ft)	5.57
S9	27 Sep 2022	High Tide Time	1020
S9	27 Sep 2022	Low Tide (ft)	0.64
S9	27 Sep 2022	Low Tide Time	414
S9	27 Sep 2022	Comments	Water turbid; Trash-1; Seagrass; Kelp; Person/Walker/Jogger-6
S10	06 Sep 2022	Arrive Time	1231
S10	06 Sep 2022	Weather	Sunny
S10	06 Sep 2022	Wind Speed (kts)	6
S10	06 Sep 2022	Wind Dir	SW
S10	06 Sep 2022	Animal Life	Bird-1
S10	06 Sep 2022	Floatables	None
S10	06 Sep 2022	Water Color	Green
S10	06 Sep 2022	Current Direction	N
S10	06 Sep 2022	Water Temp (C)	23.4
S10	06 Sep 2022	Wave Height Low (ft)	3
S10	06 Sep 2022	High Tide (ft)	3.9
S10	06 Sep 2022	High Tide Time	753
S10	06 Sep 2022	Low Tide (ft)	-0.35
S10	06 Sep 2022	Low Tide Time	113
S10	06 Sep 2022	Comments	Kelp
S10	13 Sep 2022	Arrive Time	1302
S10	13 Sep 2022	Weather	Sunny
S10	13 Sep 2022	Wind Speed (kts)	7.9

Station	Date	Parameter	Value
S10	13 Sep 2022	Wind Dir	W
S10	13 Sep 2022	Animal Life	Horse-3
S10	13 Sep 2022	Floatables	Foam; Film
S10	13 Sep 2022	Water Color	Green
S10	13 Sep 2022	Current Direction	N
S10	13 Sep 2022	Water Temp (C)	22.8
S10	13 Sep 2022	Wave Height Low (ft)	4
S10	13 Sep 2022	High Tide (ft)	5.41
S10	13 Sep 2022	High Tide Time	1131
S10	13 Sep 2022	Low Tide (ft)	0.81
S10	13 Sep 2022	Low Tide Time	524
S10	13 Sep 2022	Comments	Water turbid; Trash-2; Kelp; Seagrass; Person/Walker/Jogger-3
S10	20 Sep 2022	Arrive Time	940
S10	20 Sep 2022	Weather	Sunny
S10	20 Sep 2022	Wind Speed (kts)	5.3
S10	20 Sep 2022	Wind Dir	NW
S10	20 Sep 2022	Animal Life	Bird-1
S10	20 Sep 2022	Floatables	Foam
S10	20 Sep 2022	Water Color	Green
S10	20 Sep 2022	Current Direction	S
S10	20 Sep 2022	Water Temp (C)	21.8
S10	20 Sep 2022	Wave Height Low (ft)	2
S10	20 Sep 2022	High Tide (ft)	3.96
S10	20 Sep 2022	High Tide Time	803
S10	20 Sep 2022	Low Tide (ft)	0.51
S10	20 Sep 2022	Low Tide Time	113
S10	20 Sep 2022	Comments	Kelp; Seagrass; Debris
S10	27 Sep 2022	Arrive Time	1012
S10	27 Sep 2022	Weather	Sunny
S10	27 Sep 2022	Wind Speed (kts)	4.2
S10	27 Sep 2022	Wind Dir	NW
S10	27 Sep 2022	Animal Life	Bird-2; Pelican-1
S10	27 Sep 2022	Floatables	Foam
S10	27 Sep 2022	Water Color	Green
S10	27 Sep 2022	Current Direction	S
S10	27 Sep 2022	Water Temp (C)	17.4
S10	27 Sep 2022	Wave Height Low (ft)	2
S10	27 Sep 2022	High Tide (ft)	5.57
S10	27 Sep 2022	High Tide Time	1020
S10	27 Sep 2022	Low Tide (ft)	0.64
S10	27 Sep 2022	Low Tide Time	414
S10	27 Sep 2022	Comments	Kelp; Seagrass
S11	06 Sep 2022	Arrive Time	1132
S11	06 Sep 2022	Weather	Sunny
S11	06 Sep 2022	Wind Speed (kts)	6.1
S11	06 Sep 2022	Wind Dir	W
S11	06 Sep 2022	Animal Life	Dolphin-4; Seagull-4
S11	06 Sep 2022	Floatables	Foam
S11	06 Sep 2022	Water Color	Green
S11	06 Sep 2022	Current Direction	N
S11	06 Sep 2022	Water Temp (C)	22.6
S11	06 Sep 2022	Wave Height Low (ft)	3
S11	06 Sep 2022	High Tide (ft)	3.9
S11	06 Sep 2022	High Tide Time	753
S11	06 Sep 2022	Low Tide (ft)	-0.35
S11	06 Sep 2022	Low Tide Time	113

Station	Date	Parameter	Value
S11	06 Sep 2022	Comments	Water clear; Trash-1; Kelp; Seagrass; Algae; Person/Walker/Jogger-1
S11	13 Sep 2022	Arrive Time	1129
S11	13 Sep 2022	Weather	Sunny
S11	13 Sep 2022	Wind Speed (kts)	5.4
S11	13 Sep 2022	Wind Dir	W
S11	13 Sep 2022	Animal Life	
S11	13 Sep 2022	Foatables	Foam; Film
S11	13 Sep 2022	Water Color	Green
S11	13 Sep 2022	Current Direction	N
S11	13 Sep 2022	Water Temp (C)	23.2
S11	13 Sep 2022	Wave Height Low (ft)	3
S11	13 Sep 2022	High Tide (ft)	5.41
S11	13 Sep 2022	High Tide Time	1131
S11	13 Sep 2022	Low Tide (ft)	0.81
S11	13 Sep 2022	Low Tide Time	524
S11	13 Sep 2022	Comments	Water turbid; Trash-2; Kelp; Seagrass; Debris; Person/Walker/Jogger-3
S11	20 Sep 2022	Arrive Time	1114
S11	20 Sep 2022	Weather	Sunny
S11	20 Sep 2022	Wind Speed (kts)	9.8
S11	20 Sep 2022	Wind Dir	NW
S11	20 Sep 2022	Animal Life	Seagull-1
S11	20 Sep 2022	Foatables	Foam
S11	20 Sep 2022	Water Color	Green
S11	20 Sep 2022	Current Direction	S
S11	20 Sep 2022	Water Temp (C)	21.6
S11	20 Sep 2022	Wave Height Low (ft)	2
S11	20 Sep 2022	High Tide (ft)	3.96
S11	20 Sep 2022	High Tide Time	803
S11	20 Sep 2022	Low Tide (ft)	0.51
S11	20 Sep 2022	Low Tide Time	113
S11	20 Sep 2022	Comments	Kelp; Seagrass
S11	27 Sep 2022	Arrive Time	849
S11	27 Sep 2022	Weather	Sunny
S11	27 Sep 2022	Wind Speed (kts)	2.8
S11	27 Sep 2022	Wind Dir	NW
S11	27 Sep 2022	Animal Life	Dog-1; Pelican-1
S11	27 Sep 2022	Foatables	Foam
S11	27 Sep 2022	Water Color	Green
S11	27 Sep 2022	Current Direction	S
S11	27 Sep 2022	Water Temp (C)	19.5
S11	27 Sep 2022	Wave Height Low (ft)	2
S11	27 Sep 2022	High Tide (ft)	5.57
S11	27 Sep 2022	High Tide Time	1020
S11	27 Sep 2022	Low Tide (ft)	0.64
S11	27 Sep 2022	Low Tide Time	414
S11	27 Sep 2022	Comments	Water turbid; Trash-2; Seagrass; Kelp; Debris; Person/Walker/Jogger-1
S12	06 Sep 2022	Arrive Time	1102
S12	06 Sep 2022	Weather	Sunny
S12	06 Sep 2022	Wind Speed (kts)	4.6
S12	06 Sep 2022	Wind Dir	SW
S12	06 Sep 2022	Animal Life	Bird-5; Dog-1; Seagull-3
S12	06 Sep 2022	Foatables	None
S12	06 Sep 2022	Water Color	Green
S12	06 Sep 2022	Current Direction	N

Station	Date	Parameter	Value
S12	06 Sep 2022	Water Temp (C)	23.1
S12	06 Sep 2022	Wave Height Low (ft)	2
S12	06 Sep 2022	High Tide (ft)	3.9
S12	06 Sep 2022	High Tide Time	753
S12	06 Sep 2022	Low Tide (ft)	-0.35
S12	06 Sep 2022	Low Tide Time	113
S12	06 Sep 2022	Comments	Water clear; Trash-1; Kelp; Seagrass; Algae; Person/Walker/Jogger-4
S12	13 Sep 2022	Arrive Time	1036
S12	13 Sep 2022	Weather	Sunny
S12	13 Sep 2022	Wind Speed (kts)	5.1
S12	13 Sep 2022	Wind Dir	SW
S12	13 Sep 2022	Animal Life	Bird-5
S12	13 Sep 2022	Floatables	Foam
S12	13 Sep 2022	Water Color	Green
S12	13 Sep 2022	Current Direction	N
S12	13 Sep 2022	Water Temp (C)	22.7
S12	13 Sep 2022	Wave Height Low (ft)	3
S12	13 Sep 2022	High Tide (ft)	5.41
S12	13 Sep 2022	High Tide Time	1131
S12	13 Sep 2022	Low Tide (ft)	0.81
S12	13 Sep 2022	Low Tide Time	524
S12	13 Sep 2022	Comments	Water clear; Trash-3; Kelp; Seagrass; Algae; Debris; Person/Walker/Jogger-3; Sewage-like odor
S12	20 Sep 2022	Arrive Time	1031
S12	20 Sep 2022	Weather	Sunny
S12	20 Sep 2022	Wind Speed (kts)	6.7
S12	20 Sep 2022	Wind Dir	NW
S12	20 Sep 2022	Animal Life	Bird-6; Dog-3
S12	20 Sep 2022	Floatables	Foam
S12	20 Sep 2022	Water Color	Green
S12	20 Sep 2022	Current Direction	S
S12	20 Sep 2022	Water Temp (C)	21.9
S12	20 Sep 2022	Wave Height Low (ft)	1
S12	20 Sep 2022	High Tide (ft)	3.96
S12	20 Sep 2022	High Tide Time	803
S12	20 Sep 2022	Low Tide (ft)	0.51
S12	20 Sep 2022	Low Tide Time	113
S12	20 Sep 2022	Comments	Water turbid; Trash-1; Seagrass; Kelp; Person/Walker/Jogger-2
S12	27 Sep 2022	Arrive Time	925
S12	27 Sep 2022	Weather	Sunny
S12	27 Sep 2022	Wind Speed (kts)	2.2
S12	27 Sep 2022	Wind Dir	W
S12	27 Sep 2022	Animal Life	Bird-7; Seagull-1
S12	27 Sep 2022	Floatables	Foam
S12	27 Sep 2022	Water Color	Green
S12	27 Sep 2022	Current Direction	
S12	27 Sep 2022	Water Temp (C)	23
S12	27 Sep 2022	Wave Height Low (ft)	1
S12	27 Sep 2022	High Tide (ft)	5.57
S12	27 Sep 2022	High Tide Time	1020
S12	27 Sep 2022	Low Tide (ft)	0.64
S12	27 Sep 2022	Low Tide Time	414
S12	27 Sep 2022	Comments	Water turbid; Trash-1; Seagrass; Kelp; Debris; Person/Walker/Jogger-2

Kelp Stations

Table 3.1

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

Date	I19	I24	I25	I26	I32	I39	I40
01 Sep 2022	6	7	8	2	2	2	15
02 Sep 2022	6	7	8	2	2	2	15
03 Sep 2022	6	7	8	2	2	2	15
04 Sep 2022	6	7	8	2	2	2	15
05 Sep 2022	6	7	8	2	2	2	15
06 Sep 2022	6	7	8	2	2	2	15
07 Sep 2022	11	6	7	5	2	3	12
08 Sep 2022	11	6	7	5	2	3	12
09 Sep 2022	11	6	7	5	2	3	12
10 Sep 2022	11	6	7	5	2	3	12
11 Sep 2022	11	6	7	5	2	3	12
12 Sep 2022	11	6	7	5	2	3	12
13 Sep 2022	13	8	8	4	6	4	16
14 Sep 2022	22	11	11	5	8	4	27
15 Sep 2022	22	11	11	5	8	4	27
16 Sep 2022	22	11	11	5	8	4	27
17 Sep 2022	22	11	11	5	8	4	27
18 Sep 2022	22	11	11	5	8	4	27
19 Sep 2022	22	11	11	5	8	4	27
20 Sep 2022	13	8	8	4	7	4	21
21 Sep 2022	13	8	8	4	7	4	21
22 Sep 2022	20	11	11	5	10	4	29
23 Sep 2022	20	11	11	5	10	4	29
24 Sep 2022	20	11	11	5	10	4	29
25 Sep 2022	20	11	11	5	10	4	29
26 Sep 2022	20	11	11	5	10	4	29
27 Sep 2022	20	11	11	5	10	4	29
28 Sep 2022	20	11	11	5	10	4	29
29 Sep 2022	20	11	11	5	10	4	29
30 Sep 2022	20	11	11	5	10	4	29

* Geometric mean calculated using n<5

Table 3.2

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

Date	I19	I24	I25	I26	I32	I39	I40
07 Sep 2022	E	IC	E	IC	IC	IC	E
13 Sep 2022	IC	IC	IC	IC	E	IC	IC
20 Sep 2022	IC	IC	IC	IC	IC	IC	IC
29 Sep 2022	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 2022	5	4	5	2	2	2	7
02 Sep 2022	5	4	5	2	2	2	7
03 Sep 2022	5	4	5	2	2	2	7
04 Sep 2022	5	4	5	2	2	2	7
05 Sep 2022	6	5	6	2	2	2	8
06 Sep 2022	6	5	6	2	2	2	8
07 Sep 2022	11	8	10	3	2	3	16
08 Sep 2022	11	8	10	3	2	3	16
09 Sep 2022	11	8	10	3	2	3	16
10 Sep 2022	11	8	10	3	2	3	16
11 Sep 2022	11	8	10	3	2	3	16
12 Sep 2022	11	8	10	3	2	3	16
13 Sep 2022	7	7	7	3	3	3	11
14 Sep 2022	7	7	7	3	3	3	11
15 Sep 2022	7	7	7	3	3	3	11
16 Sep 2022	7	7	7	3	3	3	11
17 Sep 2022	7	7	7	3	3	3	11
18 Sep 2022	7	7	7	3	3	3	11
19 Sep 2022	5	5	5	3	3	3	6
20 Sep 2022	5	4	4	3	3	3	6
21 Sep 2022	5	4	4	3	3	3	6
22 Sep 2022	5	4	4	3	3	3	6
23 Sep 2022	5	4	4	3	3	3	6
24 Sep 2022	5	4	4	3	3	3	6
25 Sep 2022	5	4	4	3	3	3	6
26 Sep 2022	5	5	5	3	3	3	7
27 Sep 2022	5	5	5	3	3	3	7
28 Sep 2022	5	5	5	3	3	3	7
29 Sep 2022	5	4	4	3	3	3	6
30 Sep 2022	5	4	4	3	3	3	6

* 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	E	E	IC	IC	IC	E

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 3.5

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

Date	I19			I24			I25			I26			I32			I39			I40		
	2m	6m	11m	2m	6m	11m	2m	6m	9m	2m	6m	9m	2m	6m	9m	2m	12m	18m	2m	6m	9m
01 Sep 2022	20	20	11	11	2	5	2	17	5	2	13	3	20	11	2	2	2	20	7	17	
02 Sep 2022	20	20	11	11	2	5	2	17	5	2	13	3	20	11	2	2	2	20	7	17	
03 Sep 2022	20	20	11	11	2	5	2	17	5	2	13	3	20	11	2	2	2	20	7	17	
04 Sep 2022	20	20	11	11	2	5	2	17	5	2	13	3	20	11	2	2	2	20	7	17	
05 Sep 2022	20	20	11	11	2	5	2	17	5	2	13	3	20	11	2	2	2	20	7	17	
06 Sep 2022	20	20	11	11	2	5	2	17	5	2	13	3	20	11	2	2	2	20	7	17	
07 Sep 2022	20	20	11	11	2	5	2	17	5	2	13	3	20	22	11	2	2	6	20	7	17
08 Sep 2022	20	20	11	11	2	5	2	17	5	2	13	3	20	22	11	2	2	6	20	7	17
09 Sep 2022	20	20	11	11	2	5	2	17	5	2	13	3	20	22	11	2	2	6	20	7	17
10 Sep 2022	20	20	11	11	2	5	2	17	5	2	13	3	20	22	11	2	2	6	20	7	17
11 Sep 2022	20	20	11	11	2	5	2	17	5	2	13	3	20	22	11	2	2	6	20	7	17
12 Sep 2022	20	20	11	11	2	5	2	17	5	2	13	3	20	22	11	2	2	6	20	7	17
13 Sep 2022	20	20	20	2	2	8	2	20	8	2	6	4	20	24	20	2	2	10	20	12	30
14 Sep 2022	20	20	110	11	104	2	20	104	2	11	12	20	22	20	2	6	105	20	66	75	
15 Sep 2022	20	20	110	11	104	2	20	104	2	11	12	20	22	20	2	6	105	20	66	75	
16 Sep 2022	20	20	110	11	104	2	20	104	2	11	12	20	22	20	2	6	105	20	66	75	
17 Sep 2022	20	20	110	11	104	2	20	104	2	11	12	20	22	20	2	6	105	20	66	75	
18 Sep 2022	20	20	110	11	104	2	20	104	2	11	12	20	22	20	2	6	105	20	66	75	
19 Sep 2022	20	20	110	11	104	2	20	104	2	11	12	20	22	20	2	6	105	20	66	75	
20 Sep 2022	20	20	20	8	20	20	2	20	8	2	2	4	20	24	20	2	2	10	20	86	44
21 Sep 2022	20	20	20	8	20	20	2	20	8	2	2	4	20	24	20	2	2	10	20	86	44
22 Sep 2022	20	20	102	14	60	110	2	20	101	2	11	12	23	47	20	2	6	105	20	103	82
23 Sep 2022	20	20	102	14	60	110	2	20	101	2	11	12	23	47	20	2	6	105	20	103	82
24 Sep 2022	20	20	102	14	60	110	2	20	101	2	11	12	23	47	20	2	6	105	20	103	82
25 Sep 2022	20	20	102	14	60	110	2	20	101	2	11	12	23	47	20	2	6	105	20	103	82
26 Sep 2022	20	20	102	14	60	110	2	20	101	2	11	12	23	47	20	2	6	105	20	103	82
27 Sep 2022	20	20	102	14	60	110	2	20	101	2	11	12	23	47	20	2	6	105	20	103	82
28 Sep 2022	20	20	102	14	60	110	2	20	101	2	11	12	23	47	20	2	6	105	20	103	82
29 Sep 2022	11	11	102	5	60	110	2	11	101	2	2	11	23	47	20	2	6	101	20	103	82
30 Sep 2022	11	11	102	5	60	110	2	11	101	2	2	11	23	47	20	2	6	101	20	103	82

* Median calculated using n<5

Table 3.6

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

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

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 3.7

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

Station	Date	Time	Depth	Total	Fecal	Entero	Temp	XMS	DO	Sal	pH
I19	07 Sep 2022	1035	2	10000	1100	220e	19.5	68.22	7.9	33.37	8.1
I19	07 Sep 2022	1035	6	12000	2600e	340e	18.7	66.24	7.8	33.39	8.1
I19	07 Sep 2022	1035	11	3600e	280e	100	17.9	73.69	7.8	33.41	8.1
I19	13 Sep 2022	1124	2	<20	2e	2e	21.2	88.08	7.6	33.48	8.2
I19	13 Sep 2022	1124	6	<20	26e	2e	20.9	84.61	7.6	33.46	8.2
I19	13 Sep 2022	1124	11	200e	66	<2	20.7	82.37	7.5	33.46	8.1
I19	20 Sep 2022	1023	2	<2	<2	<2	ns	ns	ns	ns	ns
I19	20 Sep 2022		2	ns	ns	ns	20.3	77.06	7.3	33.42	8.1
I19	20 Sep 2022	1023	6	<2	<2	<2	ns	ns	ns	ns	ns
I19	20 Sep 2022		6	ns	ns	ns	18.8	83.66	7.2	33.42	8.1
I19	20 Sep 2022	1023	11	4e	<2	4e	ns	ns	ns	ns	ns
I19	20 Sep 2022		11	ns	ns	ns	18.2	76.96	7.0	33.41	8.1
I19	29 Sep 2022	1115	2	2e	<2	2e	17.9	68.61	8.9	33.39	8.2
I19	29 Sep 2022	1115	6	2e	<2	<2	15.5	73.67	6.9	33.38	8.0
I19	29 Sep 2022	1115	11	2e	<2	2e	13.7	77.66	6.0	33.38	7.9
I24	07 Sep 2022	1053	2	2000e	300e	260e	20.3	68.67	8.8	33.36	8.2
I24	07 Sep 2022	1053	6	1800e	280e	110	18.1	80.48	8.3	33.38	8.1
I24	07 Sep 2022	1053	11	460	74	<20	17.2	70.75	8.3	33.40	8.1
I24	13 Sep 2022	1143	2	<2	<2	<2	21.9	87.40	7.5	33.50	8.2
I24	13 Sep 2022	1143	6	20e	20e	<2	20.6	80.71	7.7	33.44	8.2
I24	13 Sep 2022	1143	11	<200	20e	4e	20.4	75.75	7.8	33.45	8.2
I24	20 Sep 2022	1044	2	8e	<2	4e	ns	ns	ns	ns	ns
I24	20 Sep 2022		2	ns	ns	ns	21.2	78.01	8.0	33.46	8.2
I24	20 Sep 2022	1044	6	100e	2e	<2	ns	ns	ns	ns	ns
I24	20 Sep 2022		6	ns	ns	ns	19.8	79.42	7.0	33.43	8.1
I24	20 Sep 2022	1044	11	<20	4e	2e	ns	ns	ns	ns	ns
I24	20 Sep 2022		11	ns	ns	ns	18.8	76.52	6.4	33.43	8.1
I24	29 Sep 2022	1134	2	<2	<2	<2	18.0	81.29	9.0	33.40	8.2
I24	29 Sep 2022	1134	6	<2	<2	<2	16.3	80.05	7.6	33.38	8.1
I24	29 Sep 2022	1134	11	<2	<2	<2	13.6	76.12	6.0	33.39	7.9
I25	07 Sep 2022	1102	2	5600	520	300e	19.8	67.71	8.8	33.41	8.2
I25	07 Sep 2022	1102	6	700	94	80e	17.5	77.03	8.3	33.40	8.1
I25	07 Sep 2022	1102	9	380e	80	<20	17.3	72.69	8.3	33.40	8.1
I25	13 Sep 2022	1151	2	<2	<2	<2	21.9	88.22	7.4	33.50	8.2
I25	13 Sep 2022	1151	6	<20	<20	<2	20.7	81.29	7.7	33.44	8.2
I25	13 Sep 2022	1151	9	<200	20e	<2	20.4	78.02	7.8	33.45	8.2
I25	20 Sep 2022	1052	2	<2	<2	<2	ns	ns	ns	ns	ns
I25	20 Sep 2022		2	ns	ns	ns	21.6	81.12	8.0	33.47	8.2
I25	20 Sep 2022	1052	6	<2	<2	<2	ns	ns	ns	ns	ns
I25	20 Sep 2022		6	ns	ns	ns	20.4	83.26	8.2	33.43	8.2
I25	20 Sep 2022	1052	9	<2	<2	2e	ns	ns	ns	ns	ns

Station	Date	Time	Depth	Total	Fecal	Enter	Temp	XMS	DO	Sal	pH
I25	20 Sep 2022		9	ns	ns	ns	19.2	82.35	7.6	33.43	8.1
I25	29 Sep 2022	1142	2	<2	<2	<2	17.7	77.88	8.8	33.41	8.2
I25	29 Sep 2022	1142	6	<2	<2	<2	15.6	83.92	7.5	33.39	8.1
I25	29 Sep 2022	1142	9	<2	<2	<2	13.7	77.51	5.9	33.39	7.9
I26	07 Sep 2022	1110	2	240e	20e	<20	19.9	70.00	8.6	33.38	8.2
I26	07 Sep 2022	1110	6	160e	70	14e	18.2	68.25	8.2	33.41	8.1
I26	07 Sep 2022	1110	9	400	64	20e	18.1	71.81	8.3	33.40	8.1
I26	13 Sep 2022	1200	2	<2	<2	<2	21.9	88.10	7.5	33.50	8.2
I26	13 Sep 2022	1200	6	2e	2e	<2	21.2	86.78	7.6	33.45	8.2
I26	13 Sep 2022	1200	9	20e	4e	<2	20.6	80.63	7.7	33.45	8.2
I26	20 Sep 2022	1103	2	<2	<2	<2	ns	ns	ns	ns	ns
I26	20 Sep 2022		2	ns	ns	ns	21.7	80.13	8.0	33.48	8.2
I26	20 Sep 2022	1103	6	<2	<2	<2	ns	ns	ns	ns	ns
I26	20 Sep 2022		6	ns	ns	ns	20.9	82.40	8.2	33.44	8.2
I26	20 Sep 2022	1103	9	<2	<2	<2	ns	ns	ns	ns	ns
I26	20 Sep 2022		9	ns	ns	ns	18.7	82.72	7.4	33.42	8.1
I26	29 Sep 2022	1154	2	<2	<2	<2	17.8	83.35	8.8	33.42	8.2
I26	29 Sep 2022	1154	6	<2	<2	<2	16.3	79.07	8.4	33.41	8.1
I26	29 Sep 2022	1154	9	<2	<2	<2	14.2	81.80	6.5	33.39	8.0
I32	07 Sep 2022	1122	2	<20	2e	<2	21.7	80.82	7.5	33.50	8.2
I32	07 Sep 2022	1122	6	24e	2e	<2	18.8	74.61	8.6	33.44	8.2
I32	07 Sep 2022	1122	9	20e	6e	2e	18.5	79.48	8.7	33.44	8.2
I32	13 Sep 2022	1213	2	600e	460	26e	22.0	75.95	7.8	33.25	8.1
I32	13 Sep 2022	1213	6	7200e	560	30e	21.1	78.13	8.1	33.38	8.2
I32	13 Sep 2022	1213	9	600e	100e	<2	21.0	80.51	8.2	33.40	8.2
I32	20 Sep 2022	1116	2	26e	<2	<2	ns	ns	ns	ns	ns
I32	20 Sep 2022		2	ns	ns	ns	21.1	76.18	7.8	33.44	8.2
I32	20 Sep 2022	1116	6	70	10e	<2	ns	ns	ns	ns	ns
I32	20 Sep 2022		6	ns	ns	ns	18.7	72.83	7.1	33.42	8.1
I32	20 Sep 2022	1116	9	<20	<2	<2	ns	ns	ns	ns	ns
I32	20 Sep 2022		9	ns	ns	ns	18.3	72.48	7.2	33.40	8.1
I32	29 Sep 2022	1205	2	<2	<2	<2	18.1	77.49	9.4	33.39	8.2
I32	29 Sep 2022	1205	6	<2	<2	<2	15.6	66.97	7.2	33.41	8.1
I32	29 Sep 2022	1205	9	<2	<2	<2	14.3	77.86	6.3	33.37	7.9
I39	07 Sep 2022	1012	2	400e	20e	<20	20.9	58.00	10.3	33.39	8.3
I39	07 Sep 2022	1012	12	10e	18e	8e	16.6	75.71	7.9	33.41	8.1
I39	07 Sep 2022	1012	18	<200	6e	2e	15.2	78.30	6.6	33.42	8.0
I39	13 Sep 2022	1104	2	<2	<2	<2	21.7	89.05	7.4	33.49	8.1
I39	13 Sep 2022	1104	12	120e	10e	<2	20.4	86.96	7.7	33.46	8.1
I39	13 Sep 2022	1104	18	<200	4e	<2	20.1	81.82	7.8	33.45	8.1
I39	20 Sep 2022	1006	2	<2	<2	<2	ns	ns	ns	ns	ns
I39	20 Sep 2022		2	ns	ns	ns	20.9	87.20	7.9	33.45	8.2
I39	20 Sep 2022	1006	12	<2	<2	<2	ns	ns	ns	ns	ns
I39	20 Sep 2022		12	ns	ns	ns	16.4	85.04	6.5	33.40	8.0
I39	20 Sep 2022	1006	18	<2	<2	<2	ns	ns	ns	ns	ns
I39	20 Sep 2022		18	ns	ns	ns	16.0	80.56	6.2	33.41	8.0
I39	29 Sep 2022	1051	2	<2	<2	<2	17.6	87.91	8.3	33.41	8.1
I39	29 Sep 2022	1051	12	<2	<2	<2	17.2	86.38	8.2	33.41	8.1

Station	Date	Time	Depth	Total	Fecal	Enter	Temp	XMS	DO	Sal	pH
I39	29 Sep 2022	1051	18	<2	<2	<2	13.6	85.54	6.8	33.38	8.0
I40	07 Sep 2022	1045	2	14000	840	440	20.0	65.10	8.0	33.35	8.1
I40	07 Sep 2022	1045	6	>16000	1600e	640	19.1	73.49	8.0	33.40	8.1
I40	07 Sep 2022	1045	9	3200e	500	140e	18.3	73.91	8.2	33.40	8.1
I40	13 Sep 2022	1135	2	<20	<2	<2	21.3	82.32	7.7	33.44	8.2
I40	13 Sep 2022	1135	6	120e	50	<2	20.7	80.15	7.7	33.43	8.2
I40	13 Sep 2022	1135	9	120e	80e	6e	20.6	78.43	7.8	33.43	8.2
I40	20 Sep 2022	1035	2	20e	4e	<2	ns	ns	ns	ns	ns
I40	20 Sep 2022		2	ns	ns	ns	21.0	68.66	7.7	33.39	8.2
I40	20 Sep 2022	1035	6	86	14e	6e	ns	ns	ns	ns	ns
I40	20 Sep 2022		6	ns	ns	ns	19.9	67.20	6.7	33.42	8.1
I40	20 Sep 2022	1035	9	44	8e	4e	ns	ns	ns	ns	ns
I40	20 Sep 2022		9	ns	ns	ns	19.0	63.62	6.4	33.42	8.1
I40	29 Sep 2022	1127	2	<2	<2	<2	18.2	64.73	9.4	33.39	8.2
I40	29 Sep 2022	1127	6	2e	<2	<2	16.0	73.39	6.4	33.38	8.0
I40	29 Sep 2022	1127	9	4e	2e	<2	13.9	76.42	6.0	33.38	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	07 Sep 2022	Depth (m)	11
I19	07 Sep 2022	Arrive Time	1035
I19	07 Sep 2022	Depart Time	1037
I19	07 Sep 2022	Air Temp (C)	21.9
I19	07 Sep 2022	Weather	Fog
I19	07 Sep 2022	Visibility (mi)	1
I19	07 Sep 2022	Wind Speed (kts)	6.2
I19	07 Sep 2022	Wind Dir	SW
I19	07 Sep 2022	Water Color	Green
I19	07 Sep 2022	Wave Ht Low (ft)	4.9
I19	07 Sep 2022	Wave Period (sec)	17
I19	07 Sep 2022	Sea State	Calm
I19	07 Sep 2022	High Tide (ft)	6.46
I19	07 Sep 2022	High Tide Time	236
I19	07 Sep 2022	Low Tide (ft)	-0.71
I19	07 Sep 2022	Low Tide Time	900
I19	07 Sep 2022	Comments	none
I19	13 Sep 2022	Depth (m)	11
I19	13 Sep 2022	Arrive Time	1124
I19	13 Sep 2022	Depart Time	1130
I19	13 Sep 2022	Air Temp (C)	21.5
I19	13 Sep 2022	Weather	Haze
I19	13 Sep 2022	Visibility (mi)	10
I19	13 Sep 2022	Wind Speed (kts)	5.2
I19	13 Sep 2022	Wind Dir	SW
I19	13 Sep 2022	Water Color	Greenish-Blue
I19	13 Sep 2022	Wave Ht Low (ft)	3.9
I19	13 Sep 2022	Wave Period (sec)	13
I19	13 Sep 2022	Sea State	Regular Swell
I19	13 Sep 2022	High Tide (ft)	5.46
I19	13 Sep 2022	High Tide Time	1836
I19	13 Sep 2022	Low Tide (ft)	0.82
I19	13 Sep 2022	Low Tide Time	100
I19	13 Sep 2022	Comments	none
I19	20 Sep 2022	Depth (m)	11
I19	20 Sep 2022	Arrive Time	1023
I19	20 Sep 2022	Depart Time	1028
I19	20 Sep 2022	Air Temp (C)	21.9
I19	20 Sep 2022	Weather	Clear
I19	20 Sep 2022	Visibility (mi)	11
I19	20 Sep 2022	Wind Speed (kts)	1.5
I19	20 Sep 2022	Wind Dir	W
I19	20 Sep 2022	Water Color	Blueish-Green
I19	20 Sep 2022	Wave Ht Low (ft)	4
I19	20 Sep 2022	Wave Period (sec)	15
I19	20 Sep 2022	Sea State	Calm
I19	20 Sep 2022	High Tide (ft)	4.94
I19	20 Sep 2022	High Tide Time	136
I19	20 Sep 2022	Low Tide (ft)	0.52
I19	20 Sep 2022	Low Tide Time	812
I19	20 Sep 2022	Comments	none
I19	29 Sep 2022	Depth (m)	11
I19	29 Sep 2022	Arrive Time	1115

Station	Date	Parameter	Value
I19	29 Sep 2022	Depart Time	1119
I19	29 Sep 2022	Air Temp (C)	18.2
I19	29 Sep 2022	Weather	Fog
I19	29 Sep 2022	Visibility (mi)	0
I19	29 Sep 2022	Wind Speed (kts)	7.5
I19	29 Sep 2022	Wind Dir	SW
I19	29 Sep 2022	Water Color	Green
I19	29 Sep 2022	Wave Ht Low (ft)	3
I19	29 Sep 2022	Wave Period (sec)	12
I19	29 Sep 2022	Sea State	Calm
I19	29 Sep 2022	High Tide (ft)	5.69
I19	29 Sep 2022	High Tide Time	1824
I19	29 Sep 2022	Low Tide (ft)	0.48
I19	29 Sep 2022	Low Tide Time	130
I19	29 Sep 2022	Comments	none
I24	07 Sep 2022	Depth (m)	11
I24	07 Sep 2022	Arrive Time	1053
I24	07 Sep 2022	Depart Time	1057
I24	07 Sep 2022	Air Temp (C)	21.9
I24	07 Sep 2022	Weather	Fog
I24	07 Sep 2022	Visibility (mi)	1
I24	07 Sep 2022	Wind Speed (kts)	10.9
I24	07 Sep 2022	Wind Dir	W
I24	07 Sep 2022	Water Color	Green
I24	07 Sep 2022	Wave Ht Low (ft)	4.9
I24	07 Sep 2022	Wave Period (sec)	17
I24	07 Sep 2022	Sea State	Calm
I24	07 Sep 2022	High Tide (ft)	6.46
I24	07 Sep 2022	High Tide Time	236
I24	07 Sep 2022	Low Tide (ft)	-0.71
I24	07 Sep 2022	Low Tide Time	900
I24	07 Sep 2022	Comments	none
I24	13 Sep 2022	Depth (m)	10
I24	13 Sep 2022	Arrive Time	1143
I24	13 Sep 2022	Depart Time	1148
I24	13 Sep 2022	Air Temp (C)	21.7
I24	13 Sep 2022	Weather	Haze
I24	13 Sep 2022	Visibility (mi)	10
I24	13 Sep 2022	Wind Speed (kts)	9.1
I24	13 Sep 2022	Wind Dir	SW
I24	13 Sep 2022	Water Color	Greenish-Blue
I24	13 Sep 2022	Wave Ht Low (ft)	3.9
I24	13 Sep 2022	Wave Period (sec)	13
I24	13 Sep 2022	Sea State	Light Chop
I24	13 Sep 2022	High Tide (ft)	5.46
I24	13 Sep 2022	High Tide Time	1836
I24	13 Sep 2022	Low Tide (ft)	0.82
I24	13 Sep 2022	Low Tide Time	100
I24	13 Sep 2022	Comments	none
I24	20 Sep 2022	Depth (m)	10
I24	20 Sep 2022	Arrive Time	1044
I24	20 Sep 2022	Depart Time	1050
I24	20 Sep 2022	Air Temp (C)	21.5
I24	20 Sep 2022	Weather	Clear
I24	20 Sep 2022	Visibility (mi)	11
I24	20 Sep 2022	Wind Speed (kts)	2.4
I24	20 Sep 2022	Wind Dir	W
I24	20 Sep 2022	Water Color	Blueish-Green

Station	Date	Parameter	Value
I24	20 Sep 2022	Wave Ht Low (ft)	4
I24	20 Sep 2022	Wave Period (sec)	15
I24	20 Sep 2022	Sea State	Calm
I24	20 Sep 2022	High Tide (ft)	4.94
I24	20 Sep 2022	High Tide Time	136
I24	20 Sep 2022	Low Tide (ft)	0.52
I24	20 Sep 2022	Low Tide Time	812
I24	20 Sep 2022	Comments	none
I24	29 Sep 2022	Depth (m)	11
I24	29 Sep 2022	Arrive Time	1134
I24	29 Sep 2022	Depart Time	1140
I24	29 Sep 2022	Air Temp (C)	18.2
I24	29 Sep 2022	Weather	Fog
I24	29 Sep 2022	Visibility (mi)	0
I24	29 Sep 2022	Wind Speed (kts)	8.2
I24	29 Sep 2022	Wind Dir	SW
I24	29 Sep 2022	Water Color	Green
I24	29 Sep 2022	Wave Ht Low (ft)	3
I24	29 Sep 2022	Wave Period (sec)	12
I24	29 Sep 2022	Sea State	Calm
I24	29 Sep 2022	High Tide (ft)	5.69
I24	29 Sep 2022	High Tide Time	1824
I24	29 Sep 2022	Low Tide (ft)	0.48
I24	29 Sep 2022	Low Tide Time	130
I24	29 Sep 2022	Comments	none
I25	07 Sep 2022	Depth (m)	9
I25	07 Sep 2022	Arrive Time	1102
I25	07 Sep 2022	Depart Time	1104
I25	07 Sep 2022	Air Temp (C)	21.9
I25	07 Sep 2022	Weather	Fog
I25	07 Sep 2022	Visibility (mi)	1
I25	07 Sep 2022	Wind Speed (kts)	8
I25	07 Sep 2022	Wind Dir	SW
I25	07 Sep 2022	Water Color	Green
I25	07 Sep 2022	Wave Ht Low (ft)	4.9
I25	07 Sep 2022	Wave Period (sec)	17
I25	07 Sep 2022	Sea State	Calm
I25	07 Sep 2022	High Tide (ft)	6.46
I25	07 Sep 2022	High Tide Time	236
I25	07 Sep 2022	Low Tide (ft)	-0.71
I25	07 Sep 2022	Low Tide Time	900
I25	07 Sep 2022	Comments	none
I25	13 Sep 2022	Depth (m)	10
I25	13 Sep 2022	Arrive Time	1151
I25	13 Sep 2022	Depart Time	1155
I25	13 Sep 2022	Air Temp (C)	21.6
I25	13 Sep 2022	Weather	Haze
I25	13 Sep 2022	Visibility (mi)	10
I25	13 Sep 2022	Wind Speed (kts)	8.7
I25	13 Sep 2022	Wind Dir	SW
I25	13 Sep 2022	Water Color	Greenish-Blue
I25	13 Sep 2022	Wave Ht Low (ft)	3.9
I25	13 Sep 2022	Wave Period (sec)	13
I25	13 Sep 2022	Sea State	Light Chop
I25	13 Sep 2022	High Tide (ft)	5.46
I25	13 Sep 2022	High Tide Time	1836
I25	13 Sep 2022	Low Tide (ft)	0.82
I25	13 Sep 2022	Low Tide Time	100

Station	Date	Parameter	Value
I25	13 Sep 2022	Comments	none
I25	20 Sep 2022	Depth (m)	9
I25	20 Sep 2022	Arrive Time	1052
I25	20 Sep 2022	Depart Time	1056
I25	20 Sep 2022	Air Temp (C)	21.3
I25	20 Sep 2022	Weather	Clear
I25	20 Sep 2022	Visibility (mi)	11
I25	20 Sep 2022	Wind Speed (kts)	10.4
I25	20 Sep 2022	Wind Dir	W
I25	20 Sep 2022	Water Color	Blueish-Green
I25	20 Sep 2022	Wave Ht Low (ft)	4
I25	20 Sep 2022	Wave Period (sec)	15
I25	20 Sep 2022	Sea State	Calm
I25	20 Sep 2022	High Tide (ft)	4.94
I25	20 Sep 2022	High Tide Time	136
I25	20 Sep 2022	Low Tide (ft)	0.52
I25	20 Sep 2022	Low Tide Time	812
I25	20 Sep 2022	Comments	none
I25	29 Sep 2022	Depth (m)	10
I25	29 Sep 2022	Arrive Time	1142
I25	29 Sep 2022	Depart Time	1148
I25	29 Sep 2022	Air Temp (C)	18.3
I25	29 Sep 2022	Weather	Fog
I25	29 Sep 2022	Visibility (mi)	0
I25	29 Sep 2022	Wind Speed (kts)	2.8
I25	29 Sep 2022	Wind Dir	SW
I25	29 Sep 2022	Water Color	Green
I25	29 Sep 2022	Wave Ht Low (ft)	3
I25	29 Sep 2022	Wave Period (sec)	12
I25	29 Sep 2022	Sea State	Calm
I25	29 Sep 2022	High Tide (ft)	5.69
I25	29 Sep 2022	High Tide Time	1824
I25	29 Sep 2022	Low Tide (ft)	0.48
I25	29 Sep 2022	Low Tide Time	130
I25	29 Sep 2022	Comments	none
I26	07 Sep 2022	Depth (m)	10
I26	07 Sep 2022	Arrive Time	1110
I26	07 Sep 2022	Depart Time	1112
I26	07 Sep 2022	Air Temp (C)	21.9
I26	07 Sep 2022	Weather	Fog
I26	07 Sep 2022	Visibility (mi)	1
I26	07 Sep 2022	Wind Speed (kts)	5.9
I26	07 Sep 2022	Wind Dir	W
I26	07 Sep 2022	Water Color	Green
I26	07 Sep 2022	Wave Ht Low (ft)	4.9
I26	07 Sep 2022	Wave Period (sec)	17
I26	07 Sep 2022	Sea State	Calm
I26	07 Sep 2022	High Tide (ft)	6.46
I26	07 Sep 2022	High Tide Time	236
I26	07 Sep 2022	Low Tide (ft)	-0.71
I26	07 Sep 2022	Low Tide Time	900
I26	07 Sep 2022	Comments	none
I26	13 Sep 2022	Depth (m)	10
I26	13 Sep 2022	Arrive Time	1200
I26	13 Sep 2022	Depart Time	1204
I26	13 Sep 2022	Air Temp (C)	21.5
I26	13 Sep 2022	Weather	Haze

Station	Date	Parameter	Value
I26	13 Sep 2022	Visibility (mi)	10
I26	13 Sep 2022	Wind Speed (kts)	10.1
I26	13 Sep 2022	Wind Dir	SW
I26	13 Sep 2022	Water Color	Blueish-Green
I26	13 Sep 2022	Wave Ht Low (ft)	3.9
I26	13 Sep 2022	Wave Period (sec)	13
I26	13 Sep 2022	Sea State	Light Chop
I26	13 Sep 2022	High Tide (ft)	5.46
I26	13 Sep 2022	High Tide Time	1836
I26	13 Sep 2022	Low Tide (ft)	0.82
I26	13 Sep 2022	Low Tide Time	100
I26	13 Sep 2022	Comments	none
I26	20 Sep 2022	Depth (m)	10
I26	20 Sep 2022	Arrive Time	1103
I26	20 Sep 2022	Depart Time	1110
I26	20 Sep 2022	Air Temp (C)	21.6
I26	20 Sep 2022	Weather	Clear
I26	20 Sep 2022	Visibility (mi)	11
I26	20 Sep 2022	Wind Speed (kts)	8.2
I26	20 Sep 2022	Wind Dir	W
I26	20 Sep 2022	Water Color	Blueish-Green
I26	20 Sep 2022	Wave Ht Low (ft)	4
I26	20 Sep 2022	Wave Period (sec)	15
I26	20 Sep 2022	Sea State	Calm
I26	20 Sep 2022	High Tide (ft)	4.94
I26	20 Sep 2022	High Tide Time	136
I26	20 Sep 2022	Low Tide (ft)	0.52
I26	20 Sep 2022	Low Tide Time	812
I26	20 Sep 2022	Comments	none
I26	29 Sep 2022	Depth (m)	10
I26	29 Sep 2022	Arrive Time	1154
I26	29 Sep 2022	Depart Time	1204
I26	29 Sep 2022	Air Temp (C)	18.4
I26	29 Sep 2022	Weather	Overcast
I26	29 Sep 2022	Visibility (mi)	3
I26	29 Sep 2022	Wind Speed (kts)	0.6
I26	29 Sep 2022	Wind Dir	SW
I26	29 Sep 2022	Water Color	Green
I26	29 Sep 2022	Wave Ht Low (ft)	3
I26	29 Sep 2022	Wave Period (sec)	12
I26	29 Sep 2022	Sea State	Calm
I26	29 Sep 2022	High Tide (ft)	5.69
I26	29 Sep 2022	High Tide Time	1824
I26	29 Sep 2022	Low Tide (ft)	0.48
I26	29 Sep 2022	Low Tide Time	130
I26	29 Sep 2022	Comments	none
I32	07 Sep 2022	Depth (m)	11
I32	07 Sep 2022	Arrive Time	1122
I32	07 Sep 2022	Depart Time	1124
I32	07 Sep 2022	Air Temp (C)	22.2
I32	07 Sep 2022	Weather	Fog
I32	07 Sep 2022	Visibility (mi)	1
I32	07 Sep 2022	Wind Speed (kts)	6.7
I32	07 Sep 2022	Wind Dir	W
I32	07 Sep 2022	Water Color	Green
I32	07 Sep 2022	Wave Ht Low (ft)	4.9
I32	07 Sep 2022	Wave Period (sec)	17
I32	07 Sep 2022	Sea State	Calm

Station	Date	Parameter	Value
I32	07 Sep 2022	High Tide (ft)	6.46
I32	07 Sep 2022	High Tide Time	236
I32	07 Sep 2022	Low Tide (ft)	-0.71
I32	07 Sep 2022	Low Tide Time	900
I32	07 Sep 2022	Comments	none
I32	13 Sep 2022	Depth (m)	10
I32	13 Sep 2022	Arrive Time	1213
I32	13 Sep 2022	Depart Time	1218
I32	13 Sep 2022	Air Temp (C)	21.7
I32	13 Sep 2022	Weather	Haze
I32	13 Sep 2022	Visibility (mi)	10
I32	13 Sep 2022	Wind Speed (kts)	6.3
I32	13 Sep 2022	Wind Dir	SW
I32	13 Sep 2022	Water Color	Green
I32	13 Sep 2022	Wave Ht Low (ft)	3.9
I32	13 Sep 2022	Wave Period (sec)	13
I32	13 Sep 2022	Sea State	Light Chop
I32	13 Sep 2022	High Tide (ft)	5.46
I32	13 Sep 2022	High Tide Time	1836
I32	13 Sep 2022	Low Tide (ft)	0.82
I32	13 Sep 2022	Low Tide Time	100
I32	13 Sep 2022	Comments	none
I32	20 Sep 2022	Depth (m)	10
I32	20 Sep 2022	Arrive Time	1116
I32	20 Sep 2022	Depart Time	1120
I32	20 Sep 2022	Air Temp (C)	21.8
I32	20 Sep 2022	Weather	Clear
I32	20 Sep 2022	Visibility (mi)	11
I32	20 Sep 2022	Wind Speed (kts)	9.3
I32	20 Sep 2022	Wind Dir	W
I32	20 Sep 2022	Water Color	Blueish-Green
I32	20 Sep 2022	Wave Ht Low (ft)	4
I32	20 Sep 2022	Wave Period (sec)	15
I32	20 Sep 2022	Sea State	Calm
I32	20 Sep 2022	High Tide (ft)	4.94
I32	20 Sep 2022	High Tide Time	136
I32	20 Sep 2022	Low Tide (ft)	0.52
I32	20 Sep 2022	Low Tide Time	812
I32	20 Sep 2022	Comments	none
I32	29 Sep 2022	Depth (m)	11
I32	29 Sep 2022	Arrive Time	1205
I32	29 Sep 2022	Depart Time	1210
I32	29 Sep 2022	Air Temp (C)	18.3
I32	29 Sep 2022	Weather	Overcast
I32	29 Sep 2022	Visibility (mi)	3
I32	29 Sep 2022	Wind Speed (kts)	3.8
I32	29 Sep 2022	Wind Dir	SW
I32	29 Sep 2022	Water Color	Green
I32	29 Sep 2022	Wave Ht Low (ft)	3
I32	29 Sep 2022	Wave Period (sec)	12
I32	29 Sep 2022	Sea State	Calm
I32	29 Sep 2022	High Tide (ft)	5.69
I32	29 Sep 2022	High Tide Time	1824
I32	29 Sep 2022	Low Tide (ft)	0.48
I32	29 Sep 2022	Low Tide Time	130
I32	29 Sep 2022	Comments	used niskin 5 for mid depth; niskin 4 for deep.
I39	07 Sep 2022	Depth (m)	20

Station	Date	Parameter	Value
I39	07 Sep 2022	Arrive Time	1012
I39	07 Sep 2022	Depart Time	1015
I39	07 Sep 2022	Air Temp (C)	22.1
I39	07 Sep 2022	Weather	Fog
I39	07 Sep 2022	Visibility (mi)	1
I39	07 Sep 2022	Wind Speed (kts)	5
I39	07 Sep 2022	Wind Dir	W
I39	07 Sep 2022	Water Color	Greenish-Brown
I39	07 Sep 2022	Wave Ht Low (ft)	4.9
I39	07 Sep 2022	Wave Period (sec)	17
I39	07 Sep 2022	Sea State	Calm
I39	07 Sep 2022	High Tide (ft)	6.46
I39	07 Sep 2022	High Tide Time	236
I39	07 Sep 2022	Low Tide (ft)	-0.71
I39	07 Sep 2022	Low Tide Time	900
I39	07 Sep 2022	Comments	none
I39	13 Sep 2022	Depth (m)	20
I39	13 Sep 2022	Arrive Time	1104
I39	13 Sep 2022	Depart Time	1111
I39	13 Sep 2022	Air Temp (C)	21.5
I39	13 Sep 2022	Weather	Haze
I39	13 Sep 2022	Visibility (mi)	10
I39	13 Sep 2022	Wind Speed (kts)	6.5
I39	13 Sep 2022	Wind Dir	SW
I39	13 Sep 2022	Water Color	Blue
I39	13 Sep 2022	Wave Ht Low (ft)	3.9
I39	13 Sep 2022	Wave Period (sec)	13
I39	13 Sep 2022	Sea State	Regular Swell
I39	13 Sep 2022	High Tide (ft)	5.46
I39	13 Sep 2022	High Tide Time	1836
I39	13 Sep 2022	Low Tide (ft)	0.82
I39	13 Sep 2022	Low Tide Time	100
I39	13 Sep 2022	Comments	Clear blue; negative CDOM near surface
I39	20 Sep 2022	Depth (m)	20
I39	20 Sep 2022	Arrive Time	1006
I39	20 Sep 2022	Depart Time	1009
I39	20 Sep 2022	Air Temp (C)	21.7
I39	20 Sep 2022	Weather	Clear
I39	20 Sep 2022	Visibility (mi)	11
I39	20 Sep 2022	Wind Speed (kts)	1
I39	20 Sep 2022	Wind Dir	W
I39	20 Sep 2022	Water Color	Blueish-Green
I39	20 Sep 2022	Wave Ht Low (ft)	4
I39	20 Sep 2022	Wave Period (sec)	15
I39	20 Sep 2022	Sea State	Calm
I39	20 Sep 2022	High Tide (ft)	4.94
I39	20 Sep 2022	High Tide Time	136
I39	20 Sep 2022	Low Tide (ft)	0.52
I39	20 Sep 2022	Low Tide Time	812
I39	20 Sep 2022	Comments	Kelp Debris
I39	29 Sep 2022	Depth (m)	20
I39	29 Sep 2022	Arrive Time	1051
I39	29 Sep 2022	Depart Time	1056
I39	29 Sep 2022	Air Temp (C)	17.9
I39	29 Sep 2022	Weather	Fog
I39	29 Sep 2022	Visibility (mi)	0
I39	29 Sep 2022	Wind Speed (kts)	7.4
I39	29 Sep 2022	Wind Dir	S

Station	Date	Parameter	Value
I39	29 Sep 2022	Water Color	Greenish-Blue
I39	29 Sep 2022	Wave Ht Low (ft)	3
I39	29 Sep 2022	Wave Period (sec)	12
I39	29 Sep 2022	Sea State	Calm
I39	29 Sep 2022	High Tide (ft)	5.69
I39	29 Sep 2022	High Tide Time	1824
I39	29 Sep 2022	Low Tide (ft)	0.48
I39	29 Sep 2022	Low Tide Time	130
I39	29 Sep 2022	Comments	none
I40	07 Sep 2022	Depth (m)	10
I40	07 Sep 2022	Arrive Time	1045
I40	07 Sep 2022	Depart Time	1049
I40	07 Sep 2022	Air Temp (C)	21.9
I40	07 Sep 2022	Weather	Fog
I40	07 Sep 2022	Visibility (mi)	1
I40	07 Sep 2022	Wind Speed (kts)	5.4
I40	07 Sep 2022	Wind Dir	SW
I40	07 Sep 2022	Water Color	Green
I40	07 Sep 2022	Wave Ht Low (ft)	4.9
I40	07 Sep 2022	Wave Period (sec)	17
I40	07 Sep 2022	Sea State	Calm
I40	07 Sep 2022	High Tide (ft)	6.46
I40	07 Sep 2022	High Tide Time	236
I40	07 Sep 2022	Low Tide (ft)	-0.71
I40	07 Sep 2022	Low Tide Time	900
I40	07 Sep 2022	Comments	none
I40	13 Sep 2022	Depth (m)	11
I40	13 Sep 2022	Arrive Time	1135
I40	13 Sep 2022	Depart Time	1139
I40	13 Sep 2022	Air Temp (C)	21.5
I40	13 Sep 2022	Weather	Haze
I40	13 Sep 2022	Visibility (mi)	10
I40	13 Sep 2022	Wind Speed (kts)	7.8
I40	13 Sep 2022	Wind Dir	SW
I40	13 Sep 2022	Water Color	Greenish-Blue
I40	13 Sep 2022	Wave Ht Low (ft)	3.9
I40	13 Sep 2022	Wave Period (sec)	13
I40	13 Sep 2022	Sea State	Regular Swell
I40	13 Sep 2022	High Tide (ft)	5.46
I40	13 Sep 2022	High Tide Time	1836
I40	13 Sep 2022	Low Tide (ft)	0.82
I40	13 Sep 2022	Low Tide Time	100
I40	13 Sep 2022	Comments	none
I40	20 Sep 2022	Depth (m)	10
I40	20 Sep 2022	Arrive Time	1035
I40	20 Sep 2022	Depart Time	1038
I40	20 Sep 2022	Air Temp (C)	21.8
I40	20 Sep 2022	Weather	Clear
I40	20 Sep 2022	Visibility (mi)	11
I40	20 Sep 2022	Wind Speed (kts)	5.8
I40	20 Sep 2022	Wind Dir	W
I40	20 Sep 2022	Water Color	Blueish-Green
I40	20 Sep 2022	Wave Ht Low (ft)	4
I40	20 Sep 2022	Wave Period (sec)	15
I40	20 Sep 2022	Sea State	Calm
I40	20 Sep 2022	High Tide (ft)	4.94
I40	20 Sep 2022	High Tide Time	136
I40	20 Sep 2022	Low Tide (ft)	0.52

Station	Date	Parameter	Value
I40	20 Sep 2022	Low Tide Time	812
I40	20 Sep 2022	Comments	none
I40	29 Sep 2022	Depth (m)	11
I40	29 Sep 2022	Arrive Time	1127
I40	29 Sep 2022	Depart Time	1133
I40	29 Sep 2022	Air Temp (C)	18.2
I40	29 Sep 2022	Weather	Fog
I40	29 Sep 2022	Visibility (mi)	0
I40	29 Sep 2022	Wind Speed (kts)	7.3
I40	29 Sep 2022	Wind Dir	SW
I40	29 Sep 2022	Water Color	Green
I40	29 Sep 2022	Wave Ht Low (ft)	3
I40	29 Sep 2022	Wave Period (sec)	12
I40	29 Sep 2022	Sea State	Calm
I40	29 Sep 2022	High Tide (ft)	5.69
I40	29 Sep 2022	High Tide Time	1824
I40	29 Sep 2022	Low Tide (ft)	0.48
I40	29 Sep 2022	Low Tide Time	130
I40	29 Sep 2022	Comments	none

Table 3.9

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

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ($\sigma\text{-t}$)	Chlor ($\mu\text{g/L}$)
I19	07 Sep 2022	1	19.77	68.53	7.9	33.35	8.1	23.6	1.57
I19	07 Sep 2022	2	19.47	68.22	7.9	33.37	8.1	23.7	1.87
I19	07 Sep 2022	3	19.32	65.62	7.9	33.37	8.1	23.7	3.77
I19	07 Sep 2022	4	19.04	63.20	7.9	33.38	8.1	23.8	5.55
I19	07 Sep 2022	5	18.84	63.22	7.8	33.38	8.1	23.8	5.25
I19	07 Sep 2022	6	18.70	66.24	7.8	33.39	8.1	23.9	4.36
I19	07 Sep 2022	7	18.52	68.92	7.8	33.40	8.1	23.9	3.65
I19	07 Sep 2022	8	18.26	70.01	7.8	33.40	8.1	24.0	3.14
I19	07 Sep 2022	9	18.04	72.76	7.8	33.41	8.1	24.0	2.55
I19	07 Sep 2022	10	17.87	73.69	7.8	33.41	8.1	24.1	2.22
I19	13 Sep 2022	1	21.84	88.01	7.5	33.49	8.2	23.1	0.50
I19	13 Sep 2022	2	21.17	88.08	7.6	33.48	8.2	23.3	0.53
I19	13 Sep 2022	3	20.99	87.04	7.6	33.45	8.1	23.3	0.67
I19	13 Sep 2022	4	20.88	84.67	7.6	33.46	8.1	23.4	0.76
I19	13 Sep 2022	5	20.86	84.76	7.6	33.46	8.2	23.4	0.86
I19	13 Sep 2022	6	20.86	84.61	7.6	33.46	8.2	23.4	0.95
I19	13 Sep 2022	7	20.85	84.34	7.6	33.47	8.2	23.4	1.18
I19	13 Sep 2022	8	20.84	84.34	7.6	33.47	8.2	23.4	1.34
I19	13 Sep 2022	9	20.79	84.88	7.6	33.47	8.2	23.4	1.43
I19	13 Sep 2022	10	20.68	82.37	7.5	33.46	8.1	23.4	1.66
I19	20 Sep 2022	1	20.49	77.05	7.4	33.44	8.1	23.4	1.13
I19	20 Sep 2022	2	20.27	77.06	7.3	33.42	8.1	23.5	1.20
I19	20 Sep 2022	3	19.34	77.55	7.4	33.44	8.1	23.7	1.61
I19	20 Sep 2022	4	19.06	79.76	7.4	33.43	8.1	23.8	1.92
I19	20 Sep 2022	5	18.87	82.77	7.3	33.43	8.1	23.9	2.04
I19	20 Sep 2022	6	18.81	83.66	7.2	33.42	8.1	23.9	2.09
I19	20 Sep 2022	7	18.66	83.36	7.2	33.42	8.1	23.9	2.36
I19	20 Sep 2022	8	18.52	82.16	7.1	33.42	8.1	23.9	2.61
I19	20 Sep 2022	9	18.33	79.39	7.0	33.41	8.1	24.0	2.78
I19	20 Sep 2022	10	18.24	76.96	7.0	33.41	8.1	24.0	2.90
I19	29 Sep 2022	1	18.00	68.88	9.2	33.39	8.2	24.0	4.64
I19	29 Sep 2022	2	17.85	68.61	8.9	33.39	8.2	24.1	5.85
I19	29 Sep 2022	3	17.34	64.74	8.3	33.39	8.2	24.2	12.80
I19	29 Sep 2022	4	16.65	58.14	7.4	33.38	8.1	24.4	13.09
I19	29 Sep 2022	5	15.89	65.25	7.1	33.38	8.0	24.5	8.85
I19	29 Sep 2022	6	15.51	73.67	6.9	33.38	8.0	24.6	5.91
I19	29 Sep 2022	7	15.00	77.07	6.7	33.37	8.0	24.7	4.61
I19	29 Sep 2022	8	14.25	77.98	6.4	33.37	8.0	24.9	4.34
I19	29 Sep 2022	9	13.76	77.50	6.2	33.39	7.9	25.0	3.49
I19	29 Sep 2022	10	13.69	77.66	6.0	33.38	7.9	25.0	2.95
I24	07 Sep 2022	1	20.91	69.02	8.5	33.34	8.2	23.3	1.90
I24	07 Sep 2022	2	20.33	68.67	8.8	33.36	8.2	23.4	2.24
I24	07 Sep 2022	3	19.45	67.90	8.9	33.41	8.2	23.7	2.69
I24	07 Sep 2022	4	19.03	73.07	8.7	33.40	8.2	23.8	2.71
I24	07 Sep 2022	5	18.40	79.06	8.6	33.40	8.1	24.0	2.40
I24	07 Sep 2022	6	18.09	80.48	8.3	33.38	8.1	24.0	2.28
I24	07 Sep 2022	7	17.57	78.75	8.2	33.39	8.1	24.1	2.51
I24	07 Sep 2022	8	17.31	77.16	8.4	33.40	8.1	24.2	2.79
I24	07 Sep 2022	9	17.23	74.23	8.4	33.40	8.1	24.2	3.01
I24	07 Sep 2022	10	17.16	70.75	8.3	33.40	8.1	24.2	2.96

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ($\sigma\text{-t}$)	Chlor ($\mu\text{g/L}$)
I24	13 Sep 2022	1	22.06	87.31	7.6	33.50	8.2	23.1	0.52
I24	13 Sep 2022	2	21.94	87.40	7.5	33.50	8.2	23.1	0.52
I24	13 Sep 2022	3	21.82	87.68	7.5	33.49	8.2	23.1	0.51
I24	13 Sep 2022	4	21.47	87.63	7.3	33.48	8.2	23.2	0.54
I24	13 Sep 2022	5	20.78	85.99	7.5	33.46	8.2	23.4	0.79
I24	13 Sep 2022	6	20.61	80.71	7.7	33.44	8.2	23.4	1.27
I24	13 Sep 2022	7	20.50	78.86	7.8	33.44	8.2	23.4	1.81
I24	13 Sep 2022	8	20.49	79.63	7.9	33.45	8.2	23.4	2.07
I24	13 Sep 2022	9	20.44	78.90	7.8	33.45	8.2	23.5	2.28
I24	13 Sep 2022	10	20.41	76.78	7.8	33.45	8.2	23.5	2.57
I24	13 Sep 2022	11	20.41	75.75	7.8	33.45	8.2	23.5	2.69
I24	20 Sep 2022	1	21.26	77.01	8.0	33.43	8.2	23.2	1.57
I24	20 Sep 2022	2	21.23	78.01	8.0	33.46	8.2	23.3	1.50
I24	20 Sep 2022	3	20.92	79.97	8.0	33.45	8.2	23.3	1.63
I24	20 Sep 2022	4	20.52	81.83	7.9	33.44	8.2	23.4	1.87
I24	20 Sep 2022	5	20.20	81.82	7.5	33.44	8.2	23.5	1.93
I24	20 Sep 2022	6	19.84	79.42	7.0	33.43	8.1	23.6	1.99
I24	20 Sep 2022	7	19.41	77.26	6.8	33.43	8.1	23.7	1.83
I24	20 Sep 2022	8	19.32	76.88	6.9	33.43	8.1	23.7	1.57
I24	20 Sep 2022	9	19.10	78.19	6.7	33.42	8.1	23.8	1.36
I24	20 Sep 2022	10	18.84	77.46	6.5	33.42	8.1	23.9	1.19
I24	20 Sep 2022	11	18.78	76.52	6.4	33.43	8.1	23.9	1.27
I24	29 Sep 2022	1	18.00	81.06	9.0	33.41	8.2	24.1	2.11
I24	29 Sep 2022	2	17.96	81.29	9.0	33.40	8.2	24.1	2.13
I24	29 Sep 2022	3	17.84	80.74	9.1	33.41	8.2	24.1	2.79
I24	29 Sep 2022	4	17.59	78.64	8.9	33.39	8.2	24.1	4.50
I24	29 Sep 2022	5	16.90	74.30	8.4	33.41	8.1	24.3	4.65
I24	29 Sep 2022	6	16.28	80.05	7.6	33.38	8.1	24.4	3.70
I24	29 Sep 2022	7	14.47	83.28	7.0	33.40	8.0	24.9	3.18
I24	29 Sep 2022	8	13.89	83.44	6.6	33.39	8.0	25.0	2.65
I24	29 Sep 2022	9	13.78	84.95	6.4	33.38	7.9	25.0	2.09
I24	29 Sep 2022	10	13.63	83.22	6.1	33.38	7.9	25.0	1.94
I24	29 Sep 2022	11	13.60	76.12	6.0	33.39	7.9	25.0	1.85
I25	07 Sep 2022	1	20.40	67.91	8.6	33.37	8.2	23.4	2.07
I25	07 Sep 2022	2	19.82	67.71	8.8	33.41	8.2	23.6	2.34
I25	07 Sep 2022	3	19.24	68.37	8.8	33.42	8.2	23.8	2.26
I25	07 Sep 2022	4	18.74	75.80	8.5	33.41	8.2	23.9	2.17
I25	07 Sep 2022	5	17.98	78.44	8.3	33.41	8.1	24.1	2.38
I25	07 Sep 2022	6	17.50	77.03	8.3	33.40	8.1	24.2	2.93
I25	07 Sep 2022	7	17.31	74.77	8.4	33.40	8.1	24.2	3.30
I25	07 Sep 2022	8	17.28	73.12	8.3	33.40	8.1	24.2	3.13
I25	07 Sep 2022	9	17.27	72.69	8.3	33.40	8.1	24.2	2.92
I25	13 Sep 2022	1	22.01	88.15	7.5	33.50	8.2	23.1	0.48
I25	13 Sep 2022	2	21.92	88.22	7.4	33.50	8.2	23.1	0.48
I25	13 Sep 2022	3	21.80	88.20	7.5	33.49	8.2	23.1	0.49
I25	13 Sep 2022	4	21.58	88.14	7.5	33.48	8.2	23.2	0.53
I25	13 Sep 2022	5	20.88	86.10	7.5	33.46	8.2	23.4	0.71
I25	13 Sep 2022	6	20.66	81.29	7.7	33.44	8.2	23.4	1.04
I25	13 Sep 2022	7	20.49	80.02	7.8	33.44	8.2	23.4	1.50
I25	13 Sep 2022	8	20.46	78.96	7.8	33.45	8.2	23.5	1.83
I25	13 Sep 2022	9	20.45	78.02	7.8	33.45	8.2	23.5	1.96
I25	20 Sep 2022	1	21.65	81.07	8.0	33.47	8.2	23.2	1.25
I25	20 Sep 2022	2	21.63	81.12	8.0	33.47	8.2	23.2	1.27
I25	20 Sep 2022	3	21.53	81.26	8.1	33.47	8.2	23.2	1.39
I25	20 Sep 2022	4	21.49	81.26	8.0	33.46	8.2	23.2	1.57
I25	20 Sep 2022	5	20.99	81.61	8.1	33.45	8.2	23.3	1.64

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ($\sigma\text{-t}$)	Chlor ($\mu\text{g/L}$)
I25	20 Sep 2022	6	20.39	83.26	8.2	33.43	8.2	23.5	2.01
I25	20 Sep 2022	7	19.80	85.37	8.0	33.44	8.2	23.6	2.23
I25	20 Sep 2022	8	19.34	84.51	7.7	33.43	8.2	23.7	1.89
I25	20 Sep 2022	9	19.18	82.35	7.6	33.43	8.1	23.8	1.56
I25	29 Sep 2022	1	17.82	77.87	9.1	33.41	8.2	24.1	3.70
I25	29 Sep 2022	2	17.68	77.88	8.8	33.41	8.2	24.1	3.54
I25	29 Sep 2022	3	17.05	77.99	8.5	33.42	8.1	24.3	3.43
I25	29 Sep 2022	4	16.62	80.09	8.2	33.41	8.1	24.4	3.01
I25	29 Sep 2022	5	16.12	82.67	8.0	33.41	8.1	24.5	2.67
I25	29 Sep 2022	6	15.64	83.92	7.5	33.39	8.1	24.6	2.69
I25	29 Sep 2022	7	14.44	83.10	6.8	33.40	8.0	24.9	2.96
I25	29 Sep 2022	8	13.92	82.99	6.2	33.39	7.9	25.0	2.45
I25	29 Sep 2022	9	13.73	77.51	5.9	33.39	7.9	25.0	2.02
I26	07 Sep 2022	1	19.98	69.47	8.8	33.38	8.2	23.5	2.00
I26	07 Sep 2022	2	19.85	70.00	8.6	33.38	8.2	23.6	2.15
I26	07 Sep 2022	3	19.24	65.58	8.5	33.40	8.2	23.7	4.13
I26	07 Sep 2022	4	19.06	60.54	8.4	33.40	8.2	23.8	5.66
I26	07 Sep 2022	5	18.65	63.69	8.2	33.40	8.1	23.9	5.40
I26	07 Sep 2022	6	18.22	68.25	8.2	33.41	8.1	24.0	5.05
I26	07 Sep 2022	7	18.09	70.29	8.3	33.40	8.1	24.0	4.66
I26	07 Sep 2022	8	18.06	71.34	8.4	33.40	8.1	24.0	4.24
I26	07 Sep 2022	9	18.05	71.81	8.3	33.40	8.1	24.0	3.91
I26	13 Sep 2022	1	21.97	88.11	7.5	33.49	8.2	23.1	0.48
I26	13 Sep 2022	2	21.89	88.10	7.5	33.50	8.2	23.1	0.46
I26	13 Sep 2022	3	21.81	88.29	7.5	33.49	8.2	23.1	0.49
I26	13 Sep 2022	4	21.71	88.21	7.5	33.49	8.2	23.1	0.53
I26	13 Sep 2022	5	21.64	87.77	7.6	33.49	8.2	23.2	0.61
I26	13 Sep 2022	6	21.18	86.78	7.6	33.45	8.2	23.3	0.75
I26	13 Sep 2022	7	20.72	83.31	7.8	33.45	8.2	23.4	1.17
I26	13 Sep 2022	8	20.61	81.65	7.7	33.45	8.2	23.4	1.51
I26	13 Sep 2022	9	20.59	80.63	7.7	33.45	8.2	23.4	1.62
I26	20 Sep 2022	1	21.69	80.10	8.0	33.48	8.2	23.1	1.37
I26	20 Sep 2022	2	21.66	80.13	8.0	33.48	8.2	23.2	1.45
I26	20 Sep 2022	3	21.52	80.43	8.0	33.47	8.2	23.2	1.57
I26	20 Sep 2022	4	21.41	81.03	8.1	33.47	8.2	23.2	1.77
I26	20 Sep 2022	5	21.14	81.53	8.2	33.46	8.2	23.3	2.21
I26	20 Sep 2022	6	20.86	82.40	8.2	33.44	8.2	23.3	2.53
I26	20 Sep 2022	7	20.30	81.68	8.2	33.43	8.2	23.5	2.73
I26	20 Sep 2022	8	20.09	82.43	7.8	33.41	8.2	23.5	2.63
I26	20 Sep 2022	9	18.73	82.72	7.4	33.42	8.1	23.9	2.05
I26	29 Sep 2022	1	17.99	83.57	8.7	33.41	8.2	24.1	2.21
I26	29 Sep 2022	2	17.79	83.35	8.8	33.42	8.2	24.1	2.28
I26	29 Sep 2022	3	17.40	80.83	9.1	33.41	8.2	24.2	3.99
I26	29 Sep 2022	4	17.11	73.01	9.1	33.41	8.2	24.3	5.81
I26	29 Sep 2022	5	16.89	74.66	8.7	33.40	8.2	24.3	5.36
I26	29 Sep 2022	6	16.26	79.07	8.4	33.41	8.1	24.5	4.40
I26	29 Sep 2022	7	15.89	81.46	8.0	33.39	8.1	24.5	3.58
I26	29 Sep 2022	8	14.92	82.53	7.3	33.39	8.1	24.8	3.32
I26	29 Sep 2022	9	14.24	81.80	6.5	33.39	8.0	24.9	2.96
I32	07 Sep 2022	1	22.32	80.83	7.7	33.53	8.2	23.0	0.78
I32	07 Sep 2022	2	21.72	80.82	7.5	33.50	8.2	23.2	0.85
I32	07 Sep 2022	3	20.48	78.34	7.8	33.45	8.2	23.4	1.38
I32	07 Sep 2022	4	19.64	73.01	8.2	33.45	8.2	23.7	2.07
I32	07 Sep 2022	5	19.30	72.48	8.4	33.44	8.2	23.8	2.58
I32	07 Sep 2022	6	18.81	74.61	8.6	33.44	8.2	23.9	2.97

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ($\sigma\text{-t}$)	Chlor ($\mu\text{g/L}$)
I32	07 Sep 2022	7	18.60	76.38	8.6	33.44	8.2	23.9	3.42
I32	07 Sep 2022	8	18.53	77.42	8.6	33.44	8.2	23.9	3.38
I32	07 Sep 2022	9	18.46	79.48	8.7	33.44	8.2	24.0	3.07
I32	07 Sep 2022	10	17.97	80.66	8.8	33.44	8.2	24.1	2.61
I32	13 Sep 2022	1	21.99	75.86	7.8	33.25	8.1	22.9	1.42
I32	13 Sep 2022	2	21.97	75.95	7.8	33.25	8.1	22.9	1.53
I32	13 Sep 2022	3	21.48	76.36	7.7	33.25	8.1	23.0	1.74
I32	13 Sep 2022	4	21.31	76.64	8.0	33.33	8.1	23.1	2.62
I32	13 Sep 2022	5	21.13	76.84	8.1	33.38	8.2	23.2	3.82
I32	13 Sep 2022	6	21.11	78.13	8.1	33.38	8.2	23.2	4.13
I32	13 Sep 2022	7	21.06	78.45	8.3	33.39	8.2	23.3	4.17
I32	13 Sep 2022	8	21.06	79.45	8.3	33.40	8.2	23.3	3.94
I32	13 Sep 2022	9	20.99	80.51	8.2	33.40	8.2	23.3	3.85
I32	13 Sep 2022	10	20.89	80.83	8.0	33.40	8.2	23.3	3.44
I32	20 Sep 2022	1	21.24	76.29	7.8	33.44	8.2	23.2	1.42
I32	20 Sep 2022	2	21.13	76.18	7.8	33.44	8.2	23.3	1.52
I32	20 Sep 2022	3	20.96	74.81	7.7	33.43	8.2	23.3	1.91
I32	20 Sep 2022	4	20.36	73.18	7.2	33.41	8.2	23.5	2.21
I32	20 Sep 2022	5	18.94	72.16	7.0	33.43	8.1	23.8	2.08
I32	20 Sep 2022	6	18.70	72.83	7.1	33.42	8.1	23.9	2.15
I32	20 Sep 2022	7	18.49	76.59	7.1	33.40	8.1	23.9	2.37
I32	20 Sep 2022	8	18.32	76.74	7.1	33.40	8.1	24.0	2.38
I32	20 Sep 2022	9	18.30	72.48	7.2	33.40	8.1	24.0	2.55
I32	20 Sep 2022	10	18.31	64.47	7.2	33.40	8.1	24.0	2.78
I32	29 Sep 2022	1	18.11	78.02	9.4	33.39	8.2	24.0	2.25
I32	29 Sep 2022	2	18.06	77.49	9.4	33.39	8.2	24.0	2.59
I32	29 Sep 2022	3	17.92	76.04	9.5	33.39	8.2	24.1	4.80
I32	29 Sep 2022	4	17.88	72.40	9.2	33.38	8.2	24.1	11.16
I32	29 Sep 2022	5	17.31	65.54	8.0	33.35	8.2	24.2	13.25
I32	29 Sep 2022	6	15.58	66.97	7.2	33.41	8.1	24.6	8.26
I32	29 Sep 2022	7	14.68	72.15	6.8	33.39	8.0	24.8	5.27
I32	29 Sep 2022	8	14.40	76.44	6.5	33.38	8.0	24.9	3.85
I32	29 Sep 2022	9	14.26	77.86	6.3	33.37	7.9	24.9	3.18
I32	29 Sep 2022	10	14.10	76.43	6.4	33.37	7.9	24.9	2.83
I39	07 Sep 2022	1	21.11	57.56	10.5	33.38	8.3	23.2	7.98
I39	07 Sep 2022	2	20.89	58.00	10.3	33.39	8.3	23.3	9.59
I39	07 Sep 2022	3	20.82	59.04	9.6	33.37	8.3	23.3	10.93
I39	07 Sep 2022	4	19.30	60.70	9.0	33.43	8.2	23.7	9.03
I39	07 Sep 2022	5	18.36	69.36	8.6	33.42	8.2	24.0	5.16
I39	07 Sep 2022	6	17.86	76.93	8.5	33.41	8.1	24.1	3.68
I39	07 Sep 2022	7	17.47	78.12	8.5	33.41	8.1	24.2	3.61
I39	07 Sep 2022	8	16.88	77.46	8.4	33.41	8.1	24.3	4.39
I39	07 Sep 2022	9	16.71	76.64	8.3	33.41	8.1	24.4	4.99
I39	07 Sep 2022	10	16.66	75.99	8.1	33.41	8.1	24.4	4.94
I39	07 Sep 2022	11	16.61	75.47	8.1	33.41	8.1	24.4	4.81
I39	07 Sep 2022	12	16.56	75.71	7.9	33.41	8.1	24.4	4.50
I39	07 Sep 2022	13	16.45	75.62	7.6	33.41	8.1	24.4	4.17
I39	07 Sep 2022	14	16.25	75.45	7.4	33.41	8.0	24.5	3.86
I39	07 Sep 2022	15	15.68	75.53	7.0	33.43	8.0	24.6	3.22
I39	07 Sep 2022	16	15.38	77.17	6.8	33.43	8.0	24.7	2.76
I39	07 Sep 2022	17	15.30	77.93	6.7	33.42	8.0	24.7	2.55
I39	07 Sep 2022	18	15.22	78.30	6.6	33.42	8.0	24.7	2.30
I39	13 Sep 2022	1	21.84	89.02	7.4	33.49	8.1	23.1	0.35
I39	13 Sep 2022	2	21.74	89.05	7.4	33.49	8.1	23.1	0.35
I39	13 Sep 2022	3	21.63	89.36	7.5	33.49	8.1	23.2	0.35
I39	13 Sep 2022	4	21.57	89.46	7.4	33.49	8.1	23.2	0.39

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ($\sigma\text{-t}$)	Chlor ($\mu\text{g/L}$)
I39	13 Sep 2022	5	21.47	89.66	7.4	33.49	8.1	23.2	0.43
I39	13 Sep 2022	6	21.34	89.76	7.4	33.49	8.1	23.3	0.44
I39	13 Sep 2022	7	21.16	89.89	7.4	33.48	8.1	23.3	0.44
I39	13 Sep 2022	8	20.89	90.03	7.5	33.48	8.1	23.4	0.42
I39	13 Sep 2022	9	20.78	89.82	7.5	33.47	8.1	23.4	0.47
I39	13 Sep 2022	10	20.66	89.15	7.6	33.47	8.1	23.4	0.55
I39	13 Sep 2022	11	20.56	88.30	7.7	33.47	8.1	23.4	0.71
I39	13 Sep 2022	12	20.43	86.96	7.7	33.46	8.1	23.5	0.95
I39	13 Sep 2022	13	20.38	85.65	7.7	33.46	8.1	23.5	1.16
I39	13 Sep 2022	14	20.30	84.53	7.7	33.46	8.1	23.5	1.30
I39	13 Sep 2022	15	20.25	83.55	7.7	33.46	8.1	23.5	1.56
I39	13 Sep 2022	16	20.18	82.64	7.7	33.45	8.1	23.5	1.77
I39	13 Sep 2022	17	20.15	82.12	7.8	33.45	8.1	23.5	1.95
I39	13 Sep 2022	18	20.13	81.82	7.8	33.45	8.1	23.5	1.94
I39	20 Sep 2022	1	21.36	86.98	8.1	33.47	8.2	23.2	0.62
I39	20 Sep 2022	2	20.90	87.20	7.9	33.45	8.2	23.3	0.61
I39	20 Sep 2022	3	19.27	88.52	7.9	33.44	8.2	23.8	0.63
I39	20 Sep 2022	4	18.90	88.86	7.8	33.43	8.2	23.8	0.71
I39	20 Sep 2022	5	18.56	88.86	7.4	33.40	8.1	23.9	0.78
I39	20 Sep 2022	6	17.35	88.44	7.0	33.40	8.1	24.2	0.94
I39	20 Sep 2022	7	16.66	87.30	6.6	33.40	8.1	24.4	0.89
I39	20 Sep 2022	8	16.48	86.28	6.5	33.39	8.0	24.4	0.85
I39	20 Sep 2022	9	16.40	85.79	6.5	33.39	8.0	24.4	0.82
I39	20 Sep 2022	10	16.36	85.35	6.5	33.39	8.0	24.4	0.87
I39	20 Sep 2022	11	16.35	85.17	6.4	33.39	8.0	24.4	0.88
I39	20 Sep 2022	12	16.37	85.04	6.5	33.40	8.0	24.4	0.89
I39	20 Sep 2022	13	16.39	85.12	6.4	33.40	8.0	24.4	0.92
I39	20 Sep 2022	14	16.23	84.23	6.3	33.41	8.0	24.5	0.90
I39	20 Sep 2022	15	16.18	83.18	6.3	33.41	8.0	24.5	0.96
I39	20 Sep 2022	16	16.14	82.78	6.2	33.41	8.0	24.5	0.98
I39	20 Sep 2022	17	16.09	81.55	6.2	33.41	8.0	24.5	1.04
I39	20 Sep 2022	18	16.04	80.56	6.2	33.41	8.0	24.5	1.10
I39	29 Sep 2022	1	17.67	88.00	8.3	33.41	8.1	24.1	1.14
I39	29 Sep 2022	2	17.65	87.91	8.3	33.41	8.1	24.1	1.22
I39	29 Sep 2022	3	17.58	87.88	8.3	33.41	8.1	24.2	1.37
I39	29 Sep 2022	4	17.47	87.87	8.3	33.41	8.1	24.2	1.47
I39	29 Sep 2022	5	17.42	87.99	8.3	33.41	8.1	24.2	1.63
I39	29 Sep 2022	6	17.38	87.65	8.3	33.41	8.1	24.2	1.94
I39	29 Sep 2022	7	17.35	86.99	8.3	33.41	8.1	24.2	2.20
I39	29 Sep 2022	8	17.33	86.72	8.3	33.41	8.1	24.2	2.40
I39	29 Sep 2022	9	17.31	86.65	8.2	33.41	8.1	24.2	2.61
I39	29 Sep 2022	10	17.30	86.37	8.2	33.41	8.1	24.2	2.64
I39	29 Sep 2022	11	17.28	86.36	8.2	33.41	8.1	24.2	2.71
I39	29 Sep 2022	12	17.16	86.38	8.2	33.41	8.1	24.3	2.71
I39	29 Sep 2022	13	17.06	86.08	8.1	33.40	8.1	24.3	2.52
I39	29 Sep 2022	14	16.70	85.95	8.0	33.40	8.1	24.4	2.41
I39	29 Sep 2022	15	16.31	85.70	7.7	33.38	8.1	24.4	2.49
I39	29 Sep 2022	16	15.23	85.60	7.4	33.34	8.1	24.6	2.63
I39	29 Sep 2022	17	14.20	85.23	7.1	33.32	8.0	24.8	2.66
I39	29 Sep 2022	18	13.62	85.54	6.8	33.38	8.0	25.0	2.25
I40	07 Sep 2022	1	20.61	65.92	7.9	33.32	8.1	23.3	2.41
I40	07 Sep 2022	2	19.96	65.10	8.0	33.35	8.1	23.5	2.73
I40	07 Sep 2022	3	19.66	63.39	8.1	33.36	8.1	23.6	3.96
I40	07 Sep 2022	4	19.45	65.18	8.0	33.37	8.1	23.7	4.90
I40	07 Sep 2022	5	19.43	68.02	7.9	33.37	8.1	23.7	5.50
I40	07 Sep 2022	6	19.08	73.49	8.0	33.40	8.1	23.8	5.08
I40	07 Sep 2022	7	18.54	77.45	8.2	33.41	8.1	23.9	3.81
I40	07 Sep 2022	8	18.41	77.18	8.3	33.40	8.1	23.9	3.16

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ($\sigma\text{-t}$)	Chlor ($\mu\text{g/L}$)
I40	07 Sep 2022	9	18.30	73.91	8.2	33.40	8.1	24.0	2.69
I40	07 Sep 2022	10	18.29	67.83	8.1	33.40	8.1	24.0	2.58
I40	13 Sep 2022	1	21.67	82.54	7.7	33.46	8.2	23.1	0.86
I40	13 Sep 2022	2	21.30	82.32	7.7	33.44	8.2	23.2	0.97
I40	13 Sep 2022	3	21.03	80.52	7.7	33.43	8.1	23.3	1.17
I40	13 Sep 2022	4	20.89	79.83	7.7	33.43	8.2	23.3	1.44
I40	13 Sep 2022	5	20.82	79.60	7.7	33.44	8.2	23.4	1.79
I40	13 Sep 2022	6	20.70	80.15	7.7	33.43	8.2	23.4	2.25
I40	13 Sep 2022	7	20.61	79.27	7.8	33.43	8.2	23.4	2.95
I40	13 Sep 2022	8	20.60	78.69	7.9	33.43	8.2	23.4	3.44
I40	13 Sep 2022	9	20.60	78.43	7.8	33.43	8.2	23.4	3.64
I40	13 Sep 2022	10	20.60	77.70	7.7	33.44	8.1	23.4	3.59
I40	20 Sep 2022	1	21.04	68.52	7.8	33.38	8.2	23.2	2.17
I40	20 Sep 2022	2	20.98	68.66	7.7	33.39	8.2	23.3	2.40
I40	20 Sep 2022	3	20.67	70.56	7.8	33.43	8.2	23.4	3.44
I40	20 Sep 2022	4	20.48	71.75	7.6	33.43	8.2	23.4	5.07
I40	20 Sep 2022	5	20.17	69.73	7.1	33.43	8.1	23.5	4.86
I40	20 Sep 2022	6	19.88	67.20	6.7	33.42	8.1	23.6	3.64
I40	20 Sep 2022	7	19.38	62.78	6.6	33.43	8.1	23.7	3.23
I40	20 Sep 2022	8	19.27	60.93	6.7	33.43	8.1	23.8	3.32
I40	20 Sep 2022	9	19.03	63.62	6.4	33.42	8.1	23.8	3.29
I40	20 Sep 2022	10	18.44	59.13	6.3	33.42	8.1	24.0	3.14
I40	29 Sep 2022	1	18.16	64.34	9.5	33.39	8.2	24.0	5.32
I40	29 Sep 2022	2	18.17	64.73	9.4	33.39	8.2	24.0	5.67
I40	29 Sep 2022	3	18.00	63.86	9.1	33.39	8.2	24.0	8.90
I40	29 Sep 2022	4	17.79	62.76	8.2	33.38	8.2	24.1	9.82
I40	29 Sep 2022	5	17.15	69.28	7.1	33.37	8.1	24.2	6.93
I40	29 Sep 2022	6	16.03	73.39	6.4	33.38	8.0	24.5	4.96
I40	29 Sep 2022	7	14.95	72.83	6.0	33.37	8.0	24.7	3.89
I40	29 Sep 2022	8	13.97	71.20	6.0	33.39	7.9	25.0	3.21
I40	29 Sep 2022	9	13.93	76.42	6.0	33.38	7.9	24.9	2.70
I40	29 Sep 2022	10	13.75	78.39	5.9	33.38	7.9	25.0	2.29

NA = not available

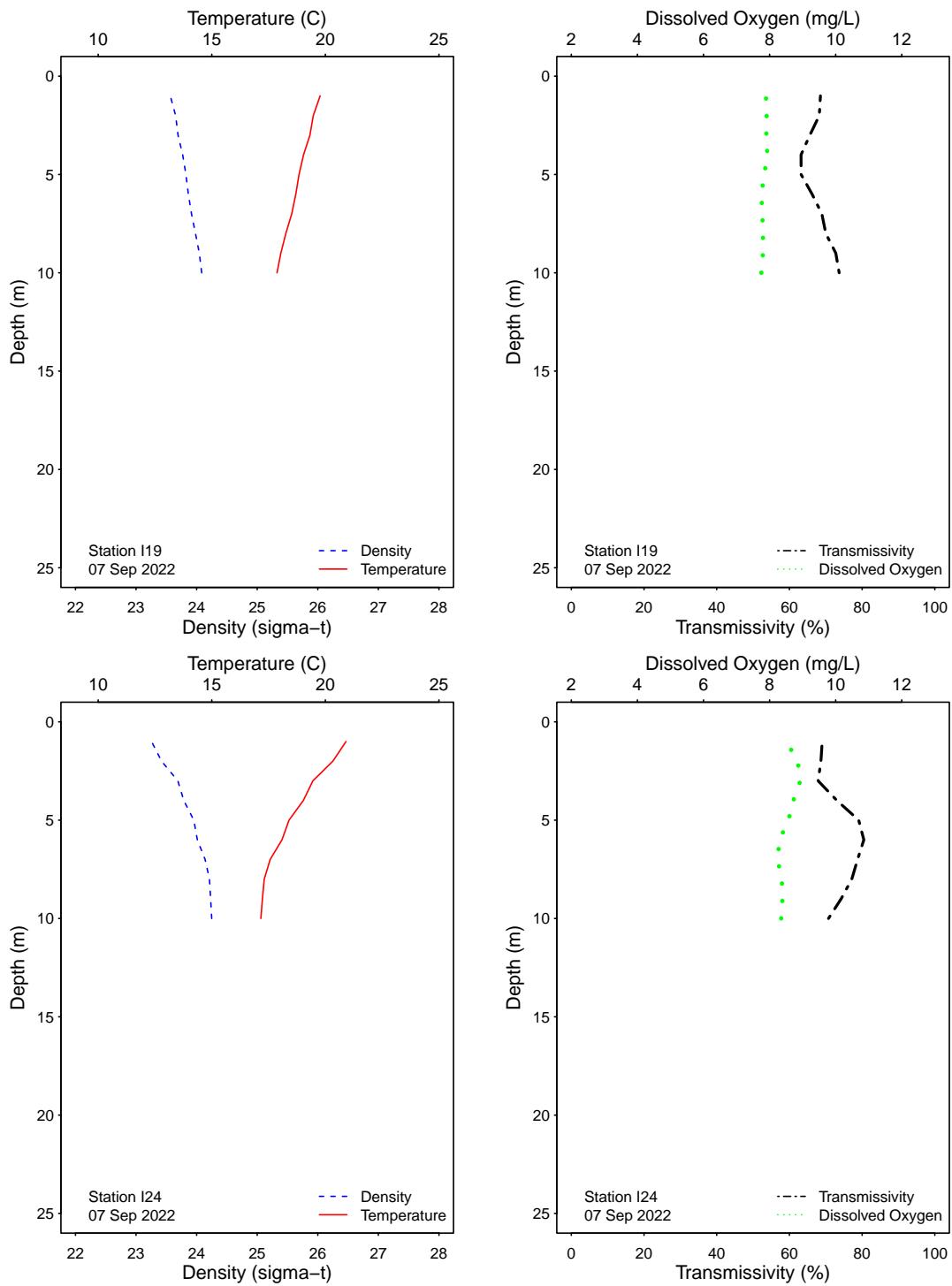


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

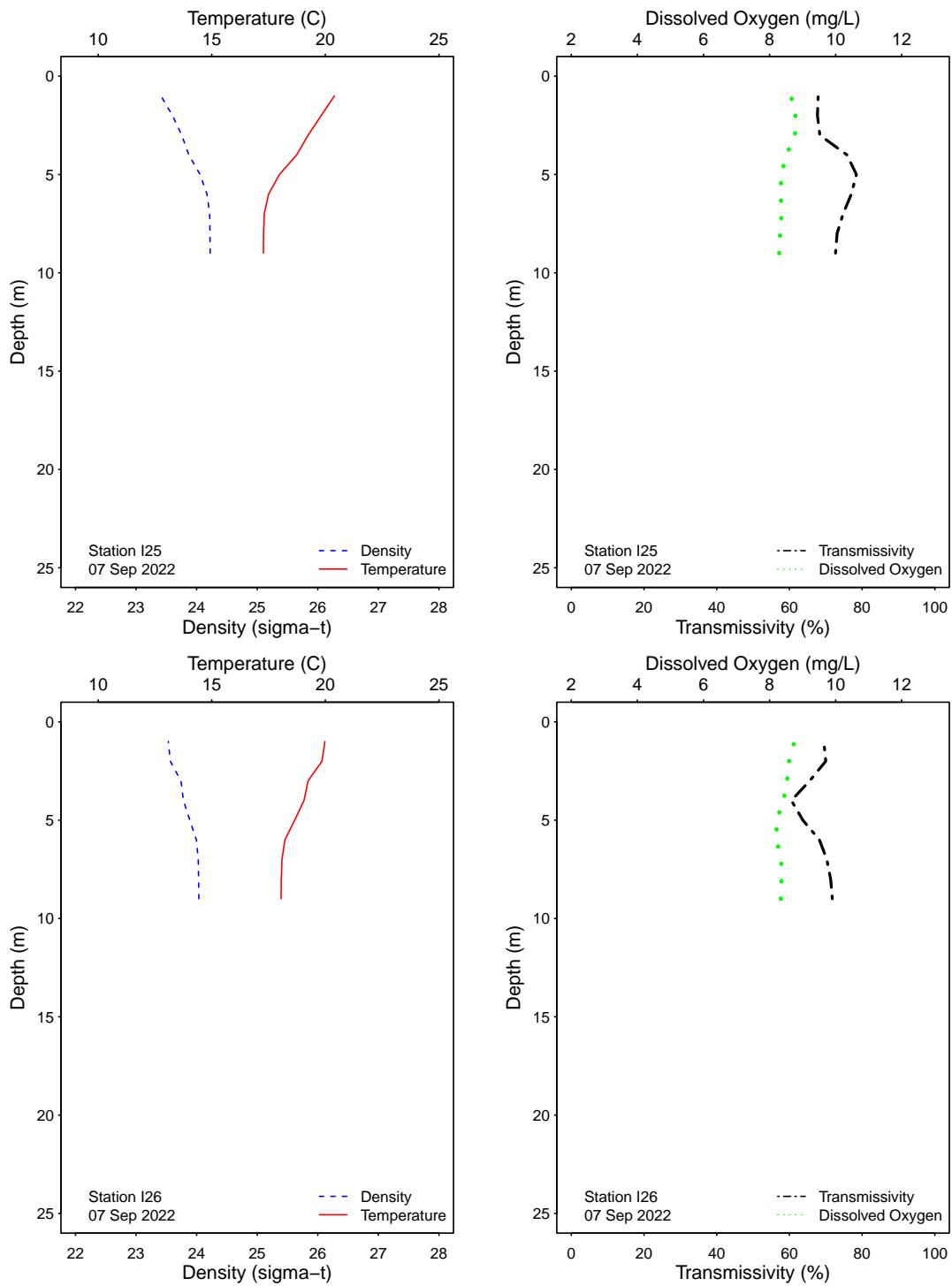


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

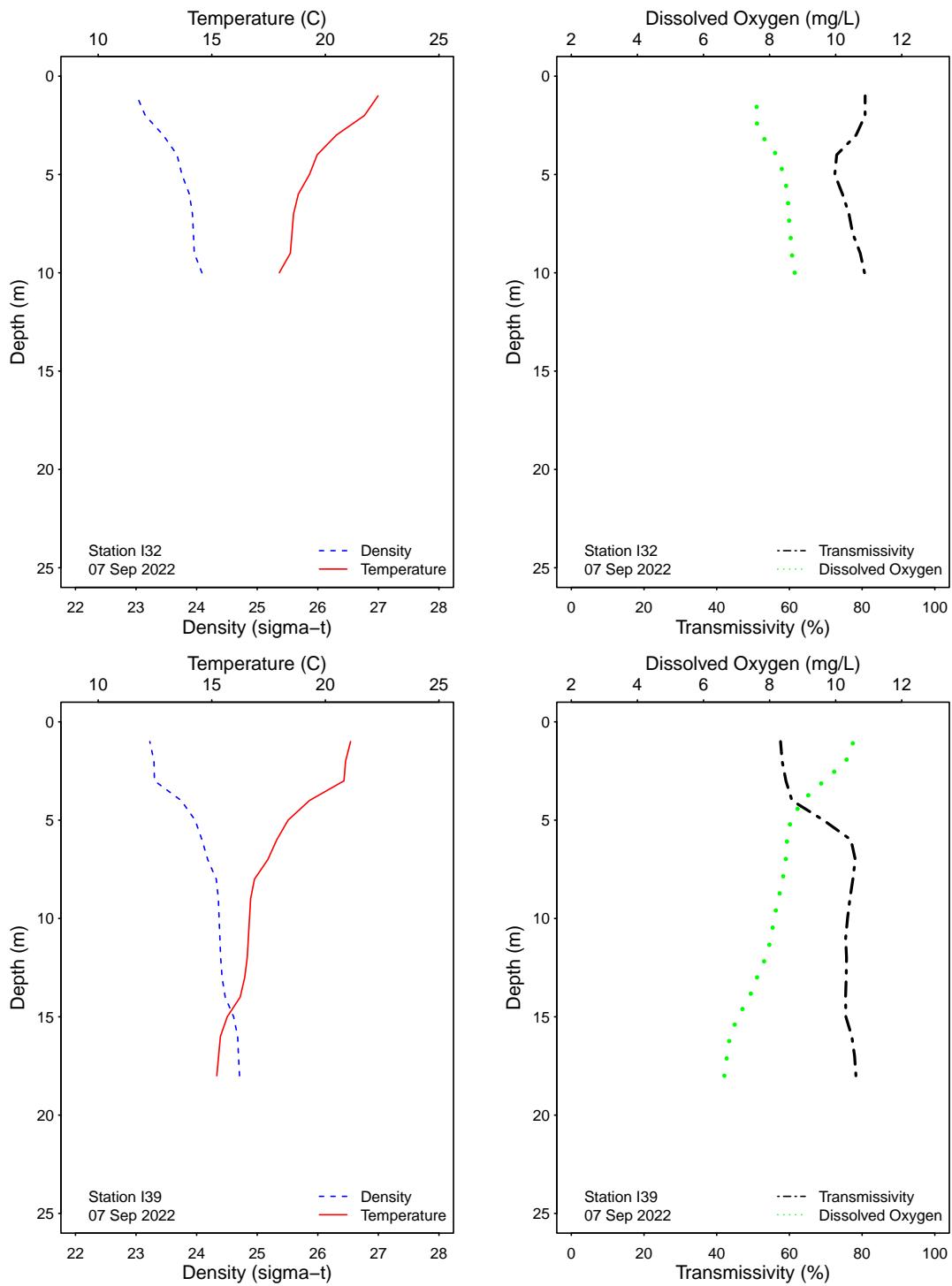


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

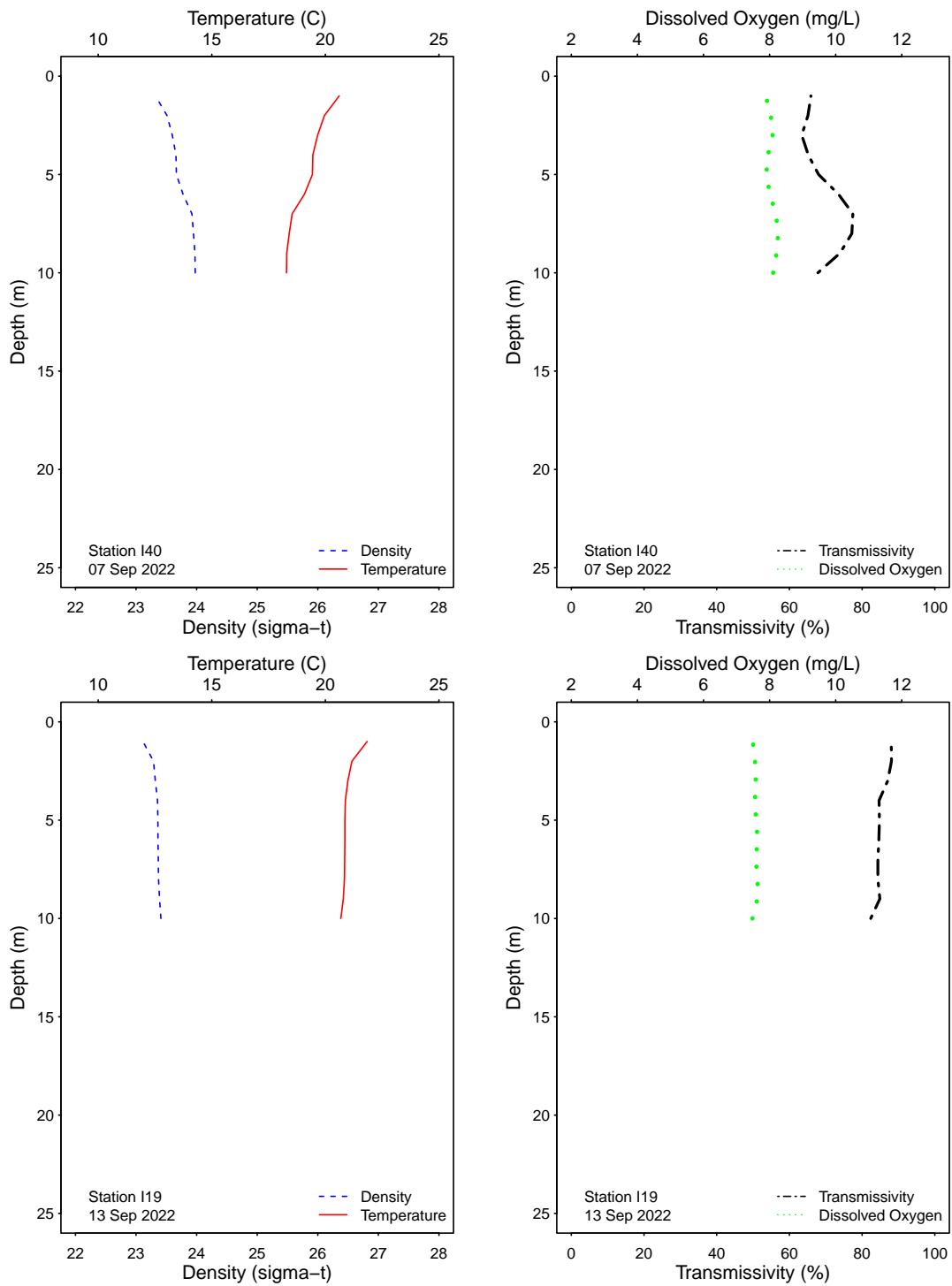


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

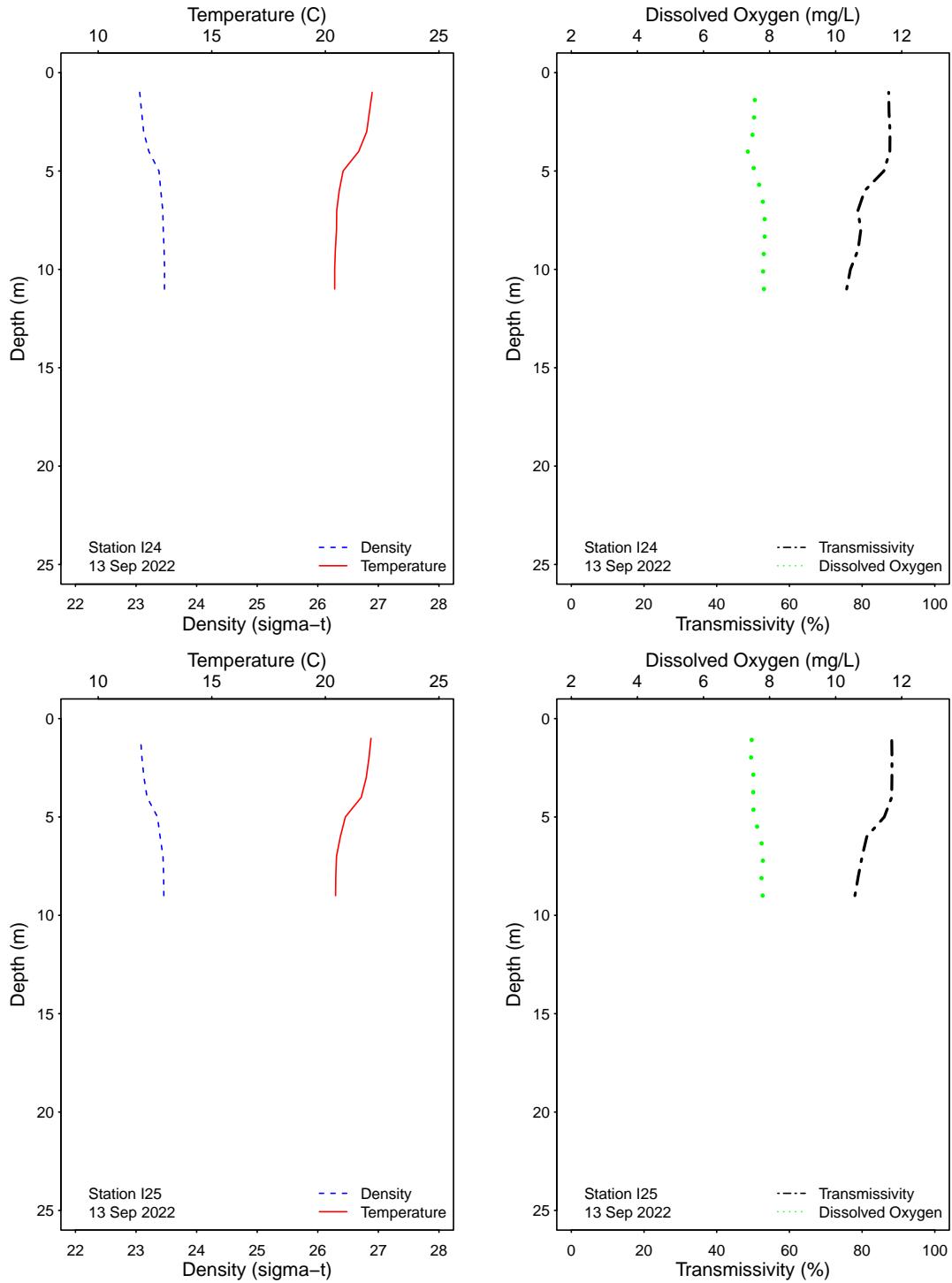


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

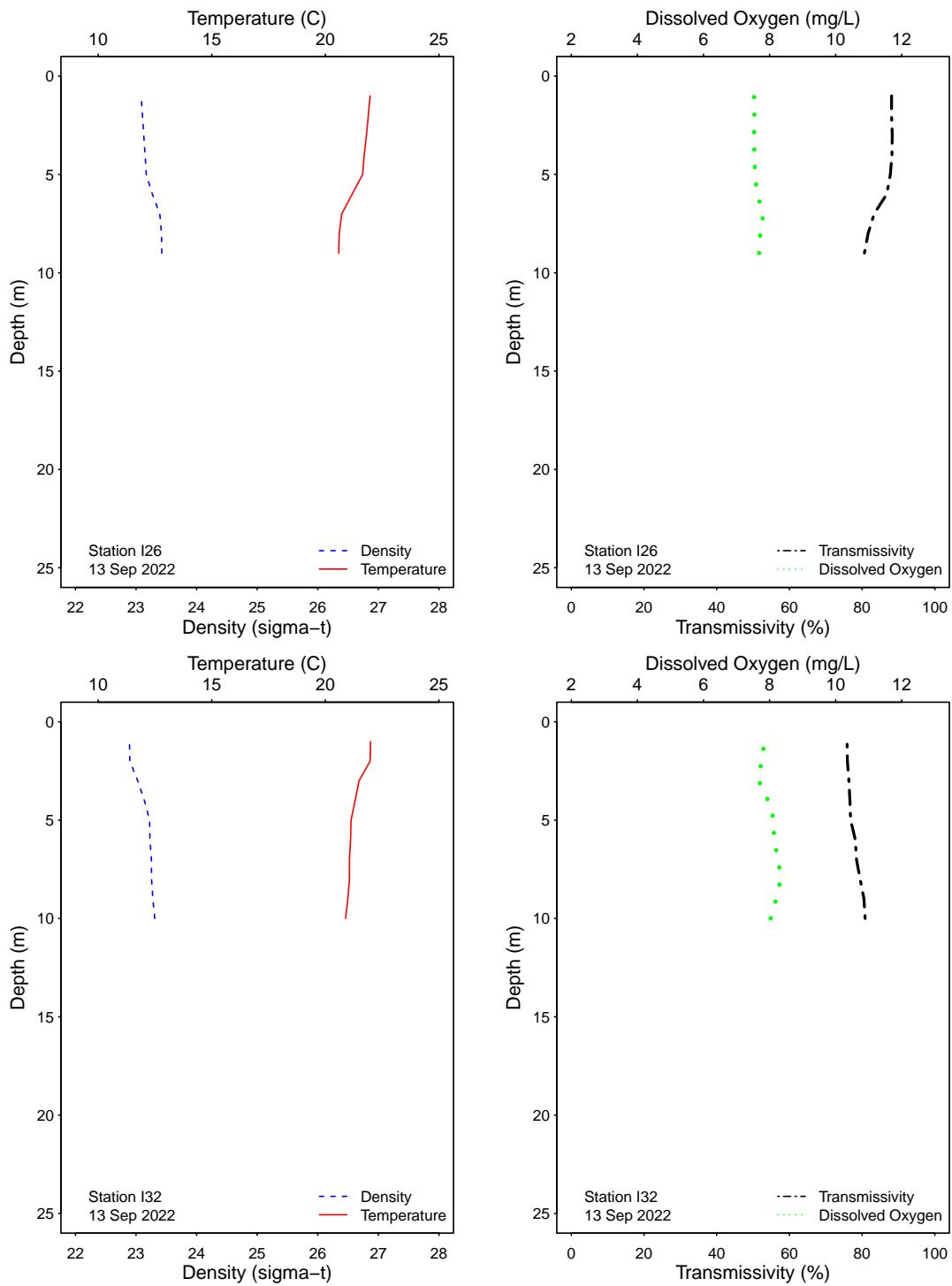


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

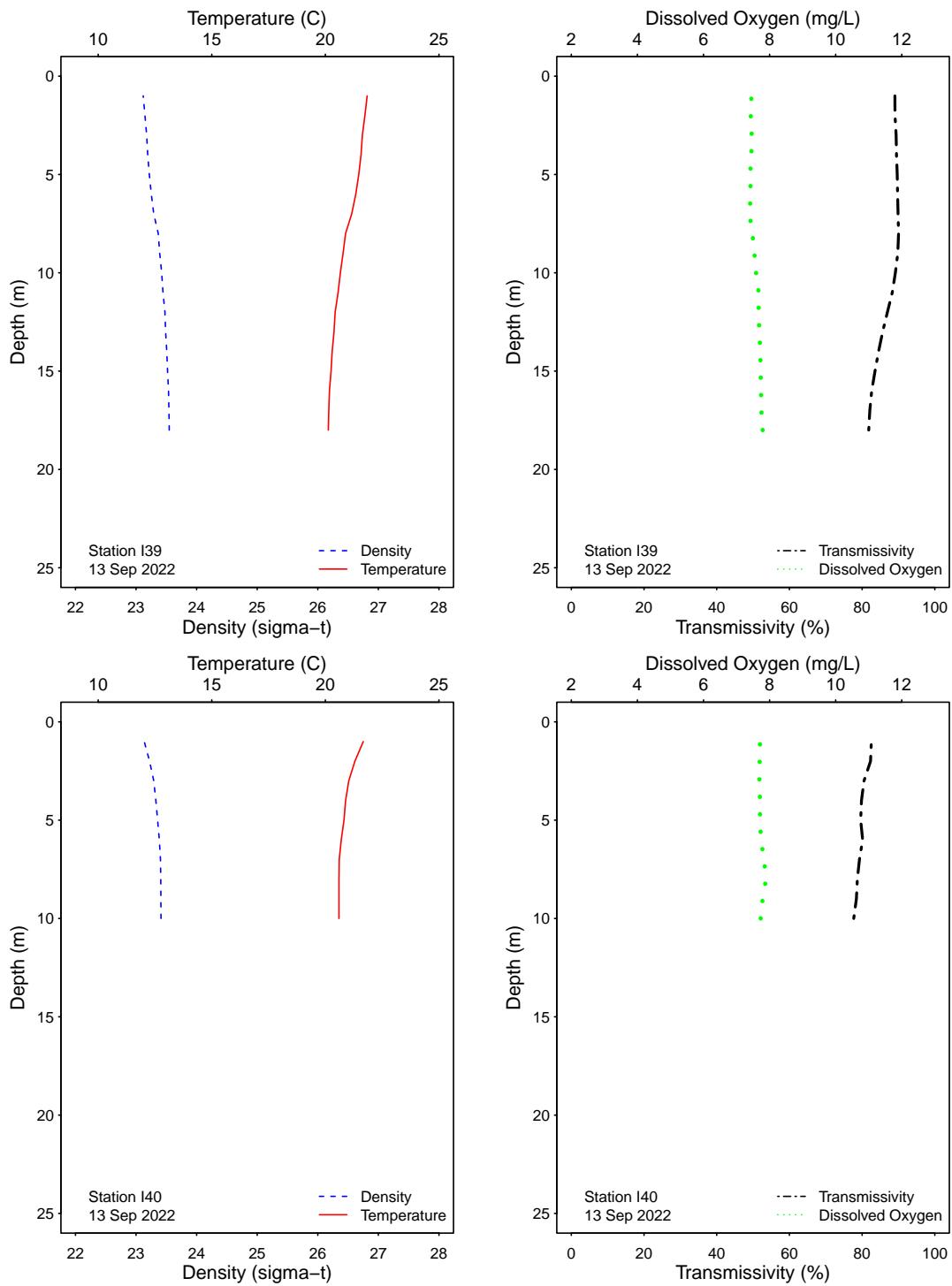


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

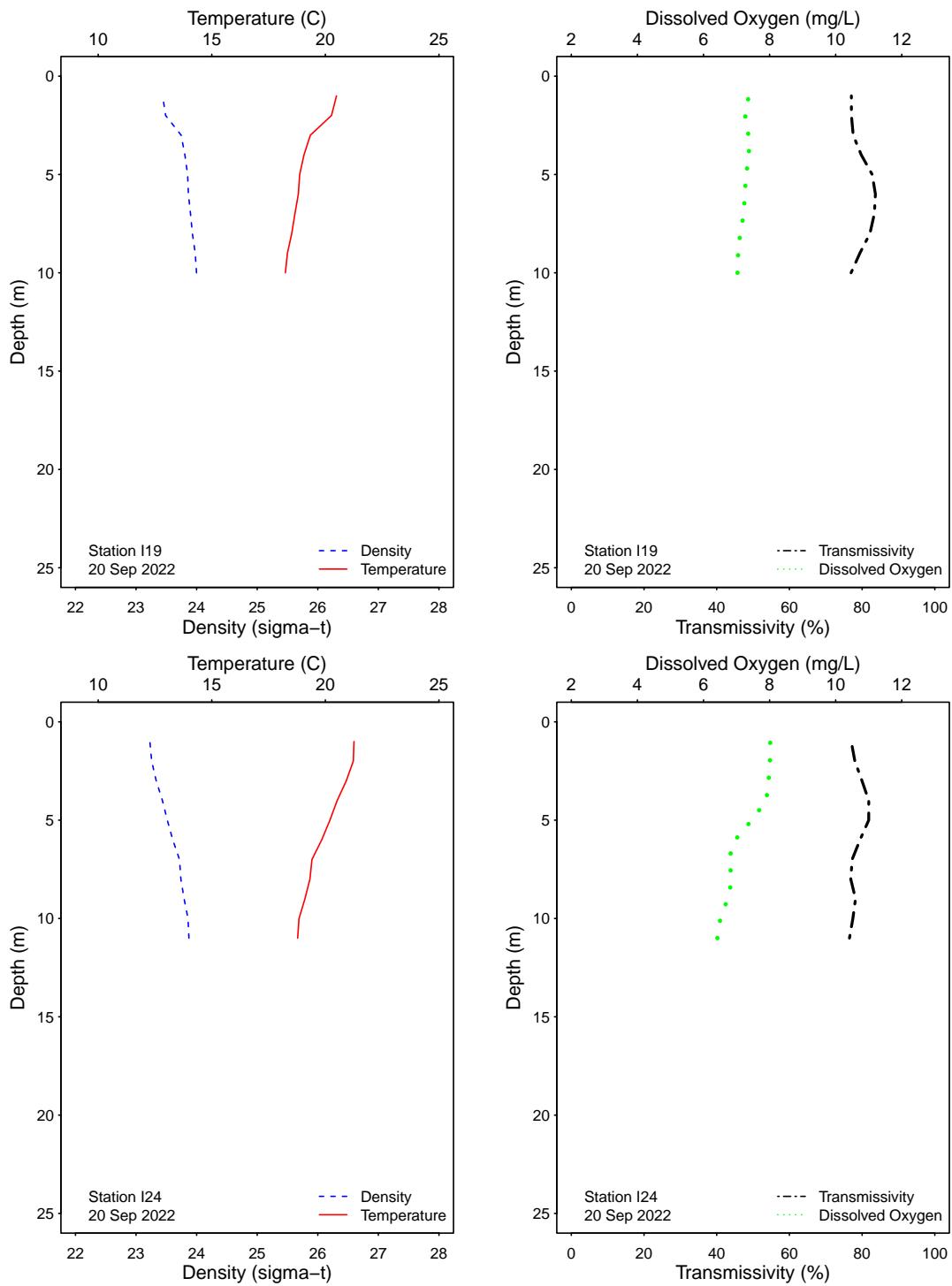


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

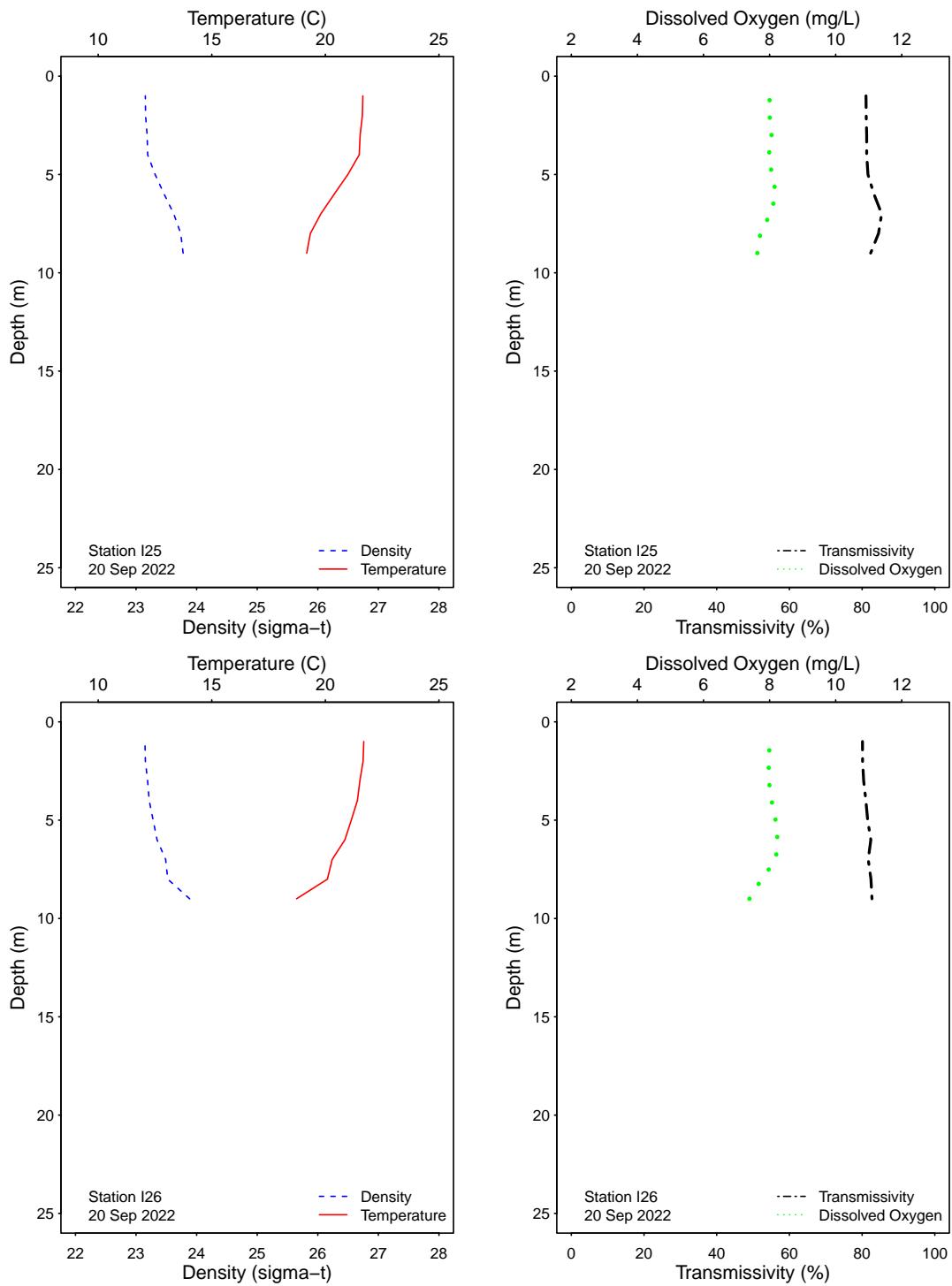


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

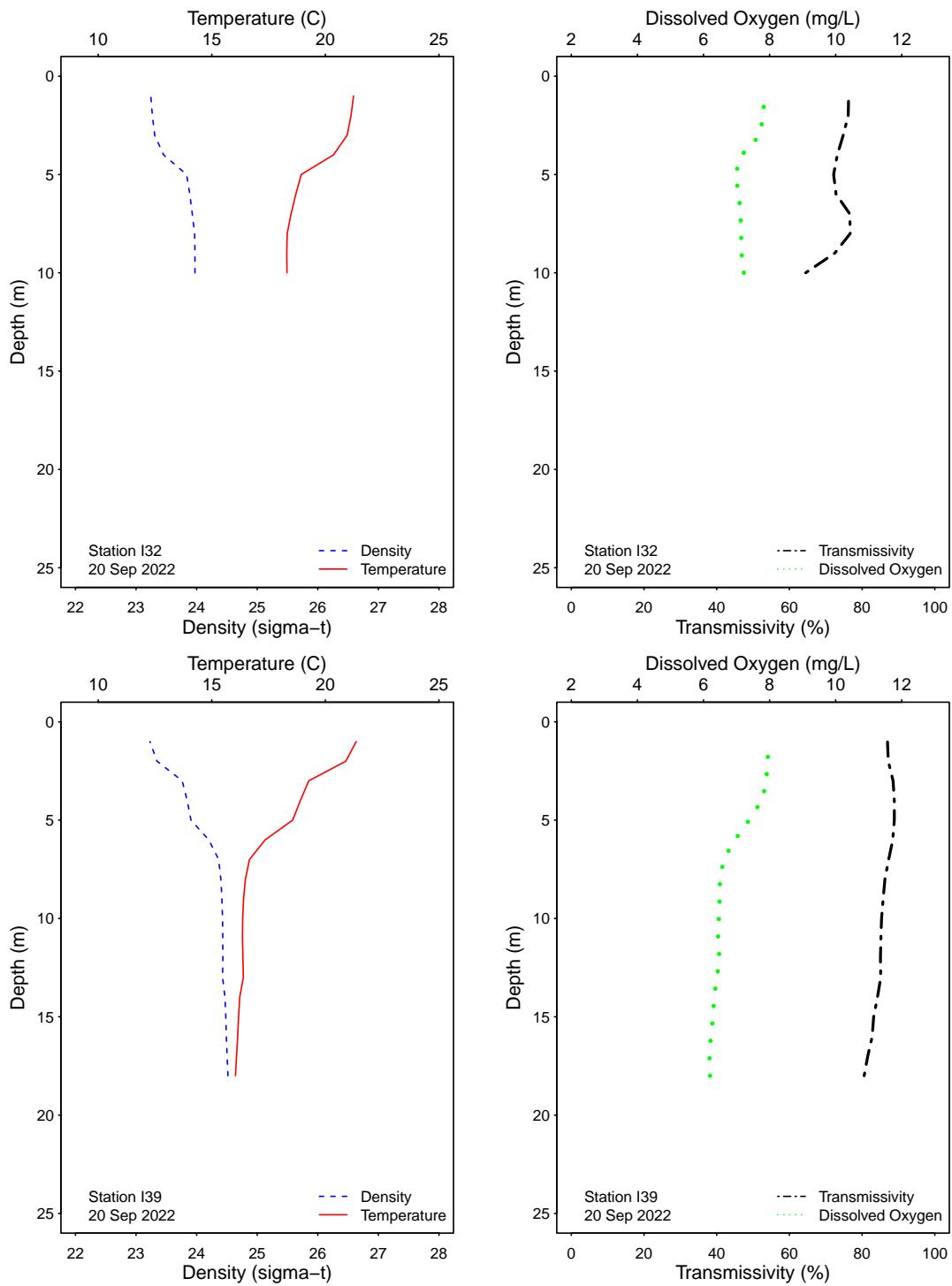


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

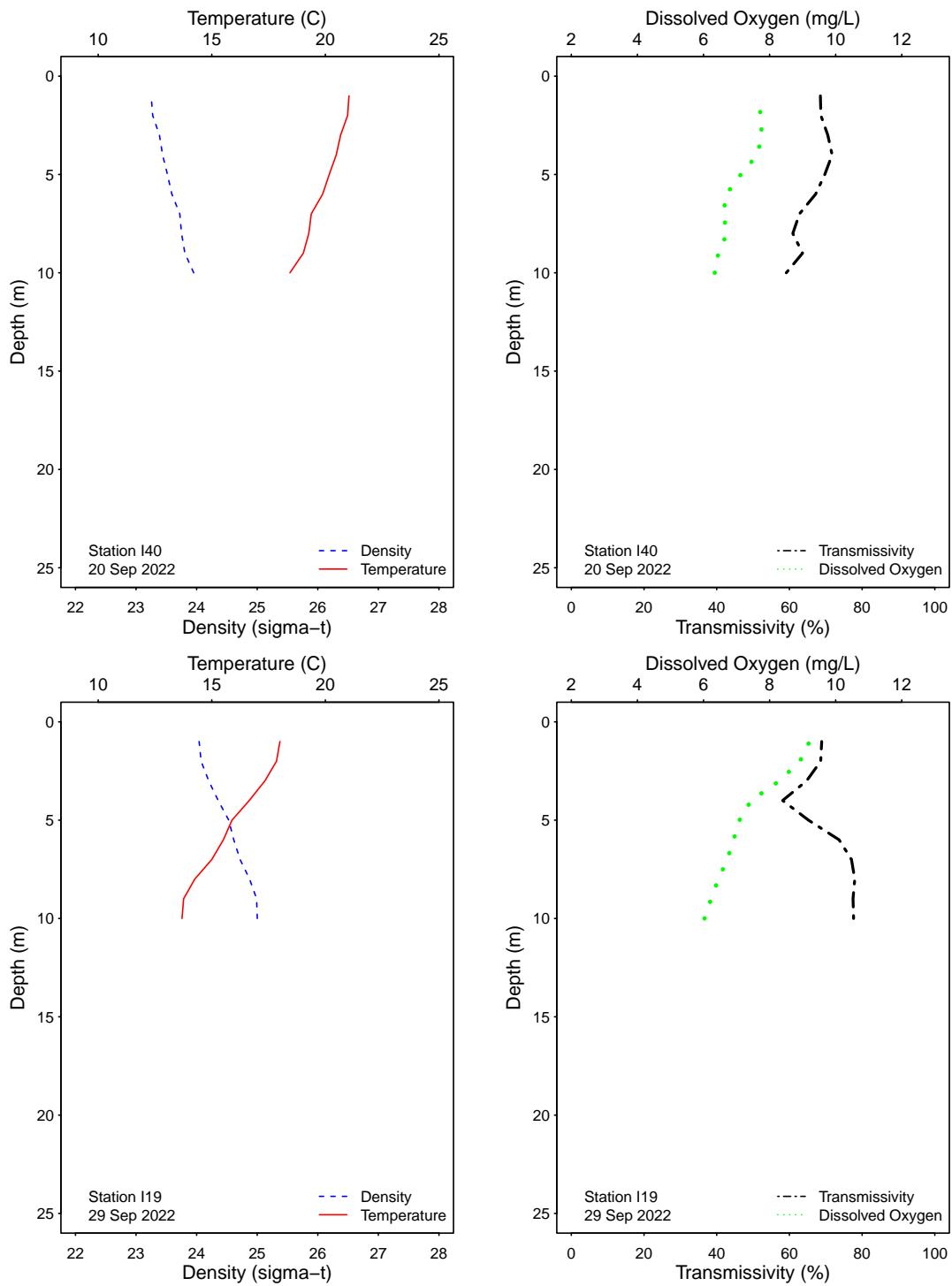


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

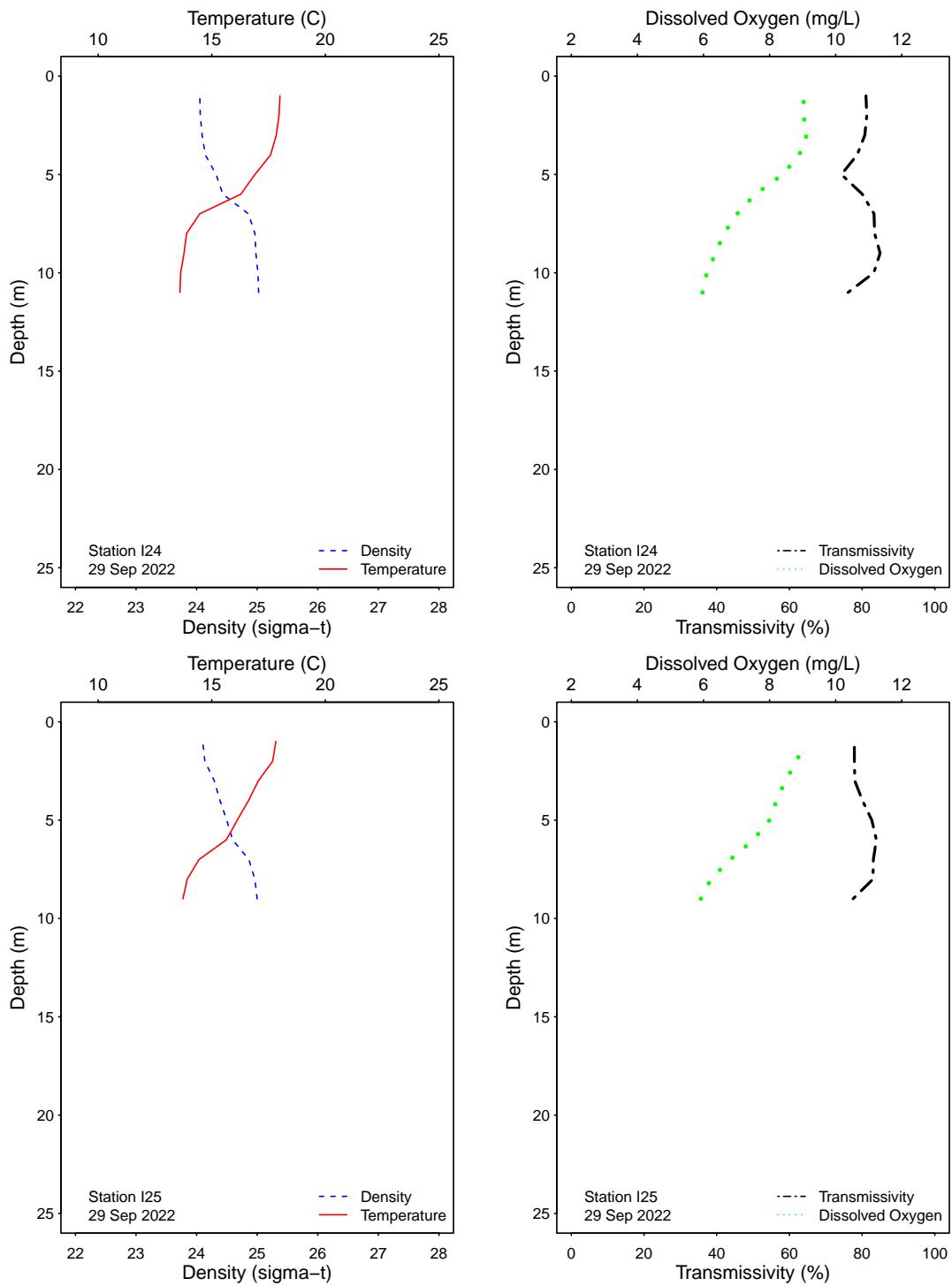


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

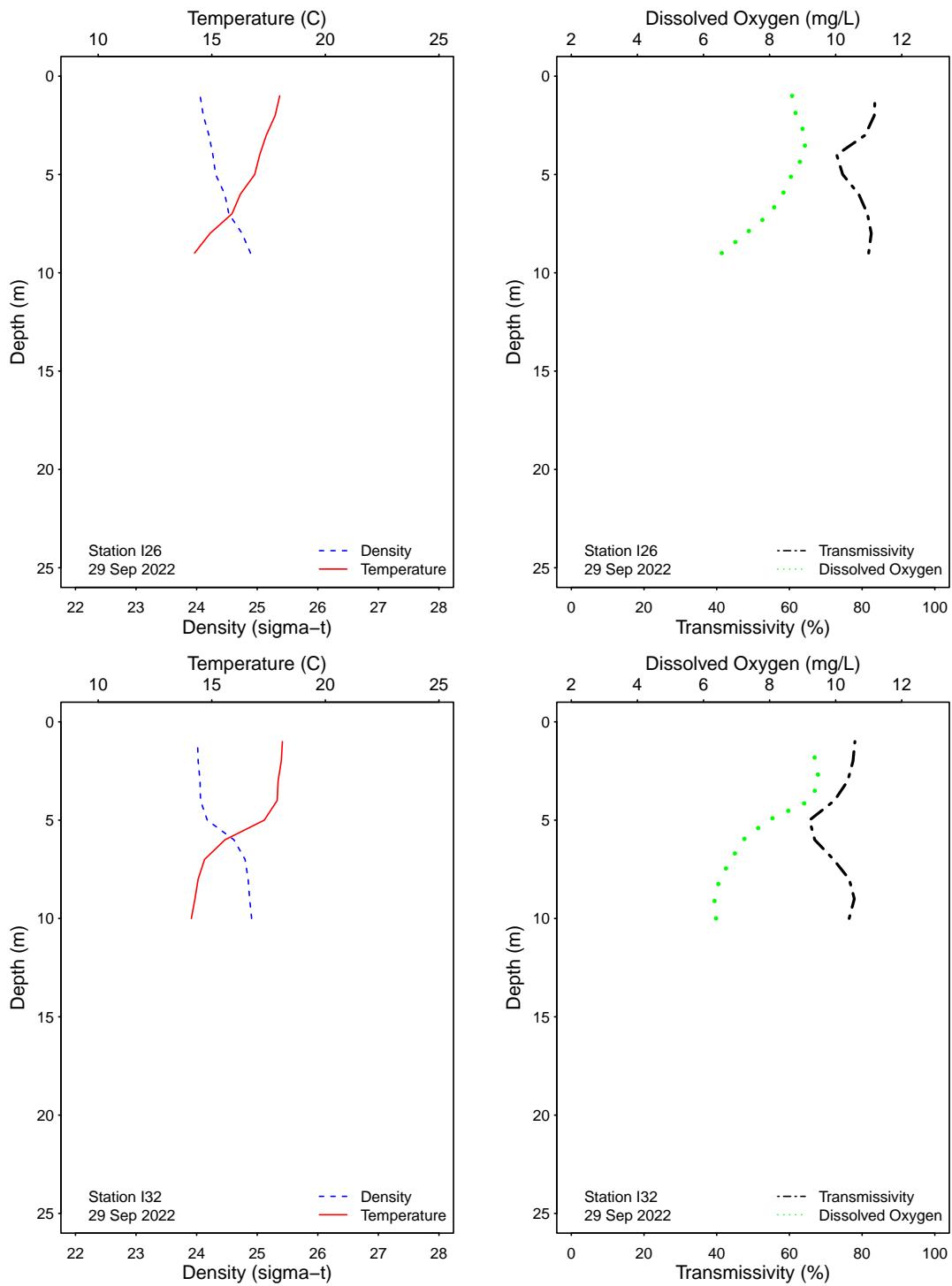


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

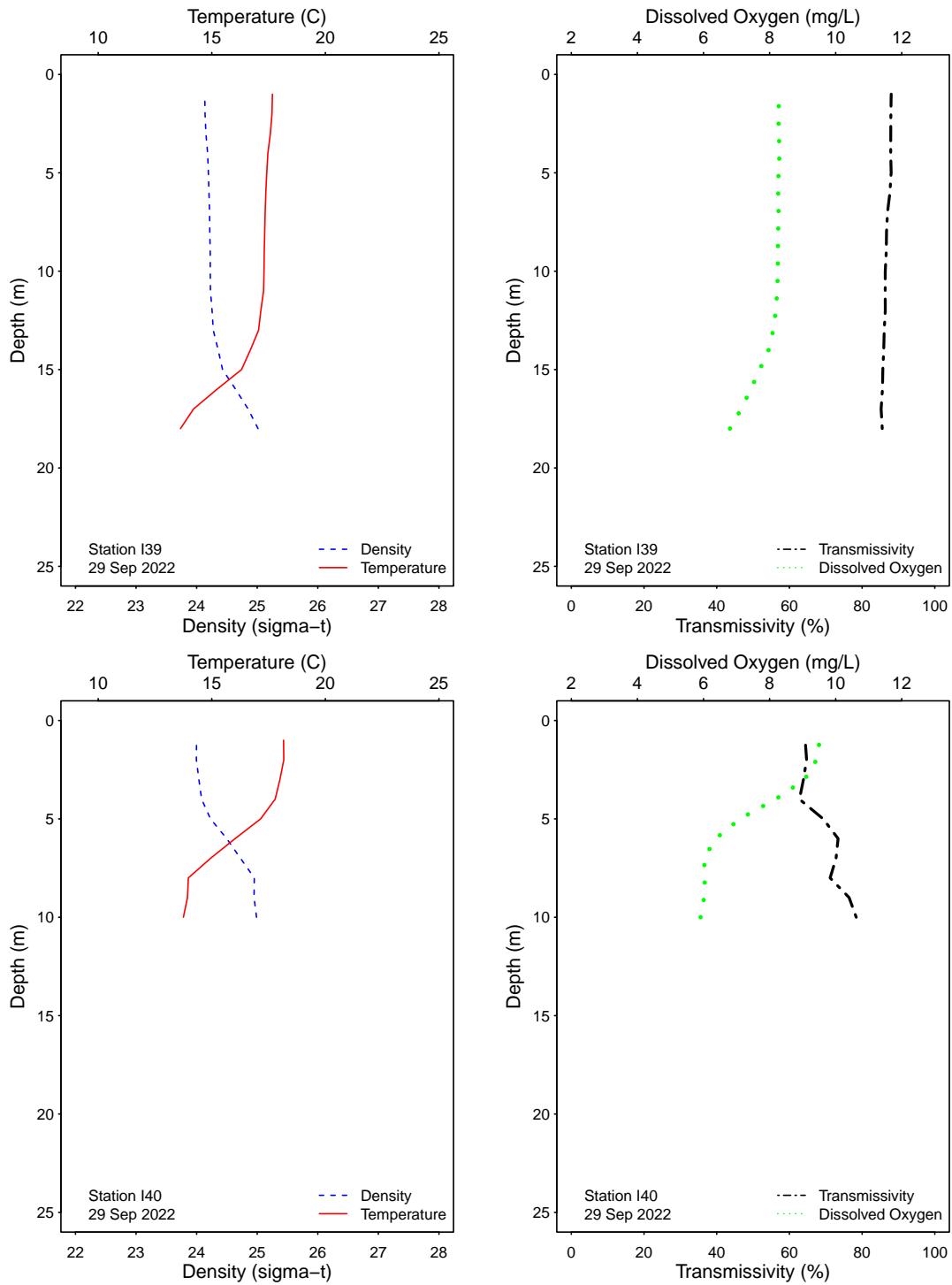


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

APPENDIX A

Quality Assurance

Table A.1

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

Station	Date	Depth	Analyst	Procedure	Total	Fecal	Entero
I19	07 Sep 2022	6	KA	LAB DUPLICATE	9000	2000e	400
I19	13 Sep 2022	6	JF	LAB DUPLICATE	20e	32e	6e
I19	20 Sep 2022	6	CRE	LAB DUPLICATE	2e	<2	<2
I19	29 Sep 2022	6	CRE	LAB DUPLICATE	2e	<2	<2
I40	07 Sep 2022	6	KA	LAB DUPLICATE	11000	2400e	400e
I40	13 Sep 2022	6	JF	LAB DUPLICATE	400e	50	<2
I40	20 Sep 2022	6	CRE	LAB DUPLICATE	40e	8e	2e
I40	29 Sep 2022	6	CRE	LAB DUPLICATE	2e	2e	<2
S12	06 Sep 2022		KT	FIELD DUPLICATE	<20	<2	<2
S12	06 Sep 2022		KT	LAB DUPLICATE	<20	<2	<2
S12	13 Sep 2022		KT	FIELD DUPLICATE	8800	300e	160e
S12	13 Sep 2022		KT	LAB DUPLICATE	5200	1000e	140e
S12	20 Sep 2022		KT	FIELD DUPLICATE	200e	200e	28e
S12	20 Sep 2022		KT	LAB DUPLICATE	400	20e	16e
S12	27 Sep 2022		CRE	FIELD DUPLICATE	<200	8e	6e
S12	27 Sep 2022		CRE	LAB DUPLICATE	<200	2e	2e

ns = not sampled

ND = no data

