



SOUTH BAY OCEAN OUTFALL MONTHLY RECEIVING WATERS MONITORING REPORT

SOUTH BAY WATER RECLAMATION PLANT

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

APRIL 2022

Environmental Monitoring and Technical Services
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Environmental Monitoring & Technical Services Division

May 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 April 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 appears to read "Peter S. Vroom".

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

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 \geq 4 scans per second. The data were then internally averaged using the CTD proprietary software, Seasoft, to create water column profiles equivalent

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

Offshore Stations

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

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

Bacteriological Reporting and Quality Assurance

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

Results of the bacteriological analysis of seawater samples collected from each of the shore, kelp bed, and offshore stations located within State waters are assessed relative to the 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.
- Following the calibration of thermometers on April 26, 2022, it was discovered that samples collected on April 26 were incubated at temperatures slightly above the acceptable temperature range for the given method. Because the temperature difference was so slight, results were deemed reportable and are included herein.
- During April, five of the eight shore stations located north of the border were out of compliance with 2019 California Ocean Plan (Ocean Plan) water contact standards on one or more days as follows:
 - The 30-day geometric mean standard for fecal coliform was exceeded at stations S4, S5, and S10.
 - The single sample maximum (SSM) standard for fecal coliform was exceeded at stations S4, S5, and S10.

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

- The 6-week geometric mean standard for *Enterococcus* was exceeded at stations S4, S5, and S10.
 - The statistical threshold value (STV) standard for *Enterococcus* was exceeded at stations S4, S5, and S10.
 - The 30-day running median standard for total coliform was exceeded at stations S4, S5, and S10.
 - The STV standard for total coliform was exceeded at stations S4, S5, S6, S10, and S11.
- Nothing of sewage origin was observed at SBOO shore stations in April.
- 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 April 5, 13, 19, and 26.
- Following the calibration of thermometers on April 26, 2022, it was discovered that samples collected on April 26 were incubated at temperatures slightly above the acceptable temperature range for the given method. Because the temperature difference was so slight, results were deemed reportable and are included herein.
- During April, four of the seven kelp stations were out of compliance with 2019 Ocean Plan water contact standards on one or more days as follows:
 - The 30-day geometric mean standard for fecal coliform was exceeded at stations I19.
 - The SSM standard for fecal coliform was exceeded at stations I19, I24, I25, and I40.
 - The 6-week geometric mean standard for *Enterococcus* was exceeded at stations I19 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, and I40.
 - The STV standard for total coliforms was exceeded at stations I19, I24, I25, and I40.
- Water column temperatures ranged from 10.43 to 17.61°C. The difference between surface and bottom waters ranged from 1.58 to 5.33°C.
- Concentrations of chlorophyll *a* ranged from 0.96 to 21.57 µg/L at the kelp bed stations.
- Nothing of sewage origin was observed at SBOO kelp stations in April.

➤ **Offshore Water Quality Sampling**

- Quarterly sampling was not conducted during April at the offshore stations. The next quarterly sampling is scheduled for May 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 Apr 2022	869	923	15	2	8	1232	12	4
02 Apr 2022	869	923	15	2	8	1232	12	4
03 Apr 2022	869	923	15	2	8	1232	12	4
04 Apr 2022	869	923	15	2	8	1232	12	4
05 Apr 2022	1334	1542	10	2	6	1680	8	4
06 Apr 2022	1334	1542	10	2	6	1680	8	4
07 Apr 2022	1041	2808	15	2	8	1027	12	4
08 Apr 2022	1041	2808	15	2	8	1027	12	4
09 Apr 2022	1041	2808	15	2	8	1027	12	4
10 Apr 2022	1041	2808	15	2	8	1027	12	4
11 Apr 2022	1041	2808	15	2	8	1027	12	4
12 Apr 2022	298	1045	10	2	8	295	8	4
13 Apr 2022	298	1045	10	2	8	295	8	4
14 Apr 2022	791	2425	8	2	6	864	9	4
15 Apr 2022	791	2425	8	2	6	864	9	4
16 Apr 2022	791	2425	8	2	6	864	9	4
17 Apr 2022	791	2425	8	2	6	864	9	4
18 Apr 2022	791	2425	8	2	6	864	9	4
19 Apr 2022	239	586	6	2	5	257	7	4
20 Apr 2022	239	586	6	2	5	257	7	4
21 Apr 2022	90	275	8	2	4	98	9	4
22 Apr 2022	90	275	8	2	4	98	9	4
23 Apr 2022	90	275	8	2	4	98	9	4
24 Apr 2022	90	275	8	2	4	98	9	4
25 Apr 2022	90	275	8	2	4	98	9	4
26 Apr 2022	184	586	13	2	3	179	15	4
27 Apr 2022	184	586	13	2	3	179	15	4
28 Apr 2022	99	275	5	2	3	83	5	2
29 Apr 2022	99	275	5	2	3	83	5	2
30 Apr 2022	99	275	5	2	3	83	5	2

* Geometric mean calculated using n<5

Table 2.2

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

Date	S4	S5	S6	S8	S9	S10	S11	S12
05 Apr 2022	E	E	IC	IC	IC	E	IC	IC
12 Apr 2022	IC	IC	IC	IC	IC	IC	IC	IC
19 Apr 2022	IC	IC	IC	IC	IC	IC	IC	IC
26 Apr 2022	E	E	IC	IC	IC	E	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 Apr 2022	837	1398	5	3	4	1555	12	4
02 Apr 2022	837	1398	5	3	4	1555	12	4
03 Apr 2022	837	1398	5	3	4	1555	12	4
04 Apr 2022	837	1398	5	3	4	1555	12	4
05 Apr 2022	697	1398	4	3	4	1306	8	4
06 Apr 2022	697	1398	4	3	4	1306	8	4
07 Apr 2022	697	1398	4	3	4	1306	8	4
08 Apr 2022	697	1398	4	3	4	1306	8	4
09 Apr 2022	697	1398	4	3	4	1306	8	4
10 Apr 2022	697	1398	4	3	4	1306	8	4
11 Apr 2022	697	1398	4	3	4	1306	8	4
12 Apr 2022	420	606	4	2	5	816	7	4
13 Apr 2022	420	606	4	2	5	816	7	4
14 Apr 2022	420	606	4	2	5	816	7	4
15 Apr 2022	420	606	4	2	5	816	7	4
16 Apr 2022	420	606	4	2	5	816	7	4
17 Apr 2022	420	606	4	2	5	816	7	4
18 Apr 2022	420	606	4	2	5	816	7	4
19 Apr 2022	170	540	4	3	5	258	7	5
20 Apr 2022	170	540	4	3	5	258	7	5
21 Apr 2022	170	540	4	3	5	258	7	5
22 Apr 2022	170	540	4	3	5	258	7	5
23 Apr 2022	170	540	4	3	5	258	7	5
24 Apr 2022	170	540	4	3	5	258	7	5
25 Apr 2022	170	540	4	3	5	258	7	5
26 Apr 2022	240	1221	5	3	4	421	5	4
27 Apr 2022	240	1221	5	3	4	421	5	4
28 Apr 2022	240	1221	5	3	4	421	5	4
29 Apr 2022	240	1221	5	3	4	421	5	4
30 Apr 2022	240	1221	5	3	4	421	5	4

* 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
April	E	E	IC	IC	IC	E	IC	IC

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 Apr 2022	13000	9600	40	30	23	16000	20	2
02 Apr 2022	13000	9600	40	30	23	16000	20	2
03 Apr 2022	13000	9600	40	30	23	16000	20	2
04 Apr 2022	13000	9600	40	30	23	16000	20	2
05 Apr 2022	16000	16000	20	20	20	16000	20	2
06 Apr 2022	16000	16000	20	20	20	16000	20	2
07 Apr 2022	13000	16000	34	30	23	16000	12	2
08 Apr 2022	13000	16000	34	30	23	16000	12	2
09 Apr 2022	13000	16000	34	30	23	16000	12	2
10 Apr 2022	13000	16000	34	30	23	16000	12	2
11 Apr 2022	13000	16000	34	30	23	16000	12	2
12 Apr 2022	10000	16000	20	20	20	16000	4	2
13 Apr 2022	10000	16000	20	20	20	16000	4	2
14 Apr 2022	13000	16000	14	22	23	16000	4	11
15 Apr 2022	13000	16000	14	22	23	16000	4	11
16 Apr 2022	13000	16000	14	22	23	16000	4	11
17 Apr 2022	13000	16000	14	22	23	16000	4	11
18 Apr 2022	13000	16000	14	22	23	16000	4	11
19 Apr 2022	10000	16000	8	4	20	16000	4	2
20 Apr 2022	10000	16000	8	4	20	16000	4	2
21 Apr 2022	5001	8070	13	4	11	8030	4	11
22 Apr 2022	5001	8070	13	4	11	8030	4	11
23 Apr 2022	5001	8070	13	4	11	8030	4	11
24 Apr 2022	5001	8070	13	4	11	8030	4	11
25 Apr 2022	5001	8070	13	4	11	8030	4	11
26 Apr 2022	10000	16000	20	4	2	11000	4	2
27 Apr 2022	10000	16000	20	4	2	11000	4	2
28 Apr 2022	7001	8070	13	3	2	5530	4	2
29 Apr 2022	7001	8070	13	3	2	5530	4	2
30 Apr 2022	7001	8070	13	3	2	5530	4	2

* 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
April	E	E	E	IC	IC	E	E	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 2.7

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

Station	Date	Time	Total	Fecal	Entero
S0	05 Apr 2022	1015	11000	1200e	380e
S0	12 Apr 2022	915	>16000	>12000	>12000
S0	19 Apr 2022	925	>16000	1800e	2600e
S0	26 Apr 2022	830	5400	820	1100
S2	05 Apr 2022	1210	6600	1200	200e
S2	12 Apr 2022	1020	160e	<20	28e
S2	19 Apr 2022	1020	>16000	<2	48
S2	26 Apr 2022	925	540	56	2e
S3	05 Apr 2022	1235	5400	760	1000
S3	12 Apr 2022	955	10e	2e	30e
S3	19 Apr 2022	955	700	62	30e
S3	26 Apr 2022	910	6000	1200	160e
S4	05 Apr 2022	818	>16000	7400	4000
S4	12 Apr 2022	1107	2e	<2	26e
S4	19 Apr 2022	846	<2	<2	<2
S4	26 Apr 2022	935	14000	3200e	64
S5	05 Apr 2022	925	>16000	>12000	>12000
S5	12 Apr 2022	944	140e	20e	80
S5	19 Apr 2022	932	60e	<2	<2
S5	26 Apr 2022	1047	>16000	>12000	>12000
S6	05 Apr 2022	952	6e	2e	<2
S6	12 Apr 2022	1012	<20	<2	<2
S6	19 Apr 2022	951	<2	<2	<2
S6	26 Apr 2022	1110	820	80	4e
S8	05 Apr 2022	1032	4e	<2	<2
S8	12 Apr 2022	833	4e	<2	2e
S8	19 Apr 2022	1103	<2	<2	10e
S8	26 Apr 2022	834	2e	<2	<2
S9	05 Apr 2022	1053	2e	<2	<2
S9	12 Apr 2022	801	<20	10e	10e
S9	19 Apr 2022	1144	<2	<2	2e
S9	26 Apr 2022	810	2e	<2	<2
S10	05 Apr 2022	824	>16000	5800	4200
S10	12 Apr 2022	1056	16e	2e	38e
S10	19 Apr 2022	856	60e	2e	12e
S10	26 Apr 2022	922	11000	2000e	76
S11	05 Apr 2022	944	4e	2e	2e
S11	12 Apr 2022	959	4e	<2	<2
S11	19 Apr 2022	942	2e	<2	<2
S11	26 Apr 2022	1059	900	100	<2
S12	05 Apr 2022	1010	<2	<2	<2
S12	12 Apr 2022	912	<20	<2	<2
S12	19 Apr 2022	1008	<2	<2	6e

Station	Date	Time	Total	Fecal	Enteric
S12	26 Apr 2022	1021	<2	<2	<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	05 Apr 2022	Arrive Time	1046
S0	05 Apr 2022	Weather	Cloudy
S0	05 Apr 2022	Wind Speed (kts)	1.1
S0	05 Apr 2022	Wind Dir	N
S0	05 Apr 2022	Animal Life	Seagull-5
S0	05 Apr 2022	Floatables	None
S0	05 Apr 2022	Water Color	Grey
S0	05 Apr 2022	Current Direction	S
S0	05 Apr 2022	Water Temp (C)	14
S0	05 Apr 2022	Wave Height Low (ft)	3
S0	05 Apr 2022	High Tide (ft)	2.92
S0	05 Apr 2022	High Tide Time	1251
S0	05 Apr 2022	Low Tide (ft)	0.28
S0	05 Apr 2022	Low Tide Time	639
S0	05 Apr 2022	Comments	Kelp
S0	12 Apr 2022	Arrive Time	
S0	12 Apr 2022	Weather	Cloudy
S0	12 Apr 2022	Wind Speed (kts)	1.1
S0	12 Apr 2022	Wind Dir	NE
S0	12 Apr 2022	Animal Life	Dog-2; Seagull-10
S0	12 Apr 2022	Floatables	None
S0	12 Apr 2022	Water Color	Green
S0	12 Apr 2022	Current Direction	N
S0	12 Apr 2022	Water Temp (C)	17
S0	12 Apr 2022	Wave Height Low (ft)	4
S0	12 Apr 2022	High Tide (ft)	4.54
S0	12 Apr 2022	High Tide Time	651
S0	12 Apr 2022	Low Tide (ft)	1.84
S0	12 Apr 2022	Low Tide Time	112
S0	12 Apr 2022	Comments	Kelp; Person/Walker/Jogger-2; Approximately 0.5 L/sec
S0	19 Apr 2022	Arrive Time	1627
S0	19 Apr 2022	Weather	Sunny
S0	19 Apr 2022	Wind Speed (kts)	1.2
S0	19 Apr 2022	Wind Dir	NE
S0	19 Apr 2022	Animal Life	Dog-7; Seagull-20
S0	19 Apr 2022	Floatables	None
S0	19 Apr 2022	Water Color	Green
S0	19 Apr 2022	Current Direction	N
S0	19 Apr 2022	Water Temp (C)	14
S0	19 Apr 2022	Wave Height Low (ft)	3
S0	19 Apr 2022	High Tide (ft)	3.05
S0	19 Apr 2022	High Tide Time	1323
S0	19 Apr 2022	Low Tide (ft)	-0.66
S0	19 Apr 2022	Low Tide Time	655
S0	19 Apr 2022	Comments	Kelp; Person/Walker/Jogger-2; Aprox. 0.5 L/sec water flowing from storm drain
S0	26 Apr 2022	Arrive Time	
S0	26 Apr 2022	Weather	Sunny
S0	26 Apr 2022	Wind Speed (kts)	1.3
S0	26 Apr 2022	Wind Dir	S
S0	26 Apr 2022	Animal Life	Seagull-20
S0	26 Apr 2022	Floatables	None
S0	26 Apr 2022	Water Color	Green

Station	Date	Parameter	Value
S0	26 Apr 2022	Current Direction	S
S0	26 Apr 2022	Water Temp (C)	13
S0	26 Apr 2022	Wave Height Low (ft)	2
S0	26 Apr 2022	High Tide (ft)	4.66
S0	26 Apr 2022	High Tide Time	652
S0	26 Apr 2022	Low Tide (ft)	1.35
S0	26 Apr 2022	Low Tide Time	111
S0	26 Apr 2022	Comments	Kelp; Algae; Aprox 0.5L/sec water flowing from storm drain
S2	05 Apr 2022	Arrive Time	
S2	05 Apr 2022	Weather	Cloudy
S2	05 Apr 2022	Wind Speed (kts)	4.2
S2	05 Apr 2022	Wind Dir	N
S2	05 Apr 2022	Animal Life	Seagull-15; Dog-2
S2	05 Apr 2022	Floatables	None
S2	05 Apr 2022	Water Color	Green
S2	05 Apr 2022	Current Direction	S
S2	05 Apr 2022	Water Temp (C)	14
S2	05 Apr 2022	Wave Height Low (ft)	3
S2	05 Apr 2022	High Tide (ft)	2.92
S2	05 Apr 2022	High Tide Time	1251
S2	05 Apr 2022	Low Tide (ft)	0.28
S2	05 Apr 2022	Low Tide Time	639
S2	05 Apr 2022	Comments	Kelp
S2	12 Apr 2022	Arrive Time	
S2	12 Apr 2022	Weather	Cloudy
S2	12 Apr 2022	Wind Speed (kts)	1.6
S2	12 Apr 2022	Wind Dir	NE
S2	12 Apr 2022	Animal Life	Dog-3; Seagull-10
S2	12 Apr 2022	Floatables	None
S2	12 Apr 2022	Water Color	Green
S2	12 Apr 2022	Current Direction	N
S2	12 Apr 2022	Water Temp (C)	17
S2	12 Apr 2022	Wave Height Low (ft)	4
S2	12 Apr 2022	High Tide (ft)	4.54
S2	12 Apr 2022	High Tide Time	651
S2	12 Apr 2022	Low Tide (ft)	1.84
S2	12 Apr 2022	Low Tide Time	112
S2	12 Apr 2022	Comments	Kelp; Person/Walker/Jogger-6
S2	19 Apr 2022	Arrive Time	
S2	19 Apr 2022	Weather	Sunny
S2	19 Apr 2022	Wind Speed (kts)	1
S2	19 Apr 2022	Wind Dir	NE
S2	19 Apr 2022	Animal Life	Dog-3; Seagull-10
S2	19 Apr 2022	Floatables	None
S2	19 Apr 2022	Water Color	Green
S2	19 Apr 2022	Current Direction	N
S2	19 Apr 2022	Water Temp (C)	14
S2	19 Apr 2022	Wave Height Low (ft)	3
S2	19 Apr 2022	High Tide (ft)	3.05
S2	19 Apr 2022	High Tide Time	1323
S2	19 Apr 2022	Low Tide (ft)	-0.66
S2	19 Apr 2022	Low Tide Time	655
S2	19 Apr 2022	Comments	Kelp; Person/Walker/Jogger-6
S2	26 Apr 2022	Arrive Time	1651
S2	26 Apr 2022	Weather	Sunny
S2	26 Apr 2022	Wind Speed (kts)	1.5
S2	26 Apr 2022	Wind Dir	S

Station	Date	Parameter	Value
S2	26 Apr 2022	Animal Life	Dog-1; Seagull-20
S2	26 Apr 2022	Floatables	None
S2	26 Apr 2022	Water Color	Green
S2	26 Apr 2022	Current Direction	S
S2	26 Apr 2022	Water Temp (C)	14
S2	26 Apr 2022	Wave Height Low (ft)	2
S2	26 Apr 2022	High Tide (ft)	4.66
S2	26 Apr 2022	High Tide Time	652
S2	26 Apr 2022	Low Tide (ft)	1.35
S2	26 Apr 2022	Low Tide Time	111
S2	26 Apr 2022	Comments	Kelp; Algae; No flow from storm drain
S3	05 Apr 2022	Arrive Time	1031
S3	05 Apr 2022	Weather	Cloudy
S3	05 Apr 2022	Wind Speed (kts)	2.8
S3	05 Apr 2022	Wind Dir	N
S3	05 Apr 2022	Animal Life	Seagull-5
S3	05 Apr 2022	Floatables	None
S3	05 Apr 2022	Water Color	Green
S3	05 Apr 2022	Current Direction	S
S3	05 Apr 2022	Water Temp (C)	14
S3	05 Apr 2022	Wave Height Low (ft)	3
S3	05 Apr 2022	High Tide (ft)	2.92
S3	05 Apr 2022	High Tide Time	1251
S3	05 Apr 2022	Low Tide (ft)	0.28
S3	05 Apr 2022	Low Tide Time	639
S3	05 Apr 2022	Comments	Kelp
S3	12 Apr 2022	Arrive Time	1049
S3	12 Apr 2022	Weather	Cloudy
S3	12 Apr 2022	Wind Speed (kts)	1.4
S3	12 Apr 2022	Wind Dir	NE
S3	12 Apr 2022	Animal Life	Dog-2; Seagull-10
S3	12 Apr 2022	Floatables	None
S3	12 Apr 2022	Water Color	Green
S3	12 Apr 2022	Current Direction	N
S3	12 Apr 2022	Water Temp (C)	17
S3	12 Apr 2022	Wave Height Low (ft)	4
S3	12 Apr 2022	High Tide (ft)	4.54
S3	12 Apr 2022	High Tide Time	651
S3	12 Apr 2022	Low Tide (ft)	1.84
S3	12 Apr 2022	Low Tide Time	112
S3	12 Apr 2022	Comments	Kelp; Person/Walker/Jogger-5
S3	19 Apr 2022	Arrive Time	1619
S3	19 Apr 2022	Weather	Sunny
S3	19 Apr 2022	Wind Speed (kts)	1.1
S3	19 Apr 2022	Wind Dir	NE
S3	19 Apr 2022	Animal Life	Dog-2; Seagull-10
S3	19 Apr 2022	Floatables	None
S3	19 Apr 2022	Water Color	Green
S3	19 Apr 2022	Current Direction	N
S3	19 Apr 2022	Water Temp (C)	14
S3	19 Apr 2022	Wave Height Low (ft)	3
S3	19 Apr 2022	High Tide (ft)	3.05
S3	19 Apr 2022	High Tide Time	1323
S3	19 Apr 2022	Low Tide (ft)	-0.66
S3	19 Apr 2022	Low Tide Time	655
S3	19 Apr 2022	Comments	Kelp; Person/Walker/Jogger-4; Surfer/Paddle boarder-1
S3	26 Apr 2022	Arrive Time	1646

Station	Date	Parameter	Value
S3	26 Apr 2022	Weather	Sunny
S3	26 Apr 2022	Wind Speed (kts)	1.8
S3	26 Apr 2022	Wind Dir	S
S3	26 Apr 2022	Animal Life	Dog-2; Seagull-20
S3	26 Apr 2022	Floatables	None
S3	26 Apr 2022	Water Color	Green
S3	26 Apr 2022	Current Direction	S
S3	26 Apr 2022	Water Temp (C)	14
S3	26 Apr 2022	Wave Height Low (ft)	2
S3	26 Apr 2022	High Tide (ft)	4.66
S3	26 Apr 2022	High Tide Time	652
S3	26 Apr 2022	Low Tide (ft)	1.35
S3	26 Apr 2022	Low Tide Time	111
S3	26 Apr 2022	Comments	Kelp; Algae; No flow from storm drain
S4	05 Apr 2022	Arrive Time	818
S4	05 Apr 2022	Weather	Foggy
S4	05 Apr 2022	Wind Speed (kts)	0
S4	05 Apr 2022	Wind Dir	
S4	05 Apr 2022	Animal Life	Bird-6
S4	05 Apr 2022	Floatables	None
S4	05 Apr 2022	Water Color	Green
S4	05 Apr 2022	Current Direction	N
S4	05 Apr 2022	Water Temp (C)	15.2
S4	05 Apr 2022	Wave Height Low (ft)	2
S4	05 Apr 2022	High Tide (ft)	2.92
S4	05 Apr 2022	High Tide Time	1251
S4	05 Apr 2022	Low Tide (ft)	0.28
S4	05 Apr 2022	Low Tide Time	639
S4	05 Apr 2022	Comments	Water turbid; Trash-2; Kelp; Seagrass; Debris; Person/Walker/Jogger-2
S4	12 Apr 2022	Arrive Time	1107
S4	12 Apr 2022	Weather	Sunny
S4	12 Apr 2022	Wind Speed (kts)	11.9
S4	12 Apr 2022	Wind Dir	NW
S4	12 Apr 2022	Animal Life	Bird-3
S4	12 Apr 2022	Floatables	Foam
S4	12 Apr 2022	Water Color	Green
S4	12 Apr 2022	Current Direction	S
S4	12 Apr 2022	Water Temp (C)	19.3
S4	12 Apr 2022	Wave Height Low (ft)	3
S4	12 Apr 2022	High Tide (ft)	4.54
S4	12 Apr 2022	High Tide Time	651
S4	12 Apr 2022	Low Tide (ft)	1.84
S4	12 Apr 2022	Low Tide Time	112
S4	12 Apr 2022	Comments	Seagrass; Kelp; Debris
S4	19 Apr 2022	Arrive Time	846
S4	19 Apr 2022	Weather	Partly cloudy
S4	19 Apr 2022	Wind Speed (kts)	3.3
S4	19 Apr 2022	Wind Dir	W
S4	19 Apr 2022	Animal Life	
S4	19 Apr 2022	Floatables	None
S4	19 Apr 2022	Water Color	Green
S4	19 Apr 2022	Current Direction	N
S4	19 Apr 2022	Water Temp (C)	14.7
S4	19 Apr 2022	Wave Height Low (ft)	2
S4	19 Apr 2022	High Tide (ft)	3.47
S4	19 Apr 2022	High Tide Time	1208
S4	19 Apr 2022	Low Tide (ft)	-0.84

Station	Date	Parameter	Value
S4	19 Apr 2022	Low Tide Time	555
S4	19 Apr 2022	Comments	none
S4	26 Apr 2022	Arrive Time	935
S4	26 Apr 2022	Weather	Foggy
S4	26 Apr 2022	Wind Speed (kts)	5.3
S4	26 Apr 2022	Wind Dir	SW
S4	26 Apr 2022	Animal Life	
S4	26 Apr 2022	Floatables	Foam
S4	26 Apr 2022	Water Color	Grey
S4	26 Apr 2022	Current Direction	S
S4	26 Apr 2022	Water Temp (C)	0
S4	26 Apr 2022	Wave Height Low (ft)	2
S4	26 Apr 2022	High Tide (ft)	4.66
S4	26 Apr 2022	High Tide Time	652
S4	26 Apr 2022	Low Tide (ft)	1.35
S4	26 Apr 2022	Low Tide Time	111
S4	26 Apr 2022	Comments	Seagrass; Kelp; Debris
S5	05 Apr 2022	Arrive Time	925
S5	05 Apr 2022	Weather	Foggy
S5	05 Apr 2022	Wind Speed (kts)	1.9
S5	05 Apr 2022	Wind Dir	W
S5	05 Apr 2022	Animal Life	Pelican-24; Seagull-6
S5	05 Apr 2022	Floatables	None
S5	05 Apr 2022	Water Color	Green
S5	05 Apr 2022	Current Direction	N
S5	05 Apr 2022	Water Temp (C)	16.1
S5	05 Apr 2022	Wave Height Low (ft)	4
S5	05 Apr 2022	High Tide (ft)	2.92
S5	05 Apr 2022	High Tide Time	1251
S5	05 Apr 2022	Low Tide (ft)	0.28
S5	05 Apr 2022	Low Tide Time	639
S5	05 Apr 2022	Comments	Water turbid; Trash-1; Seagrass; Kelp; Person/Walker/Jogger-4
S5	12 Apr 2022	Arrive Time	944
S5	12 Apr 2022	Weather	Cloudy
S5	12 Apr 2022	Wind Speed (kts)	7.2
S5	12 Apr 2022	Wind Dir	N
S5	12 Apr 2022	Animal Life	Bird-2; Seagull-1
S5	12 Apr 2022	Floatables	Foam; Dead animals
S5	12 Apr 2022	Water Color	Green
S5	12 Apr 2022	Current Direction	S
S5	12 Apr 2022	Water Temp (C)	19
S5	12 Apr 2022	Wave Height Low (ft)	1
S5	12 Apr 2022	High Tide (ft)	4.54
S5	12 Apr 2022	High Tide Time	651
S5	12 Apr 2022	Low Tide (ft)	1.84
S5	12 Apr 2022	Low Tide Time	112
S5	12 Apr 2022	Comments	Seagrass; Kelp; Debris
S5	19 Apr 2022	Arrive Time	932
S5	19 Apr 2022	Weather	Sunny
S5	19 Apr 2022	Wind Speed (kts)	3.3
S5	19 Apr 2022	Wind Dir	W
S5	19 Apr 2022	Animal Life	
S5	19 Apr 2022	Floatables	Dead animals
S5	19 Apr 2022	Water Color	Green
S5	19 Apr 2022	Current Direction	S
S5	19 Apr 2022	Water Temp (C)	14.8

Station	Date	Parameter	Value
S5	19 Apr 2022	Wave Height Low (ft)	2
S5	19 Apr 2022	High Tide (ft)	3.47
S5	19 Apr 2022	High Tide Time	1208
S5	19 Apr 2022	Low Tide (ft)	-0.84
S5	19 Apr 2022	Low Tide Time	555
S5	19 Apr 2022	Comments	Water turbid; Trash-1; Kelp; Seagrass; Person/Walker/Jogger-4
S5	26 Apr 2022	Arrive Time	1047
S5	26 Apr 2022	Weather	Foggy
S5	26 Apr 2022	Wind Speed (kts)	5.2
S5	26 Apr 2022	Wind Dir	SW
S5	26 Apr 2022	Animal Life	Bird-1; Seagull-1
S5	26 Apr 2022	Floatables	Foam
S5	26 Apr 2022	Water Color	Grey
S5	26 Apr 2022	Current Direction	S
S5	26 Apr 2022	Water Temp (C)	0
S5	26 Apr 2022	Wave Height Low (ft)	1
S5	26 Apr 2022	High Tide (ft)	4.66
S5	26 Apr 2022	High Tide Time	652
S5	26 Apr 2022	Low Tide (ft)	1.35
S5	26 Apr 2022	Low Tide Time	111
S5	26 Apr 2022	Comments	Kelp; Seagrass; Debris
S6	05 Apr 2022	Arrive Time	952
S6	05 Apr 2022	Weather	Foggy
S6	05 Apr 2022	Wind Speed (kts)	1.1
S6	05 Apr 2022	Wind Dir	W
S6	05 Apr 2022	Animal Life	Dog-3
S6	05 Apr 2022	Floatables	Foam; Film
S6	05 Apr 2022	Water Color	Green
S6	05 Apr 2022	Current Direction	N
S6	05 Apr 2022	Water Temp (C)	15.8
S6	05 Apr 2022	Wave Height Low (ft)	3
S6	05 Apr 2022	High Tide (ft)	2.92
S6	05 Apr 2022	High Tide Time	1251
S6	05 Apr 2022	Low Tide (ft)	0.28
S6	05 Apr 2022	Low Tide Time	639
S6	05 Apr 2022	Comments	Water clear; Surfer/Paddle boarder-1; Trash-1; Kelp; Debris; Seagrass; Person/Walker/Jogger-10
S6	12 Apr 2022	Arrive Time	1012
S6	12 Apr 2022	Weather	Sunny
S6	12 Apr 2022	Wind Speed (kts)	13.6
S6	12 Apr 2022	Wind Dir	NW
S6	12 Apr 2022	Animal Life	Bird-4
S6	12 Apr 2022	Floatables	Foam
S6	12 Apr 2022	Water Color	Green
S6	12 Apr 2022	Current Direction	S
S6	12 Apr 2022	Water Temp (C)	18
S6	12 Apr 2022	Wave Height Low (ft)	3
S6	12 Apr 2022	High Tide (ft)	4.54
S6	12 Apr 2022	High Tide Time	651
S6	12 Apr 2022	Low Tide (ft)	1.84
S6	12 Apr 2022	Low Tide Time	112
S6	12 Apr 2022	Comments	Seagrass; Kelp; Debris
S6	19 Apr 2022	Arrive Time	951
S6	19 Apr 2022	Weather	Sunny
S6	19 Apr 2022	Wind Speed (kts)	3.4
S6	19 Apr 2022	Wind Dir	W

Station	Date	Parameter	Value
S6	19 Apr 2022	Animal Life	Dog-2; Seagull-1
S6	19 Apr 2022	Floatables	Dead animals; Foam
S6	19 Apr 2022	Water Color	Green
S6	19 Apr 2022	Current Direction	S
S6	19 Apr 2022	Water Temp (C)	14.5
S6	19 Apr 2022	Wave Height Low (ft)	2
S6	19 Apr 2022	High Tide (ft)	3.47
S6	19 Apr 2022	High Tide Time	1208
S6	19 Apr 2022	Low Tide (ft)	-0.84
S6	19 Apr 2022	Low Tide Time	555
S6	19 Apr 2022	Comments	Water turbid; Trash-1; Kelp; Seagrass; Person/Walker/Jogger-2
S6	26 Apr 2022	Arrive Time	1110
S6	26 Apr 2022	Weather	Foggy
S6	26 Apr 2022	Wind Speed (kts)	3.8
S6	26 Apr 2022	Wind Dir	SW
S6	26 Apr 2022	Animal Life	Bird-2; Seagull-1
S6	26 Apr 2022	Floatables	Foam
S6	26 Apr 2022	Water Color	Green
S6	26 Apr 2022	Current Direction	S
S6	26 Apr 2022	Water Temp (C)	0
S6	26 Apr 2022	Wave Height Low (ft)	2
S6	26 Apr 2022	High Tide (ft)	4.66
S6	26 Apr 2022	High Tide Time	652
S6	26 Apr 2022	Low Tide (ft)	1.35
S6	26 Apr 2022	Low Tide Time	111
S6	26 Apr 2022	Comments	Water turbid; Trash-1; Kelp; Seagrass; Person/Walker/Jogger-2; Temp gun left in the lab
S8	05 Apr 2022	Arrive Time	1032
S8	05 Apr 2022	Weather	Foggy
S8	05 Apr 2022	Wind Speed (kts)	3.5
S8	05 Apr 2022	Wind Dir	NW
S8	05 Apr 2022	Animal Life	Bird-60
S8	05 Apr 2022	Floatables	Foam
S8	05 Apr 2022	Water Color	Green
S8	05 Apr 2022	Current Direction	N
S8	05 Apr 2022	Water Temp (C)	16
S8	05 Apr 2022	Wave Height Low (ft)	1
S8	05 Apr 2022	High Tide (ft)	2.92
S8	05 Apr 2022	High Tide Time	1251
S8	05 Apr 2022	Low Tide (ft)	0.28
S8	05 Apr 2022	Low Tide Time	639
S8	05 Apr 2022	Comments	Water clear; Boogie boarder/Swimmer-4; Fisherperson-1; Trash-1; Kelp; Seagrass; Debris; Person/Walker/Jogger-3
S8	12 Apr 2022	Arrive Time	833
S8	12 Apr 2022	Weather	Partly cloudy
S8	12 Apr 2022	Wind Speed (kts)	8.8
S8	12 Apr 2022	Wind Dir	NW
S8	12 Apr 2022	Animal Life	Bird-100
S8	12 Apr 2022	Floatables	Foam
S8	12 Apr 2022	Water Color	Green
S8	12 Apr 2022	Current Direction	S
S8	12 Apr 2022	Water Temp (C)	19.2
S8	12 Apr 2022	Wave Height Low (ft)	1
S8	12 Apr 2022	High Tide (ft)	4.54
S8	12 Apr 2022	High Tide Time	651
S8	12 Apr 2022	Low Tide (ft)	1.84
S8	12 Apr 2022	Low Tide Time	112

Station	Date	Parameter	Value
S8	12 Apr 2022	Comments	Seagrass; Kelp
S8	19 Apr 2022	Arrive Time	1103
S8	19 Apr 2022	Weather	Sunny
S8	19 Apr 2022	Wind Speed (kts)	7.1
S8	19 Apr 2022	Wind Dir	W
S8	19 Apr 2022	Animal Life	
S8	19 Apr 2022	Floatables	None
S8	19 Apr 2022	Water Color	Green
S8	19 Apr 2022	Current Direction	S
S8	19 Apr 2022	Water Temp (C)	15.8
S8	19 Apr 2022	Wave Height Low (ft)	2
S8	19 Apr 2022	High Tide (ft)	3.47
S8	19 Apr 2022	High Tide Time	1208
S8	19 Apr 2022	Low Tide (ft)	-0.84
S8	19 Apr 2022	Low Tide Time	555
S8	19 Apr 2022	Comments	Water clear; Fisherman-3; Trash-1; Seagrass; Kelp; Person/Walker/Jogger-6
S8	26 Apr 2022	Arrive Time	834
S8	26 Apr 2022	Weather	Foggy
S8	26 Apr 2022	Wind Speed (kts)	4.1
S8	26 Apr 2022	Wind Dir	SW
S8	26 Apr 2022	Animal Life	Bird-5
S8	26 Apr 2022	Floatables	Foam
S8	26 Apr 2022	Water Color	Grey
S8	26 Apr 2022	Current Direction	S
S8	26 Apr 2022	Water Temp (C)	0
S8	26 Apr 2022	Wave Height Low (ft)	1
S8	26 Apr 2022	High Tide (ft)	4.66
S8	26 Apr 2022	High Tide Time	652
S8	26 Apr 2022	Low Tide (ft)	1.35
S8	26 Apr 2022	Low Tide Time	111
S8	26 Apr 2022	Comments	Seagrass; Kelp
S9	05 Apr 2022	Arrive Time	1053
S9	05 Apr 2022	Weather	Overcast
S9	05 Apr 2022	Wind Speed (kts)	3.9
S9	05 Apr 2022	Wind Dir	W
S9	05 Apr 2022	Animal Life	Bird-3; Seagull-1
S9	05 Apr 2022	Floatables	None
S9	05 Apr 2022	Water Color	Green
S9	05 Apr 2022	Current Direction	N
S9	05 Apr 2022	Water Temp (C)	16
S9	05 Apr 2022	Wave Height Low (ft)	1
S9	05 Apr 2022	High Tide (ft)	2.92
S9	05 Apr 2022	High Tide Time	1251
S9	05 Apr 2022	Low Tide (ft)	0.28
S9	05 Apr 2022	Low Tide Time	639
S9	05 Apr 2022	Comments	Water clear; Trash-1; Seagrass; Person/Walker/Jogger-5
S9	12 Apr 2022	Arrive Time	801
S9	12 Apr 2022	Weather	Partly cloudy
S9	12 Apr 2022	Wind Speed (kts)	3.82
S9	12 Apr 2022	Wind Dir	W
S9	12 Apr 2022	Animal Life	Pelican-1
S9	12 Apr 2022	Floatables	Foam
S9	12 Apr 2022	Water Color	Green
S9	12 Apr 2022	Current Direction	S
S9	12 Apr 2022	Water Temp (C)	19.1
S9	12 Apr 2022	Wave Height Low (ft)	2

Station	Date	Parameter	Value
S9	12 Apr 2022	High Tide (ft)	4.54
S9	12 Apr 2022	High Tide Time	651
S9	12 Apr 2022	Low Tide (ft)	1.84
S9	12 Apr 2022	Low Tide Time	112
S9	12 Apr 2022	Comments	Water clear; Trash-1; Seagrass; Kelp; Person/Walker/Jogger-2
S9	19 Apr 2022	Arrive Time	1144
S9	19 Apr 2022	Weather	Sunny
S9	19 Apr 2022	Wind Speed (kts)	5.6
S9	19 Apr 2022	Wind Dir	NW
S9	19 Apr 2022	Animal Life	
S9	19 Apr 2022	Floatables	None
S9	19 Apr 2022	Water Color	Green
S9	19 Apr 2022	Current Direction	S
S9	19 Apr 2022	Water Temp (C)	15.4
S9	19 Apr 2022	Wave Height Low (ft)	2
S9	19 Apr 2022	High Tide (ft)	3.47
S9	19 Apr 2022	High Tide Time	1208
S9	19 Apr 2022	Low Tide (ft)	-0.84
S9	19 Apr 2022	Low Tide Time	555
S9	19 Apr 2022	Comments	Water clear; Surfer/Paddle boarder-5; Trash-1; Kelp; Seagrass; Algae; Person/Walker/Jogger-16
S9	26 Apr 2022	Arrive Time	810
S9	26 Apr 2022	Weather	Overcast
S9	26 Apr 2022	Wind Speed (kts)	2.5
S9	26 Apr 2022	Wind Dir	SW
S9	26 Apr 2022	Animal Life	Bird-1
S9	26 Apr 2022	Floatables	Foam
S9	26 Apr 2022	Water Color	Green
S9	26 Apr 2022	Current Direction	S
S9	26 Apr 2022	Water Temp (C)	0
S9	26 Apr 2022	Wave Height Low (ft)	2
S9	26 Apr 2022	High Tide (ft)	4.66
S9	26 Apr 2022	High Tide Time	652
S9	26 Apr 2022	Low Tide (ft)	1.35
S9	26 Apr 2022	Low Tide Time	111
S9	26 Apr 2022	Comments	Water turbid; Trash-1; Kelp; Seagrass; Person/Walker/Jogger-1
S10	05 Apr 2022	Arrive Time	824
S10	05 Apr 2022	Weather	Foggy
S10	05 Apr 2022	Wind Speed (kts)	2.4
S10	05 Apr 2022	Wind Dir	SE
S10	05 Apr 2022	Animal Life	Bird-2
S10	05 Apr 2022	Floatables	None
S10	05 Apr 2022	Water Color	Green
S10	05 Apr 2022	Current Direction	N
S10	05 Apr 2022	Water Temp (C)	15.5
S10	05 Apr 2022	Wave Height Low (ft)	2
S10	05 Apr 2022	High Tide (ft)	2.92
S10	05 Apr 2022	High Tide Time	1251
S10	05 Apr 2022	Low Tide (ft)	0.28
S10	05 Apr 2022	Low Tide Time	639
S10	05 Apr 2022	Comments	Seagrass
S10	12 Apr 2022	Arrive Time	1056
S10	12 Apr 2022	Weather	Sunny
S10	12 Apr 2022	Wind Speed (kts)	15.4
S10	12 Apr 2022	Wind Dir	NW

Station	Date	Parameter	Value
S10	12 Apr 2022	Animal Life	Bird-8
S10	12 Apr 2022	Floatables	Foam
S10	12 Apr 2022	Water Color	Green
S10	12 Apr 2022	Current Direction	S
S10	12 Apr 2022	Water Temp (C)	17.6
S10	12 Apr 2022	Wave Height Low (ft)	3
S10	12 Apr 2022	High Tide (ft)	4.54
S10	12 Apr 2022	High Tide Time	651
S10	12 Apr 2022	Low Tide (ft)	1.84
S10	12 Apr 2022	Low Tide Time	112
S10	12 Apr 2022	Comments	Seagrass; Kelp
S10	19 Apr 2022	Arrive Time	856
S10	19 Apr 2022	Weather	Partly cloudy
S10	19 Apr 2022	Wind Speed (kts)	4.3
S10	19 Apr 2022	Wind Dir	W
S10	19 Apr 2022	Animal Life	
S10	19 Apr 2022	Floatables	None
S10	19 Apr 2022	Water Color	Green
S10	19 Apr 2022	Current Direction	N
S10	19 Apr 2022	Water Temp (C)	13.6
S10	19 Apr 2022	Wave Height Low (ft)	2
S10	19 Apr 2022	High Tide (ft)	3.47
S10	19 Apr 2022	High Tide Time	1208
S10	19 Apr 2022	Low Tide (ft)	-0.84
S10	19 Apr 2022	Low Tide Time	555
S10	19 Apr 2022	Comments	Kelp
S10	26 Apr 2022	Arrive Time	922
S10	26 Apr 2022	Weather	Foggy
S10	26 Apr 2022	Wind Speed (kts)	6.5
S10	26 Apr 2022	Wind Dir	SW
S10	26 Apr 2022	Animal Life	
S10	26 Apr 2022	Floatables	Foam
S10	26 Apr 2022	Water Color	Grey
S10	26 Apr 2022	Current Direction	S
S10	26 Apr 2022	Water Temp (C)	0
S10	26 Apr 2022	Wave Height Low (ft)	3
S10	26 Apr 2022	High Tide (ft)	4.66
S10	26 Apr 2022	High Tide Time	652
S10	26 Apr 2022	Low Tide (ft)	1.35
S10	26 Apr 2022	Low Tide Time	111
S10	26 Apr 2022	Comments	Kelp; Seagrass; Debris
S11	05 Apr 2022	Arrive Time	944
S11	05 Apr 2022	Weather	Foggy
S11	05 Apr 2022	Wind Speed (kts)	2
S11	05 Apr 2022	Wind Dir	W
S11	05 Apr 2022	Animal Life	Bird-1
S11	05 Apr 2022	Floatables	Foam; Film
S11	05 Apr 2022	Water Color	Green
S11	05 Apr 2022	Current Direction	N
S11	05 Apr 2022	Water Temp (C)	15.5
S11	05 Apr 2022	Wave Height Low (ft)	4
S11	05 Apr 2022	High Tide (ft)	2.92
S11	05 Apr 2022	High Tide Time	1251
S11	05 Apr 2022	Low Tide (ft)	0.28
S11	05 Apr 2022	Low Tide Time	639
S11	05 Apr 2022	Comments	Water clear; Trash-1; Seagrass; Debris; Person/Walker/Jogger-4

Station	Date	Parameter	Value
S11	12 Apr 2022	Arrive Time	959
S11	12 Apr 2022	Weather	Cloudy
S11	12 Apr 2022	Wind Speed (kts)	11
S11	12 Apr 2022	Wind Dir	NW
S11	12 Apr 2022	Animal Life	Bird-2; Dog-1; Seagull-1
S11	12 Apr 2022	Floatables	Foam
S11	12 Apr 2022	Water Color	Green
S11	12 Apr 2022	Current Direction	S
S11	12 Apr 2022	Water Temp (C)	18.2
S11	12 Apr 2022	Wave Height Low (ft)	3
S11	12 Apr 2022	High Tide (ft)	4.54
S11	12 Apr 2022	High Tide Time	651
S11	12 Apr 2022	Low Tide (ft)	1.84
S11	12 Apr 2022	Low Tide Time	112
S11	12 Apr 2022	Comments	Water clear; Trash-3; Kelp; Seagrass; Debris; Person/Walker/Jogger-1
S11	19 Apr 2022	Arrive Time	942
S11	19 Apr 2022	Weather	Sunny
S11	19 Apr 2022	Wind Speed (kts)	3.5
S11	19 Apr 2022	Wind Dir	W
S11	19 Apr 2022	Animal Life	Pelican-2; Seagull-12
S11	19 Apr 2022	Floatables	Dead animals
S11	19 Apr 2022	Water Color	Green
S11	19 Apr 2022	Current Direction	S
S11	19 Apr 2022	Water Temp (C)	14.7
S11	19 Apr 2022	Wave Height Low (ft)	3
S11	19 Apr 2022	High Tide (ft)	3.47
S11	19 Apr 2022	High Tide Time	1208
S11	19 Apr 2022	Low Tide (ft)	-0.84
S11	19 Apr 2022	Low Tide Time	555
S11	19 Apr 2022	Comments	Kelp; Seagrass
S11	26 Apr 2022	Arrive Time	1059
S11	26 Apr 2022	Weather	Foggy
S11	26 Apr 2022	Wind Speed (kts)	4.2
S11	26 Apr 2022	Wind Dir	SW
S11	26 Apr 2022	Animal Life	Bird-3
S11	26 Apr 2022	Floatables	Foam
S11	26 Apr 2022	Water Color	Grey
S11	26 Apr 2022	Current Direction	S
S11	26 Apr 2022	Water Temp (C)	0
S11	26 Apr 2022	Wave Height Low (ft)	1
S11	26 Apr 2022	High Tide (ft)	4.66
S11	26 Apr 2022	High Tide Time	652
S11	26 Apr 2022	Low Tide (ft)	1.35
S11	26 Apr 2022	Low Tide Time	111
S11	26 Apr 2022	Comments	Water clear; Trash-1; Debris; Kelp; Seagrass; Person/Walker/Jogger-1
S12	05 Apr 2022	Arrive Time	1010
S12	05 Apr 2022	Weather	Foggy
S12	05 Apr 2022	Wind Speed (kts)	2
S12	05 Apr 2022	Wind Dir	W
S12	05 Apr 2022	Animal Life	Bird-5
S12	05 Apr 2022	Floatables	Foam; Film
S12	05 Apr 2022	Water Color	Green
S12	05 Apr 2022	Current Direction	N
S12	05 Apr 2022	Water Temp (C)	15.9
S12	05 Apr 2022	Wave Height Low (ft)	4
S12	05 Apr 2022	High Tide (ft)	2.92

Station	Date	Parameter	Value
S12	05 Apr 2022	High Tide Time	1251
S12	05 Apr 2022	Low Tide (ft)	0.28
S12	05 Apr 2022	Low Tide Time	639
S12	05 Apr 2022	Comments	Water clear; Trash-1; Seagrass; Kelp; Person/Walker/Jogger-5
S12	12 Apr 2022	Arrive Time	912
S12	12 Apr 2022	Weather	Partly cloudy
S12	12 Apr 2022	Wind Speed (kts)	4.1
S12	12 Apr 2022	Wind Dir	W
S12	12 Apr 2022	Animal Life	Bird-12
S12	12 Apr 2022	Floatables	Foam
S12	12 Apr 2022	Water Color	Green
S12	12 Apr 2022	Current Direction	S
S12	12 Apr 2022	Water Temp (C)	18.8
S12	12 Apr 2022	Wave Height Low (ft)	1
S12	12 Apr 2022	High Tide (ft)	4.54
S12	12 Apr 2022	High Tide Time	651
S12	12 Apr 2022	Low Tide (ft)	1.84
S12	12 Apr 2022	Low Tide Time	112
S12	12 Apr 2022	Comments	Water clear; Trash-1; Seagrass; Kelp; Person/Walker/Jogger-1
S12	19 Apr 2022	Arrive Time	1008
S12	19 Apr 2022	Weather	Sunny
S12	19 Apr 2022	Wind Speed (kts)	2.2
S12	19 Apr 2022	Wind Dir	W
S12	19 Apr 2022	Animal Life	Dog-1
S12	19 Apr 2022	Floatables	None
S12	19 Apr 2022	Water Color	Green
S12	19 Apr 2022	Current Direction	N
S12	19 Apr 2022	Water Temp (C)	14.4
S12	19 Apr 2022	Wave Height Low (ft)	1
S12	19 Apr 2022	High Tide (ft)	3.47
S12	19 Apr 2022	High Tide Time	1208
S12	19 Apr 2022	Low Tide (ft)	-0.84
S12	19 Apr 2022	Low Tide Time	555
S12	19 Apr 2022	Comments	Water turbid; Fisherperson-1; Trash-1; Kelp; Seagrass; Person/Walker/Jogger-2
S12	26 Apr 2022	Arrive Time	1021
S12	26 Apr 2022	Weather	Foggy
S12	26 Apr 2022	Wind Speed (kts)	4.3
S12	26 Apr 2022	Wind Dir	SW
S12	26 Apr 2022	Animal Life	Dog-2
S12	26 Apr 2022	Floatables	Foam
S12	26 Apr 2022	Water Color	Grey
S12	26 Apr 2022	Current Direction	S
S12	26 Apr 2022	Water Temp (C)	0
S12	26 Apr 2022	Wave Height Low (ft)	1
S12	26 Apr 2022	High Tide (ft)	4.66
S12	26 Apr 2022	High Tide Time	652
S12	26 Apr 2022	Low Tide (ft)	1.35
S12	26 Apr 2022	Low Tide Time	111
S12	26 Apr 2022	Comments	Water clear; Trash-1; Seagrass; Kelp; Person/Walker/Jogger-3

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 Apr 2022	252	9	10	8	2	6	30
02 Apr 2022	252	9	10	8	2	6	30
03 Apr 2022	252	9	10	8	2	6	30
04 Apr 2022	252	9	10	8	2	6	30
05 Apr 2022	432	26	19	6	2	5	54
06 Apr 2022	432	26	19	6	2	5	54
07 Apr 2022	447	50	34	8	2	6	51
08 Apr 2022	447	50	34	8	2	6	51
09 Apr 2022	447	50	34	8	2	6	51
10 Apr 2022	447	50	34	8	2	6	51
11 Apr 2022	447	50	34	8	2	6	51
12 Apr 2022	447	50	34	8	2	6	51
13 Apr 2022	185	26	19	6	2	5	27
14 Apr 2022	185	26	19	6	2	5	27
15 Apr 2022	503	50	34	8	2	6	47
16 Apr 2022	503	50	34	8	2	6	47
17 Apr 2022	503	50	34	8	2	6	47
18 Apr 2022	503	50	34	8	2	6	47
19 Apr 2022	167	26	19	6	2	5	25
20 Apr 2022	167	26	19	6	2	5	25
21 Apr 2022	71	50	34	8	2	6	47
22 Apr 2022	71	50	34	8	2	6	47
23 Apr 2022	71	50	34	8	2	6	47
24 Apr 2022	71	50	34	8	2	6	47
25 Apr 2022	71	50	34	8	2	6	47
26 Apr 2022	113	28	19	6	2	5	86
27 Apr 2022	113	28	19	6	2	5	86
28 Apr 2022	113	28	19	6	2	5	86
29 Apr 2022	73	12	7	2	2	2	38
30 Apr 2022	73	12	7	2	2	2	38

* Geometric mean calculated using n<5

Table 3.2

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

Date	I19	I24	I25	I26	I32	I39	I40
05 Apr 2022	E	E	E	IC	IC	IC	E
13 Apr 2022	IC						
19 Apr 2022	IC						
26 Apr 2022	E	IC	IC	IC	IC	IC	E

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 3.3

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

Date	I19	I24	I25	I26	I32	I39	I40
01 Apr 2022	46	6	6	6	2	4	41
02 Apr 2022	46	6	6	6	2	4	41
03 Apr 2022	46	6	6	6	2	4	41
04 Apr 2022	46	6	6	6	2	4	41
05 Apr 2022	65	14	9	5	2	4	50
06 Apr 2022	65	14	9	5	2	4	50
07 Apr 2022	65	14	9	5	2	4	50
08 Apr 2022	84	19	11	6	2	4	25
09 Apr 2022	84	19	11	6	2	4	25
10 Apr 2022	84	19	11	6	2	4	25
11 Apr 2022	84	19	11	6	2	4	25
12 Apr 2022	80	22	12	4	2	4	19
13 Apr 2022	52	15	9	4	2	4	15
14 Apr 2022	52	15	9	4	2	4	15
15 Apr 2022	52	15	9	4	2	4	15
16 Apr 2022	52	15	9	4	2	4	15
17 Apr 2022	52	15	9	4	2	4	15
18 Apr 2022	52	15	9	4	2	4	15
19 Apr 2022	51	15	9	4	2	4	16
20 Apr 2022	51	15	9	4	2	4	16
21 Apr 2022	51	15	9	4	2	4	16
22 Apr 2022	51	15	9	4	2	4	16
23 Apr 2022	51	15	9	4	2	4	16
24 Apr 2022	51	15	9	4	2	4	16
25 Apr 2022	51	15	9	4	2	4	16
26 Apr 2022	42	11	7	3	2	4	12
27 Apr 2022	67	15	9	4	2	4	16
28 Apr 2022	67	15	9	4	2	4	16
29 Apr 2022	67	15	9	4	2	4	16
30 Apr 2022	67	15	9	4	2	4	16

* 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
April	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 Apr 2022	7100	7800	7200	2	2	3	2	2	4	2	2	2	2	5	2	2	2	2	322	326	200	
02 Apr 2022	7100	7800	7200	2	2	3	2	2	4	2	2	2	2	5	2	2	2	2	322	326	200	
03 Apr 2022	7100	7800	7200	2	2	3	2	2	4	2	2	2	2	5	2	2	2	2	322	326	200	
04 Apr 2022	7100	7800	7200	2	2	3	2	2	4	2	2	2	2	5	2	2	2	2	322	326	200	
05 Apr 2022	7800	9200	1400	2	2	4	2	2	6	2	2	2	2	2	2	2	2	2	640	220	46	
06 Apr 2022	7800	9200	1400	2	2	4	2	2	6	2	2	2	2	2	2	2	2	2	640	220	46	
07 Apr 2022	8200	9400	6970	6001	311	13	261	28	16	2	2	2	2	5	11	2	2	2	19	2602	116	33
08 Apr 2022	8200	9400	6970	6001	311	13	261	28	16	2	2	2	2	5	11	2	2	2	19	2602	116	33
09 Apr 2022	8200	9400	6970	6001	311	13	261	28	16	2	2	2	2	5	11	2	2	2	19	2602	116	33
10 Apr 2022	8200	9400	6970	6001	311	13	261	28	16	2	2	2	2	5	11	2	2	2	19	2602	116	33
11 Apr 2022	8200	9400	6970	6001	311	13	261	28	16	2	2	2	2	5	11	2	2	2	19	2602	116	33
12 Apr 2022	8200	9400	6970	6001	311	13	261	28	16	2	2	2	2	5	11	2	2	2	19	2602	116	33
13 Apr 2022	7800	9200	940	2	2	4	2	4	6	2	2	2	2	2	2	2	2	2	10	4	20	20
14 Apr 2022	7800	9200	940	2	2	4	2	4	6	2	2	2	2	2	2	2	2	2	10	4	20	20
15 Apr 2022	8200	9400	6970	6001	311	13	261	29	14	2	2	5	5	5	11	5	2	2	23	2602	120	33
16 Apr 2022	8200	9400	6970	6001	311	13	261	29	14	2	2	5	5	5	11	5	2	2	23	2602	120	33
17 Apr 2022	8200	9400	6970	6001	311	13	261	29	14	2	2	5	5	5	11	5	2	2	23	2602	120	33
18 Apr 2022	8200	9400	6970	6001	311	13	261	29	14	2	2	5	5	5	11	5	2	2	23	2602	120	33
19 Apr 2022	7800	9200	940	2	2	4	2	4	2	2	2	2	2	2	2	2	2	2	10	4	20	20
20 Apr 2022	7800	9200	940	2	2	4	2	4	2	2	2	2	2	2	2	2	2	2	10	4	20	20
21 Apr 2022	3910	4608	482	6001	311	13	261	29	14	2	2	5	5	2	11	5	2	2	23	2601	120	33
22 Apr 2022	3910	4608	482	6001	311	13	261	29	14	2	2	5	5	2	11	5	2	2	23	2601	120	33
23 Apr 2022	3910	4608	482	6001	311	13	261	29	14	2	2	5	5	2	11	5	2	2	23	2601	120	33
24 Apr 2022	3910	4608	482	6001	311	13	261	29	14	2	2	5	5	2	11	5	2	2	23	2601	120	33
25 Apr 2022	3910	4608	482	6001	311	13	261	29	14	2	2	5	5	2	11	5	2	2	23	2601	120	33
26 Apr 2022	3600	8000	940	2	2	22	2	4	2	2	2	2	2	2	2	2	2	2	10	3800	220	46
27 Apr 2022	3600	8000	940	2	2	22	2	4	2	2	2	2	2	2	2	2	2	2	10	3800	220	46
28 Apr 2022	3600	8000	940	2	2	22	2	4	2	2	2	2	2	2	2	2	2	2	10	3800	220	46
29 Apr 2022	1810	4008	482	2	2	13	2	3	2	2	2	2	2	2	2	2	2	2	6	1901	120	33
30 Apr 2022	1810	4008	482	2	2	13	2	3	2	2	2	2	2	2	2	2	2	2	6	1901	120	33

* 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
April	E	E	E	E	E	IC	E	IC	IC	IC	IC	IC	IC	IC	IC	IC	IC	IC	E	E	E

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 3.7

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

Station	Date	Time	Depth	Total	Fecal	Entero	Temp	XMS	DO	Sal	pH
I19	05 Apr 2022	1048	2	8600	5400	640	14.4	42.56	7.2	33.48	7.9
I19	05 Apr 2022	1048	6	9200	5600	720	13.2	31.40	6.1	33.50	7.8
I19	05 Apr 2022	1048	11	940	84	100e	12.1	57.62	4.8	33.56	7.8
I19	13 Apr 2022	1122	2	<2	<2	<2	17.1	64.81	7.9	33.56	8.1
I19	13 Apr 2022	1122	6	16e	6e	14e	14.2	63.59	6.9	33.51	7.9
I19	13 Apr 2022	1122	11	24e	8e	2e	13.9	43.01	6.1	33.52	7.8
I19	19 Apr 2022	1105	2	<20	<2	<2	12.5	63.45	6.8	33.65	7.8
I19	19 Apr 2022	1105	6	4e	<2	8e	10.9	61.74	4.2	33.71	7.7
I19	19 Apr 2022	1105	11	<20	2e	32e	10.8	58.86	4.3	33.74	7.7
I19	26 Apr 2022	1149	2	3600e	320e	<2	13.5	40.35	9.4	33.64	8.1
I19	26 Apr 2022	1149	6	8000	280e	14e	12.5	49.55	8.4	33.70	7.9
I19	26 Apr 2022	1149	11	9000	1600e	26e	11.5	60.90	6.8	33.75	7.8
I24	05 Apr 2022	1106	2	>16000	6400	4800	15.4	51.39	7.5	33.17	8.0
I24	05 Apr 2022	1106	6	620	94	22e	14.6	71.55	6.8	33.53	8.0
I24	05 Apr 2022	1106	11	22e	10e	<2	12.6	65.98	5.1	33.54	7.8
I24	13 Apr 2022	1144	2	<2	<2	<2	17.1	62.35	7.5	33.56	8.0
I24	13 Apr 2022	1144	6	2e	<2	<2	15.6	60.13	6.9	33.52	8.0
I24	13 Apr 2022	1144	11	4e	<2	<2	14.7	52.08	6.4	33.52	7.9
I24	19 Apr 2022	1128	2	<2	<2	<2	13.2	71.79	6.8	33.61	7.8
I24	19 Apr 2022	1128	6	<2	<2	<2	11.2	75.74	4.3	33.70	7.7
I24	19 Apr 2022	1128	11	<2	<2	<2	10.9	64.86	4.4	33.73	7.7
I24	26 Apr 2022	1217	2	<2	<2	<2	13.9	46.45	11.6	33.75	8.2
I24	26 Apr 2022	1217	6	2e	<2	<2	12.3	52.26	7.8	33.79	8.0
I24	26 Apr 2022	1217	11	44	4e	<2	10.9	45.09	3.6	33.81	7.7
I25	05 Apr 2022	1118	2	520	740	180e	15.8	73.64	7.9	33.50	8.1
I25	05 Apr 2022	1118	6	54	8e	<2	15.6	73.24	7.7	33.51	8.1
I25	05 Apr 2022	1118	9	26e	<2	<2	12.4	67.18	4.8	33.68	7.9
I25	13 Apr 2022	1151	2	<2	<2	<2	17.1	64.16	7.5	33.57	8.0
I25	13 Apr 2022	1151	6	4e	<2	<2	15.1	58.39	7.1	33.53	8.0
I25	13 Apr 2022	1151	9	2e	2e	<2	14.8	60.65	6.5	33.51	7.9
I25	19 Apr 2022	1136	2	<2	<2	<2	13.1	71.53	6.7	33.61	7.8
I25	19 Apr 2022	1136	6	2e	<2	<2	11.2	75.02	4.3	33.71	7.7
I25	19 Apr 2022	1136	9	<2	<2	<2	11.1	71.26	4.6	33.70	7.7
I25	26 Apr 2022	1227	2	<2	<2	<2	14.0	50.26	11.8	33.74	8.2
I25	26 Apr 2022	1227	6	<2	<2	<2	12.3	56.52	6.7	33.73	8.0
I25	26 Apr 2022	1227	9	<2	<2	<2	11.1	64.48	4.2	33.78	7.8
I26	05 Apr 2022	1130	2	<2	<2	<2	15.8	77.18	7.9	33.51	8.1
I26	05 Apr 2022	1130	6	<2	<2	<2	15.1	72.84	7.6	33.52	8.1
I26	05 Apr 2022	1130	9	<2	<2	<2	12.9	67.40	5.2	33.60	7.9

Station	Date	Time	Depth	Total	Fecal	Enterο	Temp	XMS	DO	Sal	pH
I26	13 Apr 2022	1202	2	<2	<2	<2	16.4	57.66	7.9	33.56	8.0
I26	13 Apr 2022	1202	6	8e	<2	<2	14.9	62.03	6.8	33.52	7.9
I26	13 Apr 2022	1202	9	8e	2e	<2	14.3	66.57	6.6	33.53	7.9
I26	19 Apr 2022	1149	2	<2	<2	<2	13.9	74.33	7.2	33.57	7.9
I26	19 Apr 2022	1149	6	<2	<2	<2	12.3	69.51	6.3	33.66	7.8
I26	19 Apr 2022	1149	9	<2	<2	<2	11.1	75.31	4.4	33.71	7.7
I26	26 Apr 2022	1239	2	<2	<2	<2	14.7	42.05	11.6	33.74	8.2
I26	26 Apr 2022	1239	6	2e	<2	<2	11.7	45.79	6.0	33.79	7.9
I26	26 Apr 2022	1239	9	<2	<2	<2	10.9	62.05	4.2	33.79	7.7
I32	05 Apr 2022	1143	2	<2	<2	<2	15.8	77.61	7.9	33.51	8.1
I32	05 Apr 2022	1143	6	<20	<2	<2	15.2	72.53	7.7	33.52	8.1
I32	05 Apr 2022	1143	9	<2	<2	<2	14.0	57.74	6.5	33.55	8.0
I32	13 Apr 2022	1217	2	<2	<2	<2	17.2	66.63	8.4	33.56	8.1
I32	13 Apr 2022	1217	6	<2	<2	<2	15.8	56.13	7.8	33.54	8.0
I32	13 Apr 2022	1217	9	8e	<2	<2	15.3	58.06	7.0	33.53	8.0
I32	19 Apr 2022	1204	2	<2	<2	<2	13.9	70.85	7.0	33.59	7.9
I32	19 Apr 2022	1204	6	<2	2e	<2	12.6	68.04	6.5	33.61	7.8
I32	19 Apr 2022	1204	9	<2	<2	<2	11.0	64.73	4.4	33.72	7.7
I32	26 Apr 2022	1250	2	<2	<2	<2	14.5	49.63	11.7	33.76	8.2
I32	26 Apr 2022	1250	6	<2	<2	<2	13.0	41.68	8.7	33.79	8.1
I32	26 Apr 2022	1250	9	<2	<2	<2	10.8	30.19	3.7	33.84	7.7
I39	05 Apr 2022	1025	2	<2	<2	<2	16.4	77.84	8.5	33.49	8.2
I39	05 Apr 2022	1025	12	<2	<2	<2	12.9	80.17	5.4	33.55	7.9
I39	05 Apr 2022	1025	18	36e	2e	2e	11.1	72.05	4.2	33.68	7.7
I39	13 Apr 2022	1059	2	<2	<2	<2	17.2	71.12	8.3	33.54	8.1
I39	13 Apr 2022	1059	12	<2	2e	<2	14.6	73.03	7.6	33.51	8.0
I39	13 Apr 2022	1059	18	10e	2e	<2	12.9	62.33	5.0	33.57	7.8
I39	19 Apr 2022	1041	2	<2	<2	<2	14.3	70.62	7.1	33.58	7.9
I39	19 Apr 2022	1041	12	<2	<2	<2	10.4	81.47	4.2	33.81	7.7
I39	19 Apr 2022	1041	18	<2	<2	<2	10.4	80.60	4.3	33.82	7.7
I39	26 Apr 2022	1116	2	<2	<2	<2	13.6	53.50	10.6	33.71	8.2
I39	26 Apr 2022	1116	12	<2	<2	<2	12.0	66.53	6.2	33.72	7.9
I39	26 Apr 2022	1116	18	<2	<2	<2	10.9	76.49	4.5	33.77	7.7
I40	05 Apr 2022	1059	2	5200	1600	480	14.7	57.32	6.8	33.50	8.0
I40	05 Apr 2022	1059	6	220e	40	24e	12.8	69.26	5.5	33.56	7.9
I40	05 Apr 2022	1059	9	46	12e	8e	12.1	77.90	4.9	33.58	7.8
I40	13 Apr 2022	1135	2	<2	<2	<2	16.7	59.92	7.3	33.56	8.0
I40	13 Apr 2022	1135	6	<20	<2	2e	15.4	34.77	6.6	33.53	7.9
I40	13 Apr 2022	1135	9	20e	2e	10e	14.1	34.07	5.8	33.53	7.9
I40	19 Apr 2022	1117	2	<2	<2	<2	12.0	72.44	5.3	33.66	7.7
I40	19 Apr 2022	1117	6	<20	<2	<2	11.1	64.10	4.2	33.70	7.7
I40	19 Apr 2022	1117	9	<20	<2	<20	10.9	28.23	4.3	33.73	7.7
I40	26 Apr 2022	1206	2	3800e	700	<2	12.9	49.20	8.7	33.65	8.0
I40	26 Apr 2022	1206	6	15000	800	<2	12.1	44.44	6.7	33.72	7.9
I40	26 Apr 2022	1206	9	11000	1400e	2e	10.7	57.11	3.2	33.82	7.7

ns = not sampled

ND = no data

Table 3.8

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

Station	Date	Parameter	Value
I19	05 Apr 2022	Depth (m)	11
I19	05 Apr 2022	Arrive Time	1048
I19	05 Apr 2022	Depart Time	1052
I19	05 Apr 2022	Air Temp (C)	14
I19	05 Apr 2022	Weather	Continuous Layer of Clouds
I19	05 Apr 2022	Visibility (mi)	3
I19	05 Apr 2022	Wind Speed (kts)	0
I19	05 Apr 2022	Wind Dir	NE
I19	05 Apr 2022	Water Color	Brownish-Green
I19	05 Apr 2022	Wave Ht Low (ft)	6
I19	05 Apr 2022	Wave Period (sec)	13
I19	05 Apr 2022	Sea State	Regular Swell
I19	05 Apr 2022	High Tide (ft)	4.79
I19	05 Apr 2022	High Tide Time	706
I19	05 Apr 2022	Low Tide (ft)	0.22
I19	05 Apr 2022	Low Tide Time	1336
I19	05 Apr 2022	Comments	none
I19	13 Apr 2022	Depth (m)	11
I19	13 Apr 2022	Arrive Time	1122
I19	13 Apr 2022	Depart Time	1129
I19	13 Apr 2022	Air Temp (C)	15.3
I19	13 Apr 2022	Weather	Clear
I19	13 Apr 2022	Visibility (mi)	10
I19	13 Apr 2022	Wind Speed (kts)	3.3
I19	13 Apr 2022	Wind Dir	NW
I19	13 Apr 2022	Water Color	Green
I19	13 Apr 2022	Wave Ht Low (ft)	5.9
I19	13 Apr 2022	Wave Period (sec)	17
I19	13 Apr 2022	Sea State	Regular Swell
I19	13 Apr 2022	High Tide (ft)	4.67
I19	13 Apr 2022	High Tide Time	1436
I19	13 Apr 2022	Low Tide (ft)	-0.19
I19	13 Apr 2022	Low Tide Time	2106
I19	13 Apr 2022	Comments	none
I19	19 Apr 2022	Depth (m)	10
I19	19 Apr 2022	Arrive Time	1105
I19	19 Apr 2022	Depart Time	1109
I19	19 Apr 2022	Air Temp (C)	15.2
I19	19 Apr 2022	Weather	Partly Cloudy
I19	19 Apr 2022	Visibility (mi)	9
I19	19 Apr 2022	Wind Speed (kts)	3.7
I19	19 Apr 2022	Wind Dir	W
I19	19 Apr 2022	Water Color	Blueish-Green
I19	19 Apr 2022	Wave Ht Low (ft)	5
I19	19 Apr 2022	Wave Period (sec)	7
I19	19 Apr 2022	Sea State	Light Chop
I19	19 Apr 2022	High Tide (ft)	5.72
I19	19 Apr 2022	High Tide Time	624
I19	19 Apr 2022	Low Tide (ft)	-0.91
I19	19 Apr 2022	Low Tide Time	1254
I19	19 Apr 2022	Comments	none
I19	26 Apr 2022	Depth (m)	10
I19	26 Apr 2022	Arrive Time	1149

Station	Date	Parameter	Value
I19	26 Apr 2022	Depart Time	1153
I19	26 Apr 2022	Air Temp (C)	13.5
I19	26 Apr 2022	Weather	Fog
I19	26 Apr 2022	Visibility (mi)	1
I19	26 Apr 2022	Wind Speed (kts)	4.7
I19	26 Apr 2022	Wind Dir	SW
I19	26 Apr 2022	Water Color	Greenish-Brown
I19	26 Apr 2022	Wave Ht Low (ft)	5
I19	26 Apr 2022	Wave Period (sec)	17
I19	26 Apr 2022	Sea State	Regular Swell
I19	26 Apr 2022	High Tide (ft)	4.77
I19	26 Apr 2022	High Tide Time	254
I19	26 Apr 2022	Low Tide (ft)	-0.31
I19	26 Apr 2022	Low Tide Time	2024
I19	26 Apr 2022	Comments	Possible red tide
I24	05 Apr 2022	Depth (m)	10
I24	05 Apr 2022	Arrive Time	1106
I24	05 Apr 2022	Depart Time	1115
I24	05 Apr 2022	Air Temp (C)	14
I24	05 Apr 2022	Weather	Continuous Layer of Clouds
I24	05 Apr 2022	Visibility (mi)	4
I24	05 Apr 2022	Wind Speed (kts)	11.1
I24	05 Apr 2022	Wind Dir	W
I24	05 Apr 2022	Water Color	Green
I24	05 Apr 2022	Wave Ht Low (ft)	6
I24	05 Apr 2022	Wave Period (sec)	13
I24	05 Apr 2022	Sea State	Regular Swell
I24	05 Apr 2022	High Tide (ft)	4.79
I24	05 Apr 2022	High Tide Time	706
I24	05 Apr 2022	Low Tide (ft)	0.22
I24	05 Apr 2022	Low Tide Time	1336
I24	05 Apr 2022	Comments	Unable to get depth; Salinity low at surface; Resoaked and same numbers
I24	13 Apr 2022	Depth (m)	10
I24	13 Apr 2022	Arrive Time	1144
I24	13 Apr 2022	Depart Time	1149
I24	13 Apr 2022	Air Temp (C)	15.3
I24	13 Apr 2022	Weather	Clear
I24	13 Apr 2022	Visibility (mi)	10
I24	13 Apr 2022	Wind Speed (kts)	5
I24	13 Apr 2022	Wind Dir	NW
I24	13 Apr 2022	Water Color	Green
I24	13 Apr 2022	Wave Ht Low (ft)	5.9
I24	13 Apr 2022	Wave Period (sec)	17
I24	13 Apr 2022	Sea State	Regular Swell
I24	13 Apr 2022	High Tide (ft)	4.67
I24	13 Apr 2022	High Tide Time	1436
I24	13 Apr 2022	Low Tide (ft)	-0.19
I24	13 Apr 2022	Low Tide Time	2106
I24	13 Apr 2022	Comments	none
I24	19 Apr 2022	Depth (m)	10
I24	19 Apr 2022	Arrive Time	1128
I24	19 Apr 2022	Depart Time	1132
I24	19 Apr 2022	Air Temp (C)	15.7
I24	19 Apr 2022	Weather	Partly Cloudy
I24	19 Apr 2022	Visibility (mi)	9
I24	19 Apr 2022	Wind Speed (kts)	6.4
I24	19 Apr 2022	Wind Dir	NW

Station	Date	Parameter	Value
I24	19 Apr 2022	Water Color	Blueish-Green
I24	19 Apr 2022	Wave Ht Low (ft)	5
I24	19 Apr 2022	Wave Period (sec)	7
I24	19 Apr 2022	Sea State	Light Chop
I24	19 Apr 2022	High Tide (ft)	5.72
I24	19 Apr 2022	High Tide Time	624
I24	19 Apr 2022	Low Tide (ft)	-0.91
I24	19 Apr 2022	Low Tide Time	1254
I24	19 Apr 2022	Comments	none
I24	26 Apr 2022	Depth (m)	10
I24	26 Apr 2022	Arrive Time	1217
I24	26 Apr 2022	Depart Time	1221
I24	26 Apr 2022	Air Temp (C)	13.7
I24	26 Apr 2022	Weather	Fog
I24	26 Apr 2022	Visibility (mi)	1
I24	26 Apr 2022	Wind Speed (kts)	5.4
I24	26 Apr 2022	Wind Dir	S
I24	26 Apr 2022	Water Color	Brownish-Green
I24	26 Apr 2022	Wave Ht Low (ft)	5
I24	26 Apr 2022	Wave Period (sec)	17
I24	26 Apr 2022	Sea State	Regular Swell
I24	26 Apr 2022	High Tide (ft)	4.77
I24	26 Apr 2022	High Tide Time	254
I24	26 Apr 2022	Low Tide (ft)	-0.31
I24	26 Apr 2022	Low Tide Time	2024
I24	26 Apr 2022	Comments	Seagrass
I25	05 Apr 2022	Depth (m)	9
I25	05 Apr 2022	Arrive Time	1118
I25	05 Apr 2022	Depart Time	1123
I25	05 Apr 2022	Air Temp (C)	14.2
I25	05 Apr 2022	Weather	Continuous Layer of Clouds
I25	05 Apr 2022	Visibility (mi)	4
I25	05 Apr 2022	Wind Speed (kts)	3.9
I25	05 Apr 2022	Wind Dir	SW
I25	05 Apr 2022	Water Color	Blueish-Green
I25	05 Apr 2022	Wave Ht Low (ft)	6
I25	05 Apr 2022	Wave Period (sec)	13
I25	05 Apr 2022	Sea State	Regular Swell
I25	05 Apr 2022	High Tide (ft)	4.79
I25	05 Apr 2022	High Tide Time	706
I25	05 Apr 2022	Low Tide (ft)	0.22
I25	05 Apr 2022	Low Tide Time	1336
I25	05 Apr 2022	Comments	none
I25	13 Apr 2022	Depth (m)	8
I25	13 Apr 2022	Arrive Time	1151
I25	13 Apr 2022	Depart Time	1155
I25	13 Apr 2022	Air Temp (C)	15.2
I25	13 Apr 2022	Weather	Clear
I25	13 Apr 2022	Visibility (mi)	10
I25	13 Apr 2022	Wind Speed (kts)	3.1
I25	13 Apr 2022	Wind Dir	NW
I25	13 Apr 2022	Water Color	Green
I25	13 Apr 2022	Wave Ht Low (ft)	5.9
I25	13 Apr 2022	Wave Period (sec)	17
I25	13 Apr 2022	Sea State	Regular Swell
I25	13 Apr 2022	High Tide (ft)	4.67
I25	13 Apr 2022	High Tide Time	1436
I25	13 Apr 2022	Low Tide (ft)	-0.19

Station	Date	Parameter	Value
I25	13 Apr 2022	Low Tide Time	2106
I25	13 Apr 2022	Comments	none
I25	19 Apr 2022	Depth (m)	9
I25	19 Apr 2022	Arrive Time	1136
I25	19 Apr 2022	Depart Time	1142
I25	19 Apr 2022	Air Temp (C)	15.3
I25	19 Apr 2022	Weather	Partly Cloudy
I25	19 Apr 2022	Visibility (mi)	9
I25	19 Apr 2022	Wind Speed (kts)	5
I25	19 Apr 2022	Wind Dir	NW
I25	19 Apr 2022	Water Color	Blueish-Green
I25	19 Apr 2022	Wave Ht Low (ft)	5
I25	19 Apr 2022	Wave Period (sec)	7
I25	19 Apr 2022	Sea State	Light Chop
I25	19 Apr 2022	High Tide (ft)	5.72
I25	19 Apr 2022	High Tide Time	624
I25	19 Apr 2022	Low Tide (ft)	-0.91
I25	19 Apr 2022	Low Tide Time	1254
I25	19 Apr 2022	Comments	none
I25	26 Apr 2022	Depth (m)	8
I25	26 Apr 2022	Arrive Time	1227
I25	26 Apr 2022	Depart Time	1231
I25	26 Apr 2022	Air Temp (C)	13.7
I25	26 Apr 2022	Weather	Fog
I25	26 Apr 2022	Visibility (mi)	1
I25	26 Apr 2022	Wind Speed (kts)	4
I25	26 Apr 2022	Wind Dir	SE
I25	26 Apr 2022	Water Color	Brownish-Green
I25	26 Apr 2022	Wave Ht Low (ft)	5
I25	26 Apr 2022	Wave Period (sec)	17
I25	26 Apr 2022	Sea State	Regular Swell
I25	26 Apr 2022	High Tide (ft)	4.77
I25	26 Apr 2022	High Tide Time	254
I25	26 Apr 2022	Low Tide (ft)	-0.31
I25	26 Apr 2022	Low Tide Time	2024
I25	26 Apr 2022	Comments	none
I26	05 Apr 2022	Depth (m)	9
I26	05 Apr 2022	Arrive Time	1130
I26	05 Apr 2022	Depart Time	1133
I26	05 Apr 2022	Air Temp (C)	14.2
I26	05 Apr 2022	Weather	Continuous Layer of Clouds
I26	05 Apr 2022	Visibility (mi)	4
I26	05 Apr 2022	Wind Speed (kts)	2.2
I26	05 Apr 2022	Wind Dir	S
I26	05 Apr 2022	Water Color	Blueish-Green
I26	05 Apr 2022	Wave Ht Low (ft)	6
I26	05 Apr 2022	Wave Period (sec)	13
I26	05 Apr 2022	Sea State	Regular Swell
I26	05 Apr 2022	High Tide (ft)	4.79
I26	05 Apr 2022	High Tide Time	706
I26	05 Apr 2022	Low Tide (ft)	0.22
I26	05 Apr 2022	Low Tide Time	1336
I26	05 Apr 2022	Comments	none
I26	13 Apr 2022	Depth (m)	9
I26	13 Apr 2022	Arrive Time	1202
I26	13 Apr 2022	Depart Time	1207
I26	13 Apr 2022	Air Temp (C)	15.6

Station	Date	Parameter	Value
I26	13 Apr 2022	Weather	Clear
I26	13 Apr 2022	Visibility (mi)	10
I26	13 Apr 2022	Wind Speed (kts)	5.9
I26	13 Apr 2022	Wind Dir	W
I26	13 Apr 2022	Water Color	Green
I26	13 Apr 2022	Wave Ht Low (ft)	5.9
I26	13 Apr 2022	Wave Period (sec)	17
I26	13 Apr 2022	Sea State	Regular Swell
I26	13 Apr 2022	High Tide (ft)	4.67
I26	13 Apr 2022	High Tide Time	1436
I26	13 Apr 2022	Low Tide (ft)	-0.19
I26	13 Apr 2022	Low Tide Time	2106
I26	13 Apr 2022	Comments	none
I26	19 Apr 2022	Depth (m)	10
I26	19 Apr 2022	Arrive Time	1149
I26	19 Apr 2022	Depart Time	1154
I26	19 Apr 2022	Air Temp (C)	15.3
I26	19 Apr 2022	Weather	Partly Cloudy
I26	19 Apr 2022	Visibility (mi)	9
I26	19 Apr 2022	Wind Speed (kts)	4.9
I26	19 Apr 2022	Wind Dir	W
I26	19 Apr 2022	Water Color	Blueish-Green
I26	19 Apr 2022	Wave Ht Low (ft)	5
I26	19 Apr 2022	Wave Period (sec)	7
I26	19 Apr 2022	Sea State	Light Chop
I26	19 Apr 2022	High Tide (ft)	5.72
I26	19 Apr 2022	High Tide Time	624
I26	19 Apr 2022	Low Tide (ft)	-0.91
I26	19 Apr 2022	Low Tide Time	1254
I26	19 Apr 2022	Comments	none
I26	26 Apr 2022	Depth (m)	8
I26	26 Apr 2022	Arrive Time	1239
I26	26 Apr 2022	Depart Time	1244
I26	26 Apr 2022	Air Temp (C)	13.7
I26	26 Apr 2022	Weather	Fog
I26	26 Apr 2022	Visibility (mi)	1
I26	26 Apr 2022	Wind Speed (kts)	5.8
I26	26 Apr 2022	Wind Dir	S
I26	26 Apr 2022	Water Color	Brownish-Green
I26	26 Apr 2022	Wave Ht Low (ft)	5
I26	26 Apr 2022	Wave Period (sec)	17
I26	26 Apr 2022	Sea State	Regular Swell
I26	26 Apr 2022	High Tide (ft)	4.77
I26	26 Apr 2022	High Tide Time	254
I26	26 Apr 2022	Low Tide (ft)	-0.31
I26	26 Apr 2022	Low Tide Time	2024
I26	26 Apr 2022	Comments	none
I32	05 Apr 2022	Depth (m)	11
I32	05 Apr 2022	Arrive Time	1143
I32	05 Apr 2022	Depart Time	1146
I32	05 Apr 2022	Air Temp (C)	14.4
I32	05 Apr 2022	Weather	Continuous Layer of Clouds
I32	05 Apr 2022	Visibility (mi)	4
I32	05 Apr 2022	Wind Speed (kts)	4.2
I32	05 Apr 2022	Wind Dir	S
I32	05 Apr 2022	Water Color	Blueish-Green
I32	05 Apr 2022	Wave Ht Low (ft)	6
I32	05 Apr 2022	Wave Period (sec)	13

Station	Date	Parameter	Value
I32	05 Apr 2022	Sea State	Regular Swell
I32	05 Apr 2022	High Tide (ft)	4.79
I32	05 Apr 2022	High Tide Time	706
I32	05 Apr 2022	Low Tide (ft)	0.22
I32	05 Apr 2022	Low Tide Time	1336
I32	05 Apr 2022	Comments	none
I32	13 Apr 2022	Depth (m)	10
I32	13 Apr 2022	Arrive Time	1217
I32	13 Apr 2022	Depart Time	1221
I32	13 Apr 2022	Air Temp (C)	15.5
I32	13 Apr 2022	Weather	Clear
I32	13 Apr 2022	Visibility (mi)	10
I32	13 Apr 2022	Wind Speed (kts)	9.3
I32	13 Apr 2022	Wind Dir	NW
I32	13 Apr 2022	Water Color	Green
I32	13 Apr 2022	Wave Ht Low (ft)	5.9
I32	13 Apr 2022	Wave Period (sec)	17
I32	13 Apr 2022	Sea State	Regular Swell
I32	13 Apr 2022	High Tide (ft)	4.67
I32	13 Apr 2022	High Tide Time	1436
I32	13 Apr 2022	Low Tide (ft)	-0.19
I32	13 Apr 2022	Low Tide Time	2106
I32	13 Apr 2022	Comments	none
I32	19 Apr 2022	Depth (m)	11
I32	19 Apr 2022	Arrive Time	1204
I32	19 Apr 2022	Depart Time	1209
I32	19 Apr 2022	Air Temp (C)	15.3
I32	19 Apr 2022	Weather	Partly Cloudy
I32	19 Apr 2022	Visibility (mi)	9
I32	19 Apr 2022	Wind Speed (kts)	5.8
I32	19 Apr 2022	Wind Dir	W
I32	19 Apr 2022	Water Color	Blueish-Green
I32	19 Apr 2022	Wave Ht Low (ft)	5
I32	19 Apr 2022	Wave Period (sec)	7
I32	19 Apr 2022	Sea State	Light Chop
I32	19 Apr 2022	High Tide (ft)	5.72
I32	19 Apr 2022	High Tide Time	624
I32	19 Apr 2022	Low Tide (ft)	-0.91
I32	19 Apr 2022	Low Tide Time	1254
I32	19 Apr 2022	Comments	none
I32	26 Apr 2022	Depth (m)	10
I32	26 Apr 2022	Arrive Time	1250
I32	26 Apr 2022	Depart Time	1259
I32	26 Apr 2022	Air Temp (C)	14
I32	26 Apr 2022	Weather	Fog
I32	26 Apr 2022	Visibility (mi)	1
I32	26 Apr 2022	Wind Speed (kts)	6.4
I32	26 Apr 2022	Wind Dir	W
I32	26 Apr 2022	Water Color	Brownish-Green
I32	26 Apr 2022	Wave Ht Low (ft)	5
I32	26 Apr 2022	Wave Period (sec)	17
I32	26 Apr 2022	Sea State	Regular Swell
I32	26 Apr 2022	High Tide (ft)	4.77
I32	26 Apr 2022	High Tide Time	254
I32	26 Apr 2022	Low Tide (ft)	-0.31
I32	26 Apr 2022	Low Tide Time	2024
I32	26 Apr 2022	Comments	none

Station	Date	Parameter	Value
I39	05 Apr 2022	Depth (m)	19
I39	05 Apr 2022	Arrive Time	1025
I39	05 Apr 2022	Depart Time	1029
I39	05 Apr 2022	Air Temp (C)	14
I39	05 Apr 2022	Weather	Continuous Layer of Clouds
I39	05 Apr 2022	Visibility (mi)	3
I39	05 Apr 2022	Wind Speed (kts)	2.3
I39	05 Apr 2022	Wind Dir	SW
I39	05 Apr 2022	Water Color	Blue
I39	05 Apr 2022	Wave Ht Low (ft)	6
I39	05 Apr 2022	Wave Period (sec)	13
I39	05 Apr 2022	Sea State	Regular Swell
I39	05 Apr 2022	High Tide (ft)	4.79
I39	05 Apr 2022	High Tide Time	706
I39	05 Apr 2022	Low Tide (ft)	0.22
I39	05 Apr 2022	Low Tide Time	1336
I39	05 Apr 2022	Comments	Instrument hub fell off; GPS and heading cables came off; Heading data may be missing
I39	13 Apr 2022	Depth (m)	19
I39	13 Apr 2022	Arrive Time	1059
I39	13 Apr 2022	Depart Time	1104
I39	13 Apr 2022	Air Temp (C)	15.2
I39	13 Apr 2022	Weather	Clear
I39	13 Apr 2022	Visibility (mi)	10
I39	13 Apr 2022	Wind Speed (kts)	2.1
I39	13 Apr 2022	Wind Dir	N
I39	13 Apr 2022	Water Color	Greenish-Blue
I39	13 Apr 2022	Wave Ht Low (ft)	5.9
I39	13 Apr 2022	Wave Period (sec)	17
I39	13 Apr 2022	Sea State	Regular Swell
I39	13 Apr 2022	High Tide (ft)	4.67
I39	13 Apr 2022	High Tide Time	1436
I39	13 Apr 2022	Low Tide (ft)	-0.19
I39	13 Apr 2022	Low Tide Time	2106
I39	13 Apr 2022	Comments	none
I39	19 Apr 2022	Depth (m)	19
I39	19 Apr 2022	Arrive Time	1041
I39	19 Apr 2022	Depart Time	1046
I39	19 Apr 2022	Air Temp (C)	15.1
I39	19 Apr 2022	Weather	Partly Cloudy
I39	19 Apr 2022	Visibility (mi)	9
I39	19 Apr 2022	Wind Speed (kts)	5.3
I39	19 Apr 2022	Wind Dir	W
I39	19 Apr 2022	Water Color	Blueish-Green
I39	19 Apr 2022	Wave Ht Low (ft)	5
I39	19 Apr 2022	Wave Period (sec)	7
I39	19 Apr 2022	Sea State	Light Chop
I39	19 Apr 2022	High Tide (ft)	5.72
I39	19 Apr 2022	High Tide Time	624
I39	19 Apr 2022	Low Tide (ft)	-0.91
I39	19 Apr 2022	Low Tide Time	1254
I39	19 Apr 2022	Comments	none
I39	26 Apr 2022	Depth (m)	18
I39	26 Apr 2022	Arrive Time	1116
I39	26 Apr 2022	Depart Time	1124
I39	26 Apr 2022	Air Temp (C)	13.8
I39	26 Apr 2022	Weather	Fog
I39	26 Apr 2022	Visibility (mi)	1

Station	Date	Parameter	Value
I39	26 Apr 2022	Wind Speed (kts)	2.3
I39	26 Apr 2022	Wind Dir	W
I39	26 Apr 2022	Water Color	Greenish-Brown
I39	26 Apr 2022	Wave Ht Low (ft)	5
I39	26 Apr 2022	Wave Period (sec)	17
I39	26 Apr 2022	Sea State	Regular Swell
I39	26 Apr 2022	High Tide (ft)	4.77
I39	26 Apr 2022	High Tide Time	254
I39	26 Apr 2022	Low Tide (ft)	-0.31
I39	26 Apr 2022	Low Tide Time	2024
I39	26 Apr 2022	Comments	Possible Red Tide
I40	05 Apr 2022	Depth (m)	10
I40	05 Apr 2022	Arrive Time	1059
I40	05 Apr 2022	Depart Time	1103
I40	05 Apr 2022	Air Temp (C)	14
I40	05 Apr 2022	Weather	Continuous Layer of Clouds
I40	05 Apr 2022	Visibility (mi)	4
I40	05 Apr 2022	Wind Speed (kts)	5
I40	05 Apr 2022	Wind Dir	W
I40	05 Apr 2022	Water Color	Green
I40	05 Apr 2022	Wave Ht Low (ft)	6
I40	05 Apr 2022	Wave Period (sec)	13
I40	05 Apr 2022	Sea State	Regular Swell
I40	05 Apr 2022	High Tide (ft)	4.79
I40	05 Apr 2022	High Tide Time	706
I40	05 Apr 2022	Low Tide (ft)	0.22
I40	05 Apr 2022	Low Tide Time	1336
I40	05 Apr 2022	Comments	none
I40	13 Apr 2022	Depth (m)	10
I40	13 Apr 2022	Arrive Time	1135
I40	13 Apr 2022	Depart Time	1140
I40	13 Apr 2022	Air Temp (C)	15.3
I40	13 Apr 2022	Weather	Clear
I40	13 Apr 2022	Visibility (mi)	10
I40	13 Apr 2022	Wind Speed (kts)	4.1
I40	13 Apr 2022	Wind Dir	N
I40	13 Apr 2022	Water Color	Greenish-Brown
I40	13 Apr 2022	Wave Ht Low (ft)	5.9
I40	13 Apr 2022	Wave Period (sec)	17
I40	13 Apr 2022	Sea State	Regular Swell
I40	13 Apr 2022	High Tide (ft)	4.67
I40	13 Apr 2022	High Tide Time	1436
I40	13 Apr 2022	Low Tide (ft)	-0.19
I40	13 Apr 2022	Low Tide Time	2106
I40	13 Apr 2022	Comments	Near edge of freshwater plume; Freshwater Lens
I40	19 Apr 2022	Depth (m)	10
I40	19 Apr 2022	Arrive Time	1117
I40	19 Apr 2022	Depart Time	1122
I40	19 Apr 2022	Air Temp (C)	15.1
I40	19 Apr 2022	Weather	Partly Cloudy
I40	19 Apr 2022	Visibility (mi)	9
I40	19 Apr 2022	Wind Speed (kts)	3.6
I40	19 Apr 2022	Wind Dir	W
I40	19 Apr 2022	Water Color	Blueish-Green
I40	19 Apr 2022	Wave Ht Low (ft)	5
I40	19 Apr 2022	Wave Period (sec)	7
I40	19 Apr 2022	Sea State	Light Chop
I40	19 Apr 2022	High Tide (ft)	5.72

Station	Date	Parameter	Value
I40	19 Apr 2022	High Tide Time	624
I40	19 Apr 2022	Low Tide (ft)	-0.91
I40	19 Apr 2022	Low Tide Time	1254
I40	19 Apr 2022	Comments	none
I40	26 Apr 2022	Depth (m)	9
I40	26 Apr 2022	Arrive Time	1206
I40	26 Apr 2022	Depart Time	1210
I40	26 Apr 2022	Air Temp (C)	13.7
I40	26 Apr 2022	Weather	Fog
I40	26 Apr 2022	Visibility (mi)	1
I40	26 Apr 2022	Wind Speed (kts)	4.5
I40	26 Apr 2022	Wind Dir	SW
I40	26 Apr 2022	Water Color	Brownish-Green
I40	26 Apr 2022	Wave Ht Low (ft)	5
I40	26 Apr 2022	Wave Period (sec)	17
I40	26 Apr 2022	Sea State	Regular Swell
I40	26 Apr 2022	High Tide (ft)	4.77
I40	26 Apr 2022	High Tide Time	254
I40	26 Apr 2022	Low Tide (ft)	-0.31
I40	26 Apr 2022	Low Tide Time	2024
I40	26 Apr 2022	Comments	Debris present on station

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	05 Apr 2022	1	14.47	43.95	7.2	33.48	7.9	24.9	2.83
I19	05 Apr 2022	2	14.45	42.56	7.2	33.48	7.9	24.9	3.02
I19	05 Apr 2022	3	14.11	38.94	7.2	33.49	7.9	25.0	3.99
I19	05 Apr 2022	4	13.83	31.50	6.9	33.48	7.9	25.1	4.81
I19	05 Apr 2022	5	13.15	29.26	6.4	33.52	7.9	25.2	4.07
I19	05 Apr 2022	6	13.25	31.40	6.1	33.50	7.8	25.2	3.66
I19	05 Apr 2022	7	12.60	28.89	5.1	33.53	7.8	25.3	3.19
I19	05 Apr 2022	8	12.16	39.19	4.8	33.55	7.8	25.4	2.61
I19	05 Apr 2022	9	12.24	57.34	4.9	33.53	7.8	25.4	2.19
I19	05 Apr 2022	10	12.08	57.62	4.8	33.56	7.8	25.5	2.37
I19	13 Apr 2022	1	17.61	63.83	7.7	33.57	8.1	24.3	1.45
I19	13 Apr 2022	2	17.08	64.81	7.9	33.56	8.1	24.4	1.78
I19	13 Apr 2022	3	16.29	63.76	7.8	33.55	8.0	24.6	3.23
I19	13 Apr 2022	4	15.50	55.11	7.3	33.54	8.0	24.7	4.31
I19	13 Apr 2022	5	14.60	49.59	7.0	33.52	8.0	24.9	4.23
I19	13 Apr 2022	6	14.19	63.59	6.9	33.51	7.9	25.0	3.87
I19	13 Apr 2022	7	14.09	72.44	6.6	33.52	7.9	25.0	3.64
I19	13 Apr 2022	8	13.96	69.64	6.3	33.52	7.9	25.1	3.79
I19	13 Apr 2022	9	13.86	45.83	6.0	33.52	7.9	25.1	4.17
I19	13 Apr 2022	10	13.87	43.01	6.1	33.52	7.8	25.1	4.30
I19	19 Apr 2022	1	12.58	63.54	7.5	33.65	7.8	25.4	1.40
I19	19 Apr 2022	2	12.48	63.45	6.8	33.65	7.8	25.4	1.52
I19	19 Apr 2022	3	11.96	63.90	5.8	33.67	7.8	25.6	1.65
I19	19 Apr 2022	4	11.16	61.85	5.1	33.72	7.7	25.7	1.73
I19	19 Apr 2022	5	11.00	58.19	4.4	33.71	7.7	25.8	1.83
I19	19 Apr 2022	6	10.92	61.74	4.2	33.71	7.7	25.8	1.95
I19	19 Apr 2022	7	10.86	65.61	4.2	33.72	7.7	25.8	1.96
I19	19 Apr 2022	8	10.84	65.89	4.3	33.73	7.7	25.8	1.94
I19	19 Apr 2022	9	10.86	65.07	4.3	33.73	7.7	25.8	2.05
I19	19 Apr 2022	10	10.82	58.86	4.3	33.74	7.7	25.8	2.35
I19	26 Apr 2022	1	13.86	42.84	10.0	33.63	8.1	25.2	9.55
I19	26 Apr 2022	2	13.49	40.35	9.4	33.64	8.1	25.2	11.29
I19	26 Apr 2022	3	12.75	44.20	8.8	33.70	8.0	25.4	11.48
I19	26 Apr 2022	4	12.65	49.12	8.6	33.69	8.0	25.4	11.15
I19	26 Apr 2022	5	12.58	49.60	8.6	33.70	8.0	25.5	11.16
I19	26 Apr 2022	6	12.54	49.55	8.4	33.70	7.9	25.5	10.91
I19	26 Apr 2022	7	12.00	48.49	7.0	33.73	7.9	25.6	10.47
I19	26 Apr 2022	8	11.28	55.76	5.9	33.79	7.8	25.8	9.23
I19	26 Apr 2022	9	11.16	61.37	6.1	33.77	7.8	25.8	7.64
I19	26 Apr 2022	10	11.53	60.90	6.8	33.75	7.8	25.7	7.82
I24	05 Apr 2022	1	15.34	50.28	7.4	33.01	8.0	24.4	1.90
I24	05 Apr 2022	2	15.40	51.39	7.5	33.17	8.0	24.5	2.13
I24	05 Apr 2022	3	15.50	60.09	7.7	33.47	8.0	24.7	3.72
I24	05 Apr 2022	4	15.35	67.58	7.7	33.51	8.1	24.8	6.26
I24	05 Apr 2022	5	15.20	69.88	7.4	33.51	8.1	24.8	6.31
I24	05 Apr 2022	6	14.63	71.55	6.8	33.53	8.0	24.9	5.86
I24	05 Apr 2022	7	14.45	65.24	6.2	33.52	8.0	24.9	4.83
I24	05 Apr 2022	8	13.07	71.17	5.2	33.59	7.9	25.3	3.40
I24	05 Apr 2022	9	12.15	72.15	4.7	33.59	7.8	25.5	2.07
I24	05 Apr 2022	10	12.61	65.98	5.1	33.54	7.8	25.3	1.83

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
I24	13 Apr 2022	1	17.34	62.21	7.5	33.57	8.0	24.3	1.25
I24	13 Apr 2022	2	17.08	62.35	7.5	33.56	8.0	24.4	1.45
I24	13 Apr 2022	3	16.59	61.20	7.5	33.55	8.0	24.5	1.83
I24	13 Apr 2022	4	16.51	60.23	7.6	33.53	8.0	24.5	2.14
I24	13 Apr 2022	5	16.33	59.82	7.2	33.54	8.0	24.5	2.46
I24	13 Apr 2022	6	15.57	60.13	6.9	33.52	8.0	24.7	3.46
I24	13 Apr 2022	7	15.01	60.51	6.8	33.53	8.0	24.8	3.42
I24	13 Apr 2022	8	14.76	59.52	6.4	33.52	7.9	24.9	2.98
I24	13 Apr 2022	9	14.68	52.08	6.4	33.52	7.9	24.9	2.73
I24	19 Apr 2022	1	13.67	73.26	7.0	33.59	7.8	25.2	1.41
I24	19 Apr 2022	2	13.22	71.79	6.8	33.61	7.8	25.3	1.54
I24	19 Apr 2022	3	12.74	70.00	6.0	33.63	7.8	25.4	1.61
I24	19 Apr 2022	4	11.66	71.20	4.8	33.69	7.8	25.6	1.37
I24	19 Apr 2022	5	11.46	75.51	4.3	33.67	7.7	25.7	1.16
I24	19 Apr 2022	6	11.19	75.74	4.3	33.70	7.7	25.7	1.08
I24	19 Apr 2022	7	11.09	76.55	4.4	33.70	7.7	25.7	1.01
I24	19 Apr 2022	8	11.08	76.47	4.4	33.70	7.7	25.8	1.02
I24	19 Apr 2022	9	10.94	76.34	4.4	33.72	7.7	25.8	1.00
I24	19 Apr 2022	10	10.90	73.10	4.4	33.73	7.7	25.8	1.04
I24	19 Apr 2022	11	10.90	64.86	4.4	33.73	7.7	25.8	1.07
I24	26 Apr 2022	1	14.08	45.67	11.6	33.74	8.2	25.2	8.98
I24	26 Apr 2022	2	13.86	46.45	11.6	33.75	8.2	25.2	11.10
I24	26 Apr 2022	3	13.77	46.99	11.0	33.75	8.2	25.3	14.63
I24	26 Apr 2022	4	13.30	47.83	9.9	33.77	8.1	25.4	16.30
I24	26 Apr 2022	5	12.91	50.99	9.0	33.78	8.1	25.5	17.72
I24	26 Apr 2022	6	12.32	52.26	7.8	33.79	8.0	25.6	16.73
I24	26 Apr 2022	7	11.62	51.06	5.9	33.81	7.9	25.7	13.21
I24	26 Apr 2022	8	11.35	56.01	4.7	33.78	7.8	25.8	9.86
I24	26 Apr 2022	9	11.07	51.54	4.0	33.81	7.7	25.8	7.67
I24	26 Apr 2022	10	10.92	45.09	3.6	33.81	7.7	25.9	6.26
I25	05 Apr 2022	1	15.77	72.75	7.9	33.42	8.1	24.6	2.13
I25	05 Apr 2022	2	15.81	73.64	7.9	33.50	8.1	24.6	2.22
I25	05 Apr 2022	3	15.80	75.60	8.0	33.51	8.1	24.6	2.88
I25	05 Apr 2022	4	15.74	74.66	8.0	33.51	8.1	24.7	4.09
I25	05 Apr 2022	5	15.72	73.75	7.9	33.51	8.1	24.7	4.81
I25	05 Apr 2022	6	15.57	73.24	7.7	33.51	8.1	24.7	5.03
I25	05 Apr 2022	7	15.23	73.33	7.6	33.52	8.1	24.8	5.16
I25	05 Apr 2022	8	14.41	74.05	6.2	33.52	8.0	25.0	4.39
I25	05 Apr 2022	9	12.38	67.18	4.8	33.68	7.9	25.5	3.48
I25	13 Apr 2022	1	17.39	64.38	7.7	33.56	8.0	24.3	1.29
I25	13 Apr 2022	2	17.11	64.16	7.5	33.57	8.0	24.4	1.36
I25	13 Apr 2022	3	16.63	62.75	7.6	33.56	8.0	24.5	1.56
I25	13 Apr 2022	4	16.12	60.66	7.5	33.55	8.0	24.6	2.18
I25	13 Apr 2022	5	15.39	57.43	7.3	33.53	8.0	24.8	3.48
I25	13 Apr 2022	6	15.10	58.39	7.1	33.53	8.0	24.8	4.14
I25	13 Apr 2022	7	14.98	59.27	6.9	33.52	7.9	24.8	4.12
I25	13 Apr 2022	8	14.82	59.90	6.7	33.52	7.9	24.9	3.58
I25	13 Apr 2022	9	14.81	60.65	6.5	33.51	7.9	24.9	3.21
I25	19 Apr 2022	1	13.37	71.51	7.0	33.60	7.8	25.2	1.65
I25	19 Apr 2022	2	13.10	71.53	6.7	33.61	7.8	25.3	1.74
I25	19 Apr 2022	3	12.85	71.84	6.4	33.62	7.8	25.4	2.07
I25	19 Apr 2022	4	12.45	69.42	5.9	33.65	7.8	25.5	2.24
I25	19 Apr 2022	5	11.80	70.55	4.9	33.68	7.8	25.6	1.79
I25	19 Apr 2022	6	11.18	75.02	4.3	33.71	7.7	25.7	1.32
I25	19 Apr 2022	7	11.14	73.74	4.3	33.70	7.7	25.7	1.15
I25	19 Apr 2022	8	11.13	72.49	4.5	33.70	7.7	25.7	1.08

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
I25	19 Apr 2022	9	11.13	71.26	4.6	33.70	7.7	25.7	1.07
I25	26 Apr 2022	1	14.42	51.24	11.2	33.73	8.2	25.1	6.86
I25	26 Apr 2022	2	14.02	50.26	11.8	33.74	8.2	25.2	9.70
I25	26 Apr 2022	3	13.75	47.37	11.6	33.74	8.2	25.3	15.61
I25	26 Apr 2022	4	13.49	46.32	10.2	33.74	8.2	25.3	18.58
I25	26 Apr 2022	5	12.57	49.72	8.4	33.76	8.1	25.5	20.03
I25	26 Apr 2022	6	12.30	56.52	6.7	33.73	8.0	25.5	18.19
I25	26 Apr 2022	7	11.20	63.13	4.7	33.80	7.8	25.8	12.27
I25	26 Apr 2022	8	11.14	64.48	4.2	33.78	7.8	25.8	9.15
I26	05 Apr 2022	1	15.92	77.03	8.0	33.51	8.1	24.6	1.67
I26	05 Apr 2022	2	15.85	77.18	7.9	33.51	8.1	24.6	1.92
I26	05 Apr 2022	3	15.80	75.98	7.9	33.50	8.1	24.6	2.32
I26	05 Apr 2022	4	15.67	75.04	7.9	33.51	8.1	24.7	3.01
I26	05 Apr 2022	5	15.50	73.86	7.8	33.51	8.1	24.7	3.89
I26	05 Apr 2022	6	15.07	72.84	7.6	33.52	8.1	24.8	4.79
I26	05 Apr 2022	7	14.98	74.24	7.3	33.50	8.1	24.8	4.76
I26	05 Apr 2022	8	14.09	74.08	6.4	33.55	8.0	25.0	3.99
I26	05 Apr 2022	9	12.86	67.40	5.2	33.60	7.9	25.3	2.99
I26	13 Apr 2022	1	16.86	59.93	7.8	33.56	8.0	24.4	1.41
I26	13 Apr 2022	2	16.38	57.66	7.9	33.56	8.0	24.6	1.64
I26	13 Apr 2022	3	16.11	52.54	8.0	33.55	8.0	24.6	2.83
I26	13 Apr 2022	4	15.97	52.52	7.9	33.54	8.0	24.6	4.94
I26	13 Apr 2022	5	15.55	55.89	7.3	33.53	8.0	24.7	6.12
I26	13 Apr 2022	6	14.86	62.03	6.8	33.52	7.9	24.9	5.35
I26	13 Apr 2022	7	14.46	65.42	6.6	33.53	7.9	25.0	5.19
I26	13 Apr 2022	8	14.30	66.52	6.5	33.53	7.9	25.0	4.34
I26	13 Apr 2022	9	14.32	66.57	6.6	33.53	7.9	25.0	3.85
I26	19 Apr 2022	1	13.79	72.48	7.3	33.60	7.9	25.2	1.64
I26	19 Apr 2022	2	13.88	74.33	7.2	33.57	7.9	25.1	1.65
I26	19 Apr 2022	3	13.31	72.68	7.2	33.60	7.9	25.2	2.03
I26	19 Apr 2022	4	13.17	69.63	7.1	33.59	7.8	25.3	2.33
I26	19 Apr 2022	5	12.66	69.49	6.7	33.63	7.8	25.4	2.24
I26	19 Apr 2022	6	12.27	69.51	6.3	33.66	7.8	25.5	2.15
I26	19 Apr 2022	7	12.21	71.42	5.9	33.64	7.8	25.5	1.98
I26	19 Apr 2022	8	11.33	75.09	4.8	33.71	7.7	25.7	1.61
I26	19 Apr 2022	9	11.07	75.31	4.4	33.71	7.7	25.8	1.32
I26	26 Apr 2022	1	14.72	40.41	11.9	33.76	8.2	25.1	7.41
I26	26 Apr 2022	2	14.67	42.05	11.6	33.74	8.2	25.1	8.76
I26	26 Apr 2022	3	13.80	44.87	11.4	33.77	8.2	25.3	14.48
I26	26 Apr 2022	4	13.15	45.95	10.5	33.77	8.2	25.4	19.54
I26	26 Apr 2022	5	12.47	45.31	8.4	33.79	8.1	25.6	19.69
I26	26 Apr 2022	6	11.68	45.79	6.0	33.79	7.9	25.7	16.43
I26	26 Apr 2022	7	10.84	56.57	4.0	33.82	7.8	25.9	10.44
I26	26 Apr 2022	8	10.94	62.05	4.2	33.79	7.7	25.8	7.73
I32	05 Apr 2022	1	15.79	77.47	7.8	33.51	8.1	24.6	1.47
I32	05 Apr 2022	2	15.78	77.61	7.9	33.51	8.1	24.6	1.57
I32	05 Apr 2022	3	15.68	77.68	7.9	33.51	8.1	24.7	2.02
I32	05 Apr 2022	4	15.53	76.46	7.7	33.51	8.1	24.7	2.48
I32	05 Apr 2022	5	15.33	74.81	7.7	33.51	8.1	24.8	2.85
I32	05 Apr 2022	6	15.22	72.53	7.7	33.52	8.1	24.8	3.32
I32	05 Apr 2022	7	15.17	68.60	7.7	33.52	8.1	24.8	3.65
I32	05 Apr 2022	8	14.97	66.73	7.3	33.52	8.0	24.8	4.81
I32	05 Apr 2022	9	14.03	57.74	6.5	33.55	8.0	25.1	4.94
I32	05 Apr 2022	10	13.30	35.81	5.6	33.56	7.9	25.2	4.12

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
I32	13 Apr 2022	1	17.39	67.51	8.3	33.56	8.1	24.3	1.54
I32	13 Apr 2022	2	17.22	66.63	8.4	33.56	8.1	24.4	1.72
I32	13 Apr 2022	3	17.03	64.41	8.3	33.55	8.1	24.4	2.10
I32	13 Apr 2022	4	16.94	61.34	8.0	33.55	8.1	24.4	2.92
I32	13 Apr 2022	5	16.24	56.78	7.8	33.56	8.1	24.6	4.19
I32	13 Apr 2022	6	15.83	56.13	7.8	33.54	8.0	24.7	5.60
I32	13 Apr 2022	7	15.76	58.68	7.8	33.52	8.0	24.7	6.56
I32	13 Apr 2022	8	15.63	61.88	7.6	33.52	8.0	24.7	6.47
I32	13 Apr 2022	9	15.29	58.06	7.0	33.53	8.0	24.8	6.05
I32	13 Apr 2022	10	14.88	48.36	6.8	33.53	8.0	24.9	6.07
I32	19 Apr 2022	1	14.02	70.63	7.0	33.58	7.9	25.1	1.46
I32	19 Apr 2022	2	13.95	70.85	7.0	33.59	7.9	25.1	1.48
I32	19 Apr 2022	3	13.72	74.10	6.8	33.59	7.8	25.2	1.69
I32	19 Apr 2022	4	12.89	72.14	6.8	33.63	7.8	25.4	1.70
I32	19 Apr 2022	5	12.52	69.64	6.9	33.63	7.8	25.4	1.71
I32	19 Apr 2022	6	12.59	68.04	6.5	33.61	7.8	25.4	1.71
I32	19 Apr 2022	7	11.52	64.73	5.5	33.69	7.8	25.7	1.65
I32	19 Apr 2022	8	11.26	67.97	4.7	33.69	7.7	25.7	1.58
I32	19 Apr 2022	9	10.98	64.73	4.4	33.72	7.7	25.8	1.69
I32	19 Apr 2022	10	10.97	57.41	4.4	33.72	7.7	25.8	1.89
I32	26 Apr 2022	1	14.79	49.77	11.7	33.75	8.2	25.1	5.90
I32	26 Apr 2022	2	14.48	49.63	11.7	33.76	8.2	25.1	7.34
I32	26 Apr 2022	3	14.04	48.21	11.0	33.77	8.2	25.2	13.02
I32	26 Apr 2022	4	13.71	44.71	10.0	33.78	8.2	25.3	17.67
I32	26 Apr 2022	5	13.54	41.57	9.7	33.77	8.1	25.3	19.88
I32	26 Apr 2022	6	13.04	41.68	8.7	33.79	8.1	25.4	19.59
I32	26 Apr 2022	7	11.89	40.90	6.0	33.83	8.0	25.7	16.46
I32	26 Apr 2022	8	10.79	42.87	3.6	33.86	7.8	25.9	11.06
I32	26 Apr 2022	9	10.78	30.19	3.7	33.84	7.7	25.9	8.49
I39	05 Apr 2022	1	16.42	77.90	8.5	33.49	8.2	24.5	2.02
I39	05 Apr 2022	2	16.41	77.84	8.5	33.49	8.2	24.5	2.15
I39	05 Apr 2022	3	16.40	77.72	8.5	33.49	8.2	24.5	2.33
I39	05 Apr 2022	4	16.40	77.77	8.5	33.49	8.2	24.5	2.40
I39	05 Apr 2022	5	16.38	77.76	8.4	33.49	8.2	24.5	2.70
I39	05 Apr 2022	6	16.36	77.76	8.3	33.49	8.2	24.5	2.77
I39	05 Apr 2022	7	16.09	77.93	8.1	33.50	8.2	24.6	2.57
I39	05 Apr 2022	8	15.83	78.14	7.8	33.49	8.1	24.6	3.44
I39	05 Apr 2022	9	14.68	77.57	7.3	33.53	8.1	24.9	4.84
I39	05 Apr 2022	10	14.39	77.66	7.0	33.51	8.0	25.0	4.39
I39	05 Apr 2022	11	13.74	78.85	6.4	33.53	8.0	25.1	2.99
I39	05 Apr 2022	12	12.92	80.17	5.4	33.55	7.9	25.3	2.14
I39	05 Apr 2022	13	11.39	79.48	4.3	33.65	7.8	25.7	1.54
I39	05 Apr 2022	14	11.21	76.87	4.1	33.66	7.8	25.7	1.38
I39	05 Apr 2022	15	11.13	74.65	4.2	33.66	7.7	25.7	1.33
I39	05 Apr 2022	16	11.11	73.32	4.2	33.67	7.7	25.7	1.30
I39	05 Apr 2022	17	11.11	72.47	4.2	33.68	7.7	25.7	1.32
I39	05 Apr 2022	18	11.09	72.05	4.2	33.68	7.7	25.7	1.33
I39	13 Apr 2022	1	17.39	71.76	8.2	33.54	8.1	24.3	1.16
I39	13 Apr 2022	2	17.21	71.12	8.3	33.54	8.1	24.3	1.32
I39	13 Apr 2022	3	17.11	70.18	8.4	33.54	8.1	24.4	1.79
I39	13 Apr 2022	4	17.06	69.25	8.4	33.54	8.1	24.4	2.48
I39	13 Apr 2022	5	17.03	68.77	8.4	33.53	8.1	24.4	3.22
I39	13 Apr 2022	6	17.00	68.40	8.4	33.53	8.1	24.4	4.06
I39	13 Apr 2022	7	16.94	68.32	8.4	33.53	8.1	24.4	4.89
I39	13 Apr 2022	8	16.88	68.67	8.3	33.53	8.1	24.4	5.13
I39	13 Apr 2022	9	16.72	69.30	8.1	33.51	8.1	24.4	5.13
I39	13 Apr 2022	10	15.35	71.44	8.2	33.50	8.1	24.7	5.06

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
I39	13 Apr 2022	11	14.58	72.38	8.2	33.53	8.0	24.9	5.13
I39	13 Apr 2022	12	14.57	73.03	7.6	33.51	8.0	24.9	5.29
I39	13 Apr 2022	13	13.72	74.49	6.5	33.55	7.9	25.1	5.16
I39	13 Apr 2022	14	13.40	73.16	5.8	33.55	7.9	25.2	4.70
I39	13 Apr 2022	15	13.25	71.55	5.4	33.55	7.8	25.2	3.84
I39	13 Apr 2022	16	13.22	70.34	5.3	33.55	7.8	25.2	3.40
I39	13 Apr 2022	17	13.04	68.60	5.1	33.56	7.8	25.3	2.82
I39	13 Apr 2022	18	12.87	62.33	5.0	33.57	7.8	25.3	2.43
I39	19 Apr 2022	1	14.61	63.60	7.2	33.57	7.9	25.0	2.00
I39	19 Apr 2022	2	14.33	70.62	7.1	33.58	7.9	25.0	2.08
I39	19 Apr 2022	3	14.14	75.56	7.0	33.59	7.9	25.1	2.08
I39	19 Apr 2022	4	13.90	76.63	6.3	33.60	7.9	25.1	2.12
I39	19 Apr 2022	5	12.11	78.46	4.8	33.74	7.8	25.6	1.88
I39	19 Apr 2022	6	11.06	81.22	4.0	33.74	7.7	25.8	1.45
I39	19 Apr 2022	7	10.91	81.64	4.0	33.73	7.7	25.8	1.25
I39	19 Apr 2022	8	10.75	81.62	4.1	33.74	7.7	25.8	1.12
I39	19 Apr 2022	9	10.62	81.35	4.2	33.76	7.7	25.9	1.05
I39	19 Apr 2022	10	10.56	81.56	4.2	33.78	7.7	25.9	1.01
I39	19 Apr 2022	11	10.47	81.46	4.3	33.80	7.7	25.9	1.01
I39	19 Apr 2022	12	10.43	81.47	4.2	33.81	7.7	25.9	1.02
I39	19 Apr 2022	13	10.47	81.07	4.3	33.81	7.7	25.9	1.03
I39	19 Apr 2022	14	10.43	81.01	4.2	33.82	7.7	26.0	1.00
I39	19 Apr 2022	15	10.43	80.95	4.2	33.82	7.7	26.0	1.01
I39	19 Apr 2022	16	10.43	81.04	4.2	33.82	7.7	26.0	1.02
I39	19 Apr 2022	17	10.44	80.74	4.3	33.82	7.7	26.0	1.02
I39	19 Apr 2022	18	10.44	80.60	4.3	33.82	7.7	26.0	1.07
I39	26 Apr 2022	1	14.29	54.83	10.7	33.66	8.2	25.1	4.58
I39	26 Apr 2022	2	13.63	53.50	10.6	33.71	8.2	25.3	7.15
I39	26 Apr 2022	3	13.42	53.54	10.1	33.72	8.1	25.3	13.41
I39	26 Apr 2022	4	13.19	52.62	9.6	33.73	8.1	25.4	19.17
I39	26 Apr 2022	5	13.04	53.21	9.1	33.73	8.1	25.4	21.57
I39	26 Apr 2022	6	12.96	56.29	8.4	33.72	8.0	25.4	20.04
I39	26 Apr 2022	7	12.75	60.35	7.7	33.73	8.0	25.5	16.72
I39	26 Apr 2022	8	12.65	63.28	7.6	33.72	8.0	25.5	15.51
I39	26 Apr 2022	9	12.56	63.39	7.6	33.72	7.9	25.5	15.89
I39	26 Apr 2022	10	12.48	63.03	7.5	33.72	7.9	25.5	16.13
I39	26 Apr 2022	11	12.31	64.70	7.0	33.72	7.9	25.5	15.15
I39	26 Apr 2022	12	12.02	66.53	6.2	33.72	7.9	25.6	13.48
I39	26 Apr 2022	13	11.38	70.51	5.5	33.74	7.8	25.7	11.13
I39	26 Apr 2022	14	11.51	70.50	5.2	33.73	7.8	25.7	9.69
I39	26 Apr 2022	15	10.86	76.33	4.4	33.78	7.8	25.9	6.17
I39	26 Apr 2022	16	10.86	76.65	4.2	33.78	7.7	25.8	4.94
I39	26 Apr 2022	17	10.86	76.62	4.4	33.78	7.7	25.8	4.46
I39	26 Apr 2022	18	10.91	76.49	4.5	33.77	7.7	25.8	4.95
I40	05 Apr 2022	1	15.27	61.53	7.5	33.44	8.0	24.7	2.31
I40	05 Apr 2022	2	14.68	57.32	6.8	33.50	8.0	24.9	3.06
I40	05 Apr 2022	3	13.88	55.35	6.1	33.53	7.9	25.1	2.91
I40	05 Apr 2022	4	13.29	55.85	5.6	33.55	7.9	25.2	2.44
I40	05 Apr 2022	5	13.17	60.60	5.6	33.54	7.9	25.2	2.25
I40	05 Apr 2022	6	12.78	69.26	5.5	33.56	7.9	25.3	2.00
I40	05 Apr 2022	7	12.52	75.61	5.4	33.56	7.9	25.4	1.88
I40	05 Apr 2022	8	12.36	77.44	5.2	33.57	7.8	25.4	1.70
I40	05 Apr 2022	9	12.13	77.90	4.9	33.58	7.8	25.5	1.55
I40	05 Apr 2022	10	12.03	74.03	4.7	33.59	7.8	25.5	1.52
I40	13 Apr 2022	1	17.06	61.86	7.4	33.56	8.0	24.4	1.30
I40	13 Apr 2022	2	16.73	59.92	7.3	33.56	8.0	24.5	1.44
I40	13 Apr 2022	3	16.13	54.35	7.2	33.55	8.0	24.6	1.88

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
I40	13 Apr 2022	4	15.74	40.28	7.1	33.54	8.0	24.7	2.69
I40	13 Apr 2022	5	15.59	33.76	6.9	33.53	7.9	24.7	3.40
I40	13 Apr 2022	6	15.40	34.77	6.6	33.53	7.9	24.8	3.55
I40	13 Apr 2022	7	14.90	37.02	6.2	33.54	7.9	24.9	3.50
I40	13 Apr 2022	8	14.55	38.42	6.1	33.53	7.9	24.9	3.35
I40	13 Apr 2022	9	14.11	34.07	5.8	33.53	7.9	25.0	3.54
I40	13 Apr 2022	10	13.68	14.65	5.5	33.55	7.8	25.1	3.85
I40	19 Apr 2022	1	12.45	72.39	5.8	33.66	7.7	25.5	0.96
I40	19 Apr 2022	2	11.97	72.44	5.3	33.66	7.7	25.6	1.01
I40	19 Apr 2022	3	11.70	72.64	4.7	33.67	7.7	25.6	1.04
I40	19 Apr 2022	4	11.28	75.07	4.3	33.69	7.7	25.7	1.02
I40	19 Apr 2022	5	11.09	75.68	4.2	33.70	7.7	25.7	1.09
I40	19 Apr 2022	6	11.06	64.10	4.2	33.70	7.7	25.8	1.45
I40	19 Apr 2022	7	11.05	38.88	4.2	33.71	7.7	25.8	2.32
I40	19 Apr 2022	8	11.07	28.56	4.3	33.71	7.7	25.8	2.97
I40	19 Apr 2022	9	10.93	28.23	4.3	33.73	7.7	25.8	3.62
I40	19 Apr 2022	10	10.87	33.78	4.2	33.74	7.7	25.8	3.36
I40	26 Apr 2022	1	13.27	49.72	8.9	33.62	8.0	25.3	5.20
I40	26 Apr 2022	2	12.89	49.20	8.7	33.65	8.0	25.4	7.32
I40	26 Apr 2022	3	12.59	48.24	8.4	33.67	8.0	25.4	9.95
I40	26 Apr 2022	4	12.36	46.29	8.1	33.71	7.9	25.5	10.38
I40	26 Apr 2022	5	12.26	45.15	7.7	33.72	7.9	25.5	10.44
I40	26 Apr 2022	6	12.13	44.44	6.7	33.72	7.9	25.6	9.91
I40	26 Apr 2022	7	11.53	47.24	5.2	33.78	7.8	25.7	8.53
I40	26 Apr 2022	8	11.03	54.60	3.9	33.79	7.8	25.8	6.60
I40	26 Apr 2022	9	10.70	57.11	3.2	33.82	7.7	25.9	5.37

NA = not available

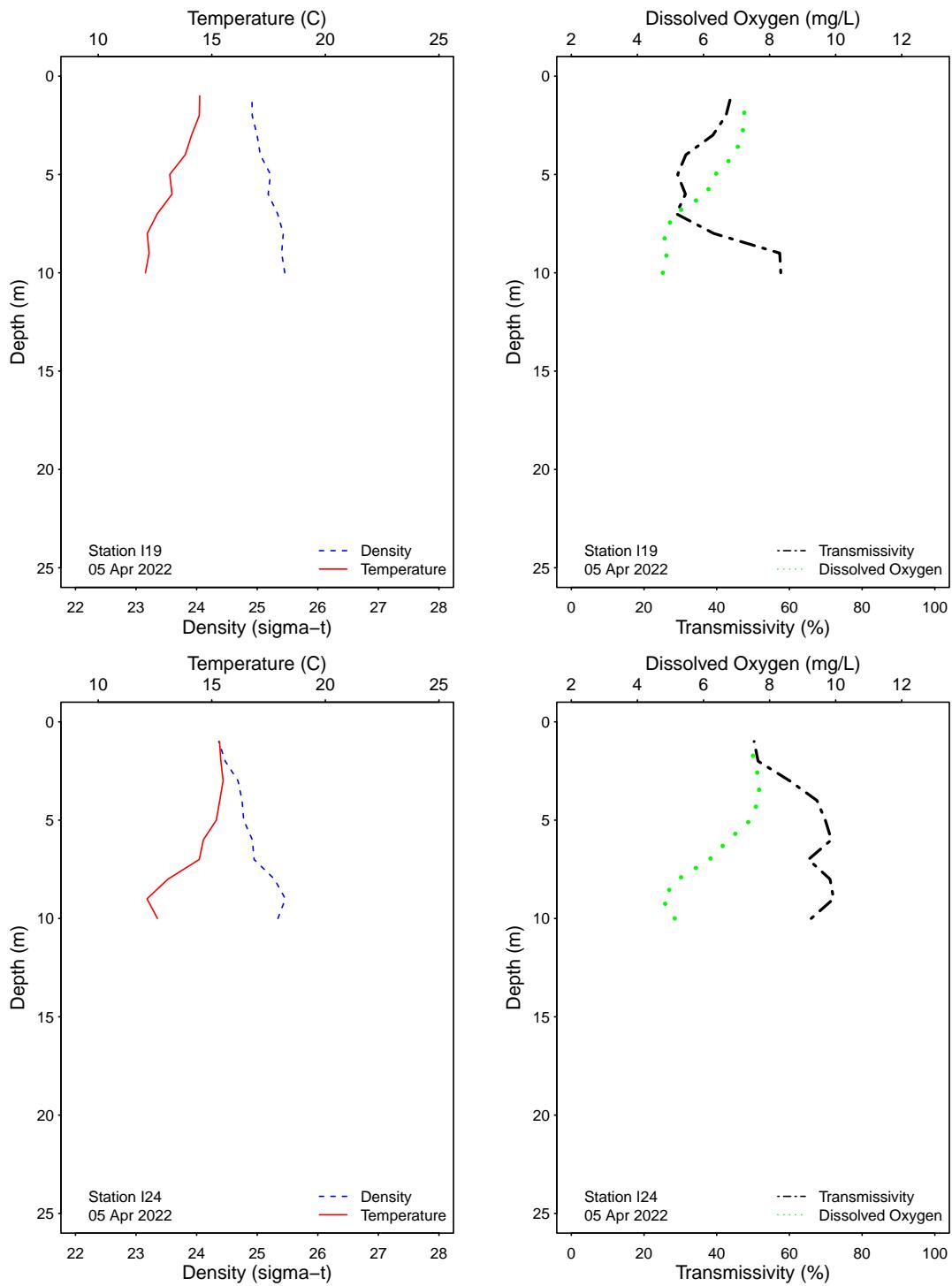


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

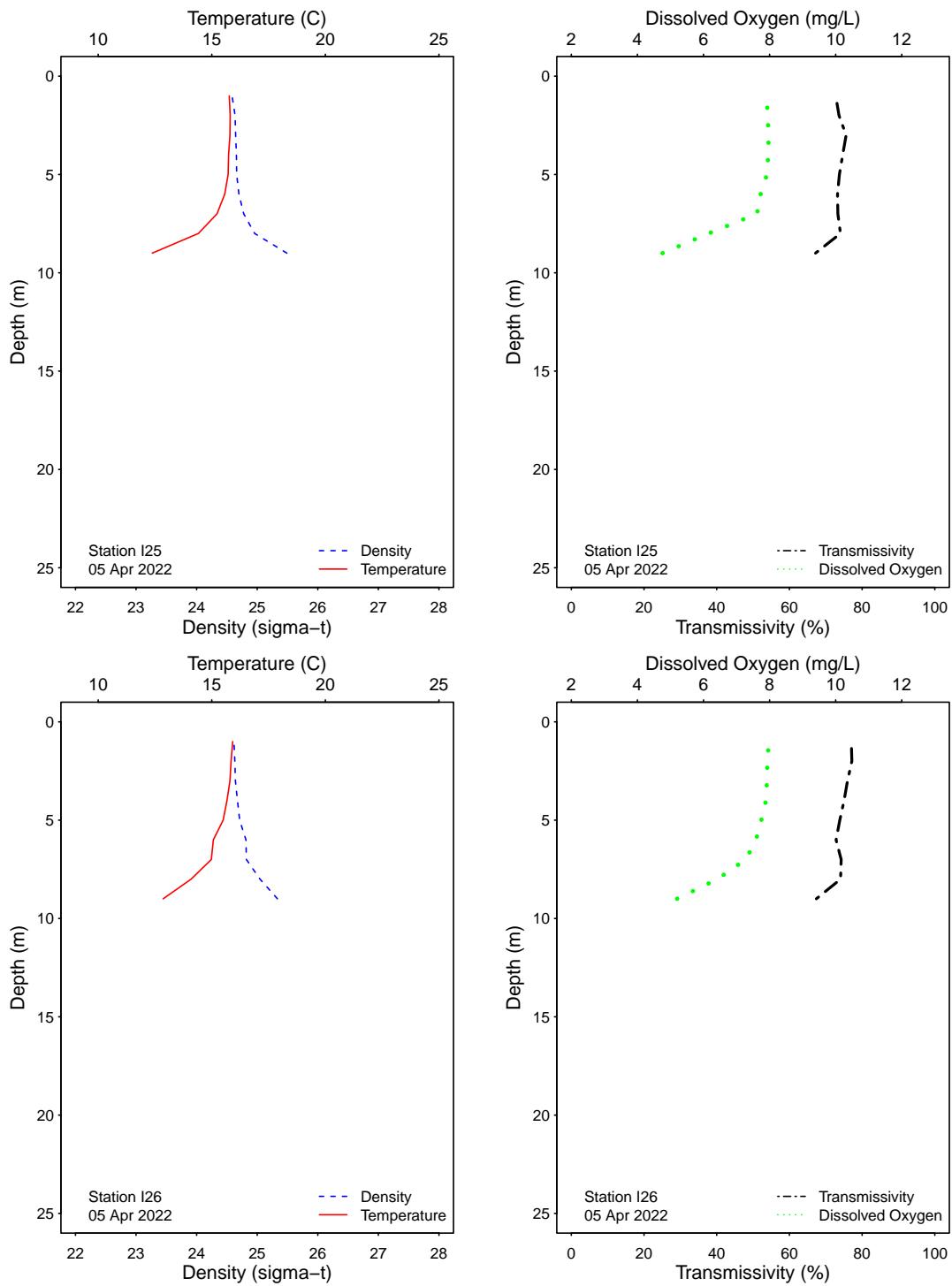


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

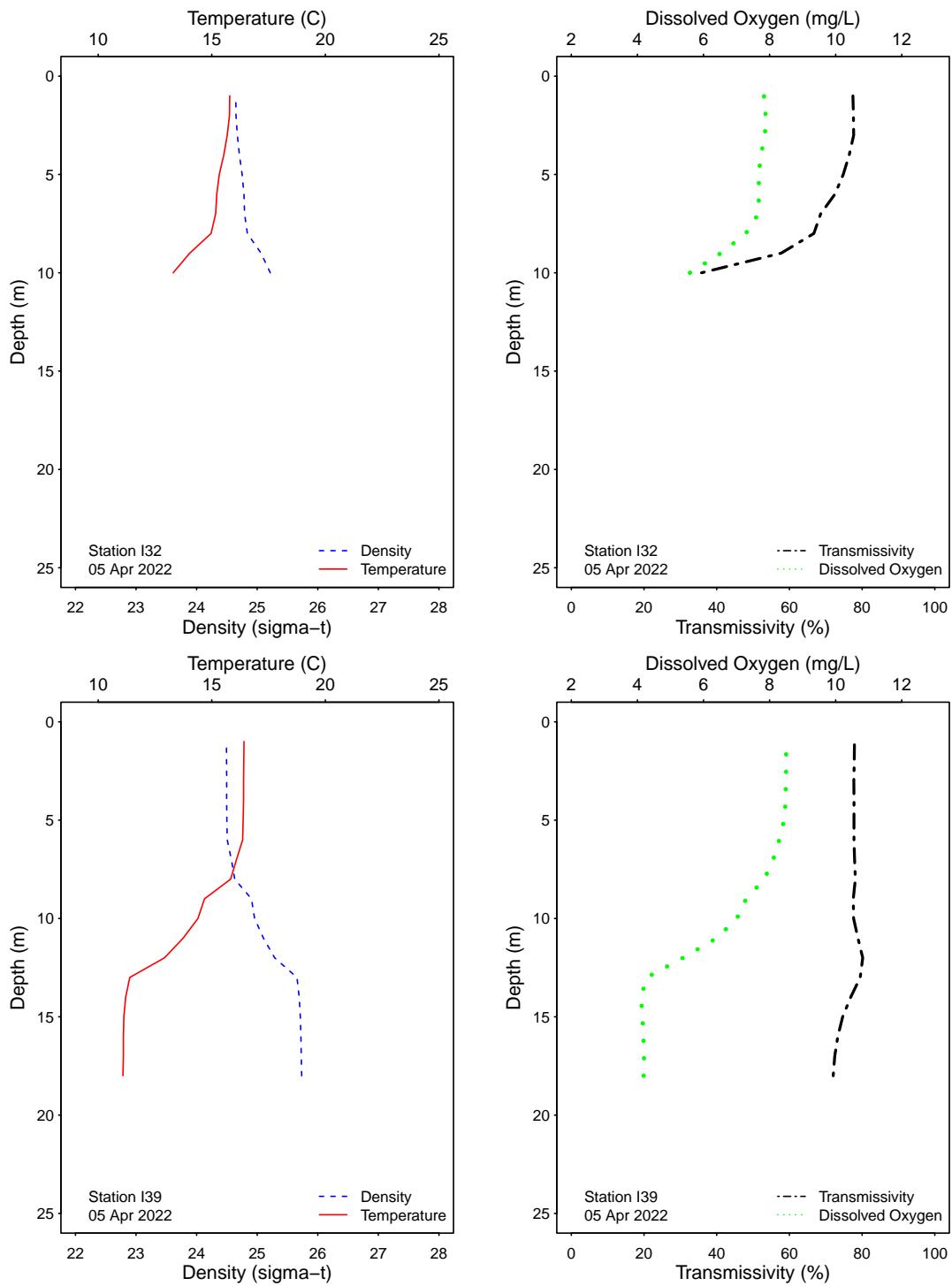


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

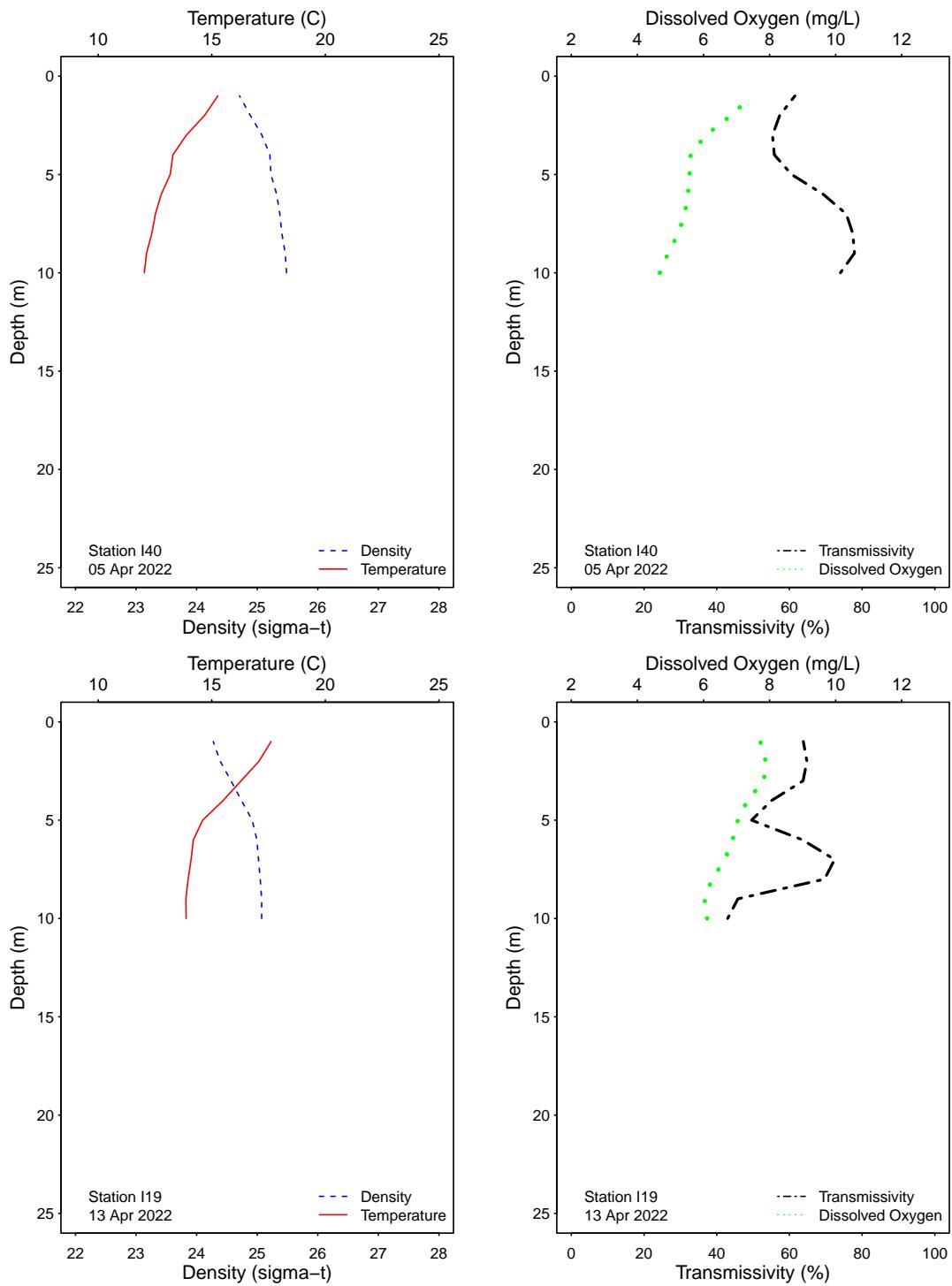


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

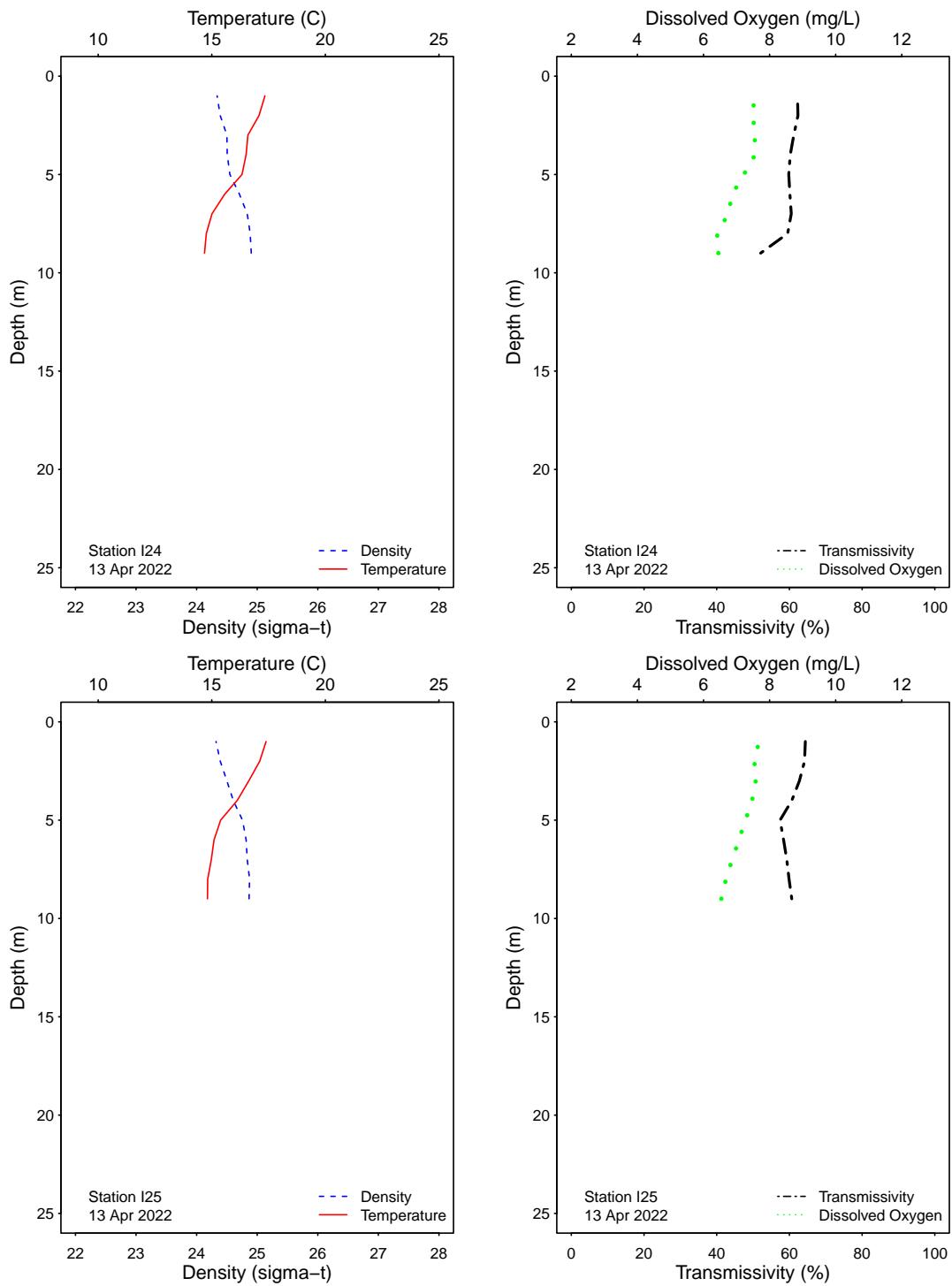


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

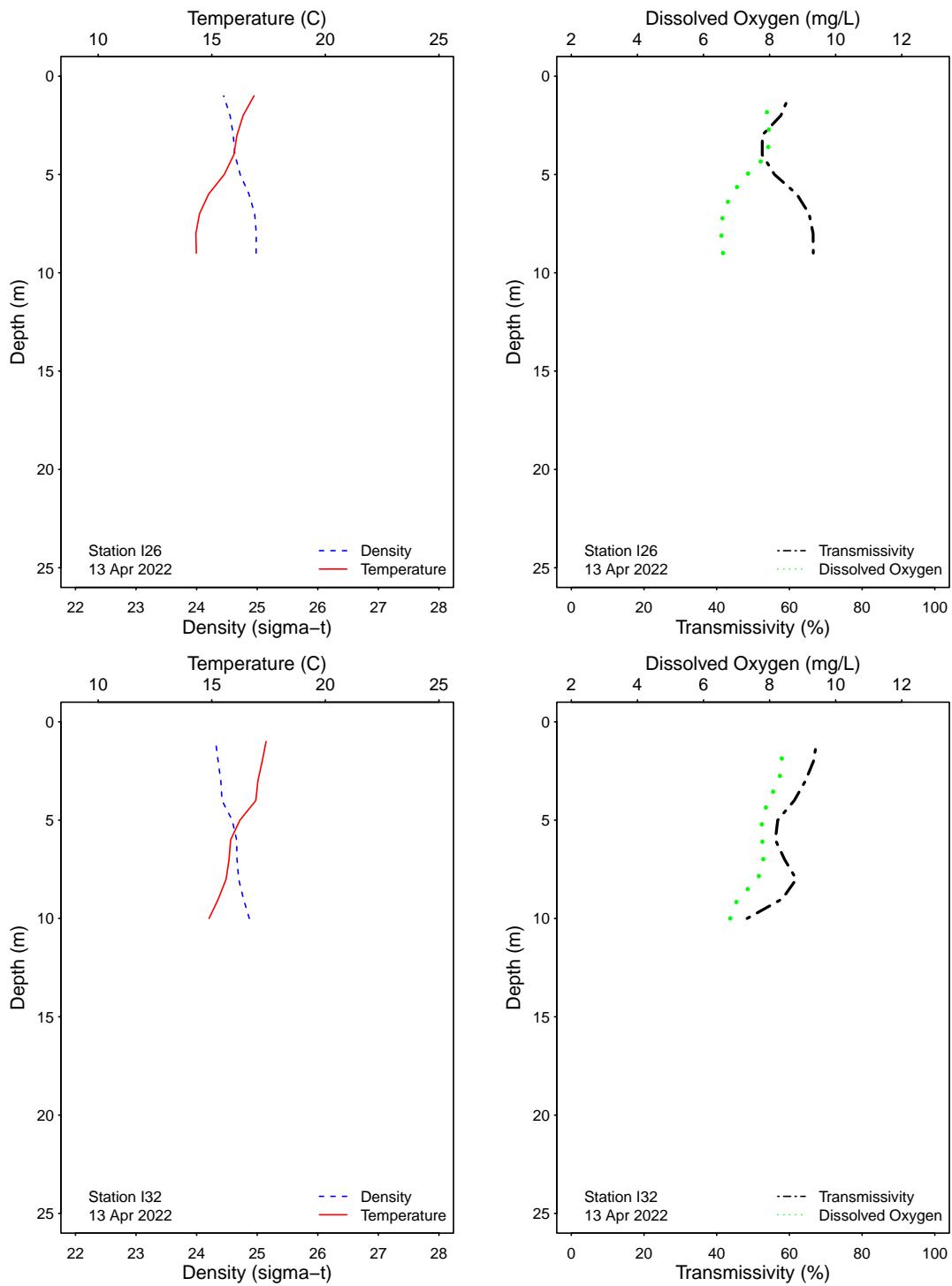


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

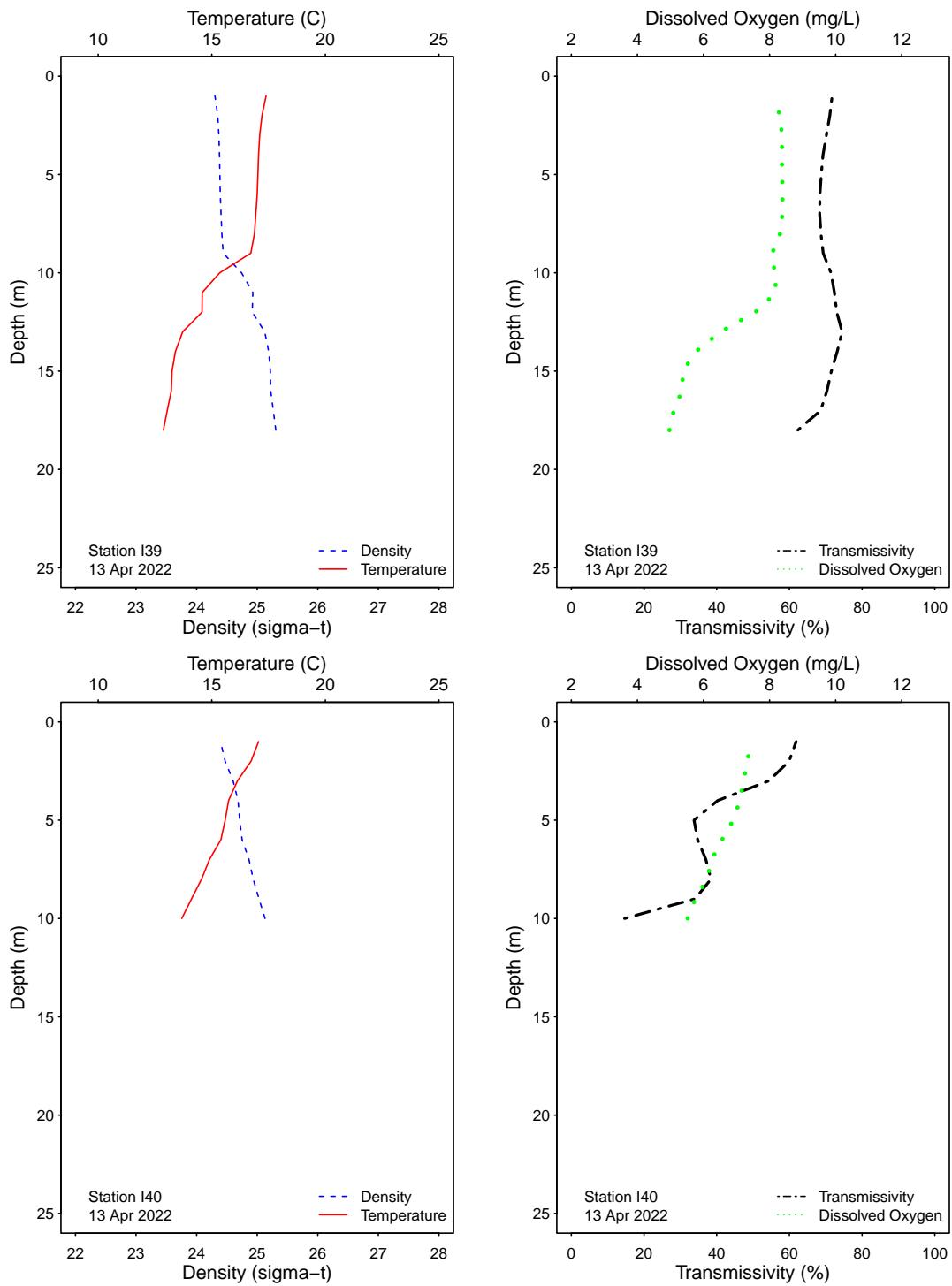


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

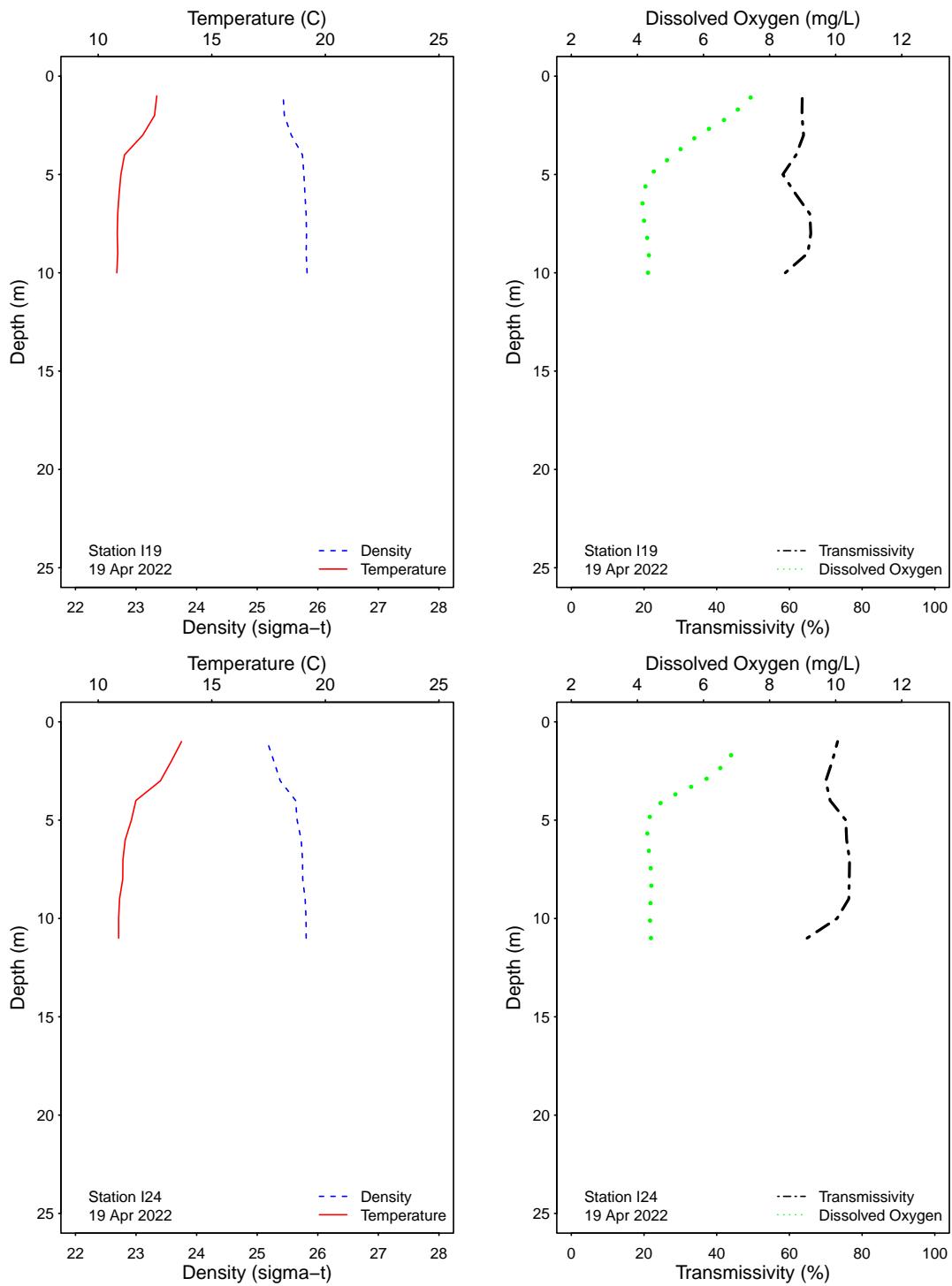


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

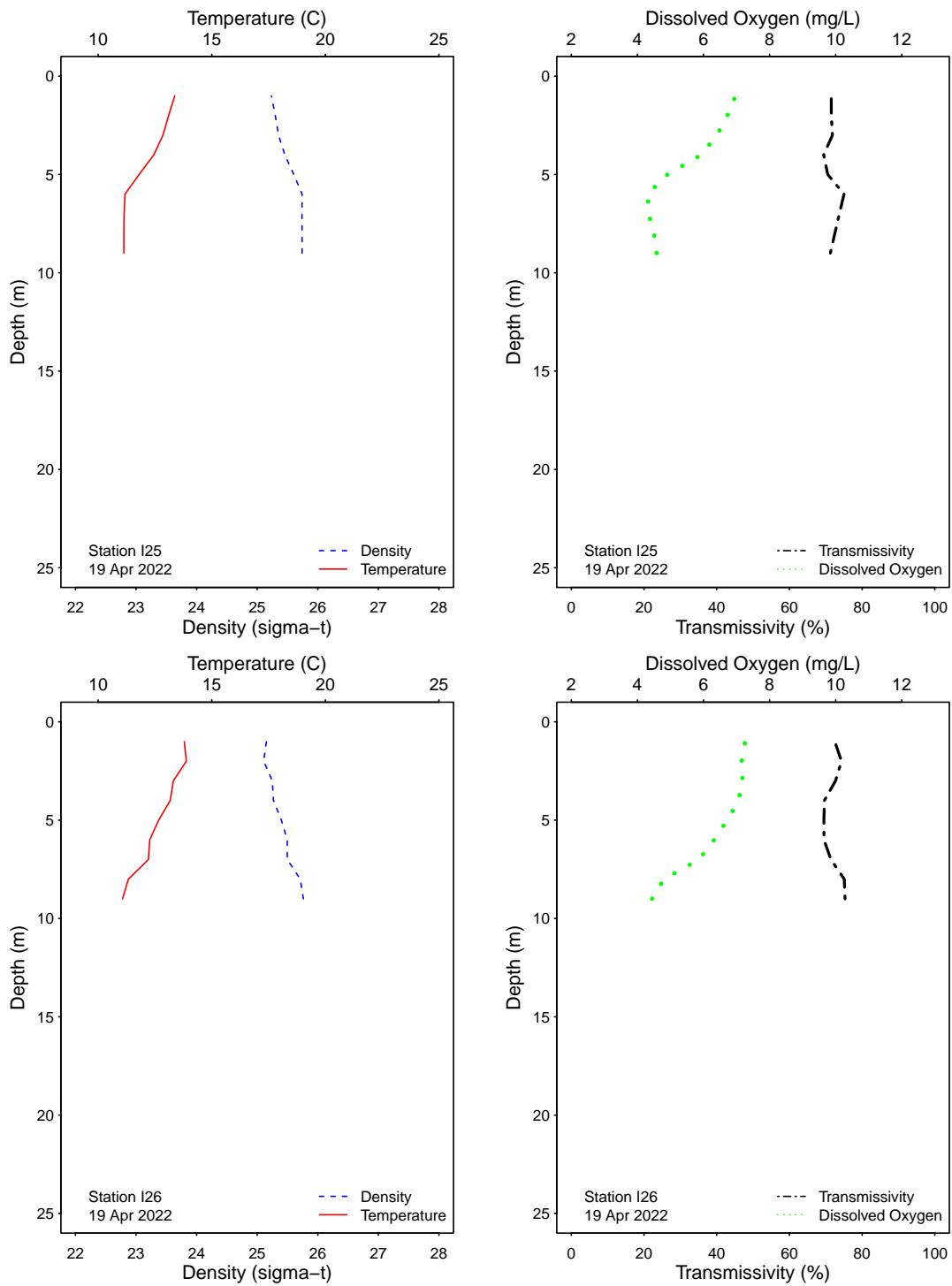


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

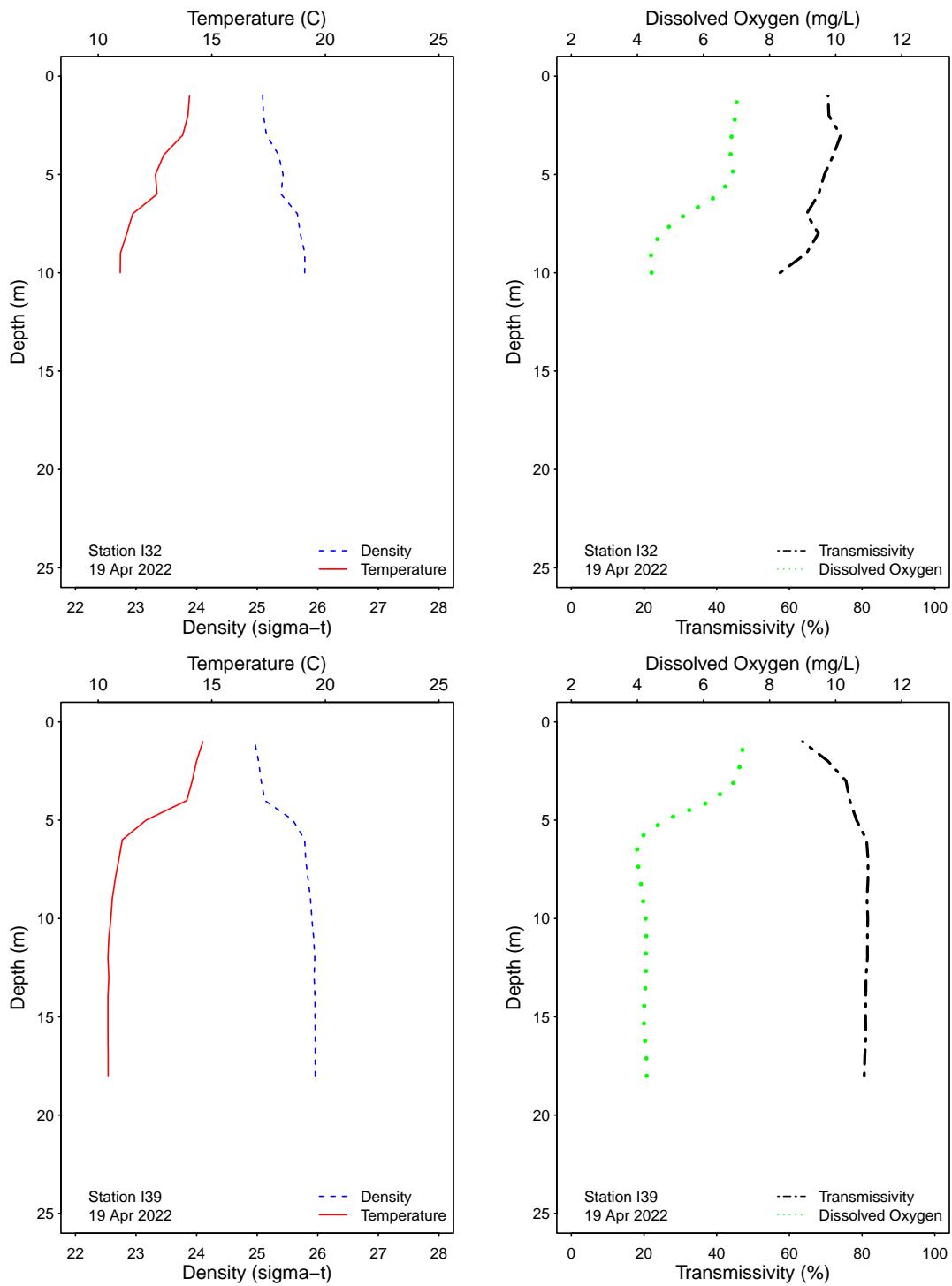


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

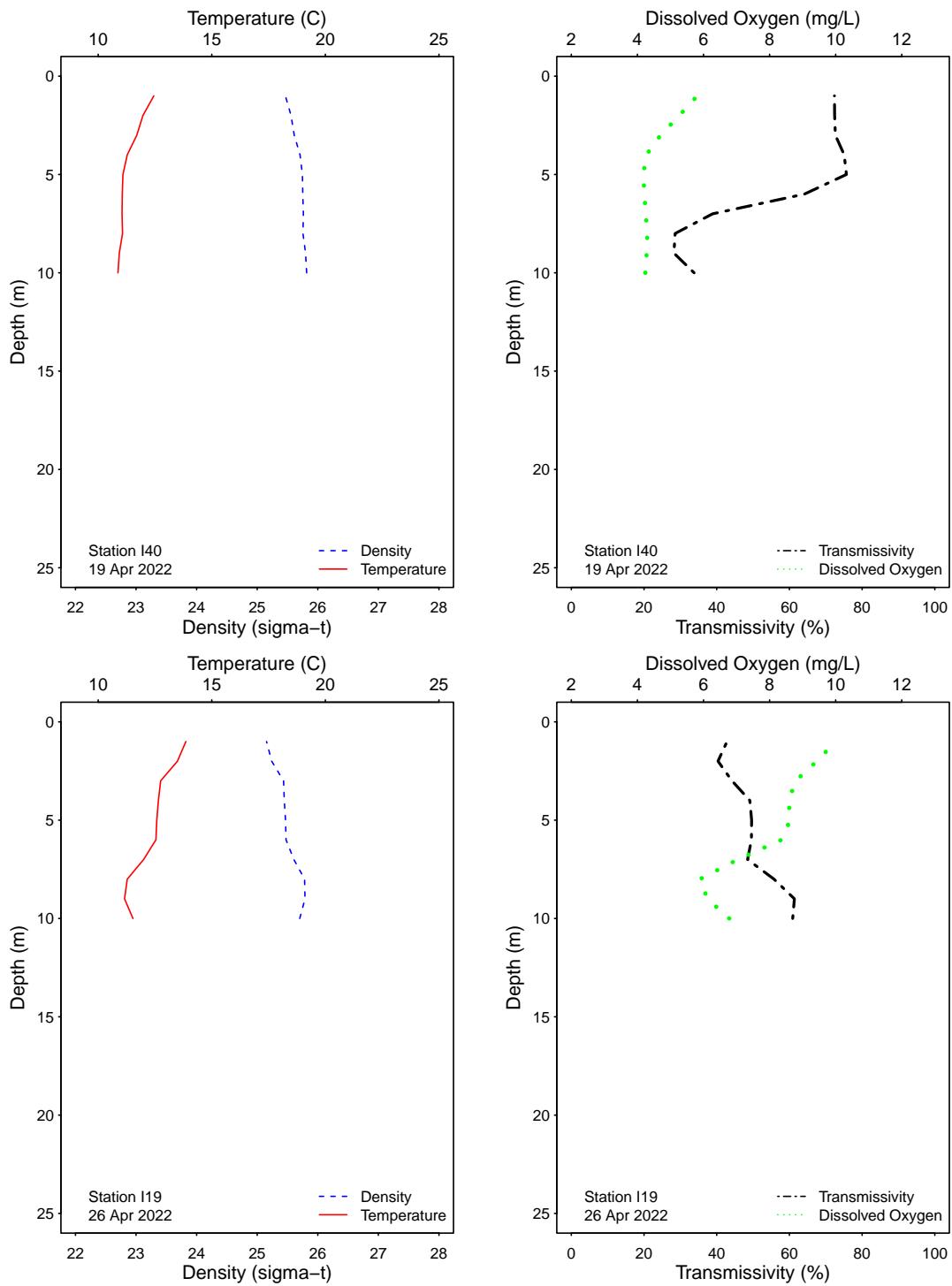


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

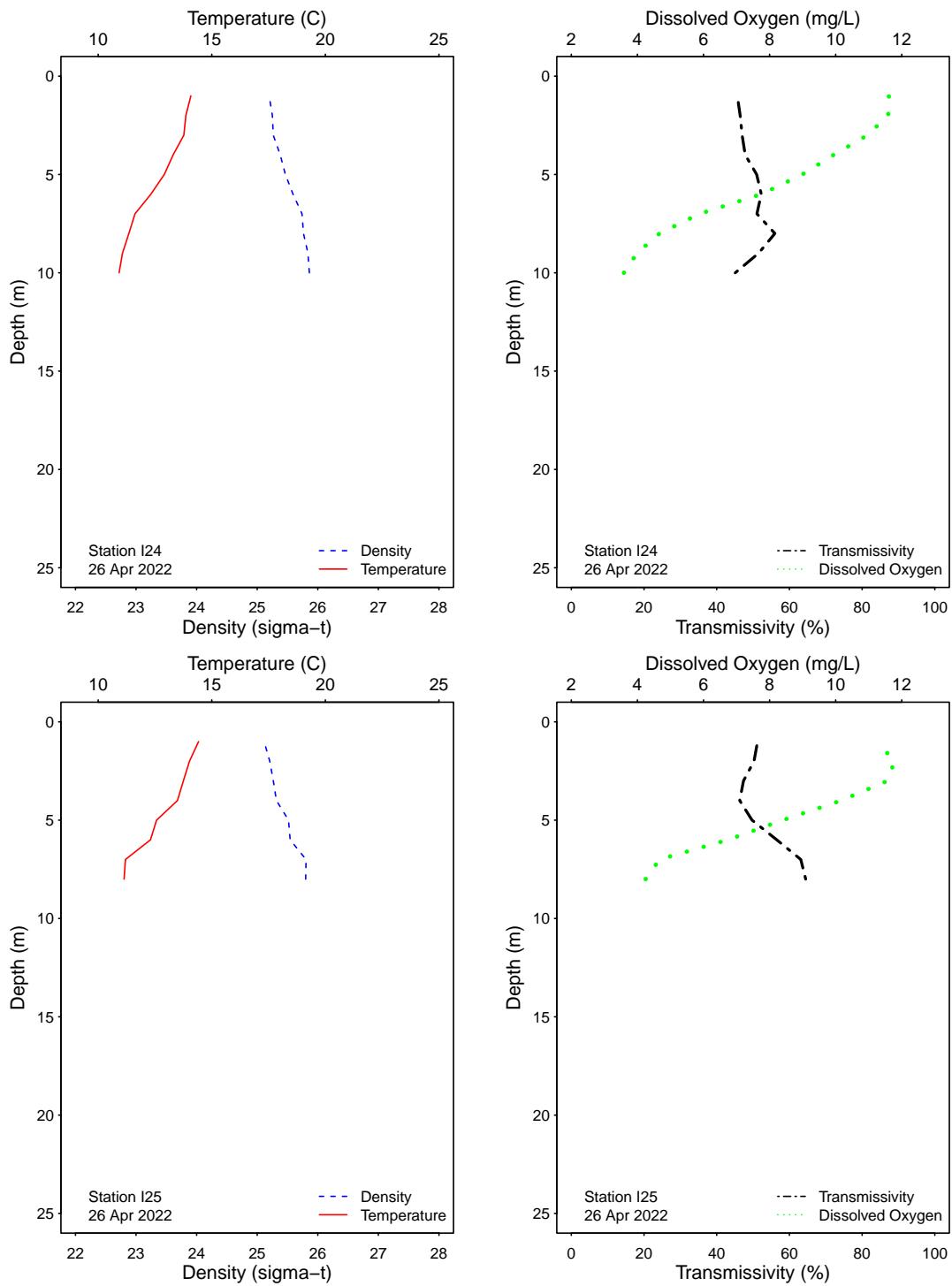


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

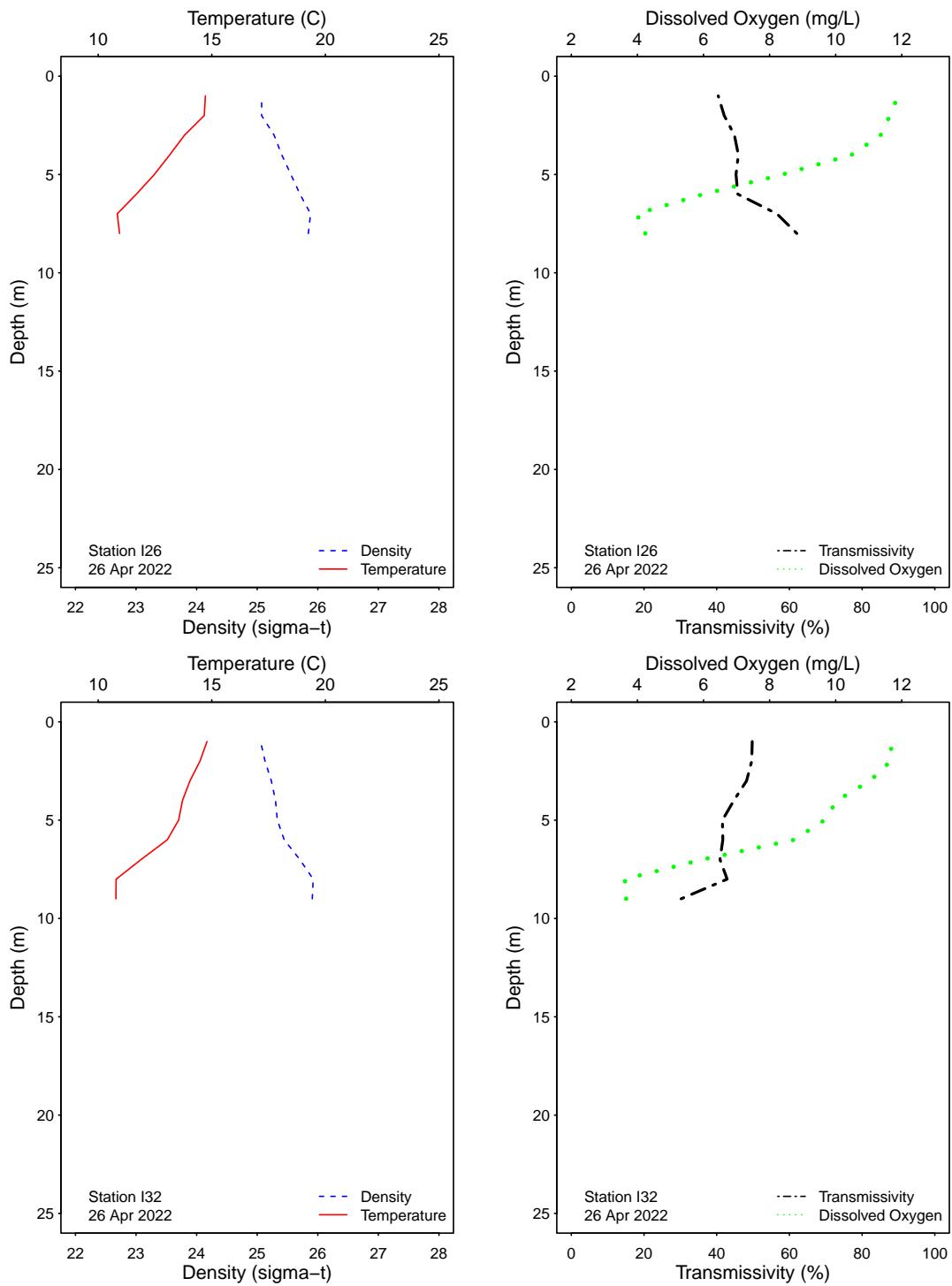


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

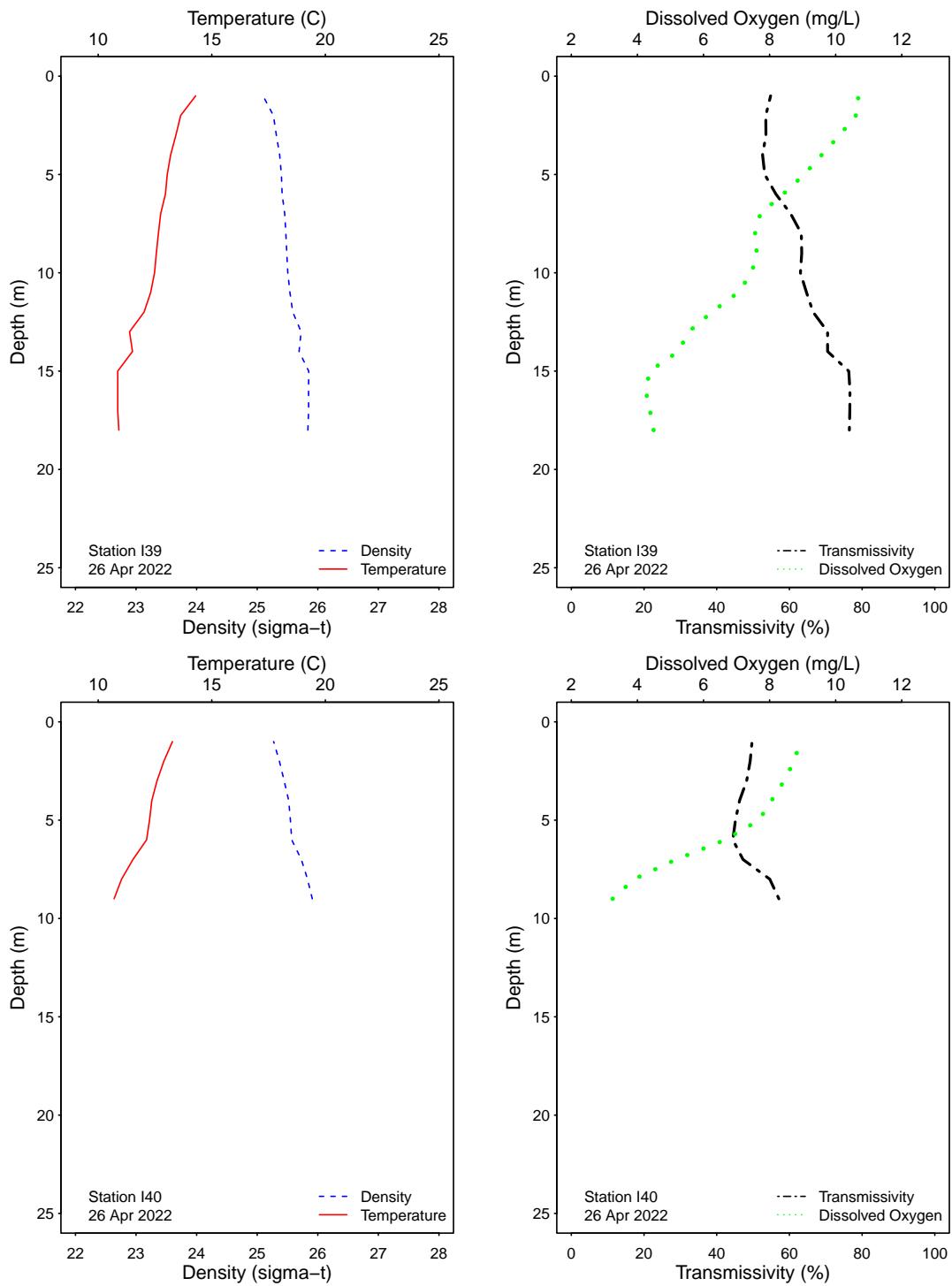


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

APPENDIX A

Quality Assurance

Table A.1

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

Station	Date	Depth	Analyst	Procedure	Total	Fecal	Enter
I19	05 Apr 2022	6	BS	LAB DUPLICATE	9600	4800	780
I19	13 Apr 2022	6	JF	LAB DUPLICATE	20e	<2	4e
I19	19 Apr 2022	6	HF	LAB DUPLICATE	2e	<2	20e
I19	26 Apr 2022	6	CRE	LAB DUPLICATE	6800	700	6e
I40	05 Apr 2022	6	BS	LAB DUPLICATE	260e	36e	24e
I40	13 Apr 2022	6	JF	LAB DUPLICATE	<20	<2	<2
I40	19 Apr 2022	6	HF	LAB DUPLICATE	<20	<2	4e
I40	26 Apr 2022	6	CRE	LAB DUPLICATE	14000	1000	<2
S12	05 Apr 2022		JF	FIELD DUPLICATE	2e	<2	<2
S12	05 Apr 2022		JF	LAB DUPLICATE	<2	<2	<2
S12	12 Apr 2022		CRE	FIELD DUPLICATE	<2	<2	<2
S12	12 Apr 2022		CRE	LAB DUPLICATE	20e	4e	2e
S12	19 Apr 2022		HF	FIELD DUPLICATE	<2	<2	<2
S12	19 Apr 2022		HF	LAB DUPLICATE	<2	<2	<2
S12	26 Apr 2022		KA	FIELD DUPLICATE	<2	<2	<2
S12	26 Apr 2022		KA	LAB DUPLICATE	<2	<2	<2

ns = not sampled

ND = no data

