



SOUTH BAY OCEAN OUTFALL MONTHLY RECEIVING WATERS MONITORING REPORT

SOUTH BAY WATER RECLAMATION PLANT

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

JULY 2021

Environmental Monitoring and Technical Services
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The City of
SAN DIEGO
Public Utilities Department

Environmental Monitoring & Technical Services Division

August 31, 2021

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

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

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

Sincerely,



Peter S. Vroom, Ph.D., Deputy Director
Public Utilities 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 ≥ 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 2021 Quality Assurance Report, which will be completed in March 2022.

SUMMARY OF RESULTS

➤ Shoreline Water Quality Sampling

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

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

- 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 July 6, 12, 21, and 26.
- During July, all seven kelp stations were in compliance with 2019 Ocean Plan water contact standards.
- Water column temperatures ranged from 12.41 to 21.33°C. The difference between surface and bottom waters ranged from 0.23 to 8.08°C.
- Concentrations of chlorophyll *a* ranged from 0.51 to 9.28 µg/L at the kelp bed stations.
- Nothing of sewage origin was observed at any of these kelp stations.

➤ **Offshore Water Quality Sampling**

- Quarterly sampling was not conducted during July at the offshore stations. The next quarterly sampling is scheduled for August 2021.



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 Jul 2021	14	8	4	2	3	6	8	5
02 Jul 2021	14	8	4	2	3	6	8	5
03 Jul 2021	14	8	4	2	3	6	8	5
04 Jul 2021	14	8	4	2	3	6	8	5
05 Jul 2021	14	8	4	2	3	6	8	5
06 Jul 2021	9	6	4	3	3	5	6	7
07 Jul 2021	9	6	4	3	3	5	6	7
08 Jul 2021	8	3	2	4	3	3	3	5
09 Jul 2021	8	3	2	4	3	3	3	5
10 Jul 2021	8	3	2	4	3	3	3	5
11 Jul 2021	8	3	2	4	3	3	3	5
12 Jul 2021	8	3	2	4	3	3	3	5
13 Jul 2021	9	5	2	3	4	3	3	4
14 Jul 2021	9	5	2	3	4	3	3	4
15 Jul 2021	13	4	2	4	5	4	3	5
16 Jul 2021	13	4	2	4	5	4	3	5
17 Jul 2021	13	4	2	4	5	4	3	5
18 Jul 2021	13	4	2	4	5	4	3	5
19 Jul 2021	13	4	2	4	5	4	3	5
20 Jul 2021	13	3	2	3	4	4	3	5
21 Jul 2021	13	3	2	3	4	4	3	5
22 Jul 2021	15	4	2	4	4	4	3	4
23 Jul 2021	15	4	2	4	4	4	3	4
24 Jul 2021	15	4	2	4	4	4	3	4
25 Jul 2021	15	4	2	4	4	4	3	4
26 Jul 2021	15	4	2	4	4	4	3	4
27 Jul 2021	15	3	3	3	5	5	3	9
28 Jul 2021	15	3	3	3	5	5	3	9
29 Jul 2021	9	4	2	4	5	5	4	13
30 Jul 2021	9	4	2	4	5	5	4	13
31 Jul 2021	9	4	2	4	5	5	4	13

* Geometric mean calculated using n<5

Table 2.2

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

Date	S4	S5	S6	S8	S9	S10	S11	S12
06 Jul 2021	IC	IC	IC	IC	IC	IC	IC	IC
13 Jul 2021	IC	IC	IC	IC	IC	IC	IC	IC
20 Jul 2021	IC	IC	IC	IC	IC	IC	IC	IC
27 Jul 2021	IC	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 2.3

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

Date	S4	S5	S6	S8	S9	S10	S11	S12
01 Jul 2021	6	7	4	3	4	6	6	4
02 Jul 2021	6	7	4	3	4	6	6	4
03 Jul 2021	6	7	4	3	4	6	6	4
04 Jul 2021	6	7	4	3	4	6	6	4
05 Jul 2021	6	7	4	3	4	6	6	4
06 Jul 2021	5	7	4	2	4	6	6	3
07 Jul 2021	5	7	4	2	4	6	6	3
08 Jul 2021	5	7	4	2	4	6	6	3
09 Jul 2021	5	7	4	2	4	6	6	3
10 Jul 2021	5	7	4	2	4	6	6	3
11 Jul 2021	5	7	4	2	4	6	6	3
12 Jul 2021	5	7	4	2	4	6	6	3
13 Jul 2021	9	11	7	2	5	9	9	3
14 Jul 2021	9	11	7	2	5	9	9	3
15 Jul 2021	9	11	7	2	5	9	9	3
16 Jul 2021	9	11	7	2	5	9	9	3
17 Jul 2021	9	11	7	2	5	9	9	3
18 Jul 2021	9	11	7	2	5	9	9	3
19 Jul 2021	9	11	7	2	5	9	9	3
20 Jul 2021	6	6	5	2	5	5	5	3
21 Jul 2021	6	6	5	2	5	5	5	3
22 Jul 2021	6	7	5	2	5	5	5	3
23 Jul 2021	6	7	5	2	5	5	5	3
24 Jul 2021	6	7	5	2	5	5	5	3
25 Jul 2021	6	7	5	2	5	5	5	3
26 Jul 2021	6	7	5	2	5	5	5	3
27 Jul 2021	7	7	5	2	6	6	5	4
28 Jul 2021	7	7	5	2	6	6	5	4
29 Jul 2021	7	7	5	2	6	6	5	4
30 Jul 2021	7	7	5	2	6	6	5	4
31 Jul 2021	7	7	5	2	6	6	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
July	IC	E	IC	IC	IC	IC	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 Jul 2021	170	200	110	20	110	20	20	20
02 Jul 2021	170	200	110	20	110	20	20	20
03 Jul 2021	170	200	110	20	110	20	20	20
04 Jul 2021	170	200	110	20	110	20	20	20
05 Jul 2021	170	200	110	20	110	20	20	20
06 Jul 2021	140	200	20	20	200	20	20	20
07 Jul 2021	140	200	20	20	200	20	20	20
08 Jul 2021	80	110	20	20	110	20	20	20
09 Jul 2021	80	110	20	20	110	20	20	20
10 Jul 2021	80	110	20	20	110	20	20	20
11 Jul 2021	80	110	20	20	110	20	20	20
12 Jul 2021	80	110	20	20	110	20	20	20
13 Jul 2021	140	200	20	20	200	20	20	20
14 Jul 2021	140	200	20	20	200	20	20	20
15 Jul 2021	170	110	110	20	200	20	20	20
16 Jul 2021	170	110	110	20	200	20	20	20
17 Jul 2021	170	110	110	20	200	20	20	20
18 Jul 2021	170	110	110	20	200	20	20	20
19 Jul 2021	170	110	110	20	200	20	20	20
20 Jul 2021	140	20	20	20	200	20	20	20
21 Jul 2021	140	20	20	20	200	20	20	20
22 Jul 2021	110	110	110	20	110	20	20	20
23 Jul 2021	110	110	110	20	110	20	20	20
24 Jul 2021	110	110	110	20	110	20	20	20
25 Jul 2021	110	110	110	20	110	20	20	20
26 Jul 2021	110	110	110	20	110	20	20	20
27 Jul 2021	120	40	80	20	200	20	20	20
28 Jul 2021	120	40	80	20	200	20	20	20
29 Jul 2021	70	30	50	20	200	60	80	20
30 Jul 2021	70	30	50	20	200	60	80	20
31 Jul 2021	70	30	50	20	200	60	80	20

* 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
July	E	IC	IC	IC	E	IC	IC	E

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 2.7

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

Station	Date	Time	Total	Fecal	Entero
S0	06 Jul 2021	950	16e	2e	2e
S0	13 Jul 2021	1145	ND	ND	ND
S0	20 Jul 2021	1030	5800	900	680
S0	27 Jul 2021	1105	4200	1200e	42
S2	06 Jul 2021	854	28e	6e	<2
S2	13 Jul 2021	1220	ND	ND	ND
S2	20 Jul 2021	940	<20	<2	<2
S2	27 Jul 2021	1030	80e	10e	6e
S3	06 Jul 2021	835	4e	<2	<2
S3	13 Jul 2021	1245	ND	ND	ND
S3	20 Jul 2021	925	20e	<2	<20
S3	27 Jul 2021	1005	40e	8e	4e
S4	06 Jul 2021	1048	<2	<2	2e
S4	13 Jul 2021	945	600e	18e	50
S4	20 Jul 2021	1133	20e	12e	6e
S4	27 Jul 2021	848	120e	14e	12e
S5	06 Jul 2021	906	<2	<2	<2
S5	13 Jul 2021	810	200e	30e	120e
S5	20 Jul 2021	1013	<20	<2	<2
S5	27 Jul 2021	944	40e	2e	6e
S6	06 Jul 2021	932	<20	<2	<2
S6	13 Jul 2021	832	200e	<2	80e
S6	20 Jul 2021	1042	<20	<2	<2
S6	27 Jul 2021	1011	80e	4e	<2
S8	06 Jul 2021	809	<20	<20	<2
S8	13 Jul 2021	1059	<20	<2	<2
S8	20 Jul 2021	835	<200	<2	<2
S8	27 Jul 2021	1059	<20	<2	<2
S9	06 Jul 2021	746	<200	<2	2e
S9	13 Jul 2021	1118	<200	<20	50
S9	20 Jul 2021	807	<20	<2	2e
S9	27 Jul 2021	1131	600e	10e	12e
S10	06 Jul 2021	1038	<20	<2	<2
S10	13 Jul 2021	935	<200	8e	58
S10	20 Jul 2021	1121	<20	4e	<2
S10	27 Jul 2021	906	100e	8e	12e
S11	06 Jul 2021	924	<20	<2	<2
S11	13 Jul 2021	825	140e	8e	64
S11	20 Jul 2021	1030	<20	2e	<2
S11	27 Jul 2021	958	<200	8e	2e
S12	06 Jul 2021	834	<20	<20	<2
S12	13 Jul 2021	1143	<20	<2	<2
S12	20 Jul 2021	944	<20	4e	2e

Station	Date	Time	Total	Fecal	Enter
S12	27 Jul 2021	1034	420	180e	16e

ns = not sampled

ND = no data

Comments

Station	Date	Depth	Parameter	Comments
S0	13 Jul 2021			Plates read too early
S2	13 Jul 2021			Plates read too early
S3	13 Jul 2021			Plates read too early

Table 2.8

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

Station	Date	Parameter	Value
S0	06 Jul 2021	Arrive Time	950
S0	06 Jul 2021	Weather	Clear
S0	06 Jul 2021	Wind Speed (kts)	5.2
S0	06 Jul 2021	Wind Dir	NE
S0	06 Jul 2021	Animal Life	7 Seabirds
S0	06 Jul 2021	Floatables	None
S0	06 Jul 2021	Water Color	Green
S0	06 Jul 2021	Current Direction	N
S0	06 Jul 2021	Water Temp (C)	18
S0	06 Jul 2021	Wave Height Low (ft)	3
S0	06 Jul 2021	High Tide (ft)	3.31
S0	06 Jul 2021	High Tide Time	844
S0	06 Jul 2021	Low Tide (ft)	0.17
S0	06 Jul 2021	Low Tide Time	226
S0	06 Jul 2021	Comments	Water clear; 0.5 L/sec water flowing from storm drain; Kelp; 2 Persons
S0	13 Jul 2021	Arrive Time	1145
S0	13 Jul 2021	Weather	Cloudy
S0	13 Jul 2021	Wind Speed (kts)	3.4
S0	13 Jul 2021	Wind Dir	S
S0	13 Jul 2021	Animal Life	15 Shorebirds
S0	13 Jul 2021	Floatables	None
S0	13 Jul 2021	Water Color	Green
S0	13 Jul 2021	Current Direction	N
S0	13 Jul 2021	Water Temp (C)	15
S0	13 Jul 2021	Wave Height Low (ft)	3
S0	13 Jul 2021	High Tide (ft)	3.86
S0	13 Jul 2021	High Tide Time	1255
S0	13 Jul 2021	Low Tide (ft)	-0.41
S0	13 Jul 2021	Low Tide Time	623
S0	13 Jul 2021	Comments	Water turbid; Kelp; 2.0 L/sec water flowing from storm drain
S0	20 Jul 2021	Arrive Time	1030
S0	20 Jul 2021	Weather	Sunny
S0	20 Jul 2021	Wind Speed (kts)	6
S0	20 Jul 2021	Wind Dir	N
S0	20 Jul 2021	Animal Life	None
S0	20 Jul 2021	Floatables	None
S0	20 Jul 2021	Water Color	Blue
S0	20 Jul 2021	Current Direction	N
S0	20 Jul 2021	Water Temp (C)	17
S0	20 Jul 2021	Wave Height Low (ft)	6
S0	20 Jul 2021	High Tide (ft)	3.4
S0	20 Jul 2021	High Tide Time	737
S0	20 Jul 2021	Low Tide (ft)	-0.16
S0	20 Jul 2021	Low Tide Time	123
S0	20 Jul 2021	Comments	Water clear; Kelp; 3 Persons; 1.0 L/sec water flowing from storm drain
S0	27 Jul 2021	Arrive Time	1105
S0	27 Jul 2021	Weather	Clear
S0	27 Jul 2021	Wind Speed (kts)	2.1
S0	27 Jul 2021	Wind Dir	N
S0	27 Jul 2021	Animal Life	10 Seabirds
S0	27 Jul 2021	Floatables	None

Station	Date	Parameter	Value
S0	27 Jul 2021	Water Color	Green
S0	27 Jul 2021	Current Direction	N
S0	27 Jul 2021	Water Temp (C)	16
S0	27 Jul 2021	Wave Height Low (ft)	3
S0	27 Jul 2021	High Tide (ft)	4.33
S0	27 Jul 2021	High Tide Time	1248
S0	27 Jul 2021	Low Tide (ft)	-0.34
S0	27 Jul 2021	Low Tide Time	626
S0	27 Jul 2021	Comments	Water NA/ND; Kelp; 3 Persons; 1.0 L/sec water flowing from storm drain
S2	06 Jul 2021	Arrive Time	857
S2	06 Jul 2021	Weather	Cloudy
S2	06 Jul 2021	Wind Speed (kts)	4.1
S2	06 Jul 2021	Wind Dir	NE
S2	06 Jul 2021	Animal Life	10 Seabirds; 3 Dogs
S2	06 Jul 2021	Floatables	None
S2	06 Jul 2021	Water Color	Green
S2	06 Jul 2021	Current Direction	N
S2	06 Jul 2021	Water Temp (C)	18
S2	06 Jul 2021	Wave Height Low (ft)	3
S2	06 Jul 2021	High Tide (ft)	3.31
S2	06 Jul 2021	High Tide Time	844
S2	06 Jul 2021	Low Tide (ft)	0.17
S2	06 Jul 2021	Low Tide Time	226
S2	06 Jul 2021	Comments	Water clear; No flow from storm drain; Kelp; 10 Persons
S2	13 Jul 2021	Arrive Time	1220
S2	13 Jul 2021	Weather	Cloudy
S2	13 Jul 2021	Wind Speed (kts)	2.7
S2	13 Jul 2021	Wind Dir	S
S2	13 Jul 2021	Animal Life	15 Shorebirds; 5 Sunbathers
S2	13 Jul 2021	Floatables	None
S2	13 Jul 2021	Water Color	Green
S2	13 Jul 2021	Current Direction	N
S2	13 Jul 2021	Water Temp (C)	15
S2	13 Jul 2021	Wave Height Low (ft)	3
S2	13 Jul 2021	High Tide (ft)	3.86
S2	13 Jul 2021	High Tide Time	1255
S2	13 Jul 2021	Low Tide (ft)	-0.41
S2	13 Jul 2021	Low Tide Time	623
S2	13 Jul 2021	Comments	Water turbid; Kelp; No flow from storm drain
S2	20 Jul 2021	Arrive Time	945
S2	20 Jul 2021	Weather	Sunny
S2	20 Jul 2021	Wind Speed (kts)	2.4
S2	20 Jul 2021	Wind Dir	N
S2	20 Jul 2021	Animal Life	5 Dogs
S2	20 Jul 2021	Floatables	None
S2	20 Jul 2021	Water Color	Blue
S2	20 Jul 2021	Current Direction	N
S2	20 Jul 2021	Water Temp (C)	15
S2	20 Jul 2021	Wave Height Low (ft)	5
S2	20 Jul 2021	High Tide (ft)	3.4
S2	20 Jul 2021	High Tide Time	737
S2	20 Jul 2021	Low Tide (ft)	-0.16
S2	20 Jul 2021	Low Tide Time	123
S2	20 Jul 2021	Comments	Water clear; Kelp; 3 Persons; No flow from the storm drain
S2	27 Jul 2021	Arrive Time	1030
S2	27 Jul 2021	Weather	Cloudy

Station	Date	Parameter	Value
S2	27 Jul 2021	Wind Speed (kts)	4.2
S2	27 Jul 2021	Wind Dir	N
S2	27 Jul 2021	Animal Life	10 Seabirds; 3 Dolphins
S2	27 Jul 2021	Floatables	None
S2	27 Jul 2021	Water Color	Green
S2	27 Jul 2021	Current Direction	N
S2	27 Jul 2021	Water Temp (C)	16
S2	27 Jul 2021	Wave Height Low (ft)	3
S2	27 Jul 2021	High Tide (ft)	4.33
S2	27 Jul 2021	High Tide Time	1248
S2	27 Jul 2021	Low Tide (ft)	-0.34
S2	27 Jul 2021	Low Tide Time	626
S2	27 Jul 2021	Comments	Water clear; Kelp; 6 Persons; No flow from the storm drain
S3	06 Jul 2021	Arrive Time	835
S3	06 Jul 2021	Weather	Cloudy
S3	06 Jul 2021	Wind Speed (kts)	4.3
S3	06 Jul 2021	Wind Dir	NE
S3	06 Jul 2021	Animal Life	7 Seabirds; 3 Dogs
S3	06 Jul 2021	Floatables	None
S3	06 Jul 2021	Water Color	Green
S3	06 Jul 2021	Current Direction	N
S3	06 Jul 2021	Water Temp (C)	18
S3	06 Jul 2021	Wave Height Low (ft)	3
S3	06 Jul 2021	High Tide (ft)	3.31
S3	06 Jul 2021	High Tide Time	844
S3	06 Jul 2021	Low Tide (ft)	0.17
S3	06 Jul 2021	Low Tide Time	226
S3	06 Jul 2021	Comments	Water clear; 0.5 L/sec water flowing from storm drain; Kelp; 10 Persons
S3	13 Jul 2021	Arrive Time	1245
S3	13 Jul 2021	Weather	Cloudy
S3	13 Jul 2021	Wind Speed (kts)	3.2
S3	13 Jul 2021	Wind Dir	S
S3	13 Jul 2021	Animal Life	5 Shorebirds; 3 Dogs; 6 Sunbathers; 2 Fishermen
S3	13 Jul 2021	Floatables	None
S3	13 Jul 2021	Water Color	Green
S3	13 Jul 2021	Current Direction	N
S3	13 Jul 2021	Water Temp (C)	15
S3	13 Jul 2021	Wave Height Low (ft)	3
S3	13 Jul 2021	High Tide (ft)	3.86
S3	13 Jul 2021	High Tide Time	1255
S3	13 Jul 2021	Low Tide (ft)	-0.41
S3	13 Jul 2021	Low Tide Time	623
S3	13 Jul 2021	Comments	Water turbid; Kelp; No flow from storm drain
S3	20 Jul 2021	Arrive Time	925
S3	20 Jul 2021	Weather	Sunny
S3	20 Jul 2021	Wind Speed (kts)	2
S3	20 Jul 2021	Wind Dir	N
S3	20 Jul 2021	Animal Life	15 Seabirds
S3	20 Jul 2021	Floatables	None
S3	20 Jul 2021	Water Color	Blue
S3	20 Jul 2021	Current Direction	N
S3	20 Jul 2021	Water Temp (C)	16
S3	20 Jul 2021	Wave Height Low (ft)	3
S3	20 Jul 2021	High Tide (ft)	3.4
S3	20 Jul 2021	High Tide Time	737
S3	20 Jul 2021	Low Tide (ft)	-0.16
S3	20 Jul 2021	Low Tide Time	123

Station	Date	Parameter	Value
S3	20 Jul 2021	Comments	Water clear; Kelp; 6 Persons; No flow from the storm drain
S3	27 Jul 2021	Arrive Time	1005
S3	27 Jul 2021	Weather	Cloudy
S3	27 Jul 2021	Wind Speed (kts)	5
S3	27 Jul 2021	Wind Dir	N
S3	27 Jul 2021	Animal Life	10 Seabirds
S3	27 Jul 2021	Floatables	None
S3	27 Jul 2021	Water Color	Green
S3	27 Jul 2021	Current Direction	N
S3	27 Jul 2021	Water Temp (C)	16
S3	27 Jul 2021	Wave Height Low (ft)	3
S3	27 Jul 2021	High Tide (ft)	4.33
S3	27 Jul 2021	High Tide Time	1248
S3	27 Jul 2021	Low Tide (ft)	-0.34
S3	27 Jul 2021	Low Tide Time	626
S3	27 Jul 2021	Comments	Water clear; Kelp; 15 Persons
S4	06 Jul 2021	Arrive Time	1048
S4	06 Jul 2021	Weather	Sunny
S4	06 Jul 2021	Wind Speed (kts)	8.3
S4	06 Jul 2021	Wind Dir	W
S4	06 Jul 2021	Animal Life	2 Godwits
S4	06 Jul 2021	Floatables	Foam
S4	06 Jul 2021	Water Color	Green
S4	06 Jul 2021	Current Direction	N
S4	06 Jul 2021	Water Temp (C)	19.2
S4	06 Jul 2021	Wave Height Low (ft)	4
S4	06 Jul 2021	High Tide (ft)	3.31
S4	06 Jul 2021	High Tide Time	844
S4	06 Jul 2021	Low Tide (ft)	0.17
S4	06 Jul 2021	Low Tide Time	226
S4	06 Jul 2021	Comments	Water clear; Kelp; Seagrass; Trash-2
S4	13 Jul 2021	Arrive Time	945
S4	13 Jul 2021	Weather	Cloudy
S4	13 Jul 2021	Wind Speed (kts)	8.5
S4	13 Jul 2021	Wind Dir	SW
S4	13 Jul 2021	Animal Life	20 Godwits; 1 Seagull; 1 Cormorant
S4	13 Jul 2021	Floatables	Foam
S4	13 Jul 2021	Water Color	Green
S4	13 Jul 2021	Current Direction	N
S4	13 Jul 2021	Water Temp (C)	22.7
S4	13 Jul 2021	Wave Height Low (ft)	2
S4	13 Jul 2021	High Tide (ft)	3.86
S4	13 Jul 2021	High Tide Time	1255
S4	13 Jul 2021	Low Tide (ft)	-0.41
S4	13 Jul 2021	Low Tide Time	623
S4	13 Jul 2021	Comments	Water clear; Kelp; Seagrass
S4	20 Jul 2021	Arrive Time	1133
S4	20 Jul 2021	Weather	Sunny
S4	20 Jul 2021	Wind Speed (kts)	5.4
S4	20 Jul 2021	Wind Dir	W
S4	20 Jul 2021	Animal Life	None
S4	20 Jul 2021	Floatables	None
S4	20 Jul 2021	Water Color	Green
S4	20 Jul 2021	Current Direction	N
S4	20 Jul 2021	Water Temp (C)	21.8
S4	20 Jul 2021	Wave Height Low (ft)	2
S4	20 Jul 2021	High Tide (ft)	3.4

Station	Date	Parameter	Value
S4	20 Jul 2021	High Tide Time	737
S4	20 Jul 2021	Low Tide (ft)	-0.16
S4	20 Jul 2021	Low Tide Time	123
S4	20 Jul 2021	Comments	Water clear; Kelp; Seagrass; Trash-1
S4	27 Jul 2021	Arrive Time	848
S4	27 Jul 2021	Weather	Overcast
S4	27 Jul 2021	Wind Speed (kts)	4
S4	27 Jul 2021	Wind Dir	NW
S4	27 Jul 2021	Animal Life	310 Birds; 12 Seagulls
S4	27 Jul 2021	Floatables	Foam
S4	27 Jul 2021	Water Color	Green
S4	27 Jul 2021	Current Direction	S
S4	27 Jul 2021	Water Temp (C)	21.2
S4	27 Jul 2021	Wave Height Low (ft)	1
S4	27 Jul 2021	High Tide (ft)	4.33
S4	27 Jul 2021	High Tide Time	1248
S4	27 Jul 2021	Low Tide (ft)	-0.34
S4	27 Jul 2021	Low Tide Time	626
S4	27 Jul 2021	Comments	Water clear; Kelp; Seagrass; Trash-1; 1 Person
S5	06 Jul 2021	Arrive Time	906
S5	06 Jul 2021	Weather	Sunny
S5	06 Jul 2021	Wind Speed (kts)	3.8
S5	06 Jul 2021	Wind Dir	NW
S5	06 Jul 2021	Animal Life	3 Godwits
S5	06 Jul 2021	Floatables	None
S5	06 Jul 2021	Water Color	Green
S5	06 Jul 2021	Current Direction	S
S5	06 Jul 2021	Water Temp (C)	20.3
S5	06 Jul 2021	Wave Height Low (ft)	1
S5	06 Jul 2021	High Tide (ft)	3.31
S5	06 Jul 2021	High Tide Time	844
S5	06 Jul 2021	Low Tide (ft)	0.17
S5	06 Jul 2021	Low Tide Time	226
S5	06 Jul 2021	Comments	Water clear; Kelp; Seagrass; Trash-1; 1 Walker
S5	13 Jul 2021	Arrive Time	810
S5	13 Jul 2021	Weather	Cloudy
S5	13 Jul 2021	Wind Speed (kts)	3.4
S5	13 Jul 2021	Wind Dir	W
S5	13 Jul 2021	Animal Life	3 Persons; 6 Terns; 3 Godwits; 1 Egret; 2 Pelicans; 25 Seagulls
S5	13 Jul 2021	Floatables	Foam
S5	13 Jul 2021	Water Color	Brown
S5	13 Jul 2021	Current Direction	S
S5	13 Jul 2021	Water Temp (C)	23.1
S5	13 Jul 2021	Wave Height Low (ft)	2
S5	13 Jul 2021	High Tide (ft)	3.86
S5	13 Jul 2021	High Tide Time	1255
S5	13 Jul 2021	Low Tide (ft)	-0.41
S5	13 Jul 2021	Low Tide Time	623
S5	13 Jul 2021	Comments	Water turbid; Kelp; Seagrass; Sewage-like odor
S5	20 Jul 2021	Arrive Time	1013
S5	20 Jul 2021	Weather	Sunny
S5	20 Jul 2021	Wind Speed (kts)	6.6
S5	20 Jul 2021	Wind Dir	NW
S5	20 Jul 2021	Animal Life	1 Persons
S5	20 Jul 2021	Floatables	None
S5	20 Jul 2021	Water Color	Green

Station	Date	Parameter	Value
S5	20 Jul 2021	Current Direction	N
S5	20 Jul 2021	Water Temp (C)	22.4
S5	20 Jul 2021	Wave Height Low (ft)	1
S5	20 Jul 2021	High Tide (ft)	3.4
S5	20 Jul 2021	High Tide Time	737
S5	20 Jul 2021	Low Tide (ft)	-0.16
S5	20 Jul 2021	Low Tide Time	123
S5	20 Jul 2021	Comments	Water clear; Kelp; Seagrass; Trash-1
S5	27 Jul 2021	Arrive Time	944
S5	27 Jul 2021	Weather	Overcast
S5	27 Jul 2021	Wind Speed (kts)	4.6
S5	27 Jul 2021	Wind Dir	NW
S5	27 Jul 2021	Animal Life	1 Bird
S5	27 Jul 2021	Floatables	None
S5	27 Jul 2021	Water Color	Green
S5	27 Jul 2021	Current Direction	S
S5	27 Jul 2021	Water Temp (C)	21.2
S5	27 Jul 2021	Wave Height Low (ft)	2
S5	27 Jul 2021	High Tide (ft)	4.33
S5	27 Jul 2021	High Tide Time	1248
S5	27 Jul 2021	Low Tide (ft)	-0.34
S5	27 Jul 2021	Low Tide Time	626
S5	27 Jul 2021	Comments	Water clear; Seagrass; Algae; Trash-1
S6	06 Jul 2021	Arrive Time	932
S6	06 Jul 2021	Weather	Sunny
S6	06 Jul 2021	Wind Speed (kts)	5
S6	06 Jul 2021	Wind Dir	W
S6	06 Jul 2021	Animal Life	8 Godwits
S6	06 Jul 2021	Floatables	Foam
S6	06 Jul 2021	Water Color	Green
S6	06 Jul 2021	Current Direction	N
S6	06 Jul 2021	Water Temp (C)	19.7
S6	06 Jul 2021	Wave Height Low (ft)	3
S6	06 Jul 2021	High Tide (ft)	3.31
S6	06 Jul 2021	High Tide Time	844
S6	06 Jul 2021	Low Tide (ft)	0.17
S6	06 Jul 2021	Low Tide Time	226
S6	06 Jul 2021	Comments	Water clear; Kelp; Seagrass; Trash-1; 1 Person; 2 Surfers
S6	13 Jul 2021	Arrive Time	832
S6	13 Jul 2021	Weather	Cloudy
S6	13 Jul 2021	Wind Speed (kts)	3.1
S6	13 Jul 2021	Wind Dir	W
S6	13 Jul 2021	Animal Life	2 Godwits; 1 Walker
S6	13 Jul 2021	Floatables	Foam
S6	13 Jul 2021	Water Color	Green
S6	13 Jul 2021	Current Direction	N
S6	13 Jul 2021	Water Temp (C)	22.6
S6	13 Jul 2021	Wave Height Low (ft)	2
S6	13 Jul 2021	High Tide (ft)	3.86
S6	13 Jul 2021	High Tide Time	1255
S6	13 Jul 2021	Low Tide (ft)	-0.41
S6	13 Jul 2021	Low Tide Time	623
S6	13 Jul 2021	Comments	Water turbid; Kelp; Seagrass
S6	20 Jul 2021	Arrive Time	1042
S6	20 Jul 2021	Weather	Sunny
S6	20 Jul 2021	Wind Speed (kts)	8.5
S6	20 Jul 2021	Wind Dir	W

Station	Date	Parameter	Value
S6	20 Jul 2021	Animal Life	8 Persons; 4 Birds
S6	20 Jul 2021	Floatables	None
S6	20 Jul 2021	Water Color	Green
S6	20 Jul 2021	Current Direction	N
S6	20 Jul 2021	Water Temp (C)	21.5
S6	20 Jul 2021	Wave Height Low (ft)	1
S6	20 Jul 2021	High Tide (ft)	3.4
S6	20 Jul 2021	High Tide Time	737
S6	20 Jul 2021	Low Tide (ft)	-0.16
S6	20 Jul 2021	Low Tide Time	123
S6	20 Jul 2021	Comments	Water clear; Kelp; Seagrass; Trash-1
S6	27 Jul 2021	Arrive Time	1011
S6	27 Jul 2021	Weather	Overcast
S6	27 Jul 2021	Wind Speed (kts)	5.8
S6	27 Jul 2021	Wind Dir	NW
S6	27 Jul 2021	Animal Life	7 Birds
S6	27 Jul 2021	Floatables	Foam; Film
S6	27 Jul 2021	Water Color	Green
S6	27 Jul 2021	Current Direction	S
S6	27 Jul 2021	Water Temp (C)	20.3
S6	27 Jul 2021	Wave Height Low (ft)	2
S6	27 Jul 2021	High Tide (ft)	4.33
S6	27 Jul 2021	High Tide Time	1248
S6	27 Jul 2021	Low Tide (ft)	-0.34
S6	27 Jul 2021	Low Tide Time	626
S6	27 Jul 2021	Comments	Water clear; Kelp; Seagrass; Algae; Trash-1; 1 Person
S8	06 Jul 2021	Arrive Time	809
S8	06 Jul 2021	Weather	Cloudy
S8	06 Jul 2021	Wind Speed (kts)	5.6
S8	06 Jul 2021	Wind Dir	NW
S8	06 Jul 2021	Animal Life	None
S8	06 Jul 2021	Floatables	Foam
S8	06 Jul 2021	Water Color	Green
S8	06 Jul 2021	Current Direction	S
S8	06 Jul 2021	Water Temp (C)	20
S8	06 Jul 2021	Wave Height Low (ft)	2
S8	06 Jul 2021	High Tide (ft)	3.31
S8	06 Jul 2021	High Tide Time	844
S8	06 Jul 2021	Low Tide (ft)	0.17
S8	06 Jul 2021	Low Tide Time	226
S8	06 Jul 2021	Comments	Water clear; Kelp; Seagrass; Debris; Trash-1; 1 Person
S8	13 Jul 2021	Arrive Time	1059
S8	13 Jul 2021	Weather	Cloudy
S8	13 Jul 2021	Wind Speed (kts)	8.9
S8	13 Jul 2021	Wind Dir	W
S8	13 Jul 2021	Animal Life	1 Godwit; 2 Seagulls; 2 Persons
S8	13 Jul 2021	Floatables	None
S8	13 Jul 2021	Water Color	Green
S8	13 Jul 2021	Current Direction	N
S8	13 Jul 2021	Water Temp (C)	24.2
S8	13 Jul 2021	Wave Height Low (ft)	1
S8	13 Jul 2021	High Tide (ft)	3.86
S8	13 Jul 2021	High Tide Time	1255
S8	13 Jul 2021	Low Tide (ft)	-0.41
S8	13 Jul 2021	Low Tide Time	623
S8	13 Jul 2021	Comments	Water turbid; Kelp; Seagrass
S8	20 Jul 2021	Arrive Time	835

Station	Date	Parameter	Value
S8	20 Jul 2021	Weather	Sunny
S8	20 Jul 2021	Wind Speed (kts)	3.4
S8	20 Jul 2021	Wind Dir	W
S8	20 Jul 2021	Animal Life	12 Birds; 7 Dolphins; 4 Sea lions; 19 Persons
S8	20 Jul 2021	Floatables	None
S8	20 Jul 2021	Water Color	Green
S8	20 Jul 2021	Current Direction	N
S8	20 Jul 2021	Water Temp (C)	23.2
S8	20 Jul 2021	Wave Height Low (ft)	1
S8	20 Jul 2021	High Tide (ft)	3.4
S8	20 Jul 2021	High Tide Time	737
S8	20 Jul 2021	Low Tide (ft)	-0.16
S8	20 Jul 2021	Low Tide Time	123
S8	20 Jul 2021	Comments	Water clear; Kelp; Seagrass; Trash-1
S8	27 Jul 2021	Arrive Time	1059
S8	27 Jul 2021	Weather	Hazy
S8	27 Jul 2021	Wind Speed (kts)	7.5
S8	27 Jul 2021	Wind Dir	NW
S8	27 Jul 2021	Animal Life	4 Seagulls
S8	27 Jul 2021	Floatables	None
S8	27 Jul 2021	Water Color	Green
S8	27 Jul 2021	Current Direction	S
S8	27 Jul 2021	Water Temp (C)	20.3
S8	27 Jul 2021	Wave Height Low (ft)	2
S8	27 Jul 2021	High Tide (ft)	4.33
S8	27 Jul 2021	High Tide Time	1248
S8	27 Jul 2021	Low Tide (ft)	-0.34
S8	27 Jul 2021	Low Tide Time	626
S8	27 Jul 2021	Comments	Water clear; Kelp; Seagrass; Trash-1
S9	06 Jul 2021	Arrive Time	746
S9	06 Jul 2021	Weather	Cloudy
S9	06 Jul 2021	Wind Speed (kts)	4.6
S9	06 Jul 2021	Wind Dir	NW
S9	06 Jul 2021	Animal Life	None
S9	06 Jul 2021	Floatables	None
S9	06 Jul 2021	Water Color	Green
S9	06 Jul 2021	Current Direction	S
S9	06 Jul 2021	Water Temp (C)	18.6
S9	06 Jul 2021	Wave Height Low (ft)	1
S9	06 Jul 2021	High Tide (ft)	3.31
S9	06 Jul 2021	High Tide Time	844
S9	06 Jul 2021	Low Tide (ft)	0.17
S9	06 Jul 2021	Low Tide Time	226
S9	06 Jul 2021	Comments	Water clear; Kelp; Seagrass; Trash-1; 4 Walkers; 2 Joggers
S9	13 Jul 2021	Arrive Time	1118
S9	13 Jul 2021	Weather	Cloudy
S9	13 Jul 2021	Wind Speed (kts)	4.3
S9	13 Jul 2021	Wind Dir	W
S9	13 Jul 2021	Animal Life	6 Persons; 6 Walkers
S9	13 Jul 2021	Floatables	None
S9	13 Jul 2021	Water Color	Green
S9	13 Jul 2021	Current Direction	N
S9	13 Jul 2021	Water Temp (C)	25.6
S9	13 Jul 2021	Wave Height Low (ft)	1
S9	13 Jul 2021	High Tide (ft)	3.86
S9	13 Jul 2021	High Tide Time	1255
S9	13 Jul 2021	Low Tide (ft)	-0.41
S9	13 Jul 2021	Low Tide Time	623

Station	Date	Parameter	Value
S9	13 Jul 2021	Comments	Water turbid; Kelp; Seagrass
S9	20 Jul 2021	Arrive Time	807
S9	20 Jul 2021	Weather	Sunny
S9	20 Jul 2021	Wind Speed (kts)	2.3
S9	20 Jul 2021	Wind Dir	NW
S9	20 Jul 2021	Animal Life	1 Bird; 10 Persons
S9	20 Jul 2021	Floatables	None
S9	20 Jul 2021	Water Color	Green
S9	20 Jul 2021	Current Direction	N
S9	20 Jul 2021	Water Temp (C)	22
S9	20 Jul 2021	Wave Height Low (ft)	1
S9	20 Jul 2021	High Tide (ft)	3.4
S9	20 Jul 2021	High Tide Time	737
S9	20 Jul 2021	Low Tide (ft)	-0.16
S9	20 Jul 2021	Low Tide Time	123
S9	20 Jul 2021	Comments	Water clear; Kelp; Seagrass; Trash-1
S9	27 Jul 2021	Arrive Time	1131
S9	27 Jul 2021	Weather	Hazy
S9	27 Jul 2021	Wind Speed (kts)	7.5
S9	27 Jul 2021	Wind Dir	N
S9	27 Jul 2021	Animal Life	9 Seagulls
S9	27 Jul 2021	Floatables	None
S9	27 Jul 2021	Water Color	Green
S9	27 Jul 2021	Current Direction	S
S9	27 Jul 2021	Water Temp (C)	
S9	27 Jul 2021	Wave Height Low (ft)	1
S9	27 Jul 2021	High Tide (ft)	4.33
S9	27 Jul 2021	High Tide Time	1248
S9	27 Jul 2021	Low Tide (ft)	-0.34
S9	27 Jul 2021	Low Tide Time	626
S9	27 Jul 2021	Comments	Water clear; Kelp; Seagrass; Trash-1; 15 Persons; 16 Surfers; 2 Swimmers
S10	06 Jul 2021	Arrive Time	1038
S10	06 Jul 2021	Weather	Sunny
S10	06 Jul 2021	Wind Speed (kts)	7.3
S10	06 Jul 2021	Wind Dir	W
S10	06 Jul 2021	Animal Life	None
S10	06 Jul 2021	Floatables	Foam; Film
S10	06 Jul 2021	Water Color	Green
S10	06 Jul 2021	Current Direction	N
S10	06 Jul 2021	Water Temp (C)	19.4
S10	06 Jul 2021	Wave Height Low (ft)	3
S10	06 Jul 2021	High Tide (ft)	3.31
S10	06 Jul 2021	High Tide Time	844
S10	06 Jul 2021	Low Tide (ft)	0.17
S10	06 Jul 2021	Low Tide Time	226
S10	06 Jul 2021	Comments	Water clear; Kelp; Seagrass; Trash-2; 2 Persons
S10	13 Jul 2021	Arrive Time	935
S10	13 Jul 2021	Weather	Cloudy
S10	13 Jul 2021	Wind Speed (kts)	5.6
S10	13 Jul 2021	Wind Dir	SW
S10	13 Jul 2021	Animal Life	None
S10	13 Jul 2021	Floatables	Foam
S10	13 Jul 2021	Water Color	Green
S10	13 Jul 2021	Current Direction	N
S10	13 Jul 2021	Water Temp (C)	22.9
S10	13 Jul 2021	Wave Height Low (ft)	1

Station	Date	Parameter	Value
S10	13 Jul 2021	High Tide (ft)	3.86
S10	13 Jul 2021	High Tide Time	1255
S10	13 Jul 2021	Low Tide (ft)	-0.41
S10	13 Jul 2021	Low Tide Time	623
S10	13 Jul 2021	Comments	Water clear; Kelp; Seagrass
S10	20 Jul 2021	Arrive Time	1121
S10	20 Jul 2021	Weather	Sunny
S10	20 Jul 2021	Wind Speed (kts)	6.8
S10	20 Jul 2021	Wind Dir	W
S10	20 Jul 2021	Animal Life	7 Persons; 3 Horses
S10	20 Jul 2021	Floatables	None
S10	20 Jul 2021	Water Color	Green
S10	20 Jul 2021	Current Direction	N
S10	20 Jul 2021	Water Temp (C)	21.8
S10	20 Jul 2021	Wave Height Low (ft)	2
S10	20 Jul 2021	High Tide (ft)	3.4
S10	20 Jul 2021	High Tide Time	737
S10	20 Jul 2021	Low Tide (ft)	-0.16
S10	20 Jul 2021	Low Tide Time	123
S10	20 Jul 2021	Comments	Water clear; Kelp; Seagrass; Trash-2
S10	27 Jul 2021	Arrive Time	906
S10	27 Jul 2021	Weather	Overcast
S10	27 Jul 2021	Wind Speed (kts)	2.7
S10	27 Jul 2021	Wind Dir	NW
S10	27 Jul 2021	Animal Life	4 Birds
S10	27 Jul 2021	Floatables	Foam
S10	27 Jul 2021	Water Color	Green
S10	27 Jul 2021	Current Direction	S
S10	27 Jul 2021	Water Temp (C)	21
S10	27 Jul 2021	Wave Height Low (ft)	2
S10	27 Jul 2021	High Tide (ft)	4.33
S10	27 Jul 2021	High Tide Time	1248
S10	27 Jul 2021	Low Tide (ft)	-0.34
S10	27 Jul 2021	Low Tide Time	626
S10	27 Jul 2021	Comments	Water clear; Kelp; Seagrass; Trash-1
S11	06 Jul 2021	Arrive Time	924
S11	06 Jul 2021	Weather	Sunny
S11	06 Jul 2021	Wind Speed (kts)	5.4
S11	06 Jul 2021	Wind Dir	W
S11	06 Jul 2021	Animal Life	1 Godwit
S11	06 Jul 2021	Floatables	Foam
S11	06 Jul 2021	Water Color	Green
S11	06 Jul 2021	Current Direction	N
S11	06 Jul 2021	Water Temp (C)	19.9
S11	06 Jul 2021	Wave Height Low (ft)	2
S11	06 Jul 2021	High Tide (ft)	3.31
S11	06 Jul 2021	High Tide Time	844
S11	06 Jul 2021	Low Tide (ft)	0.17
S11	06 Jul 2021	Low Tide Time	226
S11	06 Jul 2021	Comments	Water clear; Kelp; Seagrass; Trash-1; 1 Walker; 1 Jogger
S11	13 Jul 2021	Arrive Time	825
S11	13 Jul 2021	Weather	Cloudy
S11	13 Jul 2021	Wind Speed (kts)	3.6
S11	13 Jul 2021	Wind Dir	W
S11	13 Jul 2021	Animal Life	3 Godwits; 1 Walker
S11	13 Jul 2021	Floatables	Foam
S11	13 Jul 2021	Water Color	Green

Station	Date	Parameter	Value
S11	13 Jul 2021	Current Direction	N
S11	13 Jul 2021	Water Temp (C)	22.8
S11	13 Jul 2021	Wave Height Low (ft)	2
S11	13 Jul 2021	High Tide (ft)	3.86
S11	13 Jul 2021	High Tide Time	1255
S11	13 Jul 2021	Low Tide (ft)	-0.41
S11	13 Jul 2021	Low Tide Time	623
S11	13 Jul 2021	Comments	Water turbid; Kelp; Seagrass
S11	20 Jul 2021	Arrive Time	1030
S11	20 Jul 2021	Weather	Sunny
S11	20 Jul 2021	Wind Speed (kts)	8.9
S11	20 Jul 2021	Wind Dir	NW
S11	20 Jul 2021	Animal Life	3 Persons; 1 Dog
S11	20 Jul 2021	Floatables	None
S11	20 Jul 2021	Water Color	Green
S11	20 Jul 2021	Current Direction	N
S11	20 Jul 2021	Water Temp (C)	22.1
S11	20 Jul 2021	Wave Height Low (ft)	1
S11	20 Jul 2021	High Tide (ft)	3.4
S11	20 Jul 2021	High Tide Time	737
S11	20 Jul 2021	Low Tide (ft)	-0.16
S11	20 Jul 2021	Low Tide Time	123
S11	20 Jul 2021	Comments	Water clear; Kelp; Seagrass; Trash-1
S11	27 Jul 2021	Arrive Time	958
S11	27 Jul 2021	Weather	Overcast
S11	27 Jul 2021	Wind Speed (kts)	4.4
S11	27 Jul 2021	Wind Dir	NW
S11	27 Jul 2021	Animal Life	None
S11	27 Jul 2021	Floatables	Foam; Film
S11	27 Jul 2021	Water Color	Green
S11	27 Jul 2021	Current Direction	N
S11	27 Jul 2021	Water Temp (C)	20.6
S11	27 Jul 2021	Wave Height Low (ft)	3
S11	27 Jul 2021	High Tide (ft)	4.33
S11	27 Jul 2021	High Tide Time	1248
S11	27 Jul 2021	Low Tide (ft)	-0.34
S11	27 Jul 2021	Low Tide Time	626
S11	27 Jul 2021	Comments	Water clear; Seagrass; Trash-1; 2 Persons
S12	06 Jul 2021	Arrive Time	834
S12	06 Jul 2021	Weather	Partly Cloudy
S12	06 Jul 2021	Wind Speed (kts)	2.3
S12	06 Jul 2021	Wind Dir	W
S12	06 Jul 2021	Animal Life	2 Godwits
S12	06 Jul 2021	Floatables	Foam
S12	06 Jul 2021	Water Color	Green
S12	06 Jul 2021	Current Direction	S
S12	06 Jul 2021	Water Temp (C)	19.8
S12	06 Jul 2021	Wave Height Low (ft)	1
S12	06 Jul 2021	High Tide (ft)	3.31
S12	06 Jul 2021	High Tide Time	844
S12	06 Jul 2021	Low Tide (ft)	0.17
S12	06 Jul 2021	Low Tide Time	226
S12	06 Jul 2021	Comments	Water clear; Kelp; Seagrass; Trash-1; 2 Walkers
S12	13 Jul 2021	Arrive Time	1143
S12	13 Jul 2021	Weather	Partly cloudy
S12	13 Jul 2021	Wind Speed (kts)	5.2
S12	13 Jul 2021	Wind Dir	SW

Station	Date	Parameter	Value
S12	13 Jul 2021	Animal Life	12 Persons; 2 Surfers; 1 Walker; 6 Terns
S12	13 Jul 2021	Floatables	Foam
S12	13 Jul 2021	Water Color	Green
S12	13 Jul 2021	Current Direction	N
S12	13 Jul 2021	Water Temp (C)	24.2
S12	13 Jul 2021	Wave Height Low (ft)	3
S12	13 Jul 2021	High Tide (ft)	3.86
S12	13 Jul 2021	High Tide Time	1255
S12	13 Jul 2021	Low Tide (ft)	-0.41
S12	13 Jul 2021	Low Tide Time	623
S12	13 Jul 2021	Comments	Water clear; Kelp; Seagrass
S12	20 Jul 2021	Arrive Time	944
S12	20 Jul 2021	Weather	Sunny
S12	20 Jul 2021	Wind Speed (kts)	6.6
S12	20 Jul 2021	Wind Dir	W
S12	20 Jul 2021	Animal Life	1 Dog; 21 Persons; 2 Swimmers
S12	20 Jul 2021	Floatables	None
S12	20 Jul 2021	Water Color	Green
S12	20 Jul 2021	Current Direction	N
S12	20 Jul 2021	Water Temp (C)	22
S12	20 Jul 2021	Wave Height Low (ft)	1
S12	20 Jul 2021	High Tide (ft)	3.4
S12	20 Jul 2021	High Tide Time	737
S12	20 Jul 2021	Low Tide (ft)	-0.16
S12	20 Jul 2021	Low Tide Time	123
S12	20 Jul 2021	Comments	Water clear; Kelp; Seagrass; Trash-2
S12	27 Jul 2021	Arrive Time	1034
S12	27 Jul 2021	Weather	Overcast
S12	27 Jul 2021	Wind Speed (kts)	4.8
S12	27 Jul 2021	Wind Dir	W
S12	27 Jul 2021	Animal Life	3 Birds
S12	27 Jul 2021	Floatables	None
S12	27 Jul 2021	Water Color	Green
S12	27 Jul 2021	Current Direction	S
S12	27 Jul 2021	Water Temp (C)	20.6
S12	27 Jul 2021	Wave Height Low (ft)	2
S12	27 Jul 2021	High Tide (ft)	4.33
S12	27 Jul 2021	High Tide Time	1248
S12	27 Jul 2021	Low Tide (ft)	-0.34
S12	27 Jul 2021	Low Tide Time	626
S12	27 Jul 2021	Comments	Water clear; Kelp; Seagrass; Trash-1; 19 Persons; 1 Fishermans

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 Jul 2021	3	4	3	4	2	3	4
02 Jul 2021	3	4	3	4	2	3	4
03 Jul 2021	3	4	3	4	2	3	4
04 Jul 2021	3	4	3	4	2	3	4
05 Jul 2021	3	4	3	4	2	3	4
06 Jul 2021	3	4	3	3	2	2	3
07 Jul 2021	3	4	3	3	2	2	3
08 Jul 2021	2	2	2	2	2	2	2
09 Jul 2021	2	2	2	2	2	2	2
10 Jul 2021	2	2	2	2	2	2	2
11 Jul 2021	2	2	2	2	2	2	2
12 Jul 2021	2	2	2	2	2	2	2
13 Jul 2021	2	2	2	2	2	2	2
14 Jul 2021	2	2	2	2	2	2	2
15 Jul 2021	2	2	2	2	2	2	2
16 Jul 2021	2	2	2	2	2	2	2
17 Jul 2021	2	2	2	2	2	2	2
18 Jul 2021	2	2	2	2	2	2	2
19 Jul 2021	2	2	2	2	2	2	2
20 Jul 2021	2	2	2	2	2	2	2
21 Jul 2021	2	2	2	2	2	2	2
22 Jul 2021	2	2	2	2	2	2	2
23 Jul 2021	2	2	2	2	2	2	2
24 Jul 2021	2	2	2	2	2	2	2
25 Jul 2021	2	2	2	2	2	2	2
26 Jul 2021	2	2	2	2	2	2	2
27 Jul 2021	2	2	2	2	2	2	2
28 Jul 2021	2	2	2	2	2	2	2
29 Jul 2021	2	2	2	2	2	2	2
30 Jul 2021	2	2	2	2	2	2	2
31 Jul 2021	2	2	2	2	2	2	2

* 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
06 Jul 2021	IC						
12 Jul 2021	IC						
21 Jul 2021	IC						
26 Jul 2021	IC						

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 3.3

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

Date	I19	I24	I25	I26	I32	I39	I40
01 Jul 2021	4	4	3	3	2	3	3
02 Jul 2021	4	4	3	3	2	3	3
03 Jul 2021	4	4	3	3	2	3	3
04 Jul 2021	4	4	3	3	2	3	3
05 Jul 2021	4	4	3	3	2	3	3
06 Jul 2021	3	3	3	3	2	3	3
07 Jul 2021	3	3	3	3	2	3	3
08 Jul 2021	3	4	3	3	2	2	3
09 Jul 2021	3	4	3	3	2	2	3
10 Jul 2021	3	4	3	3	2	2	3
11 Jul 2021	3	4	3	3	2	2	3
12 Jul 2021	3	3	3	3	2	2	3
13 Jul 2021	3	4	3	3	2	2	3
14 Jul 2021	3	4	3	3	2	2	3
15 Jul 2021	3	4	3	3	2	2	3
16 Jul 2021	3	4	3	3	2	2	3
17 Jul 2021	3	4	3	3	2	2	3
18 Jul 2021	3	4	3	3	2	2	3
19 Jul 2021	3	4	3	3	2	2	3
20 Jul 2021	2	2	2	2	2	2	2
21 Jul 2021	2	2	2	2	2	2	2
22 Jul 2021	2	2	2	2	2	2	2
23 Jul 2021	2	2	2	2	2	2	2
24 Jul 2021	2	2	2	2	2	2	2
25 Jul 2021	2	2	2	2	2	2	2
26 Jul 2021	2	2	2	2	2	2	2
27 Jul 2021	2	2	2	2	2	2	2
28 Jul 2021	2	2	2	2	2	2	2
29 Jul 2021	2	2	2	2	2	2	2
30 Jul 2021	2	2	2	2	2	2	2
31 Jul 2021	2	2	2	2	2	2	2

* 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
July	IC						

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 3.5

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

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 Jul 2021	5	20	20	12	11	4	2	2	2	2	2	6	2	2	2	2	2	13	12	20	20	
02 Jul 2021	5	20	20	12	11	4	2	2	2	2	2	6	2	2	2	2	2	13	12	20	20	
03 Jul 2021	5	20	20	12	11	4	2	2	2	2	2	6	2	2	2	2	2	13	12	20	20	
04 Jul 2021	5	20	20	12	11	4	2	2	2	2	2	6	2	2	2	2	2	13	12	20	20	
05 Jul 2021	5	20	20	12	11	4	2	2	2	2	2	6	2	2	2	2	2	13	12	20	20	
06 Jul 2021	2	20	20	4	2	4	2	2	2	2	2	2	2	2	2	2	2	2	6	4	20	20
07 Jul 2021	2	20	20	4	2	4	2	2	2	2	2	2	2	2	2	2	2	2	6	4	20	20
08 Jul 2021	2	11	20	3	2	3	2	2	2	2	2	2	2	2	2	2	2	2	5	11	11	12
09 Jul 2021	2	11	20	3	2	3	2	2	2	2	2	2	2	2	2	2	2	2	5	11	11	12
10 Jul 2021	2	11	20	3	2	3	2	2	2	2	2	2	2	2	2	2	2	2	5	11	11	12
11 Jul 2021	2	11	20	3	2	3	2	2	2	2	2	2	2	2	2	2	2	2	5	11	11	12
12 Jul 2021	2	2	20	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	4	2	2	4
13 Jul 2021	2	2	20	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	4	2	2	4
14 Jul 2021	2	2	20	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	4	2	2	4
15 Jul 2021	2	2	11	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	11	2	3
16 Jul 2021	2	2	11	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	11	2	3
17 Jul 2021	2	2	11	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	11	2	3
18 Jul 2021	2	2	11	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	11	2	3
19 Jul 2021	2	2	11	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	11	2	3
20 Jul 2021	2	2	11	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	11	2	3
21 Jul 2021	2	2	20	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	4
22 Jul 2021	2	2	11	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3
23 Jul 2021	2	2	11	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3
24 Jul 2021	2	2	11	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3
25 Jul 2021	2	2	11	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3
26 Jul 2021	2	2	6	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	4
27 Jul 2021	2	2	6	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	4
28 Jul 2021	2	2	6	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	4
29 Jul 2021	2	8	4	2	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	5	3
30 Jul 2021	2	8	4	2	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	5	3
31 Jul 2021	2	8	4	2	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	5	3

* 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	
July	IC	IC	IC	IC	IC	IC	IC	IC	IC	IC	IC	IC	IC	IC	IC	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 3.7

Summary of water quality parameters at the SBOO kelp stations for each sample date. Densities of total coliform (Total), fecal coliform (Fecal), and *Enterococcus* (Enter) 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	Enter	Temp	XMS	DO	Sal	pH
I19	06 Jul 2021	1143	2	<2	<2	<2	18.4	69.72	7.7	33.59	8.1
I19	06 Jul 2021	1143	6	<2	<2	<2	15.2	66.63	8.0	33.59	8.1
I19	06 Jul 2021	1143	11	<2	<2	<2	14.2	57.23	7.2	33.52	8.0
I19	12 Jul 2021	1215	2	<2	<2	<2	21.1	80.10	8.1	33.64	8.2
I19	12 Jul 2021	1215	6	<2	<2	<2	21.0	79.86	8.1	33.63	8.2
I19	12 Jul 2021	1215	11	<2	<2	<2	16.4	51.08	6.9	33.71	8.2
I19	21 Jul 2021	1257	2	<2	<2	<2	16.9	71.73	8.5	33.56	8.2
I19	21 Jul 2021	1257	6	<20	<2	<2	15.1	73.25	8.9	33.51	8.2
I19	21 Jul 2021	1257	11	<20	<2	<2	14.8	60.06	8.4	33.51	8.1
I19	26 Jul 2021	1206	2	20e	<2	<2	19.0	59.77	8.3	33.54	8.2
I19	26 Jul 2021	1206	6	14e	<2	<2	16.2	66.03	7.5	33.49	8.1
I19	26 Jul 2021	1206	11	6e	<2	2e	14.8	57.95	7.3	33.48	8.1
I24	06 Jul 2021	1208	2	<2	<2	<2	19.3	74.13	8.2	33.60	8.2
I24	06 Jul 2021	1208	6	<2	<2	<2	16.1	67.22	8.2	33.63	8.1
I24	06 Jul 2021	1208	11	<2	2e	<2	14.5	63.11	7.5	33.51	8.0
I24	12 Jul 2021	1235	2	<2	<2	<2	20.9	80.19	8.1	33.64	8.2
I24	12 Jul 2021	1235	6	<2	<2	<2	20.7	80.04	8.2	33.63	8.2
I24	12 Jul 2021	1235	11	2e	<2	<2	17.1	58.39	7.5	33.50	8.1
I24	21 Jul 2021	1310	2	<2	<2	<2	20.2	73.62	8.4	33.63	8.2
I24	21 Jul 2021	1310	6	4e	<2	<2	16.8	70.79	8.9	33.61	8.2
I24	21 Jul 2021	1310	11	<20	<2	<2	14.7	68.25	9.0	33.57	8.2
I24	26 Jul 2021	1227	2	2e	<2	<2	19.8	72.49	9.1	33.52	8.2
I24	26 Jul 2021	1227	6	4e	<2	<2	17.7	66.82	8.0	33.57	8.2
I24	26 Jul 2021	1227	11	2e	<2	<2	14.5	70.98	7.1	33.49	8.1
I25	06 Jul 2021	1215	2	<2	<2	<2	19.6	76.24	8.5	33.60	8.2
I25	06 Jul 2021	1215	6	<2	<2	<2	16.8	72.78	8.7	33.55	8.2
I25	06 Jul 2021	1215	9	<2	<2	<2	15.2	73.73	8.5	33.50	8.1
I25	12 Jul 2021	1244	2	<2	<2	<2	20.7	80.08	8.2	33.63	8.2
I25	12 Jul 2021	1244	6	<2	<2	<2	20.7	80.06	8.2	33.63	8.2
I25	12 Jul 2021	1244	9	<2	<2	<2	18.8	72.47	8.2	33.58	8.2
I25	21 Jul 2021	1326	2	<2	<2	<2	20.1	75.21	8.4	33.63	8.2
I25	21 Jul 2021	1326	6	<20	<2	<2	16.1	71.18	9.0	33.73	8.2
I25	21 Jul 2021	1326	9	8e	2e	<2	14.9	69.57	8.9	33.48	8.2
I25	26 Jul 2021	1233	2	<2	<2	<2	20.4	66.77	9.0	33.54	8.3
I25	26 Jul 2021	1233	6	2e	<2	<2	17.3	68.12	8.6	33.52	8.2
I25	26 Jul 2021	1233	9	<2	<2	<2	15.6	71.24	7.2	33.48	8.1
I26	06 Jul 2021	1225	2	<2	<2	<2	19.4	75.03	8.5	33.59	8.2
I26	06 Jul 2021	1225	6	<2	<2	<2	16.4	70.74	8.5	33.65	8.2
I26	06 Jul 2021	1225	9	<2	<2	<2	14.5	74.47	8.2	33.50	8.1

Station	Date	Time	Depth	Total	Fecal	Enteric	Temp	XMS	DO	Sal	pH
I26	12 Jul 2021	1254	2	<2	<2	<2	20.6	80.34	8.4	33.63	8.2
I26	12 Jul 2021	1254	6	<2	<2	<2	20.4	80.17	8.2	33.62	8.2
I26	12 Jul 2021	1254	9	<2	<2	<2	16.0	73.96	8.4	33.51	8.2
I26	21 Jul 2021	1334	2	<2	<2	<2	19.4	76.59	8.5	33.73	8.2
I26	21 Jul 2021	1334	6	<20	<2	<2	16.7	70.11	9.2	33.53	8.2
I26	21 Jul 2021	1334	9	<20	<2	<2	15.0	74.62	8.5	33.53	8.1
I26	26 Jul 2021	1243	2	<2	<2	<2	20.8	61.39	9.1	33.54	8.3
I26	26 Jul 2021	1243	6	<2	<2	<2	17.7	70.65	9.4	33.51	8.2
I26	26 Jul 2021	1243	9	<2	<2	<2	15.5	72.80	7.5	33.50	8.1
I32	06 Jul 2021	1238	2	<20	<2	<2	19.2	72.28	8.4	33.59	8.2
I32	06 Jul 2021	1238	6	<2	<2	<2	15.1	58.14	8.0	33.58	8.1
I32	06 Jul 2021	1238	9	<2	<2	<2	14.8	59.41	8.0	33.51	8.1
I32	12 Jul 2021	1306	2	<2	<2	<2	20.9	78.65	8.1	33.63	8.2
I32	12 Jul 2021	1306	6	<2	<2	<2	20.7	77.38	8.1	33.63	8.2
I32	12 Jul 2021	1306	9	<2	<2	<2	20.7	75.07	8.1	33.63	8.2
I32	21 Jul 2021	1348	2	<2	<2	<2	20.8	71.15	8.3	33.59	8.2
I32	21 Jul 2021	1348	6	<2	<2	<2	16.4	68.67	9.1	33.57	8.2
I32	21 Jul 2021	1348	9	<2	<2	<2	15.9	67.77	9.8	33.48	8.2
I32	26 Jul 2021	1257	2	<2	<2	<2	20.9	59.81	8.8	33.53	8.3
I32	26 Jul 2021	1257	6	<200	<2	<2	19.2	61.29	7.8	33.58	8.2
I32	26 Jul 2021	1257	9	<20	<2	<2	16.9	68.51	8.0	33.48	8.2
I39	06 Jul 2021	1121	2	<2	<2	<2	19.6	79.92	8.5	33.60	8.2
I39	06 Jul 2021	1121	12	<2	<2	<2	13.8	80.37	7.8	33.54	8.1
I39	06 Jul 2021	1121	18	4e	<2	<2	13.2	80.54	6.7	33.53	8.0
I39	12 Jul 2021	1152	2	<2	<2	<2	19.8	79.52	8.4	33.61	8.2
I39	12 Jul 2021	1152	12	<2	<2	<2	13.8	79.99	7.8	33.41	8.1
I39	12 Jul 2021	1152	18	<2	<2	<2	12.6	83.29	6.8	33.39	8.0
I39	21 Jul 2021	1235	2	<2	<2	<2	20.5	66.16	8.2	33.58	8.2
I39	21 Jul 2021	1235	12	<2	<2	<2	13.5	78.02	7.1	33.46	8.0
I39	21 Jul 2021	1235	18	2e	<2	<2	12.4	83.72	6.1	33.47	7.9
I39	26 Jul 2021	1142	2	<2	<2	<2	20.7	69.37	9.0	33.53	8.3
I39	26 Jul 2021	1142	12	<2	<2	<2	13.9	69.63	8.1	33.57	8.1
I39	26 Jul 2021	1142	18	<2	<2	<2	12.9	81.10	6.4	33.55	8.0
I40	06 Jul 2021	1158	2	<2	<2	<2	18.1	66.64	7.7	33.62	8.1
I40	06 Jul 2021	1158	6	<2	<2	<2	15.0	51.17	7.4	33.54	8.1
I40	06 Jul 2021	1158	9	2e	<2	<2	14.2	65.81	7.2	33.51	8.0
I40	12 Jul 2021	1226	2	<2	<2	<2	20.9	79.95	8.1	33.63	8.2
I40	12 Jul 2021	1226	6	<2	<2	<2	20.8	79.68	8.2	33.63	8.2
I40	12 Jul 2021	1226	9	<2	<2	<2	20.7	78.97	8.2	33.63	8.2
I40	21 Jul 2021	1310	2	2e	<2	<2	19.5	69.72	8.5	33.56	8.2
I40	21 Jul 2021	1310	6	16e	2e	<2	15.4	70.23	8.9	33.59	8.2
I40	21 Jul 2021	1310	9	<20	<2	<2	14.8	58.71	8.8	33.54	8.2
I40	26 Jul 2021	1219	2	<2	<2	<2	20.3	63.18	8.5	33.53	8.2
I40	26 Jul 2021	1219	6	8e	<2	<2	16.2	67.35	8.1	33.56	8.2
I40	26 Jul 2021	1219	9	4e	<2	<2	14.9	68.56	7.6	33.48	8.1

ns = not sampled

ND = no data

Table 3.8

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

Station	Date	Parameter	Value
I19	06 Jul 2021	Depth (m)	10.9
I19	06 Jul 2021	Arrive Time	1143
I19	06 Jul 2021	Depart Time	1146
I19	06 Jul 2021	Air Temp (C)	17.8
I19	06 Jul 2021	Weather	Partly Cloudy
I19	06 Jul 2021	Visibility (mi)	12
I19	06 Jul 2021	Wind Speed (kts)	7.1
I19	06 Jul 2021	Wind Dir	W
I19	06 Jul 2021	Water Color	Greenish-Brown
I19	06 Jul 2021	Wave Ht Low (ft)	2
I19	06 Jul 2021	Wave Period (sec)	12
I19	06 Jul 2021	Sea State	Calm
I19	06 Jul 2021	High Tide (ft)	5.663006
I19	06 Jul 2021	High Tide Time	1930
I19	06 Jul 2021	Low Tide (ft)	0.193579
I19	06 Jul 2021	Low Tide Time	224
I19	06 Jul 2021	Comments	none
I19	12 Jul 2021	Depth (m)	11
I19	12 Jul 2021	Arrive Time	1215
I19	12 Jul 2021	Depart Time	1217
I19	12 Jul 2021	Air Temp (C)	19.9
I19	12 Jul 2021	Weather	Overcast
I19	12 Jul 2021	Visibility (mi)	13
I19	12 Jul 2021	Wind Speed (kts)	10.4
I19	12 Jul 2021	Wind Dir	S
I19	12 Jul 2021	Water Color	Green
I19	12 Jul 2021	Wave Ht Low (ft)	2
I19	12 Jul 2021	Wave Period (sec)	10
I19	12 Jul 2021	Sea State	Confused Swell
I19	12 Jul 2021	High Tide (ft)	5.771279
I19	12 Jul 2021	High Tide Time	2300
I19	12 Jul 2021	Low Tide (ft)	-0.501993
I19	12 Jul 2021	Low Tide Time	548
I19	12 Jul 2021	Comments	none
I19	21 Jul 2021	Depth (m)	11
I19	21 Jul 2021	Arrive Time	1257
I19	21 Jul 2021	Depart Time	1302
I19	21 Jul 2021	Air Temp (C)	20.5
I19	21 Jul 2021	Weather	Partly Cloudy
I19	21 Jul 2021	Visibility (mi)	12
I19	21 Jul 2021	Wind Speed (kts)	7.9
I19	21 Jul 2021	Wind Dir	W
I19	21 Jul 2021	Water Color	Green
I19	21 Jul 2021	Wave Ht Low (ft)	3.9
I19	21 Jul 2021	Wave Period (sec)	14
I19	21 Jul 2021	Sea State	Wind Ripples
I19	21 Jul 2021	High Tide (ft)	6.75
I19	21 Jul 2021	High Tide Time	1936
I19	21 Jul 2021	Low Tide (ft)	-0.76
I19	21 Jul 2021	Low Tide Time	218
I19	21 Jul 2021	Comments	none
I19	26 Jul 2021	Depth (m)	11
I19	26 Jul 2021	Arrive Time	1206

Station	Date	Parameter	Value
I19	26 Jul 2021	Depart Time	1211
I19	26 Jul 2021	Air Temp (C)	20.3
I19	26 Jul 2021	Weather	Overcast
I19	26 Jul 2021	Visibility (mi)	8
I19	26 Jul 2021	Wind Speed (kts)	6.3
I19	26 Jul 2021	Wind Dir	W
I19	26 Jul 2021	Water Color	Blueish-Green
I19	26 Jul 2021	Wave Ht Low (ft)	3
I19	26 Jul 2021	Wave Period (sec)	13
I19	26 Jul 2021	Sea State	Light Chop
I19	26 Jul 2021	High Tide (ft)	5.82
I19	26 Jul 2021	High Tide Time	2324
I19	26 Jul 2021	Low Tide (ft)	-0.73
I19	26 Jul 2021	Low Tide Time	542
I19	26 Jul 2021	Comments	none
I24	06 Jul 2021	Depth (m)	10.5
I24	06 Jul 2021	Arrive Time	1208
I24	06 Jul 2021	Depart Time	1210
I24	06 Jul 2021	Air Temp (C)	17.6
I24	06 Jul 2021	Weather	Partly Cloudy
I24	06 Jul 2021	Visibility (mi)	12
I24	06 Jul 2021	Wind Speed (kts)	10.3
I24	06 Jul 2021	Wind Dir	W
I24	06 Jul 2021	Water Color	Greenish-Brown
I24	06 Jul 2021	Wave Ht Low (ft)	3
I24	06 Jul 2021	Wave Period (sec)	12
I24	06 Jul 2021	Sea State	Light Chop
I24	06 Jul 2021	High Tide (ft)	5.663006
I24	06 Jul 2021	High Tide Time	1930
I24	06 Jul 2021	Low Tide (ft)	0.193579
I24	06 Jul 2021	Low Tide Time	224
I24	06 Jul 2021	Comments	none
I24	12 Jul 2021	Depth (m)	10.3
I24	12 Jul 2021	Arrive Time	1235
I24	12 Jul 2021	Depart Time	1238
I24	12 Jul 2021	Air Temp (C)	19.9
I24	12 Jul 2021	Weather	Overcast
I24	12 Jul 2021	Visibility (mi)	13
I24	12 Jul 2021	Wind Speed (kts)	8.1
I24	12 Jul 2021	Wind Dir	S
I24	12 Jul 2021	Water Color	Green
I24	12 Jul 2021	Wave Ht Low (ft)	2
I24	12 Jul 2021	Wave Period (sec)	10
I24	12 Jul 2021	Sea State	Confused Swell
I24	12 Jul 2021	High Tide (ft)	5.771279
I24	12 Jul 2021	High Tide Time	2300
I24	12 Jul 2021	Low Tide (ft)	-0.501993
I24	12 Jul 2021	Low Tide Time	548
I24	12 Jul 2021	Comments	none
I24	21 Jul 2021	Depth (m)	10
I24	21 Jul 2021	Arrive Time	1318
I24	21 Jul 2021	Depart Time	1324
I24	21 Jul 2021	Air Temp (C)	20.6
I24	21 Jul 2021	Weather	Partly Cloudy
I24	21 Jul 2021	Visibility (mi)	12
I24	21 Jul 2021	Wind Speed (kts)	10.3
I24	21 Jul 2021	Wind Dir	W
I24	21 Jul 2021	Water Color	Green

Station	Date	Parameter	Value
I24	21 Jul 2021	Wave Ht Low (ft)	3.9
I24	21 Jul 2021	Wave Period (sec)	14
I24	21 Jul 2021	Sea State	Wind Ripples
I24	21 Jul 2021	High Tide (ft)	6.75
I24	21 Jul 2021	High Tide Time	1936
I24	21 Jul 2021	Low Tide (ft)	-0.76
I24	21 Jul 2021	Low Tide Time	218
I24	21 Jul 2021	Comments	none
I24	26 Jul 2021	Depth (m)	11
I24	26 Jul 2021	Arrive Time	1227
I24	26 Jul 2021	Depart Time	1230
I24	26 Jul 2021	Air Temp (C)	20.3
I24	26 Jul 2021	Weather	Overcast
I24	26 Jul 2021	Visibility (mi)	8
I24	26 Jul 2021	Wind Speed (kts)	6.1
I24	26 Jul 2021	Wind Dir	W
I24	26 Jul 2021	Water Color	Blueish-Green
I24	26 Jul 2021	Wave Ht Low (ft)	3
I24	26 Jul 2021	Wave Period (sec)	13
I24	26 Jul 2021	Sea State	Light Chop
I24	26 Jul 2021	High Tide (ft)	5.82
I24	26 Jul 2021	High Tide Time	2324
I24	26 Jul 2021	Low Tide (ft)	-0.73
I24	26 Jul 2021	Low Tide Time	542
I24	26 Jul 2021	Comments	none
I25	06 Jul 2021	Depth (m)	9.5
I25	06 Jul 2021	Arrive Time	1215
I25	06 Jul 2021	Depart Time	1217
I25	06 Jul 2021	Air Temp (C)	17.8
I25	06 Jul 2021	Weather	Partly Cloudy
I25	06 Jul 2021	Visibility (mi)	14
I25	06 Jul 2021	Wind Speed (kts)	8.5
I25	06 Jul 2021	Wind Dir	W
I25	06 Jul 2021	Water Color	Greenish-Brown
I25	06 Jul 2021	Wave Ht Low (ft)	3
I25	06 Jul 2021	Wave Period (sec)	10
I25	06 Jul 2021	Sea State	Light Chop
I25	06 Jul 2021	High Tide (ft)	5.663006
I25	06 Jul 2021	High Tide Time	1930
I25	06 Jul 2021	Low Tide (ft)	0.193579
I25	06 Jul 2021	Low Tide Time	224
I25	06 Jul 2021	Comments	Kelp Debris
I25	12 Jul 2021	Depth (m)	8.9
I25	12 Jul 2021	Arrive Time	1244
I25	12 Jul 2021	Depart Time	1246
I25	12 Jul 2021	Air Temp (C)	19.8
I25	12 Jul 2021	Weather	Overcast
I25	12 Jul 2021	Visibility (mi)	13
I25	12 Jul 2021	Wind Speed (kts)	7.3
I25	12 Jul 2021	Wind Dir	S
I25	12 Jul 2021	Water Color	Green
I25	12 Jul 2021	Wave Ht Low (ft)	2
I25	12 Jul 2021	Wave Period (sec)	10
I25	12 Jul 2021	Sea State	Confused Swell
I25	12 Jul 2021	High Tide (ft)	5.771279
I25	12 Jul 2021	High Tide Time	2300
I25	12 Jul 2021	Low Tide (ft)	-0.501993
I25	12 Jul 2021	Low Tide Time	548

Station	Date	Parameter	Value
I25	12 Jul 2021	Comments	none
I25	21 Jul 2021	Depth (m)	9
I25	21 Jul 2021	Arrive Time	1326
I25	21 Jul 2021	Depart Time	1329
I25	21 Jul 2021	Air Temp (C)	20.5
I25	21 Jul 2021	Weather	Partly Cloudy
I25	21 Jul 2021	Visibility (mi)	12
I25	21 Jul 2021	Wind Speed (kts)	10.4
I25	21 Jul 2021	Wind Dir	W
I25	21 Jul 2021	Water Color	Green
I25	21 Jul 2021	Wave Ht Low (ft)	3.9
I25	21 Jul 2021	Wave Period (sec)	14
I25	21 Jul 2021	Sea State	Wind Ripples
I25	21 Jul 2021	High Tide (ft)	6.75
I25	21 Jul 2021	High Tide Time	1936
I25	21 Jul 2021	Low Tide (ft)	-0.76
I25	21 Jul 2021	Low Tide Time	218
I25	21 Jul 2021	Comments	none
I25	26 Jul 2021	Depth (m)	9
I25	26 Jul 2021	Arrive Time	1233
I25	26 Jul 2021	Depart Time	1243
I25	26 Jul 2021	Air Temp (C)	20.4
I25	26 Jul 2021	Weather	Overcast
I25	26 Jul 2021	Visibility (mi)	8
I25	26 Jul 2021	Wind Speed (kts)	5.1
I25	26 Jul 2021	Wind Dir	W
I25	26 Jul 2021	Water Color	Blueish-Green
I25	26 Jul 2021	Wave Ht Low (ft)	3
I25	26 Jul 2021	Wave Period (sec)	13
I25	26 Jul 2021	Sea State	Light Chop
I25	26 Jul 2021	High Tide (ft)	5.82
I25	26 Jul 2021	High Tide Time	2324
I25	26 Jul 2021	Low Tide (ft)	-0.73
I25	26 Jul 2021	Low Tide Time	542
I25	26 Jul 2021	Comments	none
I26	06 Jul 2021	Depth (m)	9.3
I26	06 Jul 2021	Arrive Time	1225
I26	06 Jul 2021	Depart Time	1228
I26	06 Jul 2021	Air Temp (C)	17.8
I26	06 Jul 2021	Weather	Partly Cloudy
I26	06 Jul 2021	Visibility (mi)	14
I26	06 Jul 2021	Wind Speed (kts)	10.2
I26	06 Jul 2021	Wind Dir	SW
I26	06 Jul 2021	Water Color	Greenish-Brown
I26	06 Jul 2021	Wave Ht Low (ft)	3
I26	06 Jul 2021	Wave Period (sec)	10
I26	06 Jul 2021	Sea State	Light Chop
I26	06 Jul 2021	High Tide (ft)	5.663006
I26	06 Jul 2021	High Tide Time	1930
I26	06 Jul 2021	Low Tide (ft)	0.193579
I26	06 Jul 2021	Low Tide Time	224
I26	06 Jul 2021	Comments	none
I26	12 Jul 2021	Depth (m)	9.5
I26	12 Jul 2021	Arrive Time	1254
I26	12 Jul 2021	Depart Time	1257
I26	12 Jul 2021	Air Temp (C)	19.9
I26	12 Jul 2021	Weather	Partly Cloudy

Station	Date	Parameter	Value
I26	12 Jul 2021	Visibility (mi)	13
I26	12 Jul 2021	Wind Speed (kts)	7.9
I26	12 Jul 2021	Wind Dir	S
I26	12 Jul 2021	Water Color	Green
I26	12 Jul 2021	Wave Ht Low (ft)	2
I26	12 Jul 2021	Wave Period (sec)	10
I26	12 Jul 2021	Sea State	Confused Swell
I26	12 Jul 2021	High Tide (ft)	5.771279
I26	12 Jul 2021	High Tide Time	2300
I26	12 Jul 2021	Low Tide (ft)	-0.501993
I26	12 Jul 2021	Low Tide Time	548
I26	12 Jul 2021	Comments	none
I26	21 Jul 2021	Depth (m)	9
I26	21 Jul 2021	Arrive Time	1334
I26	21 Jul 2021	Depart Time	1339
I26	21 Jul 2021	Air Temp (C)	20.6
I26	21 Jul 2021	Weather	Partly Cloudy
I26	21 Jul 2021	Visibility (mi)	12
I26	21 Jul 2021	Wind Speed (kts)	6.5
I26	21 Jul 2021	Wind Dir	W
I26	21 Jul 2021	Water Color	Green
I26	21 Jul 2021	Wave Ht Low (ft)	3.9
I26	21 Jul 2021	Wave Period (sec)	14
I26	21 Jul 2021	Sea State	Wind Ripples
I26	21 Jul 2021	High Tide (ft)	6.75
I26	21 Jul 2021	High Tide Time	1936
I26	21 Jul 2021	Low Tide (ft)	-0.76
I26	21 Jul 2021	Low Tide Time	218
I26	21 Jul 2021	Comments	none
I26	26 Jul 2021	Depth (m)	1
I26	26 Jul 2021	Arrive Time	1243
I26	26 Jul 2021	Depart Time	1250
I26	26 Jul 2021	Air Temp (C)	20.5
I26	26 Jul 2021	Weather	Overcast
I26	26 Jul 2021	Visibility (mi)	8
I26	26 Jul 2021	Wind Speed (kts)	4.3
I26	26 Jul 2021	Wind Dir	W
I26	26 Jul 2021	Water Color	Blueish-Green
I26	26 Jul 2021	Wave Ht Low (ft)	3
I26	26 Jul 2021	Wave Period (sec)	13
I26	26 Jul 2021	Sea State	Light Chop
I26	26 Jul 2021	High Tide (ft)	5.82
I26	26 Jul 2021	High Tide Time	2324
I26	26 Jul 2021	Low Tide (ft)	-0.73
I26	26 Jul 2021	Low Tide Time	542
I26	26 Jul 2021	Comments	none
I32	06 Jul 2021	Depth (m)	
I32	06 Jul 2021	Arrive Time	1238
I32	06 Jul 2021	Depart Time	1240
I32	06 Jul 2021	Air Temp (C)	18.1
I32	06 Jul 2021	Weather	Partly Cloudy
I32	06 Jul 2021	Visibility (mi)	14
I32	06 Jul 2021	Wind Speed (kts)	6.4
I32	06 Jul 2021	Wind Dir	W
I32	06 Jul 2021	Water Color	Greenish-Brown
I32	06 Jul 2021	Wave Ht Low (ft)	3
I32	06 Jul 2021	Wave Period (sec)	10
I32	06 Jul 2021	Sea State	Confused Swell

Station	Date	Parameter	Value
I32	06 Jul 2021	High Tide (ft)	5.663006
I32	06 Jul 2021	High Tide Time	1930
I32	06 Jul 2021	Low Tide (ft)	0.193579
I32	06 Jul 2021	Low Tide Time	224
I32	06 Jul 2021	Comments	none
I32	12 Jul 2021	Depth (m)	10.6
I32	12 Jul 2021	Arrive Time	1306
I32	12 Jul 2021	Depart Time	1309
I32	12 Jul 2021	Air Temp (C)	20.2
I32	12 Jul 2021	Weather	Partly Cloudy
I32	12 Jul 2021	Visibility (mi)	13
I32	12 Jul 2021	Wind Speed (kts)	7.6
I32	12 Jul 2021	Wind Dir	S
I32	12 Jul 2021	Water Color	Green
I32	12 Jul 2021	Wave Ht Low (ft)	2
I32	12 Jul 2021	Wave Period (sec)	10
I32	12 Jul 2021	Sea State	Confused Swell
I32	12 Jul 2021	High Tide (ft)	5.771279
I32	12 Jul 2021	High Tide Time	2300
I32	12 Jul 2021	Low Tide (ft)	-0.501993
I32	12 Jul 2021	Low Tide Time	548
I32	12 Jul 2021	Comments	none
I32	21 Jul 2021	Depth (m)	10
I32	21 Jul 2021	Arrive Time	1348
I32	21 Jul 2021	Depart Time	1351
I32	21 Jul 2021	Air Temp (C)	20.6
I32	21 Jul 2021	Weather	Partly Cloudy
I32	21 Jul 2021	Visibility (mi)	12
I32	21 Jul 2021	Wind Speed (kts)	10
I32	21 Jul 2021	Wind Dir	W
I32	21 Jul 2021	Water Color	Green
I32	21 Jul 2021	Wave Ht Low (ft)	3.9
I32	21 Jul 2021	Wave Period (sec)	14
I32	21 Jul 2021	Sea State	Wind Ripples
I32	21 Jul 2021	High Tide (ft)	6.75
I32	21 Jul 2021	High Tide Time	1936
I32	21 Jul 2021	Low Tide (ft)	-0.76
I32	21 Jul 2021	Low Tide Time	218
I32	21 Jul 2021	Comments	none
I32	26 Jul 2021	Depth (m)	10
I32	26 Jul 2021	Arrive Time	1257
I32	26 Jul 2021	Depart Time	1259
I32	26 Jul 2021	Air Temp (C)	20.5
I32	26 Jul 2021	Weather	Overcast
I32	26 Jul 2021	Visibility (mi)	8
I32	26 Jul 2021	Wind Speed (kts)	4.4
I32	26 Jul 2021	Wind Dir	W
I32	26 Jul 2021	Water Color	Blueish-Green
I32	26 Jul 2021	Wave Ht Low (ft)	3
I32	26 Jul 2021	Wave Period (sec)	13
I32	26 Jul 2021	Sea State	Light Chop
I32	26 Jul 2021	High Tide (ft)	5.82
I32	26 Jul 2021	High Tide Time	2324
I32	26 Jul 2021	Low Tide (ft)	-0.73
I32	26 Jul 2021	Low Tide Time	542
I32	26 Jul 2021	Comments	none
I39	06 Jul 2021	Depth (m)	18.9

Station	Date	Parameter	Value
I39	06 Jul 2021	Arrive Time	1121
I39	06 Jul 2021	Depart Time	1125
I39	06 Jul 2021	Air Temp (C)	18.3
I39	06 Jul 2021	Weather	Partly Cloudy
I39	06 Jul 2021	Visibility (mi)	12
I39	06 Jul 2021	Wind Speed (kts)	5.3
I39	06 Jul 2021	Wind Dir	W
I39	06 Jul 2021	Water Color	Greenish-Blue
I39	06 Jul 2021	Wave Ht Low (ft)	2
I39	06 Jul 2021	Wave Period (sec)	12
I39	06 Jul 2021	Sea State	Calm
I39	06 Jul 2021	High Tide (ft)	5.663006
I39	06 Jul 2021	High Tide Time	1930
I39	06 Jul 2021	Low Tide (ft)	0.193579
I39	06 Jul 2021	Low Tide Time	224
I39	06 Jul 2021	Comments	none
I39	12 Jul 2021	Depth (m)	18.8
I39	12 Jul 2021	Arrive Time	1152
I39	12 Jul 2021	Depart Time	1156
I39	12 Jul 2021	Air Temp (C)	19.6
I39	12 Jul 2021	Weather	Overcast
I39	12 Jul 2021	Visibility (mi)	11
I39	12 Jul 2021	Wind Speed (kts)	10.5
I39	12 Jul 2021	Wind Dir	S
I39	12 Jul 2021	Water Color	Green
I39	12 Jul 2021	Wave Ht Low (ft)	2
I39	12 Jul 2021	Wave Period (sec)	10
I39	12 Jul 2021	Sea State	Confused Swell
I39	12 Jul 2021	High Tide (ft)	5.771279
I39	12 Jul 2021	High Tide Time	2300
I39	12 Jul 2021	Low Tide (ft)	-0.501993
I39	12 Jul 2021	Low Tide Time	548
I39	12 Jul 2021	Comments	none
I39	21 Jul 2021	Depth (m)	19
I39	21 Jul 2021	Arrive Time	1235
I39	21 Jul 2021	Depart Time	1240
I39	21 Jul 2021	Air Temp (C)	20.8
I39	21 Jul 2021	Weather	Partly Cloudy
I39	21 Jul 2021	Visibility (mi)	12
I39	21 Jul 2021	Wind Speed (kts)	8.9
I39	21 Jul 2021	Wind Dir	W
I39	21 Jul 2021	Water Color	Green
I39	21 Jul 2021	Wave Ht Low (ft)	3.9
I39	21 Jul 2021	Wave Period (sec)	14
I39	21 Jul 2021	Sea State	Wind Ripples
I39	21 Jul 2021	High Tide (ft)	6.75
I39	21 Jul 2021	High Tide Time	1936
I39	21 Jul 2021	Low Tide (ft)	-0.76
I39	21 Jul 2021	Low Tide Time	218
I39	21 Jul 2021	Comments	none
I39	26 Jul 2021	Depth (m)	20
I39	26 Jul 2021	Arrive Time	1142
I39	26 Jul 2021	Depart Time	1149
I39	26 Jul 2021	Air Temp (C)	20.4
I39	26 Jul 2021	Weather	Overcast
I39	26 Jul 2021	Visibility (mi)	8
I39	26 Jul 2021	Wind Speed (kts)	6.7
I39	26 Jul 2021	Wind Dir	W

Station	Date	Parameter	Value
I39	26 Jul 2021	Water Color	Blueish-Green
I39	26 Jul 2021	Wave Ht Low (ft)	3
I39	26 Jul 2021	Wave Period (sec)	13
I39	26 Jul 2021	Sea State	Light Chop
I39	26 Jul 2021	High Tide (ft)	5.82
I39	26 Jul 2021	High Tide Time	2324
I39	26 Jul 2021	Low Tide (ft)	-0.73
I39	26 Jul 2021	Low Tide Time	542
I39	26 Jul 2021	Comments	none
I40	06 Jul 2021	Depth (m)	10.3
I40	06 Jul 2021	Arrive Time	1158
I40	06 Jul 2021	Depart Time	1200
I40	06 Jul 2021	Air Temp (C)	17.7
I40	06 Jul 2021	Weather	Partly Cloudy
I40	06 Jul 2021	Visibility (mi)	12
I40	06 Jul 2021	Wind Speed (kts)	7.6
I40	06 Jul 2021	Wind Dir	W
I40	06 Jul 2021	Water Color	Greenish-Brown
I40	06 Jul 2021	Wave Ht Low (ft)	3
I40	06 Jul 2021	Wave Period (sec)	12
I40	06 Jul 2021	Sea State	Light Chop
I40	06 Jul 2021	High Tide (ft)	5.663006
I40	06 Jul 2021	High Tide Time	1930
I40	06 Jul 2021	Low Tide (ft)	0.193579
I40	06 Jul 2021	Low Tide Time	224
I40	06 Jul 2021	Comments	none
I40	12 Jul 2021	Depth (m)	10.2
I40	12 Jul 2021	Arrive Time	1226
I40	12 Jul 2021	Depart Time	1229
I40	12 Jul 2021	Air Temp (C)	19.9
I40	12 Jul 2021	Weather	Overcast
I40	12 Jul 2021	Visibility (mi)	13
I40	12 Jul 2021	Wind Speed (kts)	11.8
I40	12 Jul 2021	Wind Dir	S
I40	12 Jul 2021	Water Color	Green
I40	12 Jul 2021	Wave Ht Low (ft)	2
I40	12 Jul 2021	Wave Period (sec)	10
I40	12 Jul 2021	Sea State	Confused Swell
I40	12 Jul 2021	High Tide (ft)	5.771279
I40	12 Jul 2021	High Tide Time	2300
I40	12 Jul 2021	Low Tide (ft)	-0.501993
I40	12 Jul 2021	Low Tide Time	548
I40	12 Jul 2021	Comments	none
I40	21 Jul 2021	Depth (m)	10
I40	21 Jul 2021	Arrive Time	1310
I40	21 Jul 2021	Depart Time	1314
I40	21 Jul 2021	Air Temp (C)	20.7
I40	21 Jul 2021	Weather	Partly Cloudy
I40	21 Jul 2021	Visibility (mi)	12
I40	21 Jul 2021	Wind Speed (kts)	8.1
I40	21 Jul 2021	Wind Dir	W
I40	21 Jul 2021	Water Color	Green
I40	21 Jul 2021	Wave Ht Low (ft)	3.9
I40	21 Jul 2021	Wave Period (sec)	14
I40	21 Jul 2021	Sea State	Wind Ripples
I40	21 Jul 2021	High Tide (ft)	6.75
I40	21 Jul 2021	High Tide Time	1936
I40	21 Jul 2021	Low Tide (ft)	-0.76

Station	Date	Parameter	Value
I40	21 Jul 2021	Low Tide Time	218
I40	21 Jul 2021	Comments	none
I40	26 Jul 2021	Depth (m)	11
I40	26 Jul 2021	Arrive Time	1219
I40	26 Jul 2021	Depart Time	1225
I40	26 Jul 2021	Air Temp (C)	20.3
I40	26 Jul 2021	Weather	Overcast
I40	26 Jul 2021	Visibility (mi)	8
I40	26 Jul 2021	Wind Speed (kts)	5.9
I40	26 Jul 2021	Wind Dir	W
I40	26 Jul 2021	Water Color	Blueish-Green
I40	26 Jul 2021	Wave Ht Low (ft)	3
I40	26 Jul 2021	Wave Period (sec)	13
I40	26 Jul 2021	Sea State	Light Chop
I40	26 Jul 2021	High Tide (ft)	5.82
I40	26 Jul 2021	High Tide Time	2324
I40	26 Jul 2021	Low Tide (ft)	-0.73
I40	26 Jul 2021	Low Tide Time	542
I40	26 Jul 2021	Comments	none

Table 3.9

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

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ($\sigma\text{-t}$)	Chlor ($\mu\text{g/L}$)
I19	06 Jul 2021	1	18.46	69.13	7.7	33.58	8.1	24.1	0.96
I19	06 Jul 2021	2	18.45	69.72	7.7	33.59	8.1	24.1	1.00
I19	06 Jul 2021	3	18.33	69.07	7.7	33.60	8.1	24.1	1.13
I19	06 Jul 2021	4	18.06	68.32	7.6	33.59	8.1	24.2	1.30
I19	06 Jul 2021	5	16.71	66.93	7.7	33.68	8.1	24.6	1.74
I19	06 Jul 2021	6	15.17	66.63	8.0	33.59	8.1	24.8	2.94
I19	06 Jul 2021	7	14.92	62.52	7.7	33.53	8.1	24.9	4.29
I19	06 Jul 2021	8	14.54	60.07	7.4	33.52	8.0	24.9	6.06
I19	06 Jul 2021	9	14.38	62.13	7.3	33.52	8.0	25.0	5.86
I19	06 Jul 2021	10	14.22	57.23	7.2	33.52	8.0	25.0	5.90
I19	12 Jul 2021	1	21.16	79.43	8.1	33.64	8.2	23.4	0.51
I19	12 Jul 2021	2	21.10	80.10	8.1	33.64	8.2	23.4	0.52
I19	12 Jul 2021	3	21.08	80.12	8.1	33.63	8.2	23.4	0.58
I19	12 Jul 2021	4	21.04	79.98	8.1	33.64	8.2	23.4	0.65
I19	12 Jul 2021	5	21.03	79.87	8.2	33.63	8.2	23.4	0.70
I19	12 Jul 2021	6	21.02	79.86	8.1	33.63	8.2	23.5	0.80
I19	12 Jul 2021	7	20.99	79.81	8.1	33.63	8.2	23.5	0.89
I19	12 Jul 2021	8	20.95	79.49	8.0	33.63	8.2	23.5	0.98
I19	12 Jul 2021	9	20.71	77.95	7.3	33.62	8.2	23.5	1.22
I19	12 Jul 2021	10	16.38	51.08	6.9	33.71	8.2	24.7	2.51
I19	21 Jul 2021	1	17.34	71.84	8.5	33.51	8.2	24.3	0.92
I19	21 Jul 2021	2	16.91	71.73	8.5	33.56	8.2	24.4	0.94
I19	21 Jul 2021	3	15.77	70.99	8.8	33.56	8.2	24.7	1.01
I19	21 Jul 2021	4	15.58	68.89	8.8	33.52	8.2	24.7	1.50
I19	21 Jul 2021	5	15.39	69.93	8.8	33.51	8.2	24.7	2.12
I19	21 Jul 2021	6	15.12	73.25	8.9	33.51	8.2	24.8	2.53
I19	21 Jul 2021	7	14.97	75.42	9.0	33.49	8.2	24.8	2.71
I19	21 Jul 2021	8	14.91	72.90	8.9	33.49	8.2	24.8	2.68
I19	21 Jul 2021	9	14.84	65.27	8.6	33.50	8.1	24.9	2.90
I19	21 Jul 2021	10	14.79	60.06	8.4	33.51	8.1	24.9	4.47
I19	26 Jul 2021	1	19.90	60.90	8.4	33.48	8.2	23.6	6.53
I19	26 Jul 2021	2	19.02	59.77	8.3	33.54	8.2	23.9	7.02
I19	26 Jul 2021	3	17.76	62.11	8.7	33.52	8.2	24.2	6.80
I19	26 Jul 2021	4	17.40	66.65	8.6	33.51	8.2	24.3	6.30
I19	26 Jul 2021	5	16.82	68.70	7.9	33.51	8.2	24.4	5.63
I19	26 Jul 2021	6	16.21	66.03	7.5	33.49	8.1	24.5	5.01
I19	26 Jul 2021	7	15.78	64.71	7.5	33.49	8.1	24.6	4.48
I19	26 Jul 2021	8	15.23	66.37	7.5	33.50	8.1	24.8	4.12
I19	26 Jul 2021	9	14.84	66.67	7.4	33.49	8.1	24.8	3.95
I19	26 Jul 2021	10	14.75	57.95	7.3	33.48	8.1	24.9	3.49
I24	06 Jul 2021	1	19.35	74.21	8.3	33.59	8.2	23.9	0.77
I24	06 Jul 2021	2	19.28	74.13	8.2	33.60	8.2	23.9	0.78
I24	06 Jul 2021	3	19.14	73.71	8.2	33.59	8.2	23.9	0.84
I24	06 Jul 2021	4	17.60	73.20	8.3	33.73	8.2	24.4	0.96
I24	06 Jul 2021	5	16.86	70.72	8.3	33.58	8.1	24.5	1.24
I24	06 Jul 2021	6	16.14	67.22	8.2	33.63	8.1	24.7	1.72
I24	06 Jul 2021	7	15.55	70.40	8.1	33.54	8.1	24.7	2.15
I24	06 Jul 2021	8	15.28	58.97	7.7	33.53	8.1	24.8	4.05
I24	06 Jul 2021	9	14.88	52.58	7.3	33.55	8.1	24.9	7.03
I24	06 Jul 2021	10	14.54	60.34	7.4	33.52	8.0	24.9	7.37
I24	06 Jul 2021	11	14.50	63.11	7.5	33.51	8.0	24.9	6.54

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ($\sigma\text{-t}$)	Chlor ($\mu\text{g/L}$)
I24	12 Jul 2021	1	20.94	79.99	8.1	33.64	8.2	23.5	0.58
	12 Jul 2021	2	20.91	80.19	8.1	33.64	8.2	23.5	0.60
	12 Jul 2021	3	20.89	80.31	8.1	33.64	8.2	23.5	0.62
	12 Jul 2021	4	20.81	80.32	8.2	33.64	8.2	23.5	0.67
	12 Jul 2021	5	20.74	80.20	8.2	33.63	8.2	23.5	0.73
	12 Jul 2021	6	20.67	80.04	8.2	33.63	8.2	23.5	0.79
	12 Jul 2021	7	20.65	79.96	8.2	33.63	8.2	23.5	0.84
	12 Jul 2021	8	20.58	79.62	7.9	33.63	8.2	23.6	0.91
	12 Jul 2021	9	18.82	66.18	7.4	33.66	8.2	24.0	1.05
	12 Jul 2021	10	17.13	58.39	7.5	33.50	8.1	24.3	1.55
I24	21 Jul 2021	1	20.82	74.45	8.3	33.59	8.2	23.5	0.79
	21 Jul 2021	2	20.20	73.62	8.4	33.63	8.2	23.7	0.82
	21 Jul 2021	3	19.10	71.19	8.8	33.59	8.2	23.9	0.99
	21 Jul 2021	4	18.81	69.36	8.8	33.53	8.2	23.9	1.36
	21 Jul 2021	5	17.88	69.61	8.9	33.53	8.2	24.2	1.93
	21 Jul 2021	6	16.83	70.79	8.9	33.61	8.2	24.5	2.21
	21 Jul 2021	7	15.70	73.64	9.2	33.49	8.2	24.7	2.33
	21 Jul 2021	8	15.72	74.89	9.1	33.53	8.2	24.7	2.24
	21 Jul 2021	9	14.89	71.54	9.0	33.56	8.2	24.9	2.26
	21 Jul 2021	10	14.67	68.25	9.0	33.57	8.2	24.9	2.32
I24	26 Jul 2021	1	19.86	72.49	9.1	33.52	8.2	23.7	2.16
	26 Jul 2021	2	19.82	72.49	9.1	33.52	8.2	23.7	2.27
	26 Jul 2021	3	19.59	72.16	9.0	33.53	8.2	23.7	2.50
	26 Jul 2021	4	19.07	70.19	8.8	33.54	8.2	23.9	3.08
	26 Jul 2021	5	18.63	68.22	8.5	33.54	8.2	24.0	4.19
	26 Jul 2021	6	17.70	66.82	8.0	33.57	8.2	24.3	5.72
	26 Jul 2021	7	16.57	65.55	7.5	33.59	8.1	24.5	7.03
	26 Jul 2021	8	15.20	66.42	7.3	33.59	8.1	24.8	7.26
	26 Jul 2021	9	14.77	66.21	7.2	33.51	8.1	24.9	6.22
	26 Jul 2021	10	14.54	69.20	7.2	33.50	8.1	24.9	4.93
	26 Jul 2021	11	14.50	70.98	7.1	33.49	8.1	24.9	4.09
I25	06 Jul 2021	1	19.60	69.91	8.4	33.56	8.2	23.8	0.72
	06 Jul 2021	2	19.60	76.24	8.5	33.60	8.2	23.8	0.73
	06 Jul 2021	3	19.52	76.08	8.4	33.60	8.2	23.8	0.78
	06 Jul 2021	4	19.34	74.89	8.2	33.61	8.2	23.9	0.85
	06 Jul 2021	5	17.45	73.13	8.6	33.69	8.2	24.4	1.03
	06 Jul 2021	6	16.77	72.78	8.7	33.55	8.2	24.5	1.28
	06 Jul 2021	7	15.73	69.98	8.4	33.60	8.1	24.7	1.82
	06 Jul 2021	8	15.14	72.87	8.4	33.53	8.1	24.8	2.02
	06 Jul 2021	9	15.21	73.73	8.5	33.50	8.1	24.8	1.83
I25	12 Jul 2021	1	20.74	80.07	8.2	33.63	8.2	23.5	0.59
	12 Jul 2021	2	20.72	80.08	8.2	33.63	8.2	23.5	0.60
	12 Jul 2021	3	20.70	80.12	8.2	33.63	8.2	23.5	0.67
	12 Jul 2021	4	20.69	80.17	8.2	33.63	8.2	23.5	0.70
	12 Jul 2021	5	20.68	80.10	8.2	33.63	8.2	23.5	0.75
	12 Jul 2021	6	20.66	80.06	8.2	33.63	8.2	23.5	0.83
	12 Jul 2021	7	20.63	79.96	8.2	33.63	8.2	23.6	0.88
	12 Jul 2021	8	20.22	77.04	7.9	33.62	8.2	23.7	0.92
	12 Jul 2021	9	18.75	72.47	8.2	33.58	8.2	24.0	1.05
I25	21 Jul 2021	1	20.57	75.45	8.5	33.59	8.2	23.5	0.75
	21 Jul 2021	2	20.14	75.21	8.4	33.63	8.2	23.7	0.77
	21 Jul 2021	3	18.96	74.36	8.7	33.61	8.2	24.0	0.77
	21 Jul 2021	4	18.39	69.90	9.0	33.57	8.2	24.1	0.91
	21 Jul 2021	5	17.92	68.50	9.0	33.57	8.2	24.2	1.42
	21 Jul 2021	6	16.06	71.18	9.0	33.73	8.2	24.8	2.00

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ($\sigma\text{-t}$)	Chlor ($\mu\text{g/L}$)
I25	21 Jul 2021	7	15.20	72.49	9.1	33.57	8.2	24.8	2.43
I25	21 Jul 2021	8	14.80	68.89	9.0	33.53	8.2	24.9	2.48
I25	21 Jul 2021	9	14.92	69.57	8.9	33.48	8.2	24.8	2.67
I25	26 Jul 2021	1	20.67	67.86	9.1	33.53	8.3	23.5	2.82
I25	26 Jul 2021	2	20.38	66.77	9.0	33.54	8.3	23.5	2.98
I25	26 Jul 2021	3	20.04	68.89	9.0	33.53	8.3	23.6	3.24
I25	26 Jul 2021	4	18.80	69.82	9.2	33.57	8.2	24.0	3.58
I25	26 Jul 2021	5	18.08	71.06	9.0	33.54	8.2	24.1	4.29
I25	26 Jul 2021	6	17.32	68.12	8.6	33.52	8.2	24.3	6.66
I25	26 Jul 2021	7	16.44	65.44	8.1	33.52	8.2	24.5	8.14
I25	26 Jul 2021	8	15.83	69.18	7.5	33.51	8.1	24.6	7.32
I25	26 Jul 2021	9	15.56	71.24	7.2	33.48	8.1	24.7	5.32
I26	06 Jul 2021	1	19.44	75.37	8.5	33.59	8.2	23.8	0.72
I26	06 Jul 2021	2	19.42	75.03	8.5	33.59	8.2	23.8	0.74
I26	06 Jul 2021	3	19.40	75.68	8.5	33.59	8.2	23.8	0.76
I26	06 Jul 2021	4	19.07	75.28	8.4	33.62	8.2	24.0	0.84
I26	06 Jul 2021	5	18.27	71.21	8.3	33.65	8.2	24.2	1.00
I26	06 Jul 2021	6	16.45	70.74	8.5	33.65	8.2	24.6	1.30
I26	06 Jul 2021	7	15.21	71.30	8.3	33.59	8.1	24.8	1.72
I26	06 Jul 2021	8	14.56	74.06	8.1	33.52	8.1	24.9	1.84
I26	06 Jul 2021	9	14.48	74.47	8.2	33.50	8.1	24.9	1.76
I26	12 Jul 2021	1	20.67	79.95	8.3	33.62	8.2	23.5	0.53
I26	12 Jul 2021	2	20.61	80.34	8.4	33.63	8.2	23.6	0.55
I26	12 Jul 2021	3	20.57	80.12	8.4	33.63	8.2	23.6	0.63
I26	12 Jul 2021	4	20.51	80.11	8.3	33.63	8.2	23.6	0.69
I26	12 Jul 2021	5	20.48	80.19	8.3	33.62	8.2	23.6	0.74
I26	12 Jul 2021	6	20.42	80.17	8.2	33.62	8.2	23.6	0.80
I26	12 Jul 2021	7	20.01	80.19	7.7	33.62	8.2	23.7	0.90
I26	12 Jul 2021	8	17.43	77.59	8.0	33.60	8.2	24.3	1.09
I26	12 Jul 2021	9	15.99	73.96	8.4	33.51	8.2	24.6	1.13
I26	21 Jul 2021	1	21.33	76.36	8.1	33.61	8.2	23.3	0.81
I26	21 Jul 2021	2	19.36	76.59	8.5	33.73	8.2	24.0	0.80
I26	21 Jul 2021	3	18.09	75.49	9.1	33.58	8.2	24.2	0.80
I26	21 Jul 2021	4	17.87	72.63	9.1	33.55	8.2	24.2	0.96
I26	21 Jul 2021	5	17.10	70.47	9.2	33.55	8.2	24.4	1.27
I26	21 Jul 2021	6	16.70	70.11	9.2	33.53	8.2	24.5	1.54
I26	21 Jul 2021	7	16.10	67.91	8.9	33.55	8.2	24.6	1.75
I26	21 Jul 2021	8	15.53	69.12	8.7	33.51	8.2	24.7	2.55
I26	21 Jul 2021	9	14.98	74.62	8.5	33.53	8.1	24.8	3.28
I26	26 Jul 2021	1	20.85	61.41	9.2	33.53	8.3	23.4	4.37
I26	26 Jul 2021	2	20.76	61.39	9.1	33.54	8.3	23.4	4.90
I26	26 Jul 2021	3	19.98	61.43	9.1	33.55	8.3	23.7	5.66
I26	26 Jul 2021	4	18.92	64.14	9.2	33.53	8.3	23.9	5.66
I26	26 Jul 2021	5	17.98	70.84	9.4	33.53	8.2	24.2	5.22
I26	26 Jul 2021	6	17.72	70.65	9.4	33.51	8.2	24.2	4.87
I26	26 Jul 2021	7	17.48	72.98	9.1	33.50	8.2	24.2	4.70
I26	26 Jul 2021	8	17.09	73.26	8.3	33.50	8.2	24.3	4.71
I26	26 Jul 2021	9	15.52	72.80	7.5	33.50	8.1	24.7	4.20
I32	06 Jul 2021	1	19.19	73.59	8.4	33.59	8.2	23.9	0.79
I32	06 Jul 2021	2	19.18	72.28	8.4	33.59	8.2	23.9	0.80
I32	06 Jul 2021	3	19.07	73.34	8.3	33.59	8.2	23.9	0.90
I32	06 Jul 2021	4	18.57	71.71	7.9	33.66	8.2	24.1	1.11
I32	06 Jul 2021	5	16.08	64.67	8.1	33.73	8.2	24.8	2.07
I32	06 Jul 2021	6	15.13	58.14	8.0	33.58	8.1	24.9	3.64
I32	06 Jul 2021	7	14.92	59.47	8.0	33.53	8.1	24.9	4.83

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ($\sigma\text{-t}$)	Chlor ($\mu\text{g/L}$)
I32	06 Jul 2021	8	14.82	61.42	8.0	33.52	8.1	24.9	5.55
I32	06 Jul 2021	9	14.78	59.41	8.0	33.51	8.1	24.9	6.67
I32	12 Jul 2021	1	20.88	78.52	8.1	33.63	8.2	23.5	0.58
I32	12 Jul 2021	2	20.87	78.65	8.1	33.63	8.2	23.5	0.59
I32	12 Jul 2021	3	20.83	78.51	8.1	33.63	8.2	23.5	0.65
I32	12 Jul 2021	4	20.79	78.21	8.1	33.63	8.2	23.5	0.78
I32	12 Jul 2021	5	20.76	77.75	8.1	33.63	8.2	23.5	0.90
I32	12 Jul 2021	6	20.73	77.38	8.1	33.63	8.2	23.5	1.01
I32	12 Jul 2021	7	20.70	77.19	8.1	33.63	8.2	23.5	1.14
I32	12 Jul 2021	8	20.67	75.71	8.1	33.63	8.2	23.5	1.18
I32	12 Jul 2021	9	20.66	75.07	8.1	33.63	8.2	23.5	1.21
I32	12 Jul 2021	10	20.65	71.13	8.1	33.63	8.2	23.5	1.24
I32	21 Jul 2021	1	20.84	73.47	8.4	33.59	8.2	23.5	0.91
I32	21 Jul 2021	2	20.78	71.15	8.3	33.59	8.2	23.5	0.92
I32	21 Jul 2021	3	20.60	73.17	8.1	33.59	8.2	23.5	1.00
I32	21 Jul 2021	4	19.86	71.71	7.9	33.64	8.2	23.8	1.19
I32	21 Jul 2021	5	17.81	69.24	8.4	33.67	8.2	24.3	1.42
I32	21 Jul 2021	6	16.45	68.67	9.1	33.57	8.2	24.5	1.79
I32	21 Jul 2021	7	16.09	68.88	9.4	33.52	8.2	24.6	2.19
I32	21 Jul 2021	8	16.02	70.00	9.6	33.49	8.2	24.6	2.67
I32	21 Jul 2021	9	15.87	67.77	9.8	33.48	8.2	24.6	3.11
I32	26 Jul 2021	1	20.86	59.84	8.8	33.53	8.3	23.4	5.64
I32	26 Jul 2021	2	20.85	59.81	8.8	33.53	8.3	23.4	5.91
I32	26 Jul 2021	3	20.80	59.87	8.6	33.54	8.3	23.4	6.11
I32	26 Jul 2021	4	20.56	59.99	8.4	33.54	8.2	23.5	6.58
I32	26 Jul 2021	5	20.35	60.22	8.1	33.53	8.2	23.6	6.99
I32	26 Jul 2021	6	19.25	61.29	7.8	33.58	8.2	23.9	6.85
I32	26 Jul 2021	7	17.98	65.05	7.9	33.52	8.2	24.1	6.37
I32	26 Jul 2021	8	17.31	67.50	8.0	33.52	8.2	24.3	6.15
I32	26 Jul 2021	9	16.89	68.51	8.0	33.48	8.2	24.4	6.01
I32	26 Jul 2021	10	16.81	67.58	8.0	33.48	8.2	24.4	6.47
I39	06 Jul 2021	1	19.61	79.76	8.5	33.59	8.2	23.8	0.68
I39	06 Jul 2021	2	19.57	79.92	8.5	33.60	8.2	23.8	0.69
I39	06 Jul 2021	3	19.46	79.74	8.5	33.59	8.2	23.8	0.74
I39	06 Jul 2021	4	19.43	79.56	8.5	33.59	8.2	23.8	0.76
I39	06 Jul 2021	5	18.41	78.40	8.3	33.71	8.2	24.2	0.81
I39	06 Jul 2021	6	16.90	78.96	8.7	33.50	8.2	24.4	0.87
I39	06 Jul 2021	7	15.77	78.61	8.8	33.61	8.2	24.7	1.06
I39	06 Jul 2021	8	15.82	76.52	9.0	33.47	8.2	24.6	1.33
I39	06 Jul 2021	9	15.18	76.41	8.6	33.62	8.2	24.9	1.45
I39	06 Jul 2021	10	14.26	78.01	8.1	33.55	8.1	25.0	1.67
I39	06 Jul 2021	11	14.31	79.68	8.1	33.49	8.1	25.0	1.83
I39	06 Jul 2021	12	13.75	80.37	7.8	33.54	8.1	25.1	2.11
I39	06 Jul 2021	13	13.44	80.10	7.4	33.52	8.0	25.2	2.99
I39	06 Jul 2021	14	13.45	77.39	7.2	33.51	8.0	25.1	3.47
I39	06 Jul 2021	15	13.32	76.51	6.9	33.53	8.0	25.2	3.32
I39	06 Jul 2021	16	13.27	79.12	6.8	33.52	8.0	25.2	2.89
I39	06 Jul 2021	17	13.30	80.15	6.8	33.53	8.0	25.2	2.77
I39	06 Jul 2021	18	13.19	80.54	6.7	33.53	8.0	25.2	2.49
I39	12 Jul 2021	1	19.96	78.88	8.5	33.61	8.2	23.7	0.62
I39	12 Jul 2021	2	19.77	79.52	8.4	33.61	8.2	23.8	0.65
I39	12 Jul 2021	3	18.94	79.48	8.5	33.62	8.2	24.0	0.69
I39	12 Jul 2021	4	18.17	79.30	8.7	33.58	8.2	24.1	0.78
I39	12 Jul 2021	5	17.41	78.64	8.8	33.58	8.2	24.3	0.88
I39	12 Jul 2021	6	16.92	78.56	9.0	33.56	8.2	24.4	1.05
I39	12 Jul 2021	7	16.78	78.32	9.0	33.55	8.2	24.5	1.22

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ($\sigma\text{-t}$)	Chlor ($\mu\text{g/L}$)
I39	12 Jul 2021	8	16.69	78.15	9.1	33.55	8.2	24.5	1.42
I39	12 Jul 2021	9	16.59	78.08	8.9	33.54	8.2	24.5	1.61
I39	12 Jul 2021	10	15.82	78.07	8.4	33.52	8.2	24.6	1.70
I39	12 Jul 2021	11	13.81	77.04	8.1	33.46	8.1	25.0	2.13
I39	12 Jul 2021	12	13.80	79.99	7.8	33.41	8.1	25.0	2.38
I39	12 Jul 2021	13	13.19	81.02	7.5	33.41	8.1	25.1	2.25
I39	12 Jul 2021	14	13.01	82.08	7.1	33.39	8.0	25.1	2.04
I39	12 Jul 2021	15	12.67	83.10	6.9	33.38	8.0	25.2	1.61
I39	12 Jul 2021	16	12.65	83.47	6.8	33.38	8.0	25.2	1.33
I39	12 Jul 2021	17	12.61	83.44	6.8	33.38	8.0	25.2	1.18
I39	12 Jul 2021	18	12.63	83.29	6.8	33.39	8.0	25.2	1.10
I39	21 Jul 2021	1	20.49	76.86	8.6	33.56	8.2	23.5	0.72
I39	21 Jul 2021	2	20.49	66.16	8.2	33.58	8.2	23.5	0.74
I39	21 Jul 2021	3	17.44	77.62	8.8	33.71	8.2	24.4	0.78
I39	21 Jul 2021	4	16.16	75.53	9.2	33.61	8.2	24.6	0.84
I39	21 Jul 2021	5	15.28	74.09	9.6	33.53	8.2	24.8	1.04
I39	21 Jul 2021	6	15.22	73.49	9.6	33.51	8.2	24.8	1.46
I39	21 Jul 2021	7	15.08	72.63	9.6	33.50	8.2	24.8	1.67
I39	21 Jul 2021	8	15.01	72.01	9.5	33.50	8.2	24.8	2.17
I39	21 Jul 2021	9	14.76	70.99	9.2	33.53	8.2	24.9	2.98
I39	21 Jul 2021	10	13.92	71.59	8.4	33.51	8.1	25.1	3.38
I39	21 Jul 2021	11	13.59	76.43	7.5	33.47	8.1	25.1	4.02
I39	21 Jul 2021	12	13.53	78.02	7.1	33.46	8.0	25.1	4.24
I39	21 Jul 2021	13	13.06	80.40	6.8	33.46	8.0	25.2	3.84
I39	21 Jul 2021	14	12.79	81.30	6.6	33.46	8.0	25.2	3.44
I39	21 Jul 2021	15	12.71	82.23	6.4	33.45	8.0	25.3	2.99
I39	21 Jul 2021	16	12.58	82.62	6.3	33.48	8.0	25.3	2.55
I39	21 Jul 2021	17	12.42	83.05	6.2	33.47	8.0	25.3	2.22
I39	21 Jul 2021	18	12.41	83.72	6.1	33.47	7.9	25.3	2.06
I39	26 Jul 2021	1	20.70	69.54	9.0	33.53	8.3	23.5	2.84
I39	26 Jul 2021	2	20.71	69.37	9.0	33.53	8.3	23.5	2.87
I39	26 Jul 2021	3	20.48	69.33	8.9	33.59	8.3	23.6	2.88
I39	26 Jul 2021	4	19.50	69.93	8.9	33.65	8.2	23.9	2.96
I39	26 Jul 2021	5	17.88	73.65	9.0	33.77	8.2	24.4	3.09
I39	26 Jul 2021	6	16.76	74.24	9.2	33.63	8.2	24.5	3.22
I39	26 Jul 2021	7	16.32	73.04	8.9	33.59	8.2	24.6	3.66
I39	26 Jul 2021	8	15.50	70.86	8.6	33.64	8.2	24.8	4.11
I39	26 Jul 2021	9	14.92	70.18	8.4	33.59	8.2	24.9	4.69
I39	26 Jul 2021	10	14.61	69.83	8.2	33.59	8.1	25.0	5.47
I39	26 Jul 2021	11	14.13	69.86	8.0	33.58	8.1	25.1	6.21
I39	26 Jul 2021	12	13.89	69.63	8.1	33.57	8.1	25.1	6.91
I39	26 Jul 2021	13	13.62	70.69	7.9	33.57	8.1	25.2	7.56
I39	26 Jul 2021	14	13.25	73.53	7.4	33.59	8.1	25.2	7.90
I39	26 Jul 2021	15	13.00	76.89	6.9	33.56	8.0	25.3	7.90
I39	26 Jul 2021	16	12.97	78.93	6.5	33.54	8.0	25.3	7.48
I39	26 Jul 2021	17	12.97	80.00	6.4	33.55	8.0	25.3	6.31
I39	26 Jul 2021	18	12.93	81.10	6.4	33.55	8.0	25.3	5.19
I40	06 Jul 2021	1	18.32	66.76	7.9	33.57	8.1	24.1	1.16
I40	06 Jul 2021	2	18.06	66.64	7.7	33.62	8.1	24.2	1.25
I40	06 Jul 2021	3	16.96	67.31	7.8	33.61	8.1	24.5	1.48
I40	06 Jul 2021	4	15.98	66.20	7.7	33.63	8.1	24.7	2.34
I40	06 Jul 2021	5	15.37	53.87	7.5	33.54	8.1	24.8	4.61
I40	06 Jul 2021	6	15.02	51.17	7.4	33.54	8.1	24.8	7.33
I40	06 Jul 2021	7	14.54	54.94	7.3	33.53	8.0	24.9	9.28
I40	06 Jul 2021	8	14.34	62.80	7.3	33.51	8.0	25.0	9.03
I40	06 Jul 2021	9	14.19	65.81	7.2	33.51	8.0	25.0	6.93
I40	06 Jul 2021	10	14.13	65.38	7.2	33.51	8.0	25.0	5.45

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ($\sigma\text{-t}$)	Chlor ($\mu\text{g/L}$)
I40	12 Jul 2021	1	20.98	78.65	8.1	33.63	8.2	23.5	0.51
I40	12 Jul 2021	2	20.95	79.95	8.1	33.63	8.2	23.5	0.53
I40	12 Jul 2021	3	20.93	80.16	8.1	33.63	8.2	23.5	0.57
I40	12 Jul 2021	4	20.87	80.00	8.2	33.63	8.2	23.5	0.64
I40	12 Jul 2021	5	20.85	79.93	8.2	33.63	8.2	23.5	0.73
I40	12 Jul 2021	6	20.81	79.68	8.2	33.63	8.2	23.5	0.84
I40	12 Jul 2021	7	20.78	79.50	8.2	33.63	8.2	23.5	0.94
I40	12 Jul 2021	8	20.73	79.15	8.1	33.63	8.2	23.5	1.03
I40	12 Jul 2021	9	20.71	78.97	8.2	33.63	8.2	23.5	1.11
I40	12 Jul 2021	10	20.62	75.64	8.2	33.63	8.2	23.6	1.26
I40	21 Jul 2021	1	19.96	70.26	8.5	33.51	8.2	23.6	1.41
I40	21 Jul 2021	2	19.49	69.72	8.5	33.56	8.2	23.8	1.40
I40	21 Jul 2021	3	18.96	69.80	8.7	33.51	8.2	23.9	1.51
I40	21 Jul 2021	4	18.13	70.13	8.5	33.60	8.2	24.2	1.77
I40	21 Jul 2021	5	16.23	68.22	8.7	33.62	8.2	24.6	2.00
I40	21 Jul 2021	6	15.40	70.23	8.9	33.59	8.2	24.8	2.08
I40	21 Jul 2021	7	15.28	68.58	8.9	33.56	8.2	24.8	2.21
I40	21 Jul 2021	8	15.05	66.04	8.9	33.56	8.2	24.9	2.44
I40	21 Jul 2021	9	14.81	58.71	8.8	33.54	8.2	24.9	2.85
I40	21 Jul 2021	10	14.72	55.73	8.6	33.53	8.1	24.9	3.49
I40	26 Jul 2021	1	20.43	63.41	8.7	33.51	8.2	23.5	4.39
I40	26 Jul 2021	2	20.31	63.18	8.5	33.53	8.2	23.6	4.58
I40	26 Jul 2021	3	19.28	62.83	8.2	33.59	8.2	23.9	4.94
I40	26 Jul 2021	4	17.92	65.23	8.2	33.59	8.2	24.2	5.36
I40	26 Jul 2021	5	16.98	66.99	8.3	33.55	8.2	24.4	5.80
I40	26 Jul 2021	6	16.24	67.35	8.1	33.56	8.2	24.6	6.43
I40	26 Jul 2021	7	15.26	68.13	7.8	33.53	8.1	24.8	6.78
I40	26 Jul 2021	8	15.00	68.73	7.6	33.49	8.1	24.8	6.47
I40	26 Jul 2021	9	14.92	68.56	7.6	33.48	8.1	24.8	5.91
I40	26 Jul 2021	10	14.84	67.17	7.5	33.48	8.1	24.8	5.41

NA = not available

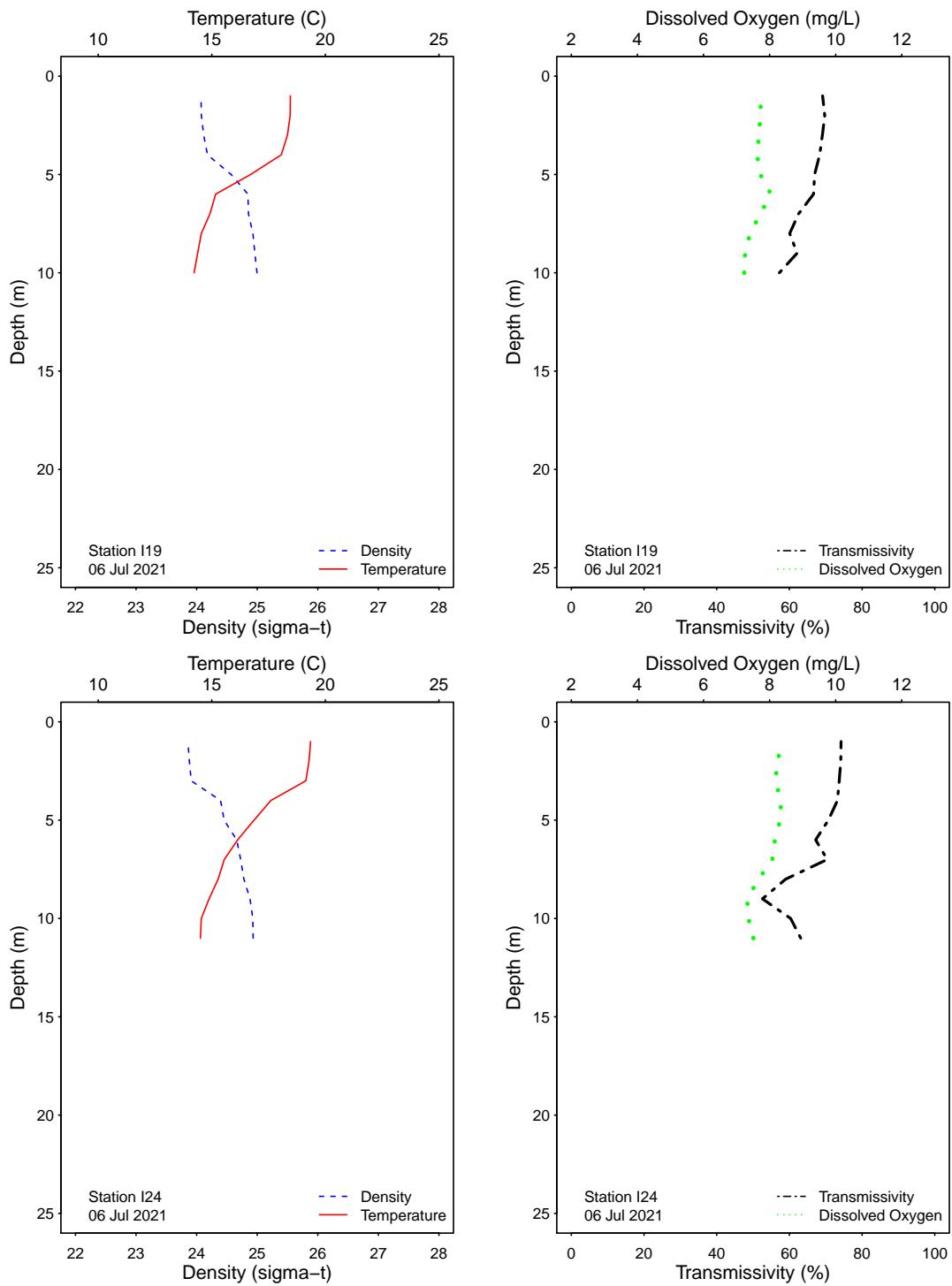


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

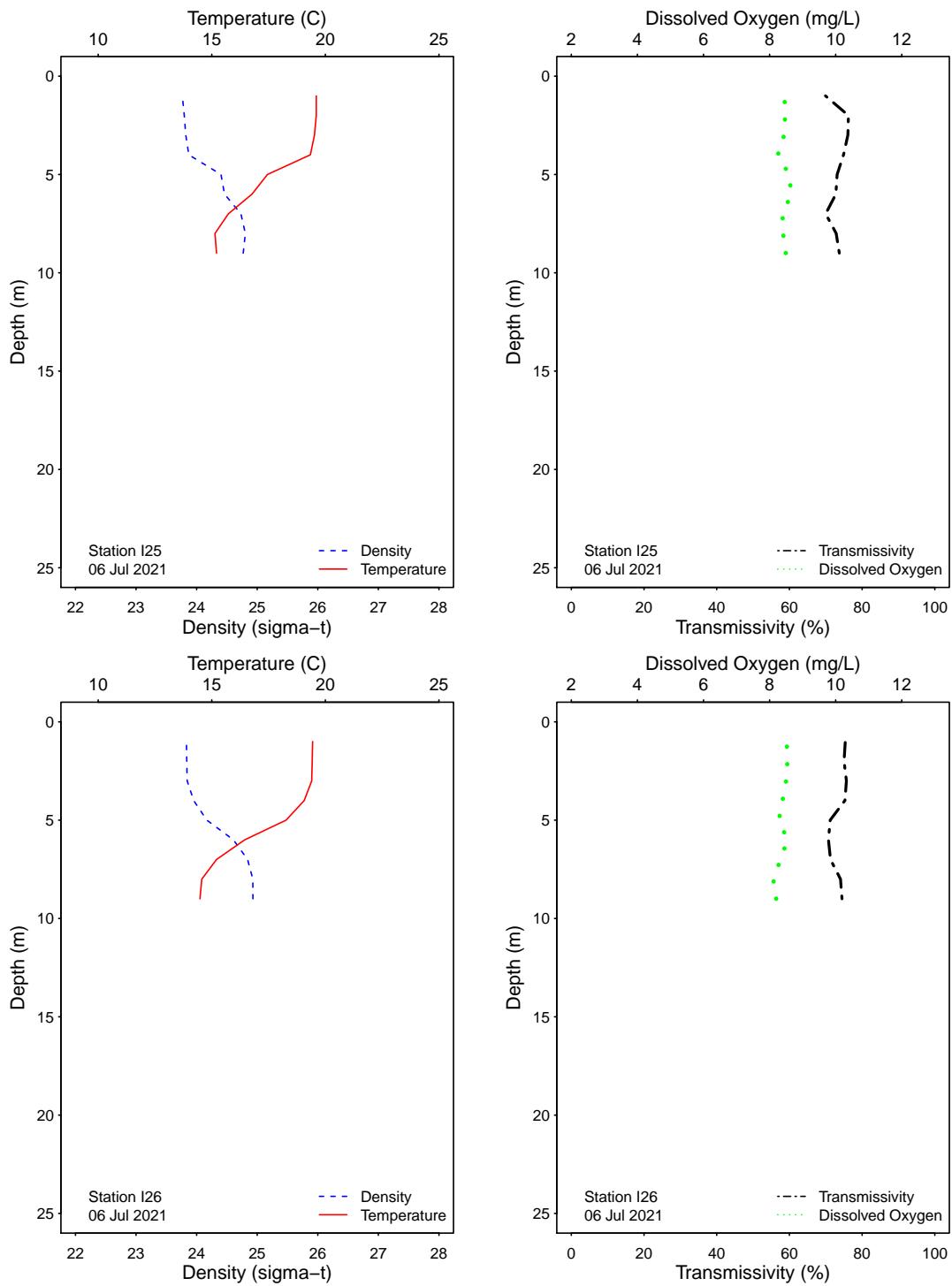


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

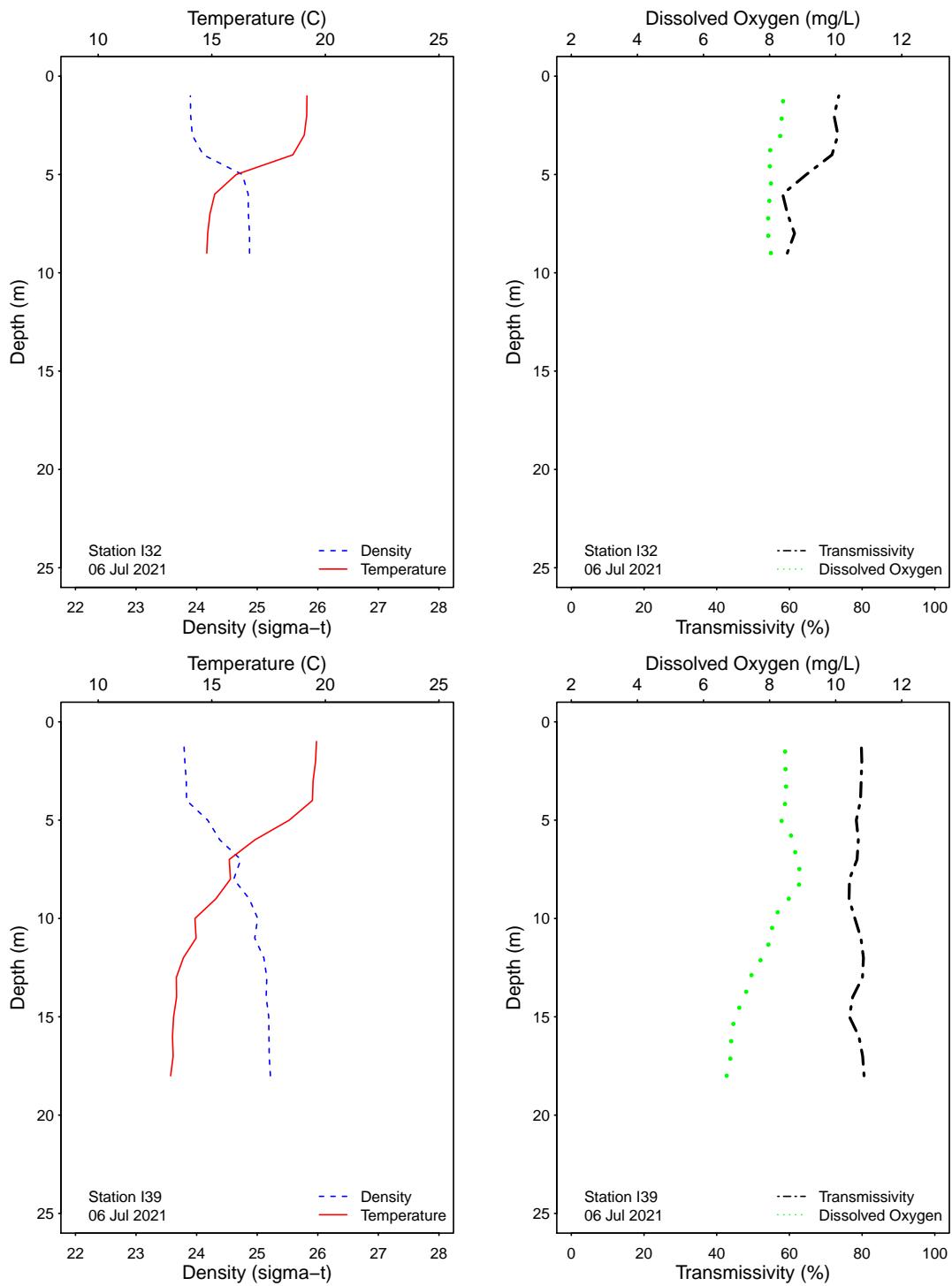


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

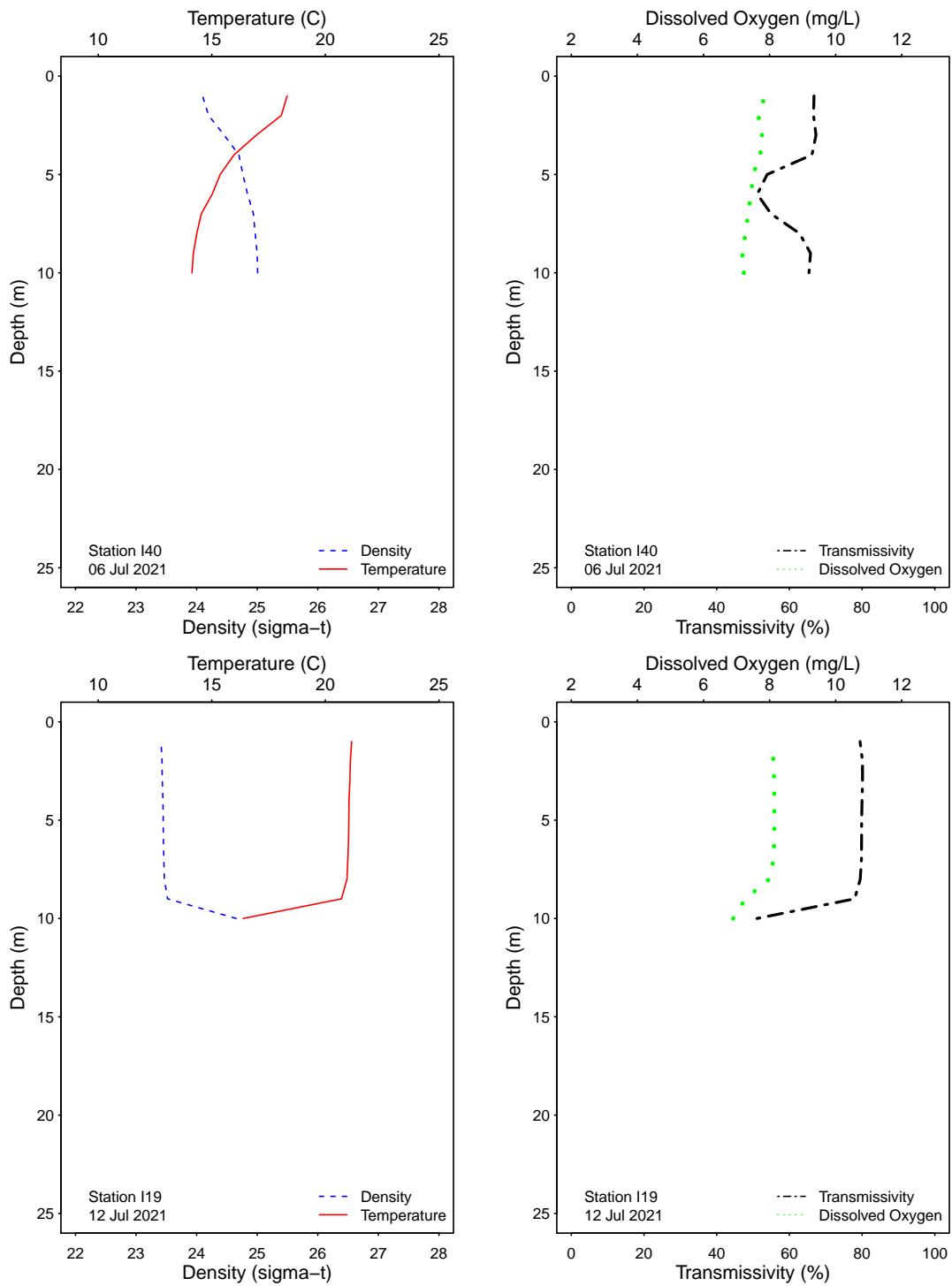


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

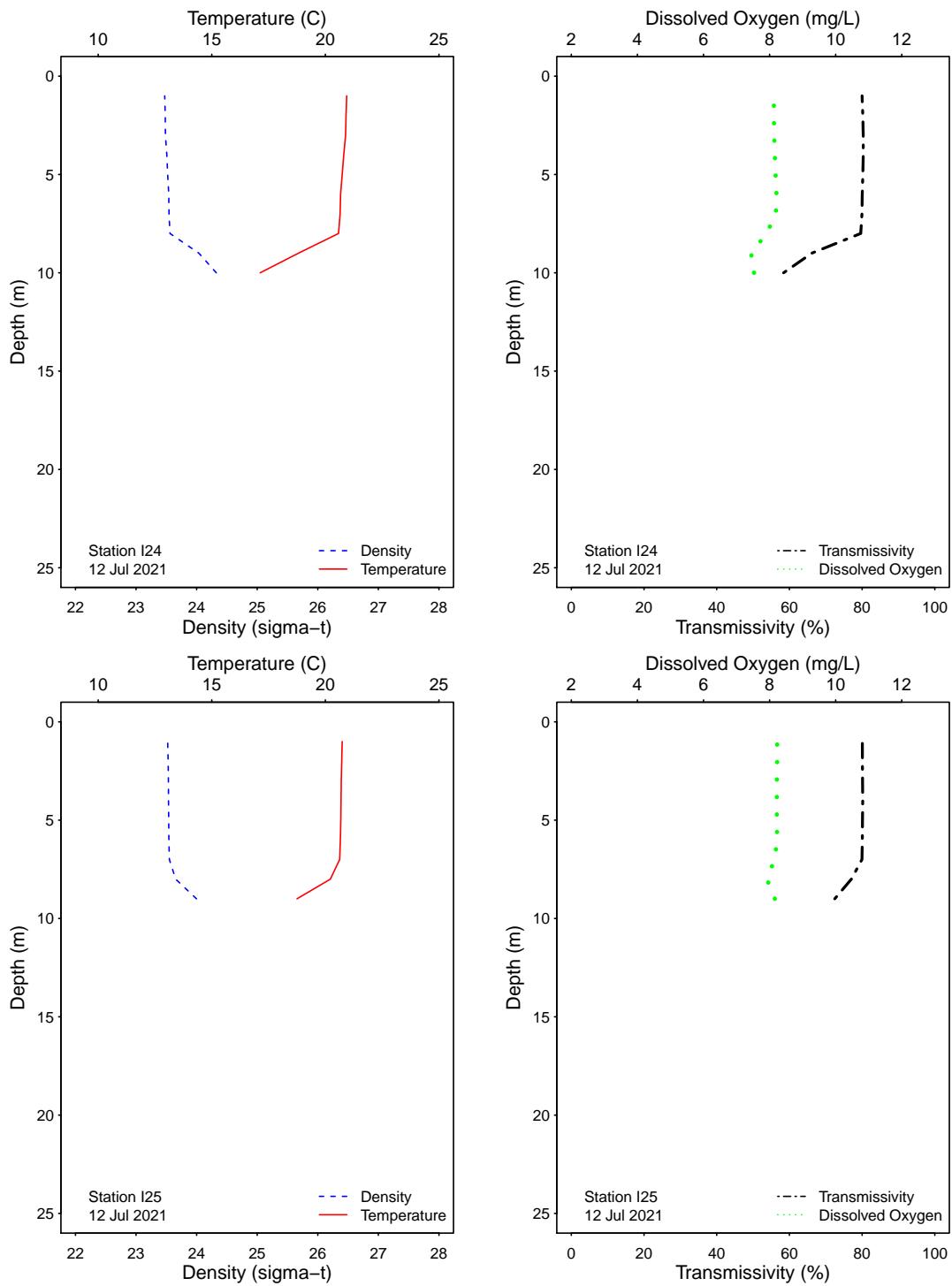


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

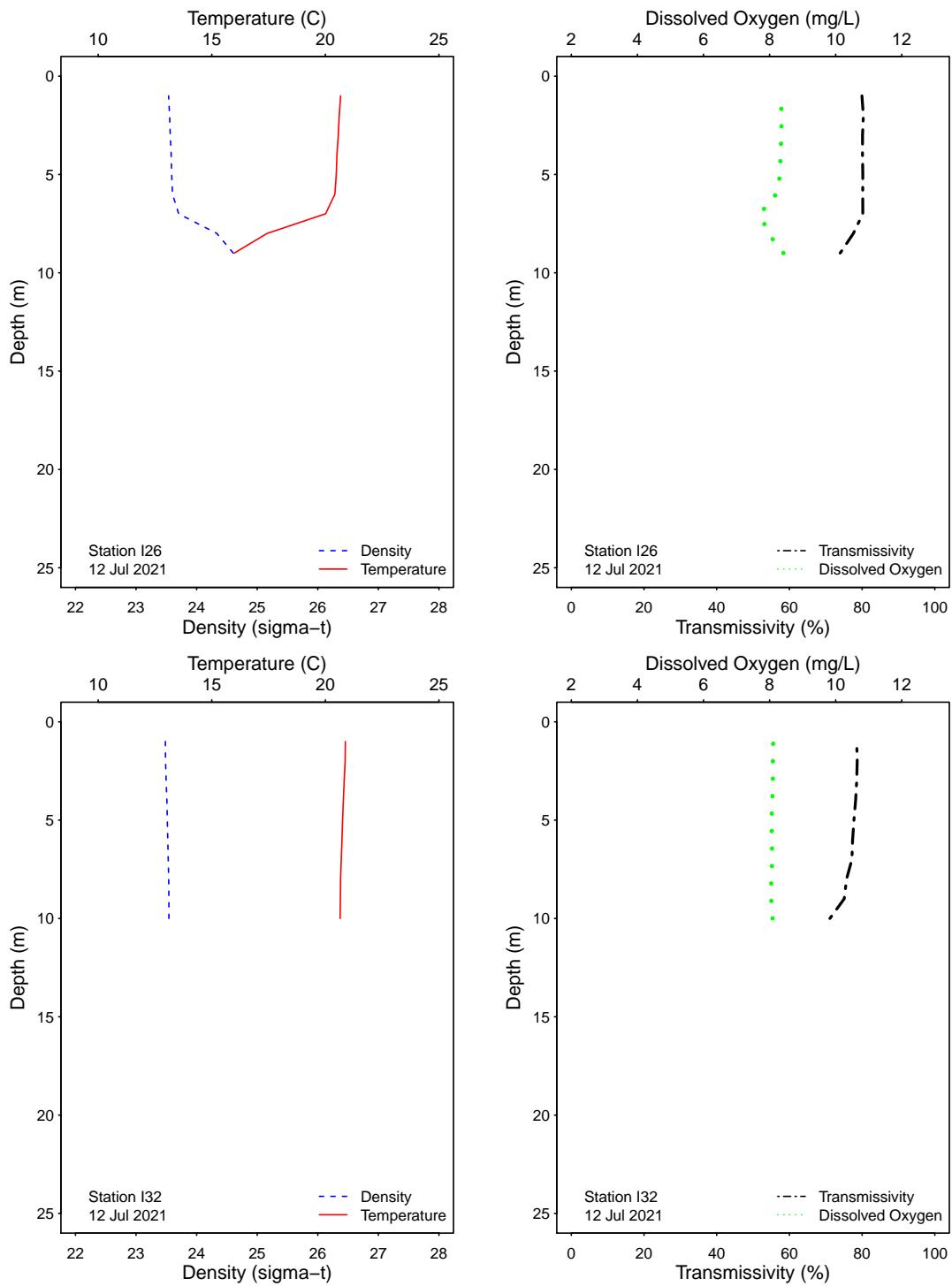


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

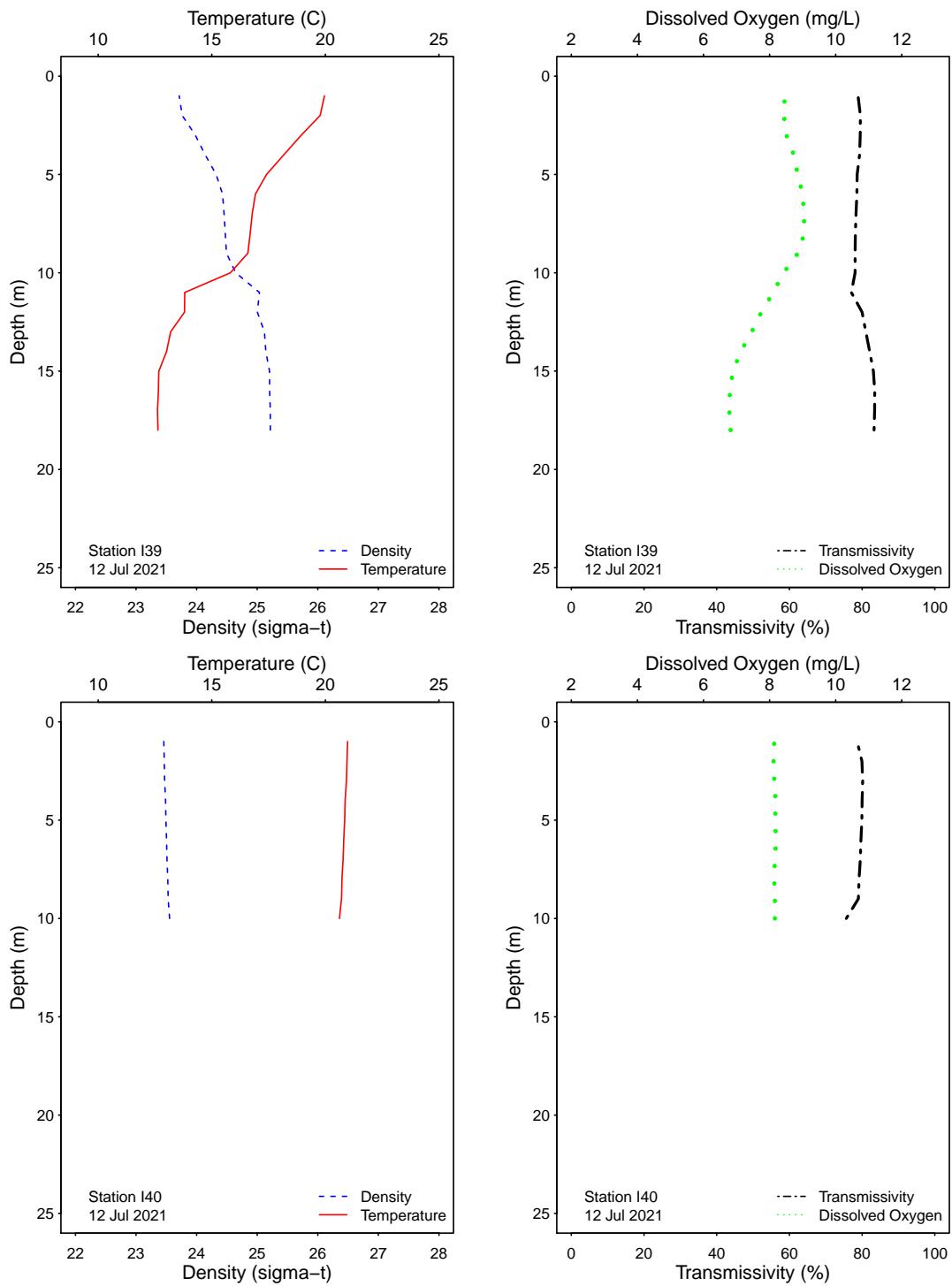


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

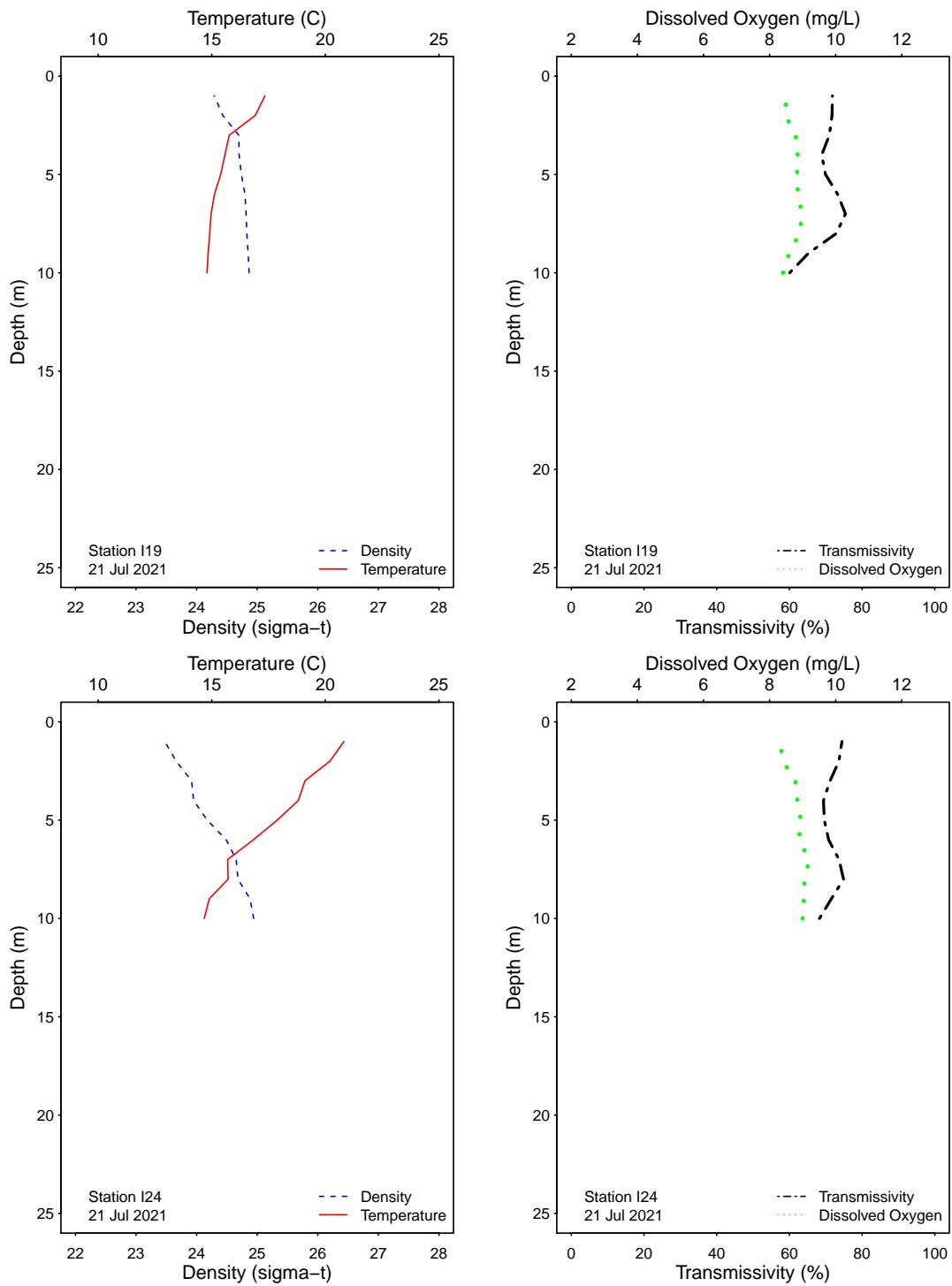


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

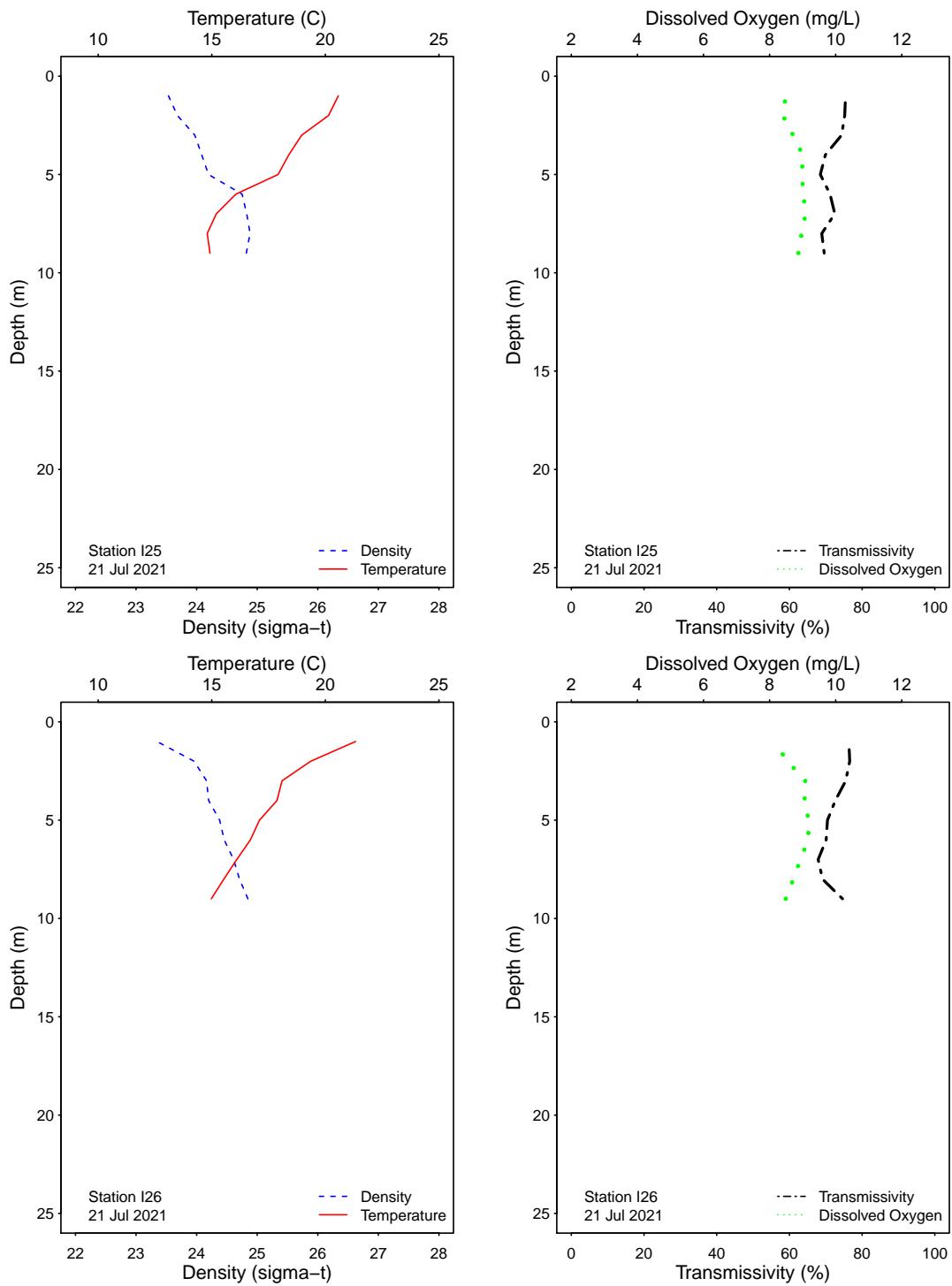


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

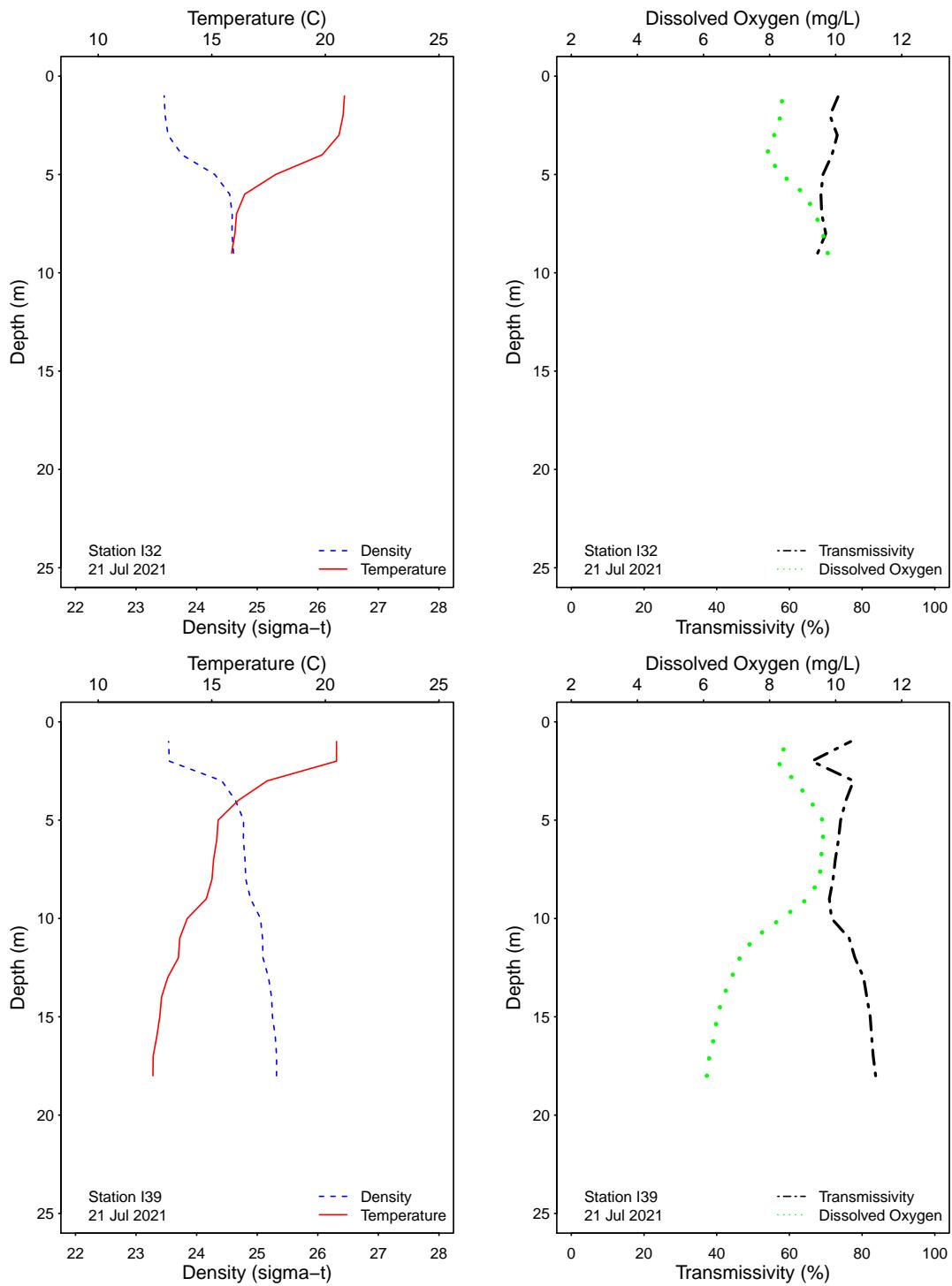


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

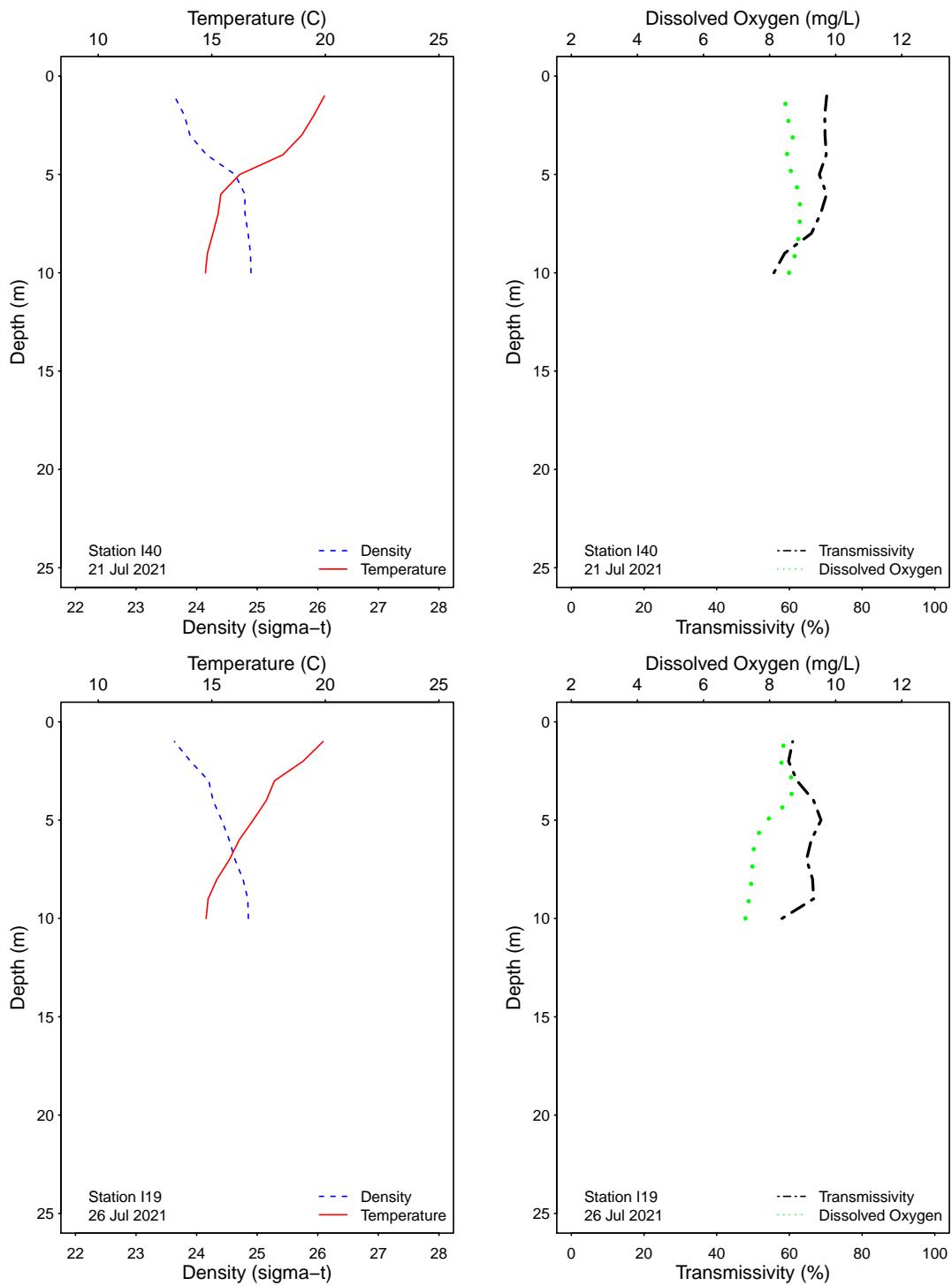


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

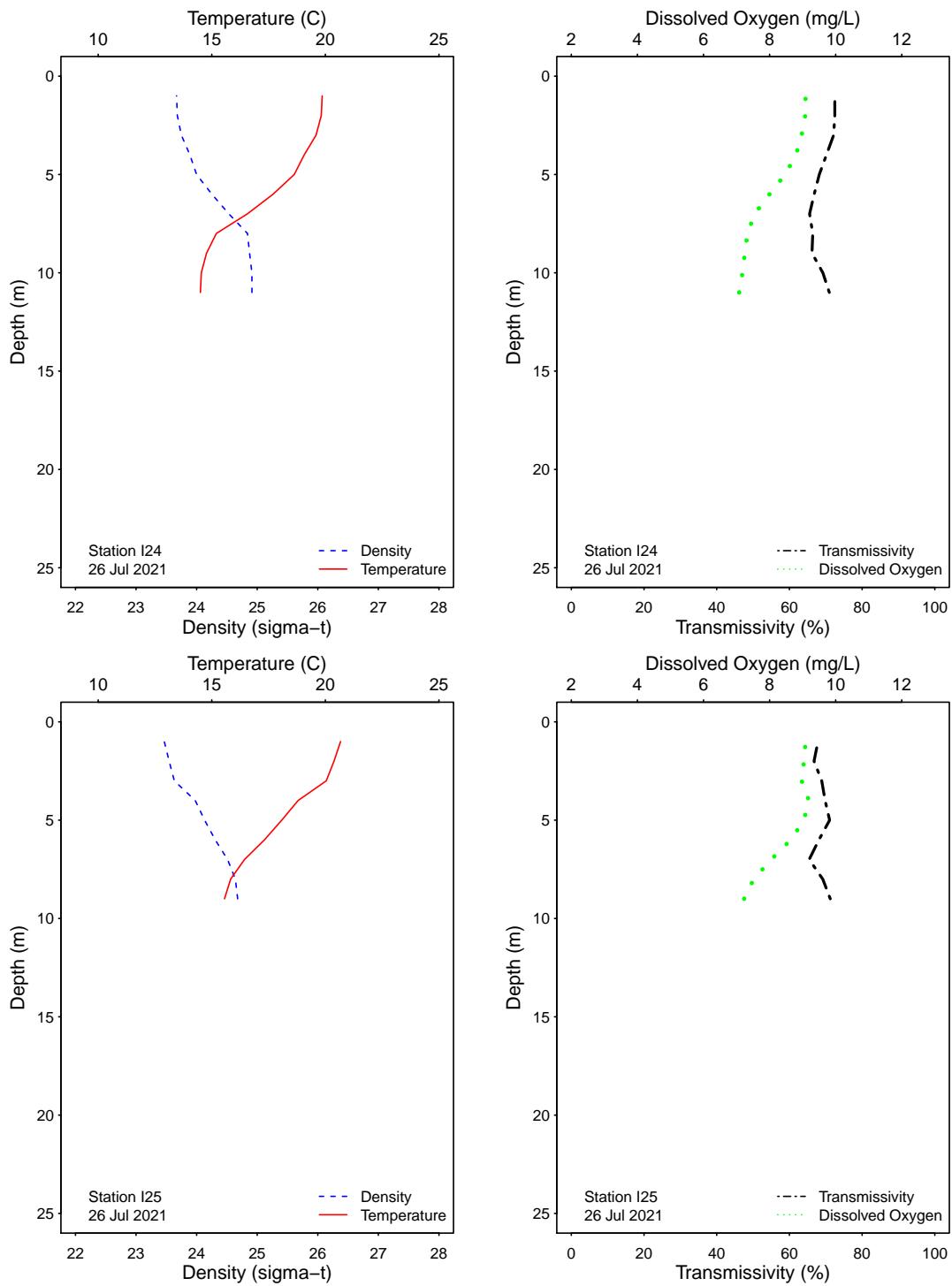


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

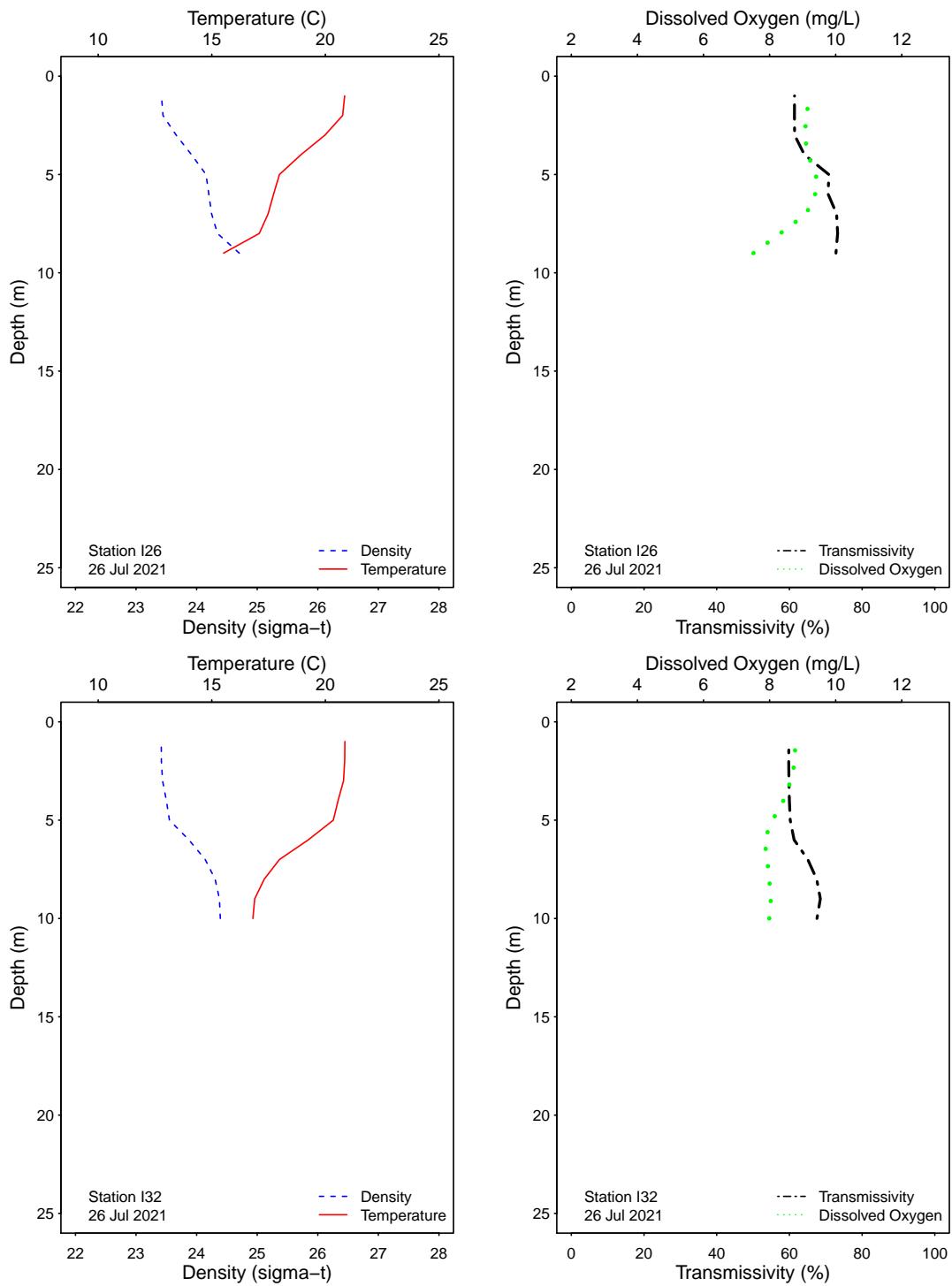


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

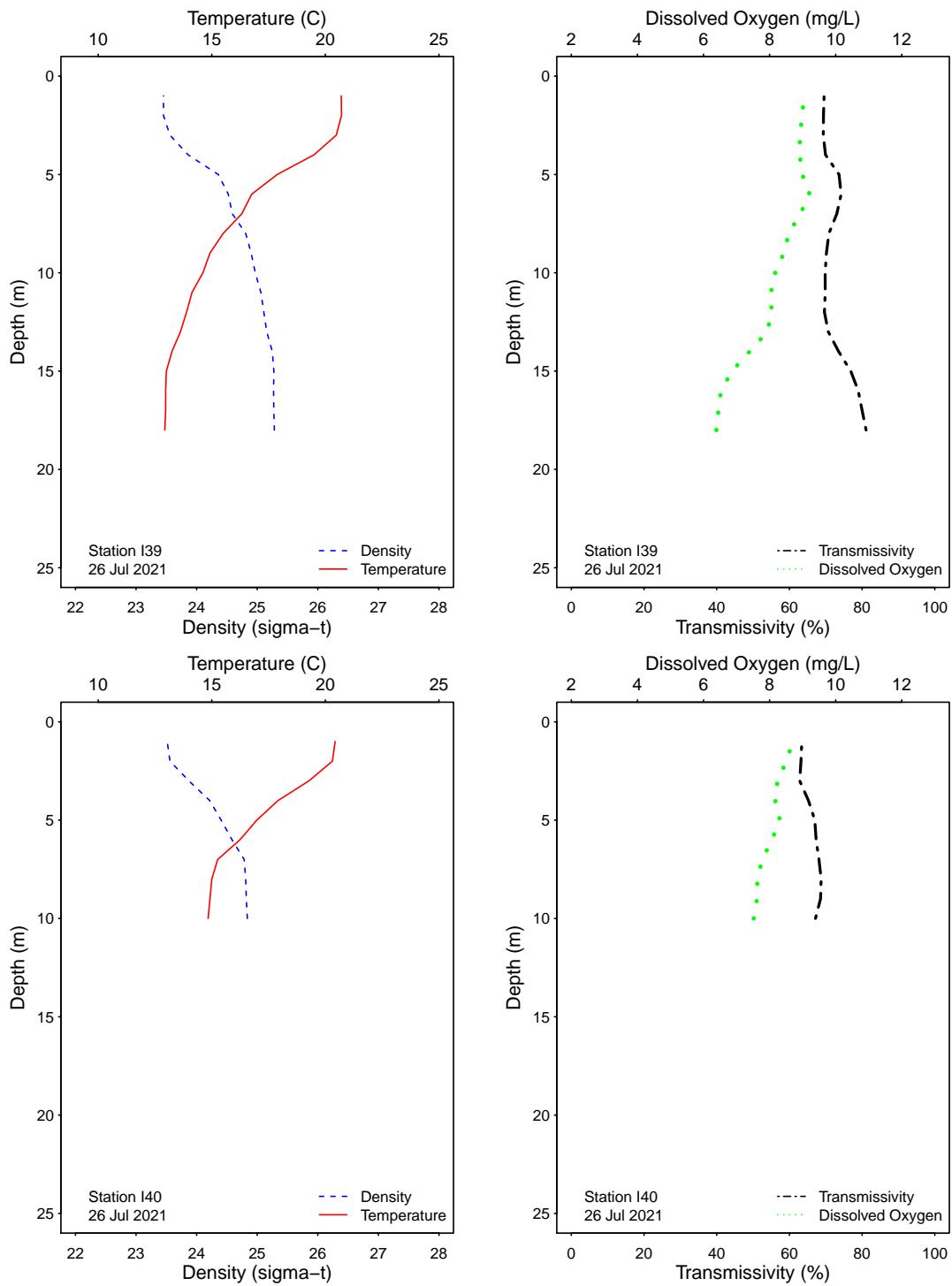


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

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	06 Jul 2021	6	CRE	LAB DUPLICATE	<2	<2	<2
I19	12 Jul 2021	6	KA	LAB DUPLICATE	<2	<2	<2
I19	21 Jul 2021	6	CRE	LAB DUPLICATE	16e	<2	<2
I19	26 Jul 2021	6	CRE	LAB DUPLICATE	8e	<2	<2
I40	06 Jul 2021	6	HF	LAB DUPLICATE	<2	<2	<2
I40	12 Jul 2021	6	KA	LAB DUPLICATE	<2	<2	<2
I40	21 Jul 2021	6	CRE	LAB DUPLICATE	6e	<2	<2
I40	26 Jul 2021	6	CRE	LAB DUPLICATE	<20	<2	<2
S12	06 Jul 2021		BS	FIELD DUPLICATE	<200	<2	4e
S12	06 Jul 2021		BS	LAB DUPLICATE	<20	4e	<2
S12	13 Jul 2021		BS	FIELD DUPLICATE	4e	<20	<2
S12	13 Jul 2021		BS	LAB DUPLICATE	<20	<20	2e
S12	20 Jul 2021		KA	FIELD DUPLICATE	<20	4e	<2
S12	20 Jul 2021		KA	LAB DUPLICATE	<20	6e	<2
S12	27 Jul 2021		CRE	FIELD DUPLICATE	400	80e	4e
S12	27 Jul 2021		CRE	LAB DUPLICATE	280e	80e	4e

ns = not sampled

ND = no data

