SD Public Utilities

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 2023

Environmental Monitoring and Technical Services
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CERTIFIED
Public Utilities Department
Continual Improvement, Prevention of Pollution, Regulatory Compliance
ISO 14001

The City *of*
SAN DIEGO
Public Utilities Department
Environmental Monitoring & Technical Services Division

August 31, 2023

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

Attention: POTW Compliance Unit

Dear Mr. Gibson:

Enclosed is the July 2023 Monthly Receiving Waters Monitoring Report for the South Bay Ocean Outfall, South Bay Water Reclamation Plant as required per Order No. R9-2021-0011, NPDES Permit No. CA0109045.

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

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

Sincerely,

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

PV/rk

cc: U.S. Environmental Protection Agency, Region 9

INTRODUCTION

Monthly reports of water quality and ocean conditions from Playa Blanco, Mexico to Coronado, USA are submitted to the San Diego Regional Water Quality Control Board and U.S. EPA Region 9 in accordance with Order No. R9-2021-0011, NPDES Permit No. CA0109045, for the South Bay Water Reclamation Plant (SBWRP), South Bay Ocean Outfall (SBOO). This report includes receiving waters monitoring data collected from all shore, kelp and offshore stations specified in the above order. Data for influent and effluent monitoring activities for the SBWRP are presented in separate reports.

MATERIALS AND METHODS

Shore Stations

Water quality monitoring was conducted at 11 stations located along the shore from Playa Blanca, Mexico to Coronado, USA (see station locations map). Three sites are located south of the international border (stations S0, S2, S3), while eight sites are in the United States (stations S4–S6 and S8–S12).

Seawater samples were collected from the surf zone at each station on a weekly basis. These samples were subsequently transported to the City's Marine Microbiology Laboratory and analyzed for the presence of total coliform, fecal coliform, and *Enterococcus* bacteria. Visual observations of water color and clarity, surf height, human or animal activity, and weather conditions were recorded at the time of sample collection. Wind speed and direction were measured using a hand-held anemometer with a compass.

Kelp Bed Stations

Seven kelp bed and other nearshore stations (I19, I24, I25, I26, I32, I39, I40; collectively referred to as "kelp" stations herein) were sampled four times during the month according to NPDES permit specifications. Six stations (I19, I24, I25, I26, I32, I40) are located along the 9-m depth contour, and one (I39) is located along the 18-m depth contour. Three of these stations, I25, I26, and I39, were selected based on their proximity to suitable substrates for the Imperial Beach kelp bed (see station locations map); however, this kelp bed has been historically transient and variable in terms of size and density. Thus, these three stations are only occasionally located within an area where kelp is actually found.

The seven kelp stations are sampled on a weekly basis during the month. Routine monitoring at each kelp site consists of collecting seawater samples at three discrete depths for bacteriological analyses (total coliforms, fecal coliforms, and *Enterococcus* bacteria) and generating water column profiles of various physical/chemical parameters, including water temperature, salinity, density, dissolved oxygen, pH, chlorophyll *a*, and transmissivity. Visual observations of weather and water conditions are also recorded at all stations.

Seawater samples at the kelp bed stations are primarily collected using a CTD-integrated rosette sampler with Niskin bottles. Aliquots for bacteriological analyses were drawn from these bottles into sterile sample bottles for processing at the City's Marine Microbiology Laboratory. Water column profiles of the various physical/chemical parameters were taken using a CTD. The CTD collected these physical/chemical data at a rate ≥ 4 scans per second. The data were then internally averaged using the CTD proprietary software, Seasoft, to create water column profiles equivalent

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

Offshore Stations

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

<u>Water-Contact Objectives</u>

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 E*nterococci* 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, 1987[2]) is used to statistically compare both the results from the laboratory duplicates, as well as the results from the field duplicates. These data will be further analyzed in the City's 2023 Quality Assurance Report, which will be completed in March 2024.

SUMMARY OF RESULTS

- **Shoreline Water Quality Sampling**
  - Due to site access restrictions in Mexico, the South Bay shoreline sampling is typically carried out on the same day each week (i.e., Tuesday) to coordinate sampling between the Mexican and USA based stations. Seawater samples at the three shore stations located south of the USA/Mexico border (i.e., stations S0, S2 and S3) are presently collected by the Comisión Internacional de Límites y Aguas (CILA) and transported to the USIBWC for subsequent delivery to the City's Marine Microbiology Lab, while samples from the eight stations located in USA waters are sampled by City staff.
  - During July**,** each of the eight shore stations located north of the border was out of compliance with the 2019 California Ocean Plan (Ocean Plan) water contact standards on one or more days as follows:
    - The 30-day running geometric mean standard for fecal coliforms was exceeded at stations S5, S6, S10, and S11.
    - The single sample maximum (SSM) standard for fecal coliforms was exceeded at stations S5, and S6.
    - The 6-week running geometric mean standard for *Enterococcus* was exceeded at stations S4, S5, S6, S10, S11, and S12.

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

        - The statistical threshold value (STV) standard for *Enterococcus* was exceeded at stations S5, S6, and S11.
        - The 30-day running median standard for total coliforms was exceeded at stations S4, S5, S6, S8, S9, S10, S11, and S12.
        - The STV standard for total coliforms was exceeded at stations S4, S5, S6, S11, and S12.
    - A sewage-like odor was observed at station S5 on one or more days in July.
    - 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 5, 13, 19, and 27.
    - During July, one of the seven kelp bed stations was out of compliance with the various 2019 Ocean Plan water contact standards on one or more days as follows:
        - The 30-day running median standard for total coliforms was exceeded at station I19.
    - Water column temperatures ranged from 11.47 to 20.75°C. The difference between surface and bottom waters ranged from 0.65 to 7.35°C.
    - Concentrations of chlorophyll *a* ranged from 0.35 to 12.84 µg/L at the kelp bed stations.
    - Nothing of sewage origin was observed at SBOO kelp stations in July.

- **Offshore Water Quality Sampling**
    - Quarterly sampling was not conducted during July at the offshore stations. The next quarterly sampling is scheduled for August 2023.

TABLES AND FIGURES

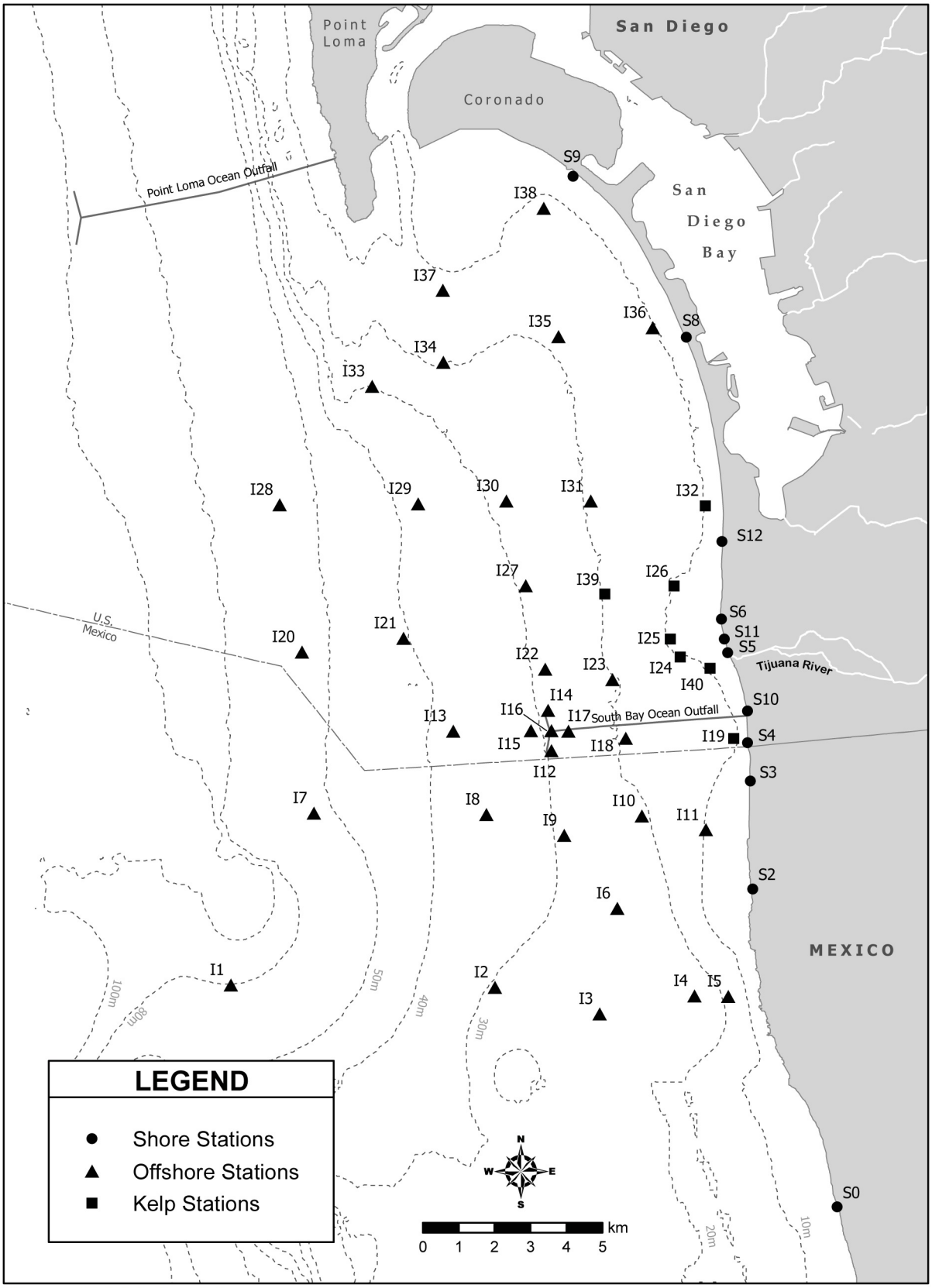

Figure 1.1 Station Map

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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 2023	166	**5577**	**239**	4	6	**1661**	**386**	61
02 Jul 2023	166	**5577**	**239**	4	6	**1661**	**386**	61
03 Jul 2023	166	**5577**	**239**	4	6	**1661**	**386**	61
04 Jul 2023	166	**5577**	**239**	4	6	**1661**	**386**	61
05 Jul 2023	166	**5577**	**239**	4	6	**1661**	**386**	61
06 Jul 2023	77	**5577**	160	3	5	**640**	165	21
07 Jul 2023	77	**5577**	160	3	5	**640**	165	21
08 Jul 2023	77	**5577**	160	3	5	**640**	165	21
09 Jul 2023	77	**5577**	160	3	5	**640**	165	21
10 Jul 2023	77	**5577**	160	3	5	**640**	165	21
11 Jul 2023	37	**5270**	83	3	4	**202**	85	15
12 Jul 2023	37	**5270**	83	3	4	**202**	85	15
13 Jul 2023	11	**4690**	33	3	5	88	38	6
14 Jul 2023	11	**4690**	33	3	5	88	38	6
15 Jul 2023	11	**4690**	33	3	5	88	38	6
16 Jul 2023	11	**4690**	33	3	5	88	38	6
17 Jul 2023	11	**4690**	33	3	5	88	38	6
18 Jul 2023	9	**1422**	39	3	5	41	34	5
19 Jul 2023	9	**1422**	39	3	5	41	34	5
20 Jul 2023	14	**1641**	38	2	6	23	18	7
21 Jul 2023	14	**1641**	38	2	6	23	18	7
22 Jul 2023	14	**1641**	38	2	6	23	18	7
23 Jul 2023	14	**1641**	38	2	6	23	18	7
24 Jul 2023	14	**1641**	38	2	6	23	18	7
25 Jul 2023	9	**1324**	21	2	8	19	14	9
26 Jul 2023	9	**1324**	21	2	8	19	14	9
27 Jul 2023	6	**763**	38	2	6	5	22	13
28 Jul 2023	6	**763**	38	2	6	5	22	13
29 Jul 2023	6	**763**	38	2	6	5	22	13
30 Jul 2023	6	**763**	38	2	6	5	22	13
31 Jul 2023	6	**763**	38	2	6	5	22	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 2023	IC	**E**	**E**	IC	IC	IC	IC	IC
11 Jul 2023	IC	**E**	IC	IC	IC	IC	IC	IC
18 Jul 2023	IC	IC	IC	IC	IC	IC	IC	IC
25 Jul 2023	IC	**E**	IC	IC	IC	IC	IC	IC

IC = In Compliance
E = Exceedance
ns = not sampled
ND = no data

Table 2.3

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

Date	S4	S5	S6	S8	S9	S10	S11	S12
01 Jul 2023	**66**	**3524**	**448**	5	6	**399**	**427**	**164**
02 Jul 2023	**66**	**3524**	**448**	5	6	**399**	**427**	**164**
03 Jul 2023	**66**	**3524**	**448**	5	6	**399**	**427**	**164**
04 Jul 2023	**80**	**2758**	**232**	3	5	**605**	**219**	**77**
05 Jul 2023	**80**	**2758**	**232**	3	5	**605**	**219**	**77**
06 Jul 2023	**70**	**3046**	**269**	5	6	**315**	**236**	**66**
07 Jul 2023	**70**	**3046**	**269**	5	6	**315**	**236**	**66**
08 Jul 2023	**70**	**3046**	**269**	5	6	**315**	**236**	**66**
09 Jul 2023	**70**	**3046**	**269**	5	6	**315**	**236**	**66**
10 Jul 2023	**70**	**3046**	**269**	5	6	**315**	**236**	**66**
11 Jul 2023	**46**	**3934**	**138**	3	6	**250**	**168**	**35**
12 Jul 2023	**46**	**3934**	**138**	3	6	**250**	**168**	**35**
13 Jul 2023	**46**	**3934**	**138**	3	6	**250**	**168**	**35**
14 Jul 2023	**46**	**3934**	**138**	3	6	**250**	**168**	**35**
15 Jul 2023	**46**	**3934**	**138**	3	6	**250**	**168**	**35**
16 Jul 2023	**46**	**3934**	**138**	3	6	**250**	**168**	**35**
17 Jul 2023	**46**	**3934**	**138**	3	6	**250**	**168**	**35**
18 Jul 2023	23	**1785**	**87**	3	4	**102**	**88**	15
19 Jul 2023	23	**1785**	**87**	3	4	**102**	**88**	15
20 Jul 2023	23	**1785**	**87**	3	4	**102**	**88**	15
21 Jul 2023	23	**1785**	**87**	3	4	**102**	**88**	15
22 Jul 2023	23	**1785**	**87**	3	4	**102**	**88**	15
23 Jul 2023	23	**1785**	**87**	3	4	**102**	**88**	15
24 Jul 2023	23	**1785**	**87**	3	4	**102**	**88**	15
25 Jul 2023	10	**1166**	**34**	3	5	**33**	**46**	11
26 Jul 2023	10	**1166**	**34**	3	5	**33**	**46**	11
27 Jul 2023	10	**1166**	**34**	3	5	**33**	**46**	11
28 Jul 2023	10	**1166**	**34**	3	5	**33**	**46**	11
29 Jul 2023	10	**1166**	**34**	3	5	**33**	**46**	11
30 Jul 2023	10	**1166**	**34**	3	5	**33**	**46**	11
31 Jul 2023	10	**1166**	**34**	3	5	**33**	**46**	11

* 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**	**E**	IC	IC	IC	**E**	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 2023	**3300**	**15500**	**3800**	20	20	**10600**	**6000**	**1610**
02 Jul 2023	**3300**	**15500**	**3800**	20	20	**10600**	**6000**	**1610**
03 Jul 2023	**3300**	**15500**	**3800**	20	20	**10600**	**6000**	**1610**
04 Jul 2023	**3300**	**15500**	**3800**	20	20	**10600**	**6000**	**1610**
05 Jul 2023	**3300**	**15500**	**3800**	20	20	**10600**	**6000**	**1610**
06 Jul 2023	**300**	**15500**	**500**	20	20	**8700**	**3300**	**210**
07 Jul 2023	**300**	**15500**	**500**	20	20	**8700**	**3300**	**210**
08 Jul 2023	**300**	**15500**	**500**	20	20	**8700**	**3300**	**210**
09 Jul 2023	**300**	**15500**	**500**	20	20	**8700**	**3300**	**210**
10 Jul 2023	**300**	**15500**	**500**	20	20	**8700**	**3300**	**210**
11 Jul 2023	**200**	**16000**	**200**	20	20	**1400**	**1000**	**200**
12 Jul 2023	**200**	**16000**	**200**	20	20	**1400**	**1000**	**200**
13 Jul 2023	**110**	**16000**	**120**	20	**110**	**800**	**510**	**110**
14 Jul 2023	**110**	**16000**	**120**	20	**110**	**800**	**510**	**110**
15 Jul 2023	**110**	**16000**	**120**	20	**110**	**800**	**510**	**110**
16 Jul 2023	**110**	**16000**	**120**	20	**110**	**800**	**510**	**110**
17 Jul 2023	**110**	**16000**	**120**	20	**110**	**800**	**510**	**110**
18 Jul 2023	20	**16000**	**200**	20	**200**	**200**	**200**	**200**
19 Jul 2023	20	**16000**	**200**	20	**200**	**200**	**200**	**200**
20 Jul 2023	**110**	**16000**	**120**	20	**200**	**101**	**110**	**200**
21 Jul 2023	**110**	**16000**	**120**	20	**200**	**101**	**110**	**200**
22 Jul 2023	**110**	**16000**	**120**	20	**200**	**101**	**110**	**200**
23 Jul 2023	**110**	**16000**	**120**	20	**200**	**101**	**110**	**200**
24 Jul 2023	**110**	**16000**	**120**	20	**200**	**101**	**110**	**200**
25 Jul 2023	**200**	**16000**	40	20	**200**	20	**200**	**200**
26 Jul 2023	**200**	**16000**	40	20	**200**	20	**200**	**200**
27 Jul 2023	**110**	**16000**	**120**	**110**	**200**	11	**200**	**200**
28 Jul 2023	**110**	**16000**	**120**	**110**	**200**	11	**200**	**200**
29 Jul 2023	**110**	**16000**	**120**	**110**	**200**	11	**200**	**200**
30 Jul 2023	**110**	**16000**	**120**	**110**	**200**	11	**200**	**200**
31 Jul 2023	**110**	**16000**	**120**	**110**	**200**	11	**200**	**200**

* 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**	**E**	**E**	IC	IC	IC	**E**	**E**

IC = In Compliance
E = Exceedance
ns = not sampled
ND = no data

Table 2.7

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

Station	Date	Time	Total	Fecal	Entero
S0	11 Jul 2023	958	8400	1800e	520
S0	18 Jul 2023	1148	2600e	680	440
S0	25 Jul 2023	915	>16000	6600	3600e
S2	11 Jul 2023	855	<2	<2	<2
S2	18 Jul 2023	1059	8e	<2	2e
S2	25 Jul 2023	1030	2e	<2	<2
S3	11 Jul 2023	920	34e	<2	4e
S3	18 Jul 2023	1115	<2	<2	<2
S3	25 Jul 2023	1000	460	140e	14e
S4	06 Jul 2023	955	400	46	36e
S4	11 Jul 2023	958	<20	2e	<2
S4	18 Jul 2023	938	<20	6e	12e
S4	25 Jul 2023	954	<200	2e	6e
S5	06 Jul 2023	902	>16000	>12000	5000
S5	11 Jul 2023	901	>16000	4200	2600e
S5	18 Jul 2023	850	200e	12e	96
S5	25 Jul 2023	857	>16000	560	140e
S6	06 Jul 2023	915	800e	2400e	560
S6	11 Jul 2023	918	40e	6e	4e
S6	18 Jul 2023	905	<200	76	520
S6	25 Jul 2023	915	40e	<2	<2
S8	06 Jul 2023	822	<200	2e	56
S8	11 Jul 2023	826	<20	<2	<2
S8	18 Jul 2023	818	<20	<2	<2
S8	25 Jul 2023	819	<200	<2	2e
S9	06 Jul 2023	804	<200	10e	18e
S9	11 Jul 2023	806	<200	<2	4e
S9	18 Jul 2023	800	<200	4e	2e
S9	25 Jul 2023	800	200e	<20	<20
S10	06 Jul 2023	1022	200e	22e	12e
S10	11 Jul 2023	1018	2e	<2	<2
S10	18 Jul 2023	953	<2	2e	<2
S10	25 Jul 2023	1014	20e	8e	<2
S11	06 Jul 2023	910	5600	400e	340e
S11	11 Jul 2023	910	20e	6e	8e
S11	18 Jul 2023	858	<200	24e	240e
S11	25 Jul 2023	907	200e	4e	10e
S12	06 Jul 2023	844	400e	60e	30e
S12	11 Jul 2023	846	<200	4e	22e
S12	18 Jul 2023	835	<200	4e	10e
S12	25 Jul 2023	839	20e	32e	<20

ns = not sampled

ND = no data

Comments

Station	Date	Depth	Parameter	Comments
S0	06 Jul 2023			Samplers in Mexico unavailable
S2	06 Jul 2023			Samplers in Mexico unavailable
S3	06 Jul 2023			Samplers in Mexico unavailable

Table 2.8

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

Station	Date	Parameter	Value
S0	11 Jul 2023	Arrive Time	958
S0	11 Jul 2023	Weather	Cloudy
S0	11 Jul 2023	Wind Speed (kts)	1.1
S0	11 Jul 2023	Wind Dir	NW
S0	11 Jul 2023	Animal Life	Dog-1; Seagull-5;
S0	11 Jul 2023	Floatables	None
S0	11 Jul 2023	Water Color	Green
S0	11 Jul 2023	Current Direction	N
S0	11 Jul 2023	Water Temp (C)	15
S0	11 Jul 2023	Wave Height Low (ft)	3
S0	11 Jul 2023	High Tide (ft)	3.17
S0	11 Jul 2023	High Tide Time	513
S0	11 Jul 2023	Low Tide (ft)	1.65
S0	11 Jul 2023	Low Tide Time	1039
S0	11 Jul 2023	Comments	Water turbid; Trash-0; Kelp; 2 L/sec water flowing from storm drain
S0	18 Jul 2023	Arrive Time	1148
S0	18 Jul 2023	Weather	Sunny
S0	18 Jul 2023	Wind Speed (kts)	1.4
S0	18 Jul 2023	Wind Dir	NW
S0	18 Jul 2023	Animal Life	Seagull-15;
S0	18 Jul 2023	Floatables	None
S0	18 Jul 2023	Water Color	Green
S0	18 Jul 2023	Current Direction	N
S0	18 Jul 2023	Water Temp (C)	21
S0	18 Jul 2023	Wave Height Low (ft)	3
S0	18 Jul 2023	High Tide (ft)	3.71
S0	18 Jul 2023	High Tide Time	1109
S0	18 Jul 2023	Low Tide (ft)	-0.47
S0	18 Jul 2023	Low Tide Time	450
S0	18 Jul 2023	Comments	Water turbid; Trash-3; Kelp;Debris; No flow from storm drain
S0	25 Jul 2023	Arrive Time	915
S0	25 Jul 2023	Weather	Cloudy
S0	25 Jul 2023	Wind Speed (kts)	2.1
S0	25 Jul 2023	Wind Dir	NW
S0	25 Jul 2023	Animal Life	Dog-4; Seagull-20;
S0	25 Jul 2023	Floatables	None
S0	25 Jul 2023	Water Color	Green
S0	25 Jul 2023	Current Direction	S
S0	25 Jul 2023	Water Temp (C)	14
S0	25 Jul 2023	Wave Height Low (ft)	2
S0	25 Jul 2023	High Tide (ft)	3.19
S0	25 Jul 2023	High Tide Time	211
S0	25 Jul 2023	Low Tide (ft)	1.69
S0	25 Jul 2023	Low Tide Time	809
S0	25 Jul 2023	Comments	Water turbid; Trash-0; Kelp;Debris; 1 L/sec water flow from storm drain
S2	11 Jul 2023	Arrive Time	855
S2	11 Jul 2023	Weather	Cloudy
S2	11 Jul 2023	Wind Speed (kts)	1.8
S2	11 Jul 2023	Wind Dir	NW
S2	11 Jul 2023	Animal Life	Bird-3; Seagull-15;
S2	11 Jul 2023	Floatables	None

Station	Date	Parameter	Value
S2	11 Jul 2023	Water Color	Green
S2	11 Jul 2023	Current Direction	N
S2	11 Jul 2023	Water Temp (C)	15
S2	11 Jul 2023	Wave Height Low (ft)	3
S2	11 Jul 2023	High Tide (ft)	3.17
S2	11 Jul 2023	High Tide Time	513
S2	11 Jul 2023	Low Tide (ft)	1.65
S2	11 Jul 2023	Low Tide Time	1039
S2	11 Jul 2023	Comments	Water turbid; Trash-0; Kelp; No flow from storm drain
S2	18 Jul 2023	Arrive Time	1059
S2	18 Jul 2023	Weather	Sunny
S2	18 Jul 2023	Wind Speed (kts)	1.1
S2	18 Jul 2023	Wind Dir	NW
S2	18 Jul 2023	Animal Life	Seagull-15;
S2	18 Jul 2023	Floatables	None
S2	18 Jul 2023	Water Color	Green
S2	18 Jul 2023	Current Direction	N
S2	18 Jul 2023	Water Temp (C)	21
S2	18 Jul 2023	Wave Height Low (ft)	3
S2	18 Jul 2023	High Tide (ft)	3.71
S2	18 Jul 2023	High Tide Time	1109
S2	18 Jul 2023	Low Tide (ft)	-0.47
S2	18 Jul 2023	Low Tide Time	450
S2	18 Jul 2023	Comments	Water turbid; Trash-2; Kelp;Debris; No flow from storm drain
S2	25 Jul 2023	Arrive Time	1030
S2	25 Jul 2023	Weather	Sunny
S2	25 Jul 2023	Wind Speed (kts)	2.8
S2	25 Jul 2023	Wind Dir	NW
S2	25 Jul 2023	Animal Life	
S2	25 Jul 2023	Floatables	None
S2	25 Jul 2023	Water Color	Green
S2	25 Jul 2023	Current Direction	S
S2	25 Jul 2023	Water Temp (C)	14
S2	25 Jul 2023	Wave Height Low (ft)	2
S2	25 Jul 2023	High Tide (ft)	3.19
S2	25 Jul 2023	High Tide Time	211
S2	25 Jul 2023	Low Tide (ft)	1.69
S2	25 Jul 2023	Low Tide Time	809
S2	25 Jul 2023	Comments	Water turbid; Trash-0; Kelp; No flow from storm drain
S3	11 Jul 2023	Arrive Time	920
S3	11 Jul 2023	Weather	Cloudy
S3	11 Jul 2023	Wind Speed (kts)	1.5
S3	11 Jul 2023	Wind Dir	NW
S3	11 Jul 2023	Animal Life	Dog-6; Seagull-5;
S3	11 Jul 2023	Floatables	None
S3	11 Jul 2023	Water Color	Green
S3	11 Jul 2023	Current Direction	N
S3	11 Jul 2023	Water Temp (C)	15
S3	11 Jul 2023	Wave Height Low (ft)	3
S3	11 Jul 2023	High Tide (ft)	3.17
S3	11 Jul 2023	High Tide Time	513
S3	11 Jul 2023	Low Tide (ft)	1.65
S3	11 Jul 2023	Low Tide Time	1039
S3	11 Jul 2023	Comments	Water turbid; Trash-1; Kelp;Debris; No flow from storm drain
S3	18 Jul 2023	Arrive Time	1115
S3	18 Jul 2023	Weather	Sunny
S3	18 Jul 2023	Wind Speed (kts)	2.1

Station	Date	Parameter	Value
S3	18 Jul 2023	Wind Dir	NW
S3	18 Jul 2023	Animal Life	Seagull-15;
S3	18 Jul 2023	Floatables	None
S3	18 Jul 2023	Water Color	Green
S3	18 Jul 2023	Current Direction	N
S3	18 Jul 2023	Water Temp (C)	21
S3	18 Jul 2023	Wave Height Low (ft)	3
S3	18 Jul 2023	High Tide (ft)	3.71
S3	18 Jul 2023	High Tide Time	1109
S3	18 Jul 2023	Low Tide (ft)	-0.47
S3	18 Jul 2023	Low Tide Time	450
S3	18 Jul 2023	Comments	Water turbid; Trash-4; Kelp;Debris; No flow from storm drain
S3	25 Jul 2023	Arrive Time	1000
S3	25 Jul 2023	Weather	Sunny
S3	25 Jul 2023	Wind Speed (kts)	2.2
S3	25 Jul 2023	Wind Dir	NW
S3	25 Jul 2023	Animal Life	
S3	25 Jul 2023	Floatables	None
S3	25 Jul 2023	Water Color	Green
S3	25 Jul 2023	Current Direction	S
S3	25 Jul 2023	Water Temp (C)	15
S3	25 Jul 2023	Wave Height Low (ft)	2
S3	25 Jul 2023	High Tide (ft)	3.19
S3	25 Jul 2023	High Tide Time	211
S3	25 Jul 2023	Low Tide (ft)	1.69
S3	25 Jul 2023	Low Tide Time	809
S3	25 Jul 2023	Comments	Water turbid; Trash-0; Kelp; No flow from storm drain
S4	06 Jul 2023	Arrive Time	955
S4	06 Jul 2023	Weather	Cloudy
S4	06 Jul 2023	Wind Speed (kts)	4.9
S4	06 Jul 2023	Wind Dir	W
S4	06 Jul 2023	Animal Life	
S4	06 Jul 2023	Floatables	Foam
S4	06 Jul 2023	Water Color	Colorless
S4	06 Jul 2023	Current Direction	S
S4	06 Jul 2023	Water Temp (C)	16
S4	06 Jul 2023	Wave Height Low (ft)	1
S4	06 Jul 2023	High Tide (ft)	4.1
S4	06 Jul 2023	High Tide Time	1258
S4	06 Jul 2023	Low Tide (ft)	-1.08
S4	06 Jul 2023	Low Tide Time	633
S4	06 Jul 2023	Comments	Water clear; Trash-1; Seagrass;Kelp; Horse rider-1
S4	11 Jul 2023	Arrive Time	958
S4	11 Jul 2023	Weather	Cloudy
S4	11 Jul 2023	Wind Speed (kts)	0.5
S4	11 Jul 2023	Wind Dir	NE
S4	11 Jul 2023	Animal Life	
S4	11 Jul 2023	Floatables	None
S4	11 Jul 2023	Water Color	Green
S4	11 Jul 2023	Current Direction	S
S4	11 Jul 2023	Water Temp (C)	16
S4	11 Jul 2023	Wave Height Low (ft)	2
S4	11 Jul 2023	High Tide (ft)	3.17
S4	11 Jul 2023	High Tide Time	513
S4	11 Jul 2023	Low Tide (ft)	1.65
S4	11 Jul 2023	Low Tide Time	1039
S4	11 Jul 2023	Comments	Water clear; Trash-2; Kelp;Seagrass

Station	Date	Parameter	Value
S4	18 Jul 2023	Arrive Time	938
S4	18 Jul 2023	Weather	Foggy
S4	18 Jul 2023	Wind Speed (kts)	3.3
S4	18 Jul 2023	Wind Dir	NW
S4	18 Jul 2023	Animal Life	Bird-3;
S4	18 Jul 2023	Floatables	None
S4	18 Jul 2023	Water Color	Green
S4	18 Jul 2023	Current Direction	S
S4	18 Jul 2023	Water Temp (C)	20
S4	18 Jul 2023	Wave Height Low (ft)	2
S4	18 Jul 2023	High Tide (ft)	3.71
S4	18 Jul 2023	High Tide Time	1109
S4	18 Jul 2023	Low Tide (ft)	-0.47
S4	18 Jul 2023	Low Tide Time	450
S4	18 Jul 2023	Comments	Water clear; Trash-2; Seagrass;Kelp;Debris
S4	25 Jul 2023	Arrive Time	954
S4	25 Jul 2023	Weather	Cloudy
S4	25 Jul 2023	Wind Speed (kts)	1.32
S4	25 Jul 2023	Wind Dir	S
S4	25 Jul 2023	Animal Life	Bird-3;
S4	25 Jul 2023	Floatables	None
S4	25 Jul 2023	Water Color	Green
S4	25 Jul 2023	Current Direction	S
S4	25 Jul 2023	Water Temp (C)	19
S4	25 Jul 2023	Wave Height Low (ft)	2
S4	25 Jul 2023	High Tide (ft)	3.19
S4	25 Jul 2023	High Tide Time	211
S4	25 Jul 2023	Low Tide (ft)	1.69
S4	25 Jul 2023	Low Tide Time	809
S4	25 Jul 2023	Comments	Water clear; Trash-1; Kelp;Seagrass
S5	06 Jul 2023	Arrive Time	902
S5	06 Jul 2023	Weather	Cloudy
S5	06 Jul 2023	Wind Speed (kts)	3.4
S5	06 Jul 2023	Wind Dir	W
S5	06 Jul 2023	Animal Life	
S5	06 Jul 2023	Floatables	None
S5	06 Jul 2023	Water Color	Green
S5	06 Jul 2023	Current Direction	S
S5	06 Jul 2023	Water Temp (C)	16
S5	06 Jul 2023	Wave Height Low (ft)	3.5
S5	06 Jul 2023	High Tide (ft)	4.1
S5	06 Jul 2023	High Tide Time	1258
S5	06 Jul 2023	Low Tide (ft)	-1.08
S5	06 Jul 2023	Low Tide Time	633
S5	06 Jul 2023	Comments	Water clear; Trash-1; Kelp;Seagrass; Sewage-like odor
S5	11 Jul 2023	Arrive Time	901
S5	11 Jul 2023	Weather	Cloudy
S5	11 Jul 2023	Wind Speed (kts)	1.4
S5	11 Jul 2023	Wind Dir	N
S5	11 Jul 2023	Animal Life	
S5	11 Jul 2023	Floatables	None
S5	11 Jul 2023	Water Color	Green
S5	11 Jul 2023	Current Direction	S
S5	11 Jul 2023	Water Temp (C)	16
S5	11 Jul 2023	Wave Height Low (ft)	1
S5	11 Jul 2023	High Tide (ft)	3.17
S5	11 Jul 2023	High Tide Time	513
S5	11 Jul 2023	Low Tide (ft)	1.65

Station	Date	Parameter	Value
S5	11 Jul 2023	Low Tide Time	1039
S5	11 Jul 2023	Comments	Water clear; Trash-1; Kelp;Seagrass; Person/Walker/Jogger-1; Sewage-like odor
S5	18 Jul 2023	Arrive Time	850
S5	18 Jul 2023	Weather	Hazy
S5	18 Jul 2023	Wind Speed (kts)	4.4
S5	18 Jul 2023	Wind Dir	W
S5	18 Jul 2023	Animal Life	Bird-3;
S5	18 Jul 2023	Floatables	None
S5	18 Jul 2023	Water Color	Green
S5	18 Jul 2023	Current Direction	S
S5	18 Jul 2023	Water Temp (C)	19
S5	18 Jul 2023	Wave Height Low (ft)	3
S5	18 Jul 2023	High Tide (ft)	3.71
S5	18 Jul 2023	High Tide Time	1109
S5	18 Jul 2023	Low Tide (ft)	-0.47
S5	18 Jul 2023	Low Tide Time	450
S5	18 Jul 2023	Comments	Water clear; Trash-2; Seagrass;Kelp;Debris
S5	25 Jul 2023	Arrive Time	857
S5	25 Jul 2023	Weather	Cloudy
S5	25 Jul 2023	Wind Speed (kts)	1.1
S5	25 Jul 2023	Wind Dir	S
S5	25 Jul 2023	Animal Life	Bird-2;
S5	25 Jul 2023	Floatables	None
S5	25 Jul 2023	Water Color	Green
S5	25 Jul 2023	Current Direction	S
S5	25 Jul 2023	Water Temp (C)	20
S5	25 Jul 2023	Wave Height Low (ft)	1
S5	25 Jul 2023	High Tide (ft)	3.19
S5	25 Jul 2023	High Tide Time	211
S5	25 Jul 2023	Low Tide (ft)	1.69
S5	25 Jul 2023	Low Tide Time	809
S5	25 Jul 2023	Comments	Water clear; Trash-1; Kelp;Seagrass; Sewage-like odor
S6	06 Jul 2023	Arrive Time	915
S6	06 Jul 2023	Weather	Cloudy
S6	06 Jul 2023	Wind Speed (kts)	4.92
S6	06 Jul 2023	Wind Dir	W
S6	06 Jul 2023	Animal Life	
S6	06 Jul 2023	Floatables	None
S6	06 Jul 2023	Water Color	Green
S6	06 Jul 2023	Current Direction	S
S6	06 Jul 2023	Water Temp (C)	14
S6	06 Jul 2023	Wave Height Low (ft)	2
S6	06 Jul 2023	High Tide (ft)	4.1
S6	06 Jul 2023	High Tide Time	1258
S6	06 Jul 2023	Low Tide (ft)	-1.08
S6	06 Jul 2023	Low Tide Time	633
S6	06 Jul 2023	Comments	Water clear; Trash-1; Kelp;Seagrass;Algae; Person/Walker/Jogger-2
S6	11 Jul 2023	Arrive Time	918
S6	11 Jul 2023	Weather	Cloudy
S6	11 Jul 2023	Wind Speed (kts)	0.8
S6	11 Jul 2023	Wind Dir	E
S6	11 Jul 2023	Animal Life	
S6	11 Jul 2023	Floatables	None
S6	11 Jul 2023	Water Color	Green
S6	11 Jul 2023	Current Direction	S

Station	Date	Parameter	Value
S6	11 Jul 2023	Water Temp (C)	16
S6	11 Jul 2023	Wave Height Low (ft)	1
S6	11 Jul 2023	High Tide (ft)	3.17
S6	11 Jul 2023	High Tide Time	513
S6	11 Jul 2023	Low Tide (ft)	1.65
S6	11 Jul 2023	Low Tide Time	1039
S6	11 Jul 2023	Comments	Water clear; Trash-1; Kelp;Seagrass
S6	18 Jul 2023	Arrive Time	905
S6	18 Jul 2023	Weather	Hazy
S6	18 Jul 2023	Wind Speed (kts)	4.6
S6	18 Jul 2023	Wind Dir	W
S6	18 Jul 2023	Animal Life	
S6	18 Jul 2023	Floatables	Foam
S6	18 Jul 2023	Water Color	Green
S6	18 Jul 2023	Current Direction	S
S6	18 Jul 2023	Water Temp (C)	18
S6	18 Jul 2023	Wave Height Low (ft)	2
S6	18 Jul 2023	High Tide (ft)	3.71
S6	18 Jul 2023	High Tide Time	1109
S6	18 Jul 2023	Low Tide (ft)	-0.47
S6	18 Jul 2023	Low Tide Time	450
S6	18 Jul 2023	Comments	Water clear; Trash-1; Seagrass;Kelp
S6	25 Jul 2023	Arrive Time	915
S6	25 Jul 2023	Weather	Cloudy
S6	25 Jul 2023	Wind Speed (kts)	0
S6	25 Jul 2023	Wind Dir	
S6	25 Jul 2023	Animal Life	
S6	25 Jul 2023	Floatables	None
S6	25 Jul 2023	Water Color	Green
S6	25 Jul 2023	Current Direction	S
S6	25 Jul 2023	Water Temp (C)	18
S6	25 Jul 2023	Wave Height Low (ft)	2
S6	25 Jul 2023	High Tide (ft)	3.19
S6	25 Jul 2023	High Tide Time	211
S6	25 Jul 2023	Low Tide (ft)	1.69
S6	25 Jul 2023	Low Tide Time	809
S6	25 Jul 2023	Comments	Water clear; Trash-1; Seagrass
S8	06 Jul 2023	Arrive Time	822
S8	06 Jul 2023	Weather	Cloudy
S8	06 Jul 2023	Wind Speed (kts)	1.6
S8	06 Jul 2023	Wind Dir	SW
S8	06 Jul 2023	Animal Life	
S8	06 Jul 2023	Floatables	Foam
S8	06 Jul 2023	Water Color	Green
S8	06 Jul 2023	Current Direction	S
S8	06 Jul 2023	Water Temp (C)	15
S8	06 Jul 2023	Wave Height Low (ft)	3
S8	06 Jul 2023	High Tide (ft)	4.1
S8	06 Jul 2023	High Tide Time	1258
S8	06 Jul 2023	Low Tide (ft)	-1.08
S8	06 Jul 2023	Low Tide Time	633
S8	06 Jul 2023	Comments	Water clear; Trash-2; Kelp;Seagrass;Debris
S8	11 Jul 2023	Arrive Time	826
S8	11 Jul 2023	Weather	Sunny
S8	11 Jul 2023	Wind Speed (kts)	4.1
S8	11 Jul 2023	Wind Dir	E
S8	11 Jul 2023	Animal Life	

Station	Date	Parameter	Value
S8	11 Jul 2023	Floatables	None
S8	11 Jul 2023	Water Color	Green
S8	11 Jul 2023	Current Direction	S
S8	11 Jul 2023	Water Temp (C)	16
S8	11 Jul 2023	Wave Height Low (ft)	1
S8	11 Jul 2023	High Tide (ft)	3.17
S8	11 Jul 2023	High Tide Time	513
S8	11 Jul 2023	Low Tide (ft)	1.65
S8	11 Jul 2023	Low Tide Time	1039
S8	11 Jul 2023	Comments	Water clear; Trash-2; Kelp;Seagrass
S8	18 Jul 2023	Arrive Time	818
S8	18 Jul 2023	Weather	Hazy
S8	18 Jul 2023	Wind Speed (kts)	4.4
S8	18 Jul 2023	Wind Dir	W
S8	18 Jul 2023	Animal Life	Bird-8;
S8	18 Jul 2023	Floatables	None
S8	18 Jul 2023	Water Color	Green
S8	18 Jul 2023	Current Direction	S
S8	18 Jul 2023	Water Temp (C)	19
S8	18 Jul 2023	Wave Height Low (ft)	2
S8	18 Jul 2023	High Tide (ft)	3.71
S8	18 Jul 2023	High Tide Time	1109
S8	18 Jul 2023	Low Tide (ft)	-0.47
S8	18 Jul 2023	Low Tide Time	450
S8	18 Jul 2023	Comments	Water clear; Trash-1; Kelp
S8	25 Jul 2023	Arrive Time	819
S8	25 Jul 2023	Weather	Cloudy
S8	25 Jul 2023	Wind Speed (kts)	2.7
S8	25 Jul 2023	Wind Dir	W
S8	25 Jul 2023	Animal Life	
S8	25 Jul 2023	Floatables	None
S8	25 Jul 2023	Water Color	Green
S8	25 Jul 2023	Current Direction	S
S8	25 Jul 2023	Water Temp (C)	19
S8	25 Jul 2023	Wave Height Low (ft)	1
S8	25 Jul 2023	High Tide (ft)	3.19
S8	25 Jul 2023	High Tide Time	211
S8	25 Jul 2023	Low Tide (ft)	1.69
S8	25 Jul 2023	Low Tide Time	809
S8	25 Jul 2023	Comments	Water clear; Trash-1; Seagrass;Kelp
S9	06 Jul 2023	Arrive Time	804
S9	06 Jul 2023	Weather	Cloudy
S9	06 Jul 2023	Wind Speed (kts)	0.8
S9	06 Jul 2023	Wind Dir	W
S9	06 Jul 2023	Animal Life	
S9	06 Jul 2023	Floatables	Foam
S9	06 Jul 2023	Water Color	Green
S9	06 Jul 2023	Current Direction	S
S9	06 Jul 2023	Water Temp (C)	13
S9	06 Jul 2023	Wave Height Low (ft)	1
S9	06 Jul 2023	High Tide (ft)	4.1
S9	06 Jul 2023	High Tide Time	1258
S9	06 Jul 2023	Low Tide (ft)	-1.08
S9	06 Jul 2023	Low Tide Time	633
S9	06 Jul 2023	Comments	Water clear; Trash-1; Kelp;Seagrass; Person/Walker/Jogger-3
S9	11 Jul 2023	Arrive Time	806

Station	Date	Parameter	Value
S9	11 Jul 2023	Weather	Sunny
S9	11 Jul 2023	Wind Speed (kts)	2.7
S9	11 Jul 2023	Wind Dir	N
S9	11 Jul 2023	Animal Life	Bird-2; Seagull-2;
S9	11 Jul 2023	Floatables	None
S9	11 Jul 2023	Water Color	Green
S9	11 Jul 2023	Current Direction	S
S9	11 Jul 2023	Water Temp (C)	15
S9	11 Jul 2023	Wave Height Low (ft)	1
S9	11 Jul 2023	High Tide (ft)	3.17
S9	11 Jul 2023	High Tide Time	513
S9	11 Jul 2023	Low Tide (ft)	1.65
S9	11 Jul 2023	Low Tide Time	1039
S9	11 Jul 2023	Comments	Water clear; Trash-1; Seagrass;Kelp
S9	18 Jul 2023	Arrive Time	800
S9	18 Jul 2023	Weather	Hazy
S9	18 Jul 2023	Wind Speed (kts)	3.4
S9	18 Jul 2023	Wind Dir	NW
S9	18 Jul 2023	Animal Life	Bird-1;
S9	18 Jul 2023	Floatables	None
S9	18 Jul 2023	Water Color	Green
S9	18 Jul 2023	Current Direction	S
S9	18 Jul 2023	Water Temp (C)	18
S9	18 Jul 2023	Wave Height Low (ft)	1
S9	18 Jul 2023	High Tide (ft)	3.71
S9	18 Jul 2023	High Tide Time	1109
S9	18 Jul 2023	Low Tide (ft)	-0.47
S9	18 Jul 2023	Low Tide Time	450
S9	18 Jul 2023	Comments	Water clear; Trash-1; Kelp;Seagrass;Debris
S9	25 Jul 2023	Arrive Time	800
S9	25 Jul 2023	Weather	Sunny
S9	25 Jul 2023	Wind Speed (kts)	2.5
S9	25 Jul 2023	Wind Dir	S
S9	25 Jul 2023	Animal Life	Bird-2;
S9	25 Jul 2023	Floatables	None
S9	25 Jul 2023	Water Color	Green
S9	25 Jul 2023	Current Direction	S
S9	25 Jul 2023	Water Temp (C)	18
S9	25 Jul 2023	Wave Height Low (ft)	1
S9	25 Jul 2023	High Tide (ft)	3.19
S9	25 Jul 2023	High Tide Time	211
S9	25 Jul 2023	Low Tide (ft)	1.69
S9	25 Jul 2023	Low Tide Time	809
S9	25 Jul 2023	Comments	Water clear; Trash-1; Kelp;Seagrass
S10	06 Jul 2023	Arrive Time	1022
S10	06 Jul 2023	Weather	Cloudy
S10	06 Jul 2023	Wind Speed (kts)	6.1
S10	06 Jul 2023	Wind Dir	W
S10	06 Jul 2023	Animal Life	
S10	06 Jul 2023	Floatables	None
S10	06 Jul 2023	Water Color	Green
S10	06 Jul 2023	Current Direction	S
S10	06 Jul 2023	Water Temp (C)	16
S10	06 Jul 2023	Wave Height Low (ft)	1
S10	06 Jul 2023	High Tide (ft)	4.1
S10	06 Jul 2023	High Tide Time	1258
S10	06 Jul 2023	Low Tide (ft)	-1.08
S10	06 Jul 2023	Low Tide Time	633

Station	Date	Parameter	Value
S10	06 Jul 2023	Comments	Water clear; Trash-1; Kelp;Seagrass
S10	11 Jul 2023	Arrive Time	1018
S10	11 Jul 2023	Weather	Cloudy
S10	11 Jul 2023	Wind Speed (kts)	2.1
S10	11 Jul 2023	Wind Dir	E
S10	11 Jul 2023	Animal Life	
S10	11 Jul 2023	Floatables	None
S10	11 Jul 2023	Water Color	Green
S10	11 Jul 2023	Current Direction	S
S10	11 Jul 2023	Water Temp (C)	16
S10	11 Jul 2023	Wave Height Low (ft)	2
S10	11 Jul 2023	High Tide (ft)	3.17
S10	11 Jul 2023	High Tide Time	513
S10	11 Jul 2023	Low Tide (ft)	1.65
S10	11 Jul 2023	Low Tide Time	1039
S10	11 Jul 2023	Comments	Water clear; Trash-1; Kelp;Seagrass
S10	18 Jul 2023	Arrive Time	953
S10	18 Jul 2023	Weather	Foggy
S10	18 Jul 2023	Wind Speed (kts)	4.6
S10	18 Jul 2023	Wind Dir	W
S10	18 Jul 2023	Animal Life	Bird-3;
S10	18 Jul 2023	Floatables	None
S10	18 Jul 2023	Water Color	Green
S10	18 Jul 2023	Current Direction	S
S10	18 Jul 2023	Water Temp (C)	20
S10	18 Jul 2023	Wave Height Low (ft)	2
S10	18 Jul 2023	High Tide (ft)	3.71
S10	18 Jul 2023	High Tide Time	1109
S10	18 Jul 2023	Low Tide (ft)	-0.47
S10	18 Jul 2023	Low Tide Time	450
S10	18 Jul 2023	Comments	Water clear; Trash-1; Seagrass;Kelp
S10	25 Jul 2023	Arrive Time	1014
S10	25 Jul 2023	Weather	Cloudy
S10	25 Jul 2023	Wind Speed (kts)	4.4
S10	25 Jul 2023	Wind Dir	SE
S10	25 Jul 2023	Animal Life	Pelican-2;
S10	25 Jul 2023	Floatables	None
S10	25 Jul 2023	Water Color	Green
S10	25 Jul 2023	Current Direction	S
S10	25 Jul 2023	Water Temp (C)	20
S10	25 Jul 2023	Wave Height Low (ft)	1.5
S10	25 Jul 2023	High Tide (ft)	3.19
S10	25 Jul 2023	High Tide Time	211
S10	25 Jul 2023	Low Tide (ft)	1.69
S10	25 Jul 2023	Low Tide Time	809
S10	25 Jul 2023	Comments	Water clear; Trash-1; Seagrass
S11	06 Jul 2023	Arrive Time	910
S11	06 Jul 2023	Weather	Cloudy
S11	06 Jul 2023	Wind Speed (kts)	4.2
S11	06 Jul 2023	Wind Dir	W
S11	06 Jul 2023	Animal Life	
S11	06 Jul 2023	Floatables	None
S11	06 Jul 2023	Water Color	Green
S11	06 Jul 2023	Current Direction	S
S11	06 Jul 2023	Water Temp (C)	14
S11	06 Jul 2023	Wave Height Low (ft)	2
S11	06 Jul 2023	High Tide (ft)	4.1

Station	Date	Parameter	Value
S11	06 Jul 2023	High Tide Time	1258
S11	06 Jul 2023	Low Tide (ft)	-1.08
S11	06 Jul 2023	Low Tide Time	633
S11	06 Jul 2023	Comments	Water clear; Trash-1; Kelp;Seagrass
S11	11 Jul 2023	Arrive Time	910
S11	11 Jul 2023	Weather	Cloudy
S11	11 Jul 2023	Wind Speed (kts)	2.8
S11	11 Jul 2023	Wind Dir	S
S11	11 Jul 2023	Animal Life	
S11	11 Jul 2023	Floatables	None
S11	11 Jul 2023	Water Color	Green
S11	11 Jul 2023	Current Direction	S
S11	11 Jul 2023	Water Temp (C)	15
S11	11 Jul 2023	Wave Height Low (ft)	2
S11	11 Jul 2023	High Tide (ft)	3.17
S11	11 Jul 2023	High Tide Time	513
S11	11 Jul 2023	Low Tide (ft)	1.65
S11	11 Jul 2023	Low Tide Time	1039
S11	11 Jul 2023	Comments	Water clear; Trash-1; Kelp;Seagrass;Algae;Debris; Person/Walker/Jogger-1
S11	18 Jul 2023	Arrive Time	858
S11	18 Jul 2023	Weather	Hazy
S11	18 Jul 2023	Wind Speed (kts)	3.6
S11	18 Jul 2023	Wind Dir	W
S11	18 Jul 2023	Animal Life	Dog-1;
S11	18 Jul 2023	Floatables	None
S11	18 Jul 2023	Water Color	Green
S11	18 Jul 2023	Current Direction	S
S11	18 Jul 2023	Water Temp (C)	18
S11	18 Jul 2023	Wave Height Low (ft)	2
S11	18 Jul 2023	High Tide (ft)	3.71
S11	18 Jul 2023	High Tide Time	1109
S11	18 Jul 2023	Low Tide (ft)	-0.47
S11	18 Jul 2023	Low Tide Time	450
S11	18 Jul 2023	Comments	Water clear; Trash-1; Seagrass;Kelp; Person/Walker/Jogger-2
S11	25 Jul 2023	Arrive Time	907
S11	25 Jul 2023	Weather	Cloudy
S11	25 Jul 2023	Wind Speed (kts)	1.7
S11	25 Jul 2023	Wind Dir	S
S11	25 Jul 2023	Animal Life	
S11	25 Jul 2023	Floatables	None
S11	25 Jul 2023	Water Color	Green
S11	25 Jul 2023	Current Direction	S
S11	25 Jul 2023	Water Temp (C)	19
S11	25 Jul 2023	Wave Height Low (ft)	2
S11	25 Jul 2023	High Tide (ft)	3.19
S11	25 Jul 2023	High Tide Time	211
S11	25 Jul 2023	Low Tide (ft)	1.69
S11	25 Jul 2023	Low Tide Time	809
S11	25 Jul 2023	Comments	Water clear; Trash-1; Kelp;Seagrass
S12	06 Jul 2023	Arrive Time	844
S12	06 Jul 2023	Weather	Cloudy
S12	06 Jul 2023	Wind Speed (kts)	6
S12	06 Jul 2023	Wind Dir	W
S12	06 Jul 2023	Animal Life	
S12	06 Jul 2023	Floatables	None

Station	Date	Parameter	Value
S12	06 Jul 2023	Water Color	Green
S12	06 Jul 2023	Current Direction	S
S12	06 Jul 2023	Water Temp (C)	14
S12	06 Jul 2023	Wave Height Low (ft)	1
S12	06 Jul 2023	High Tide (ft)	4.1
S12	06 Jul 2023	High Tide Time	1258
S12	06 Jul 2023	Low Tide (ft)	-1.08
S12	06 Jul 2023	Low Tide Time	633
S12	06 Jul 2023	Comments	Water clear; Fisherperson-1; Trash-1; Kelp;Seagrass
S12	11 Jul 2023	Arrive Time	846
S12	11 Jul 2023	Weather	Cloudy
S12	11 Jul 2023	Wind Speed (kts)	1.9
S12	11 Jul 2023	Wind Dir	E
S12	11 Jul 2023	Animal Life	
S12	11 Jul 2023	Floatables	None
S12	11 Jul 2023	Water Color	Green
S12	11 Jul 2023	Current Direction	S
S12	11 Jul 2023	Water Temp (C)	16
S12	11 Jul 2023	Wave Height Low (ft)	2
S12	11 Jul 2023	High Tide (ft)	3.17
S12	11 Jul 2023	High Tide Time	513
S12	11 Jul 2023	Low Tide (ft)	1.65
S12	11 Jul 2023	Low Tide Time	1039
S12	11 Jul 2023	Comments	Water clear; Trash-1; Kelp;Seagrass; Person/Walker/Jogger-3
S12	18 Jul 2023	Arrive Time	835
S12	18 Jul 2023	Weather	Hazy
S12	18 Jul 2023	Wind Speed (kts)	3.8
S12	18 Jul 2023	Wind Dir	W
S12	18 Jul 2023	Animal Life	
S12	18 Jul 2023	Floatables	None
S12	18 Jul 2023	Water Color	Green
S12	18 Jul 2023	Current Direction	S
S12	18 Jul 2023	Water Temp (C)	18
S12	18 Jul 2023	Wave Height Low (ft)	2
S12	18 Jul 2023	High Tide (ft)	3.71
S12	18 Jul 2023	High Tide Time	1109
S12	18 Jul 2023	Low Tide (ft)	-0.47
S12	18 Jul 2023	Low Tide Time	450
S12	18 Jul 2023	Comments	Water clear; Trash-2; Kelp;Seagrass
S12	25 Jul 2023	Arrive Time	839
S12	25 Jul 2023	Weather	Cloudy
S12	25 Jul 2023	Wind Speed (kts)	1.9
S12	25 Jul 2023	Wind Dir	S
S12	25 Jul 2023	Animal Life	Bird-4;
S12	25 Jul 2023	Floatables	None
S12	25 Jul 2023	Water Color	Green
S12	25 Jul 2023	Current Direction	S
S12	25 Jul 2023	Water Temp (C)	19
S12	25 Jul 2023	Wave Height Low (ft)	1
S12	25 Jul 2023	High Tide (ft)	3.19
S12	25 Jul 2023	High Tide Time	211
S12	25 Jul 2023	Low Tide (ft)	1.69
S12	25 Jul 2023	Low Tide Time	809
S12	25 Jul 2023	Comments	Water clear; Trash-1; Kelp; Person/Walker/Jogger-1

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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 2023	47	2	2	2	7	2	7
02 Jul 2023	47	2	2	2	7	2	7
03 Jul 2023	47	2	2	2	7	2	7
04 Jul 2023	47	2	2	2	7	2	7
05 Jul 2023	25	2	2	2	5	2	6
06 Jul 2023	12	2	2	2	2	2	4
07 Jul 2023	12	2	2	2	2	2	4
08 Jul 2023	12	2	2	2	2	2	4
09 Jul 2023	12	2	2	2	2	2	4
10 Jul 2023	12	2	2	2	2	2	4
11 Jul 2023	12	2	2	2	2	2	4
12 Jul 2023	12	2	2	2	2	2	4
13 Jul 2023	5	2	2	2	2	2	2
14 Jul 2023	5	2	2	2	2	2	2
15 Jul 2023	5	2	2	2	2	2	2
16 Jul 2023	5	2	2	2	2	2	2
17 Jul 2023	5	2	2	2	2	2	2
18 Jul 2023	5	2	2	2	2	2	2
19 Jul 2023	4	2	2	2	2	2	2
20 Jul 2023	5	2	2	2	2	2	3
21 Jul 2023	5	2	2	2	2	2	3
22 Jul 2023	5	2	2	2	2	2	3
23 Jul 2023	5	2	2	2	2	2	3
24 Jul 2023	5	2	2	2	2	2	3
25 Jul 2023	5	2	2	2	2	2	3
26 Jul 2023	2*	2*	2*	2*	2*	2*	3*
27 Jul 2023	2	2	2	2	2	2	3
28 Jul 2023	2	2	2	2	2	2	3
29 Jul 2023	2	2	2	2	2	2	3
30 Jul 2023	2	2	2	2	2	2	3
31 Jul 2023	2	2	2	2	2	2	3

* Geometric mean calculated using n<5

Table 3.2

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

Date	I19	I24	I25	I26	I32	I39	I40
05 Jul 2023	IC	IC	IC	IC	IC	IC	IC
13 Jul 2023	IC	IC	IC	IC	IC	IC	IC
19 Jul 2023	IC	IC	IC	IC	IC	IC	IC
27 Jul 2023	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance
E = Exceedance
ns = not sampled
ND = no data

Table 3.3

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

Date	I19	I24	I25	I26	I32	I39	I40
01 Jul 2023	19	2	2	2	6	2	22
02 Jul 2023	19	2	2	2	6	2	22
03 Jul 2023	19	2	2	2	5	2	10
04 Jul 2023	19	2	2	2	5	2	10
05 Jul 2023	13	2	2	2	5	2	7
06 Jul 2023	13	2	2	2	5	2	7
07 Jul 2023	13	2	2	2	5	2	7
08 Jul 2023	13	2	2	2	5	2	7
09 Jul 2023	13	2	2	2	5	2	7
10 Jul 2023	13	2	2	2	5	2	7
11 Jul 2023	13	2	2	2	5	2	7
12 Jul 2023	13	2	2	2	5	2	7
13 Jul 2023	13	2	2	2	5	2	3
14 Jul 2023	13	2	2	2	5	2	3
15 Jul 2023	13	2	2	2	5	2	3
16 Jul 2023	13	2	2	2	5	2	3
17 Jul 2023	13	2	2	2	5	2	3
18 Jul 2023	8	2	2	2	2	2	3
19 Jul 2023	6	2	2	2	2	2	3
20 Jul 2023	6	2	2	2	2	2	3
21 Jul 2023	6	2	2	2	2	2	3
22 Jul 2023	6	2	2	2	2	2	3
23 Jul 2023	6	2	2	2	2	2	3
24 Jul 2023	6	2	2	2	2	2	3
25 Jul 2023	5	2	2	2	2	2	3
26 Jul 2023	5	2	2	2	2	2	3
27 Jul 2023	4	2	2	2	2	2	3
28 Jul 2023	4	2	2	2	2	2	3
29 Jul 2023	4	2	2	2	2	2	3
30 Jul 2023	4	2	2	2	2	2	3
31 Jul 2023	4	2	2	2	2	2	3

* 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	IC	IC	IC	IC	IC

IC = In Compliance
E = Exceedance
ns = not sampled
ND = no data

Table 3.5

Summary of compliance with the Ocean Plan's 30-day Median standard for total coliform bacteria at the SBOO kelp stations. Data are based on the median of the five most recent samples from each site and depth over the previous 30 days unless otherwise noted (*). Values >70 CFU/100 mL exceed the standard. Median calculated using n<5

	I19			I24			I25			I26			I32			I39			I40		
Date	2m	6m	11m	2m	6m	11m	2m	6m	9m	2m	6m	9m	2m	6m	9m	2m	12m	18m	2m	6m	9m
01 Jul 2023	890	19	30	2	2	2	2	2	2	2	2	2	2	11	20	2	2	2	41	21	20
02 Jul 2023	890	19	30	2	2	2	2	2	2	2	2	2	2	11	20	2	2	2	41	21	20
03 Jul 2023	890	19	30	2	2	2	2	2	2	2	2	2	2	11	20	2	2	2	41	21	20
04 Jul 2023	890	19	30	2	2	2	2	2	2	2	2	2	2	11	20	2	2	2	41	21	20
05 Jul 2023	840	20	20	2	2	2	2	2	2	2	2	2	2	20	20	2	2	2	20	40	20
06 Jul 2023	421	19	11	2	2	2	2	2	2	2	2	2	2	11	20	2	2	2	11	21	20
07 Jul 2023	421	19	11	2	2	2	2	2	2	2	2	2	2	11	20	2	2	2	11	21	20
08 Jul 2023	421	19	11	2	2	2	2	2	2	2	2	2	2	11	20	2	2	2	11	21	20
09 Jul 2023	421	19	11	2	2	2	2	2	2	2	2	2	2	11	20	2	2	2	11	21	20
10 Jul 2023	421	19	11	2	2	2	2	2	2	2	2	2	2	11	20	2	2	2	11	21	20
11 Jul 2023	421	19	11	2	2	2	2	2	2	2	2	2	2	11	20	2	2	2	11	21	20
12 Jul 2023	421	19	11	2	2	2	2	2	2	2	2	2	2	11	20	2	2	2	11	21	20
13 Jul 2023	2	13	2	2	2	2	2	2	2	2	2	2	2	11	15	2	2	2	2	3	14
14 Jul 2023	2	13	2	2	2	2	2	2	2	2	2	2	2	11	15	2	2	2	2	3	14
15 Jul 2023	2	13	2	2	2	2	2	2	2	2	2	2	2	11	15	2	2	2	2	3	14
16 Jul 2023	2	13	2	2	2	2	2	2	2	2	2	2	2	11	15	2	2	2	2	3	14
17 Jul 2023	2	13	2	2	2	2	2	2	2	2	2	2	2	11	15	2	2	2	2	3	14
18 Jul 2023	2	13	2	2	2	2	2	2	2	2	2	2	2	11	15	2	2	2	2	3	14
19 Jul 2023	2	18	2	2	2	2	2	2	2	2	2	2	2	20	20	2	2	2	2	4	20
20 Jul 2023	2	19	11	2	2	2	2	2	2	2	2	2	2	20	20	2	2	2	11	32	20
21 Jul 2023	2	19	11	2	2	2	2	2	2	2	2	2	2	20	20	2	2	2	11	32	20
22 Jul 2023	2	19	11	2	2	2	2	2	2	2	2	2	2	20	20	2	2	2	11	32	20
23 Jul 2023	2	19	11	2	2	2	2	2	2	2	2	2	2	20	20	2	2	2	11	32	20
24 Jul 2023	2	19	11	2	2	2	2	2	2	2	2	2	2	20	20	2	2	2	11	32	20
25 Jul 2023	2	19	11	2	2	2	2	2	2	2	2	2	2	20	20	2	2	2	11	32	20
26 Jul 2023	2*	20*	2*	2*	2*	2*	2*	2*	2*	2*	2*	2*	2*	20*	20*	2*	2*	2*	20*	60*	20*
27 Jul 2023	2	20	2	2	2	2	2	2	2	2	2	2	2	20	20	2	2	2	11	32	14
28 Jul 2023	2	20	2	2	2	2	2	2	2	2	2	2	2	20	20	2	2	2	11	32	14
29 Jul 2023	2	20	2	2	2	2	2	2	2	2	2	2	2	20	20	2	2	2	11	32	14
30 Jul 2023	2	20	2	2	2	2	2	2	2	2	2	2	2	20	20	2	2	2	11	32	14
31 Jul 2023	2	20	2	2	2	2	2	2	2	2	2	2	2	20	20	2	2	2	11	32	14

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.

	I19			I24			I25			I26			I32			I39			I40		
Date	**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 = In Compliance
E = Exceedance
ns = not sampled
ND = no data

Table 3.7

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

Station	Date	Time	Depth	Total	Fecal	Entero	Temp	XMS	DO	Sal	pH
I19	05 Jul 2023	1049	2	2e	2e	<2	16.3	75.03	8.2	33.43	8.1
I19	05 Jul 2023	1049	6	<20	<2	2e	15.1	76.87	8.6	33.39	8.1
I19	05 Jul 2023	1049	11	<2	<2	<2	13.5	80.76	8.6	33.38	8.1
I19	13 Jul 2023	1100	2	2e	<2	<2	16.0	72.71	8.3	33.41	8.1
I19	13 Jul 2023	1100	6	8e	<2	<2	12.9	78.22	7.2	33.40	8.0
I19	13 Jul 2023	1100	11	<2	<2	<2	11.7	69.99	6.7	33.39	7.9
I19	19 Jul 2023	1128	2	2e	<2	<2	18.7	75.78	9.4	33.37	8.2
I19	19 Jul 2023	1128	6	<20	<2	<2	17.1	75.97	10.1	33.42	8.2
I19	19 Jul 2023	1128	11	60e	<2	<2	15.8	75.62	10.0	33.42	8.2
I19	27 Jul 2023	1036	2	<2	<2	<2	19.4	75.65	9.1	33.36	8.2
I19	27 Jul 2023	1036	6	<20	<2	<2	16.6	79.85	8.8	33.35	8.1
I19	27 Jul 2023	1036	11	<2	<2	<2	15.8	69.31	8.2	33.34	8.1
I24	05 Jul 2023	1108	2	<2	<2	<2	16.7	89.21	8.9	33.40	8.1
I24	05 Jul 2023	1108	6	<2	<2	<2	16.0	86.06	9.0	33.41	8.1
I24	05 Jul 2023	1108	11	<2	<2	<2	14.3	83.58	9.2	33.38	8.1
I24	13 Jul 2023	1121	2	<2	<2	<2	16.5	78.88	8.4	33.42	8.1
I24	13 Jul 2023	1121	6	<2	<2	<2	12.0	74.05	6.9	33.34	7.9
I24	13 Jul 2023	1121	11	2e	<2	<2	11.7	76.26	6.6	33.39	7.9
I24	19 Jul 2023	1146	2	<2	<2	<2	20.1	82.91	9.0	33.43	8.2
I24	19 Jul 2023	1146	6	<20	<2	<2	15.6	82.07	9.9	33.40	8.2
I24	19 Jul 2023	1146	11	20e	2e	<2	14.9	77.03	9.6	33.38	8.1
I24	27 Jul 2023	1055	2	<2	<2	<2	20.5	78.79	9.1	33.36	8.2
I24	27 Jul 2023	1055	6	<2	<2	<2	16.4	83.22	8.5	33.35	8.1
I24	27 Jul 2023	1055	11	2e	<2	2e	15.8	77.04	8.2	33.36	8.1
I25	05 Jul 2023	1115	2	<2	<2	<2	16.5	88.85	8.9	33.40	8.1
I25	05 Jul 2023	1115	6	<2	<2	<2	15.6	85.85	8.9	33.39	8.1
I25	05 Jul 2023	1115	9	<2	<2	<2	14.8	84.38	9.2	33.39	8.1
I25	13 Jul 2023	1129	2	<2	<2	2e	16.5	78.82	8.8	33.45	8.1
I25	13 Jul 2023	1129	6	<2	<2	6e	12.2	79.27	6.9	33.42	8.0
I25	13 Jul 2023	1129	9	<2	<2	2e	11.8	82.89	6.6	33.37	7.9
I25	19 Jul 2023	1154	2	<2	<2	<2	20.2	83.00	9.0	33.43	8.2
I25	19 Jul 2023	1154	6	<20	<2	<2	17.4	81.98	9.4	33.45	8.2
I25	19 Jul 2023	1154	9	<20	<2	<2	15.2	78.65	9.7	33.38	8.1
I25	27 Jul 2023	1101	2	<20	<2	<2	20.1	76.42	9.4	33.38	8.2
I25	27 Jul 2023	1101	6	<2	<2	<2	16.9	82.55	9.0	33.37	8.2
I25	27 Jul 2023	1101	9	2e	<2	<2	15.6	82.32	8.6	33.34	8.1
I26	05 Jul 2023	1124	2	<2	<2	<2	15.6	87.97	8.8	33.39	8.1
I26	05 Jul 2023	1124	6	<2	<2	<2	15.4	86.45	9.0	33.38	8.1
I26	05 Jul 2023	1124	9	<2	<2	<2	15.1	84.28	9.1	33.41	8.1

Station	Date	Time	Depth	Total	Fecal	Entero	Temp	XMS	DO	Sal	pH
I26	13 Jul 2023	1142	2	<2	<2	<2	17.2	78.03	8.9	33.43	8.1
I26	13 Jul 2023	1142	6	2e	<2	<2	14.3	79.00	8.1	33.38	8.1
I26	13 Jul 2023	1142	9	<2	<2	<2	12.5	83.11	7.6	33.37	8.0
I26	19 Jul 2023	1201	2	<2	<2	<2	20.1	82.60	9.0	33.43	8.2
I26	19 Jul 2023	1201	6	<2	<2	<2	17.9	82.67	9.6	33.43	8.2
I26	19 Jul 2023	1201	9	<20	<2	<2	16.2	81.12	9.4	33.42	8.2
I26	27 Jul 2023	1111	2	<2	<2	<2	19.4	77.75	9.3	33.38	8.2
I26	27 Jul 2023	1111	6	<2	<2	<2	15.7	80.92	8.3	33.38	8.1
I26	27 Jul 2023	1111	9	2e	<2	<2	15.3	82.32	8.2	33.35	8.0
I32	05 Jul 2023	1135	2	<2	<2	<2	16.9	82.97	9.0	33.41	8.1
I32	05 Jul 2023	1135	6	20e	<2	<2	16.5	73.81	8.8	33.41	8.1
I32	05 Jul 2023	1135	9	<20	<2	2e	15.9	79.87	8.9	33.41	8.1
I32	13 Jul 2023	1154	2	<2	<2	<2	17.9	75.26	8.8	33.40	8.1
I32	13 Jul 2023	1154	6	<2	<2	2e	14.6	75.61	8.3	33.39	8.1
I32	13 Jul 2023	1154	9	10e	2e	2e	12.5	81.01	7.3	33.41	8.0
I32	19 Jul 2023	1024	2	<2	<2	<2	20.3	83.37	9.1	33.44	8.2
I32	19 Jul 2023	1024	6	<20	<2	<2	19.9	79.76	9.0	33.43	8.2
I32	19 Jul 2023	1024	9	<20	<2	<2	19.7	79.80	8.8	33.45	8.2
I32	27 Jul 2023	1123	2	<2	4e	<2	19.8	75.43	8.9	33.40	8.2
I32	27 Jul 2023	1123	6	<20	<2	<2	16.6	66.13	8.5	33.37	8.1
I32	27 Jul 2023	1123	9	<20	<2	<2	16.1	71.35	8.3	33.35	8.1
I39	05 Jul 2023	1030	2	<2	<2	<2	15.7	85.14	8.6	33.43	8.1
I39	05 Jul 2023	1030	12	<2	<2	<2	14.1	89.44	9.0	33.35	8.1
I39	05 Jul 2023	1030	18	<2	<2	<2	12.7	85.43	7.8	33.39	8.0
I39	13 Jul 2023	1036	2	<2	<2	<2	16.7	80.32	8.5	33.45	8.1
I39	13 Jul 2023	1036	12	2e	<2	<2	11.6	89.09	6.4	33.44	7.9
I39	13 Jul 2023	1036	18	2e	<2	<2	11.5	90.65	6.1	33.50	7.8
I39	19 Jul 2023	1039	2	<2	<2	<2	20.5	80.98	8.9	33.43	8.2
I39	19 Jul 2023	1039	12	<2	<2	<2	14.1	83.19	8.8	33.37	8.1
I39	19 Jul 2023	1039	18	4e	<2	2e	13.2	89.74	8.0	33.38	8.0
I39	27 Jul 2023	1013	2	<2	<2	<2	19.7	83.07	9.6	33.38	8.2
I39	27 Jul 2023	1013	12	<2	<2	<2	14.1	90.83	8.9	33.30	8.1
I39	27 Jul 2023	1013	18	<2	<2	<2	13.9	89.98	8.2	33.34	8.0
I40	05 Jul 2023	1100	2	<20	2e	<2	16.5	79.33	8.9	33.41	8.1
I40	05 Jul 2023	1100	6	180e	8e	2e	15.2	67.82	8.1	33.40	8.0
I40	05 Jul 2023	1100	9	40e	2e	2e	13.7	78.28	8.4	33.43	8.0
I40	13 Jul 2023	1112	2	<2	<2	<2	17.9	78.54	8.6	33.40	8.1
I40	13 Jul 2023	1112	6	4e	<2	4e	12.9	75.32	6.8	33.37	8.0
I40	13 Jul 2023	1112	9	8e	<2	<2	11.8	57.29	6.2	33.35	7.9
I40	19 Jul 2023	1137	2	<20	<2	<2	19.1	82.51	8.9	33.41	8.2
I40	19 Jul 2023	1137	6	60e	4e	<2	16.2	80.97	10.0	33.40	8.2
I40	19 Jul 2023	1137	9	20e	<2	<2	15.5	74.08	9.8	33.39	8.2
I40	27 Jul 2023	1047	2	<2	<2	<2	18.7	77.04	9.1	33.37	8.2
I40	27 Jul 2023	1047	6	<2	<2	<2	16.4	78.48	8.6	33.36	8.1
I40	27 Jul 2023	1047	9	2e	<2	<2	15.9	76.71	7.5	33.36	8.0

ns = not sampled
ND = no data

Comments

Station	Date	Depth	Parameter	Comments
I19	05 Jul 2023			Negative control for mEI ran on 7/5/23 had growth likely due to cross contamination during setup.

Table 3.8

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

Station	Date	Parameter	Value
I19	05 Jul 2023	Depth (m)	11
I19	05 Jul 2023	Arrive Time	1049
I19	05 Jul 2023	Depart Time	1053
I19	05 Jul 2023	Air Temp (C)	17.1
I19	05 Jul 2023	Weather	Haze
I19	05 Jul 2023	Visibility (mi)	9
I19	05 Jul 2023	Wind Speed (kts)	5.5
I19	05 Jul 2023	Wind Dir	W
I19	05 Jul 2023	Water Color	Green
I19	05 Jul 2023	Wave Ht Low (ft)	3.9
I19	05 Jul 2023	Wave Period (sec)	14
I19	05 Jul 2023	Sea State	Light Chop
I19	05 Jul 2023	High Tide (ft)	6.5
I19	05 Jul 2023	High Tide Time	2306
I19	05 Jul 2023	Low Tide (ft)	-1.45
I19	05 Jul 2023	Low Tide Time	542
I19	05 Jul 2023	Comments	none
I19	13 Jul 2023	Depth (m)	11
I19	13 Jul 2023	Arrive Time	1100
I19	13 Jul 2023	Depart Time	1102
I19	13 Jul 2023	Air Temp (C)	19.2
I19	13 Jul 2023	Weather	Clear
I19	13 Jul 2023	Visibility (mi)	11
I19	13 Jul 2023	Wind Speed (kts)	4.9
I19	13 Jul 2023	Wind Dir	W
I19	13 Jul 2023	Water Color	Green
I19	13 Jul 2023	Wave Ht Low (ft)	3
I19	13 Jul 2023	Wave Period (sec)	13
I19	13 Jul 2023	Sea State	Light Chop
I19	13 Jul 2023	High Tide (ft)	5.92
I19	13 Jul 2023	High Tide Time	1854
I19	13 Jul 2023	Low Tide (ft)	0.01
I19	13 Jul 2023	Low Tide Time	142
I19	13 Jul 2023	Comments	none
I19	19 Jul 2023	Depth (m)	11
I19	19 Jul 2023	Arrive Time	1128
I19	19 Jul 2023	Depart Time	1130
I19	19 Jul 2023	Air Temp (C)	19.7
I19	19 Jul 2023	Weather	Clear
I19	19 Jul 2023	Visibility (mi)	10
I19	19 Jul 2023	Wind Speed (kts)	10.7
I19	19 Jul 2023	Wind Dir	NW
I19	19 Jul 2023	Water Color	Green
I19	19 Jul 2023	Wave Ht Low (ft)	2.6
I19	19 Jul 2023	Wave Period (sec)	11
I19	19 Jul 2023	Sea State	Light Chop
I19	19 Jul 2023	High Tide (ft)	5.75
I19	19 Jul 2023	High Tide Time	2230
I19	19 Jul 2023	Low Tide (ft)	-0.36
I19	19 Jul 2023	Low Tide Time	518
I19	19 Jul 2023	Comments	none
I19	27 Jul 2023	Depth (m)	11
I19	27 Jul 2023	Arrive Time	1036

Station	Date	Parameter	Value
I19	27 Jul 2023	Depart Time	1039
I19	27 Jul 2023	Air Temp (C)	20.1
I19	27 Jul 2023	Weather	Overcast
I19	27 Jul 2023	Visibility (mi)	5
I19	27 Jul 2023	Wind Speed (kts)	2.7
I19	27 Jul 2023	Wind Dir	NW
I19	27 Jul 2023	Water Color	Greenish-Blue
I19	27 Jul 2023	Wave Ht Low (ft)	3
I19	27 Jul 2023	Wave Period (sec)	15
I19	27 Jul 2023	Sea State	Wind Ripples
I19	27 Jul 2023	High Tide (ft)	5.34
I19	27 Jul 2023	High Tide Time	1706
I19	27 Jul 2023	Low Tide (ft)	0.78
I19	27 Jul 2023	Low Tide Time	2354
I19	27 Jul 2023	Comments	none
I24	05 Jul 2023	Depth (m)	10
I24	05 Jul 2023	Arrive Time	1108
I24	05 Jul 2023	Depart Time	1111
I24	05 Jul 2023	Air Temp (C)	16.8
I24	05 Jul 2023	Weather	Haze
I24	05 Jul 2023	Visibility (mi)	9
I24	05 Jul 2023	Wind Speed (kts)	10.7
I24	05 Jul 2023	Wind Dir	W
I24	05 Jul 2023	Water Color	Blueish-Green
I24	05 Jul 2023	Wave Ht Low (ft)	3.9
I24	05 Jul 2023	Wave Period (sec)	14
I24	05 Jul 2023	Sea State	Light Chop
I24	05 Jul 2023	High Tide (ft)	6.5
I24	05 Jul 2023	High Tide Time	2306
I24	05 Jul 2023	Low Tide (ft)	-1.45
I24	05 Jul 2023	Low Tide Time	542
I24	05 Jul 2023	Comments	none
I24	13 Jul 2023	Depth (m)	9
I24	13 Jul 2023	Arrive Time	1121
I24	13 Jul 2023	Depart Time	1124
I24	13 Jul 2023	Air Temp (C)	19.3
I24	13 Jul 2023	Weather	Clear
I24	13 Jul 2023	Visibility (mi)	11
I24	13 Jul 2023	Wind Speed (kts)	7.9
I24	13 Jul 2023	Wind Dir	NW
I24	13 Jul 2023	Water Color	Blueish-Green
I24	13 Jul 2023	Wave Ht Low (ft)	3
I24	13 Jul 2023	Wave Period (sec)	13
I24	13 Jul 2023	Sea State	Light Chop
I24	13 Jul 2023	High Tide (ft)	5.92
I24	13 Jul 2023	High Tide Time	1854
I24	13 Jul 2023	Low Tide (ft)	0.01
I24	13 Jul 2023	Low Tide Time	142
I24	13 Jul 2023	Comments	none
I24	19 Jul 2023	Depth (m)	12
I24	19 Jul 2023	Arrive Time	1146
I24	19 Jul 2023	Depart Time	1150
I24	19 Jul 2023	Air Temp (C)	19.9
I24	19 Jul 2023	Weather	Clear
I24	19 Jul 2023	Visibility (mi)	10
I24	19 Jul 2023	Wind Speed (kts)	18.7
I24	19 Jul 2023	Wind Dir	W
I24	19 Jul 2023	Water Color	Green

Station	Date	Parameter	Value
I24	19 Jul 2023	Wave Ht Low (ft)	2.6
I24	19 Jul 2023	Wave Period (sec)	11
I24	19 Jul 2023	Sea State	Light Chop
I24	19 Jul 2023	High Tide (ft)	5.75
I24	19 Jul 2023	High Tide Time	2230
I24	19 Jul 2023	Low Tide (ft)	-0.36
I24	19 Jul 2023	Low Tide Time	518
I24	19 Jul 2023	Comments	none
I24	27 Jul 2023	Depth (m)	9
I24	27 Jul 2023	Arrive Time	1055
I24	27 Jul 2023	Depart Time	1059
I24	27 Jul 2023	Air Temp (C)	20.3
I24	27 Jul 2023	Weather	Partly Cloudy
I24	27 Jul 2023	Visibility (mi)	5
I24	27 Jul 2023	Wind Speed (kts)	5.6
I24	27 Jul 2023	Wind Dir	NW
I24	27 Jul 2023	Water Color	Green
I24	27 Jul 2023	Wave Ht Low (ft)	3
I24	27 Jul 2023	Wave Period (sec)	15
I24	27 Jul 2023	Sea State	Wind Ripples
I24	27 Jul 2023	High Tide (ft)	5.34
I24	27 Jul 2023	High Tide Time	1706
I24	27 Jul 2023	Low Tide (ft)	0.78
I24	27 Jul 2023	Low Tide Time	2354
I24	27 Jul 2023	Comments	none
I25	05 Jul 2023	Depth (m)	9
I25	05 Jul 2023	Arrive Time	1115
I25	05 Jul 2023	Depart Time	1117
I25	05 Jul 2023	Air Temp (C)	16.8
I25	05 Jul 2023	Weather	Haze
I25	05 Jul 2023	Visibility (mi)	9
I25	05 Jul 2023	Wind Speed (kts)	10.3
I25	05 Jul 2023	Wind Dir	W
I25	05 Jul 2023	Water Color	Blueish-Green
I25	05 Jul 2023	Wave Ht Low (ft)	3.9
I25	05 Jul 2023	Wave Period (sec)	14
I25	05 Jul 2023	Sea State	Light Chop
I25	05 Jul 2023	High Tide (ft)	6.5
I25	05 Jul 2023	High Tide Time	2306
I25	05 Jul 2023	Low Tide (ft)	-1.45
I25	05 Jul 2023	Low Tide Time	542
I25	05 Jul 2023	Comments	none
I25	13 Jul 2023	Depth (m)	9
I25	13 Jul 2023	Arrive Time	1129
I25	13 Jul 2023	Depart Time	1134
I25	13 Jul 2023	Air Temp (C)	19.3
I25	13 Jul 2023	Weather	Clear
I25	13 Jul 2023	Visibility (mi)	11
I25	13 Jul 2023	Wind Speed (kts)	6.1
I25	13 Jul 2023	Wind Dir	NW
I25	13 Jul 2023	Water Color	Blueish-Green
I25	13 Jul 2023	Wave Ht Low (ft)	3
I25	13 Jul 2023	Wave Period (sec)	13
I25	13 Jul 2023	Sea State	Light Chop
I25	13 Jul 2023	High Tide (ft)	5.92
I25	13 Jul 2023	High Tide Time	1854
I25	13 Jul 2023	Low Tide (ft)	0.01
I25	13 Jul 2023	Low Tide Time	142

Station	Date	Parameter	Value
I25	13 Jul 2023	Comments	none
I25	19 Jul 2023	Depth (m)	9
I25	19 Jul 2023	Arrive Time	1154
I25	19 Jul 2023	Depart Time	1156
I25	19 Jul 2023	Air Temp (C)	20
I25	19 Jul 2023	Weather	Clear
I25	19 Jul 2023	Visibility (mi)	10
I25	19 Jul 2023	Wind Speed (kts)	10.1
I25	19 Jul 2023	Wind Dir	NW
I25	19 Jul 2023	Water Color	Green
I25	19 Jul 2023	Wave Ht Low (ft)	2.6
I25	19 Jul 2023	Wave Period (sec)	11
I25	19 Jul 2023	Sea State	Light Chop
I25	19 Jul 2023	High Tide (ft)	5.75
I25	19 Jul 2023	High Tide Time	2230
I25	19 Jul 2023	Low Tide (ft)	-0.36
I25	19 Jul 2023	Low Tide Time	518
I25	19 Jul 2023	Comments	none
I25	27 Jul 2023	Depth (m)	8
I25	27 Jul 2023	Arrive Time	1101
I25	27 Jul 2023	Depart Time	1106
I25	27 Jul 2023	Air Temp (C)	20.3
I25	27 Jul 2023	Weather	Partly Cloudy
I25	27 Jul 2023	Visibility (mi)	5
I25	27 Jul 2023	Wind Speed (kts)	11.6
I25	27 Jul 2023	Wind Dir	W
I25	27 Jul 2023	Water Color	Green
I25	27 Jul 2023	Wave Ht Low (ft)	3
I25	27 Jul 2023	Wave Period (sec)	15
I25	27 Jul 2023	Sea State	Wind Ripples
I25	27 Jul 2023	High Tide (ft)	5.34
I25	27 Jul 2023	High Tide Time	1706
I25	27 Jul 2023	Low Tide (ft)	0.78
I25	27 Jul 2023	Low Tide Time	2354
I25	27 Jul 2023	Comments	none
I26	05 Jul 2023	Depth (m)	9
I26	05 Jul 2023	Arrive Time	1124
I26	05 Jul 2023	Depart Time	1128
I26	05 Jul 2023	Air Temp (C)	16.7
I26	05 Jul 2023	Weather	Haze
I26	05 Jul 2023	Visibility (mi)	9
I26	05 Jul 2023	Wind Speed (kts)	8.4
I26	05 Jul 2023	Wind Dir	W
I26	05 Jul 2023	Water Color	Blueish-Green
I26	05 Jul 2023	Wave Ht Low (ft)	3.9
I26	05 Jul 2023	Wave Period (sec)	14
I26	05 Jul 2023	Sea State	Heavy Chop
I26	05 Jul 2023	High Tide (ft)	6.5
I26	05 Jul 2023	High Tide Time	2306
I26	05 Jul 2023	Low Tide (ft)	-1.45
I26	05 Jul 2023	Low Tide Time	542
I26	05 Jul 2023	Comments	Seagrass
I26	13 Jul 2023	Depth (m)	9
I26	13 Jul 2023	Arrive Time	1142
I26	13 Jul 2023	Depart Time	1145
I26	13 Jul 2023	Air Temp (C)	19.3
I26	13 Jul 2023	Weather	Clear

Station	Date	Parameter	Value
I26	13 Jul 2023	Visibility (mi)	11
I26	13 Jul 2023	Wind Speed (kts)	6.6
I26	13 Jul 2023	Wind Dir	NW
I26	13 Jul 2023	Water Color	Blueish-Green
I26	13 Jul 2023	Wave Ht Low (ft)	3
I26	13 Jul 2023	Wave Period (sec)	13
I26	13 Jul 2023	Sea State	Light Chop
I26	13 Jul 2023	High Tide (ft)	5.92
I26	13 Jul 2023	High Tide Time	1854
I26	13 Jul 2023	Low Tide (ft)	0.01
I26	13 Jul 2023	Low Tide Time	142
I26	13 Jul 2023	Comments	none
I26	19 Jul 2023	Depth (m)	10
I26	19 Jul 2023	Arrive Time	1201
I26	19 Jul 2023	Depart Time	1204
I26	19 Jul 2023	Air Temp (C)	19.9
I26	19 Jul 2023	Weather	Clear
I26	19 Jul 2023	Visibility (mi)	10
I26	19 Jul 2023	Wind Speed (kts)	13.9
I26	19 Jul 2023	Wind Dir	NW
I26	19 Jul 2023	Water Color	Green
I26	19 Jul 2023	Wave Ht Low (ft)	2.6
I26	19 Jul 2023	Wave Period (sec)	11
I26	19 Jul 2023	Sea State	Light Chop
I26	19 Jul 2023	High Tide (ft)	5.75
I26	19 Jul 2023	High Tide Time	2230
I26	19 Jul 2023	Low Tide (ft)	-0.36
I26	19 Jul 2023	Low Tide Time	518
I26	19 Jul 2023	Comments	none
I26	27 Jul 2023	Depth (m)	9
I26	27 Jul 2023	Arrive Time	1111
I26	27 Jul 2023	Depart Time	1116
I26	27 Jul 2023	Air Temp (C)	20.2
I26	27 Jul 2023	Weather	Partly Cloudy
I26	27 Jul 2023	Visibility (mi)	5
I26	27 Jul 2023	Wind Speed (kts)	11
I26	27 Jul 2023	Wind Dir	W
I26	27 Jul 2023	Water Color	Green
I26	27 Jul 2023	Wave Ht Low (ft)	3
I26	27 Jul 2023	Wave Period (sec)	15
I26	27 Jul 2023	Sea State	Wind Ripples
I26	27 Jul 2023	High Tide (ft)	5.34
I26	27 Jul 2023	High Tide Time	1706
I26	27 Jul 2023	Low Tide (ft)	0.78
I26	27 Jul 2023	Low Tide Time	2354
I26	27 Jul 2023	Comments	none
I32	05 Jul 2023	Depth (m)	10
I32	05 Jul 2023	Arrive Time	1135
I32	05 Jul 2023	Depart Time	1139
I32	05 Jul 2023	Air Temp (C)	16.6
I32	05 Jul 2023	Weather	Haze
I32	05 Jul 2023	Visibility (mi)	9
I32	05 Jul 2023	Wind Speed (kts)	8.9
I32	05 Jul 2023	Wind Dir	SW
I32	05 Jul 2023	Water Color	Greenish-Blue
I32	05 Jul 2023	Wave Ht Low (ft)	3.9
I32	05 Jul 2023	Wave Period (sec)	14
I32	05 Jul 2023	Sea State	Heavy Chop

Station	Date	Parameter	Value
I32	05 Jul 2023	High Tide (ft)	6.5
I32	05 Jul 2023	High Tide Time	2306
I32	05 Jul 2023	Low Tide (ft)	-1.45
I32	05 Jul 2023	Low Tide Time	542
I32	05 Jul 2023	Comments	none
I32	13 Jul 2023	Depth (m)	1
I32	13 Jul 2023	Arrive Time	1154
I32	13 Jul 2023	Depart Time	1158
I32	13 Jul 2023	Air Temp (C)	19.3
I32	13 Jul 2023	Weather	Clear
I32	13 Jul 2023	Visibility (mi)	11
I32	13 Jul 2023	Wind Speed (kts)	9.5
I32	13 Jul 2023	Wind Dir	W
I32	13 Jul 2023	Water Color	Blueish-Green
I32	13 Jul 2023	Wave Ht Low (ft)	3
I32	13 Jul 2023	Wave Period (sec)	13
I32	13 Jul 2023	Sea State	Light Chop
I32	13 Jul 2023	High Tide (ft)	5.92
I32	13 Jul 2023	High Tide Time	1854
I32	13 Jul 2023	Low Tide (ft)	0.01
I32	13 Jul 2023	Low Tide Time	142
I32	13 Jul 2023	Comments	none
I32	19 Jul 2023	Depth (m)	10
I32	19 Jul 2023	Arrive Time	1024
I32	19 Jul 2023	Depart Time	1032
I32	19 Jul 2023	Air Temp (C)	20.1
I32	19 Jul 2023	Weather	Haze
I32	19 Jul 2023	Visibility (mi)	10
I32	19 Jul 2023	Wind Speed (kts)	9.4
I32	19 Jul 2023	Wind Dir	NW
I32	19 Jul 2023	Water Color	Blueish-Green
I32	19 Jul 2023	Wave Ht Low (ft)	2.6
I32	19 Jul 2023	Wave Period (sec)	11
I32	19 Jul 2023	Sea State	Calm
I32	19 Jul 2023	High Tide (ft)	5.75
I32	19 Jul 2023	High Tide Time	2230
I32	19 Jul 2023	Low Tide (ft)	-0.36
I32	19 Jul 2023	Low Tide Time	518
I32	19 Jul 2023	Comments	none
I32	27 Jul 2023	Depth (m)	10
I32	27 Jul 2023	Arrive Time	1123
I32	27 Jul 2023	Depart Time	1128
I32	27 Jul 2023	Air Temp (C)	20.2
I32	27 Jul 2023	Weather	Partly Cloudy
I32	27 Jul 2023	Visibility (mi)	5
I32	27 Jul 2023	Wind Speed (kts)	12.7
I32	27 Jul 2023	Wind Dir	W
I32	27 Jul 2023	Water Color	Green
I32	27 Jul 2023	Wave Ht Low (ft)	3
I32	27 Jul 2023	Wave Period (sec)	15
I32	27 Jul 2023	Sea State	Wind Ripples
I32	27 Jul 2023	High Tide (ft)	5.34
I32	27 Jul 2023	High Tide Time	1706
I32	27 Jul 2023	Low Tide (ft)	0.78
I32	27 Jul 2023	Low Tide Time	2354
I32	27 Jul 2023	Comments	none
I39	05 Jul 2023	Depth (m)	20

Station	Date	Parameter	Value
I39	05 Jul 2023	Arrive Time	1030
I39	05 Jul 2023	Depart Time	1034
I39	05 Jul 2023	Air Temp (C)	16.9
I39	05 Jul 2023	Weather	Haze
I39	05 Jul 2023	Visibility (mi)	9
I39	05 Jul 2023	Wind Speed (kts)	5.7
I39	05 Jul 2023	Wind Dir	W
I39	05 Jul 2023	Water Color	Blueish-Green
I39	05 Jul 2023	Wave Ht Low (ft)	3.9
I39	05 Jul 2023	Wave Period (sec)	14
I39	05 Jul 2023	Sea State	Light Chop
I39	05 Jul 2023	High Tide (ft)	6.5
I39	05 Jul 2023	High Tide Time	2306
I39	05 Jul 2023	Low Tide (ft)	-1.45
I39	05 Jul 2023	Low Tide Time	542
I39	05 Jul 2023	Comments	none
I39	13 Jul 2023	Depth (m)	19
I39	13 Jul 2023	Arrive Time	1036
I39	13 Jul 2023	Depart Time	1100
I39	13 Jul 2023	Air Temp (C)	19.2
I39	13 Jul 2023	Weather	Clear
I39	13 Jul 2023	Visibility (mi)	11
I39	13 Jul 2023	Wind Speed (kts)	5.9
I39	13 Jul 2023	Wind Dir	W
I39	13 Jul 2023	Water Color	Greenish-Blue
I39	13 Jul 2023	Wave Ht Low (ft)	3
I39	13 Jul 2023	Wave Period (sec)	13
I39	13 Jul 2023	Sea State	Light Chop
I39	13 Jul 2023	High Tide (ft)	5.92
I39	13 Jul 2023	High Tide Time	1854
I39	13 Jul 2023	Low Tide (ft)	0.01
I39	13 Jul 2023	Low Tide Time	142
I39	13 Jul 2023	Comments	none
I39	19 Jul 2023	Depth (m)	13
I39	19 Jul 2023	Arrive Time	1207
I39	19 Jul 2023	Depart Time	1208
I39	19 Jul 2023	Air Temp (C)	19.9
I39	19 Jul 2023	Weather	Clear
I39	19 Jul 2023	Visibility (mi)	10
I39	19 Jul 2023	Wind Speed (kts)	21
I39	19 Jul 2023	Wind Dir	W
I39	19 Jul 2023	Water Color	Green
I39	19 Jul 2023	Wave Ht Low (ft)	2.6
I39	19 Jul 2023	Wave Period (sec)	11
I39	19 Jul 2023	Sea State	Light Chop
I39	19 Jul 2023	High Tide (ft)	5.75
I39	19 Jul 2023	High Tide Time	2230
I39	19 Jul 2023	Low Tide (ft)	-0.36
I39	19 Jul 2023	Low Tide Time	518
I39	19 Jul 2023	Comments	none
I39	27 Jul 2023	Depth (m)	20
I39	27 Jul 2023	Arrive Time	1013
I39	27 Jul 2023	Depart Time	1017
I39	27 Jul 2023	Air Temp (C)	20.2
I39	27 Jul 2023	Weather	Overcast
I39	27 Jul 2023	Visibility (mi)	5
I39	27 Jul 2023	Wind Speed (kts)	7.5
I39	27 Jul 2023	Wind Dir	W

Station	Date	Parameter	Value
I39	27 Jul 2023	Water Color	Blueish-Green
I39	27 Jul 2023	Wave Ht Low (ft)	3
I39	27 Jul 2023	Wave Period (sec)	15
I39	27 Jul 2023	Sea State	Wind Ripples
I39	27 Jul 2023	High Tide (ft)	5.34
I39	27 Jul 2023	High Tide Time	1706
I39	27 Jul 2023	Low Tide (ft)	0.78
I39	27 Jul 2023	Low Tide Time	2354
I39	27 Jul 2023	Comments	Seagrass Debris
I40	05 Jul 2023	Depth (m)	10
I40	05 Jul 2023	Arrive Time	1100
I40	05 Jul 2023	Depart Time	1104
I40	05 Jul 2023	Air Temp (C)	16.9
I40	05 Jul 2023	Weather	Haze
I40	05 Jul 2023	Visibility (mi)	9
I40	05 Jul 2023	Wind Speed (kts)	9.2
I40	05 Jul 2023	Wind Dir	W
I40	05 Jul 2023	Water Color	Blueish-Green
I40	05 Jul 2023	Wave Ht Low (ft)	3.9
I40	05 Jul 2023	Wave Period (sec)	14
I40	05 Jul 2023	Sea State	Light Chop
I40	05 Jul 2023	High Tide (ft)	6.5
I40	05 Jul 2023	High Tide Time	2306
I40	05 Jul 2023	Low Tide (ft)	-1.45
I40	05 Jul 2023	Low Tide Time	542
I40	05 Jul 2023	Comments	none
I40	13 Jul 2023	Depth (m)	10
I40	13 Jul 2023	Arrive Time	1112
I40	13 Jul 2023	Depart Time	1121
I40	13 Jul 2023	Air Temp (C)	19.3
I40	13 Jul 2023	Weather	Clear
I40	13 Jul 2023	Visibility (mi)	11
I40	13 Jul 2023	Wind Speed (kts)	5.6
I40	13 Jul 2023	Wind Dir	NW
I40	13 Jul 2023	Water Color	Blueish-Green
I40	13 Jul 2023	Wave Ht Low (ft)	3
I40	13 Jul 2023	Wave Period (sec)	13
I40	13 Jul 2023	Sea State	Light Chop
I40	13 Jul 2023	High Tide (ft)	5.92
I40	13 Jul 2023	High Tide Time	1854
I40	13 Jul 2023	Low Tide (ft)	0.01
I40	13 Jul 2023	Low Tide Time	142
I40	13 Jul 2023	Comments	none
I40	19 Jul 2023	Depth (m)	10
I40	19 Jul 2023	Arrive Time	1139
I40	19 Jul 2023	Depart Time	1142
I40	19 Jul 2023	Air Temp (C)	19.9
I40	19 Jul 2023	Weather	Clear
I40	19 Jul 2023	Visibility (mi)	10
I40	19 Jul 2023	Wind Speed (kts)	12.3
I40	19 Jul 2023	Wind Dir	W
I40	19 Jul 2023	Water Color	Green
I40	19 Jul 2023	Wave Ht Low (ft)	2.6
I40	19 Jul 2023	Wave Period (sec)	11
I40	19 Jul 2023	Sea State	Light Chop
I40	19 Jul 2023	High Tide (ft)	5.75
I40	19 Jul 2023	High Tide Time	2230
I40	19 Jul 2023	Low Tide (ft)	-0.36

Station	Date	Parameter	Value
I40	19 Jul 2023	Low Tide Time	518
I40	19 Jul 2023	Comments	none
I40	27 Jul 2023	Depth (m)	10
I40	27 Jul 2023	Arrive Time	1047
I40	27 Jul 2023	Depart Time	1050
I40	27 Jul 2023	Air Temp (C)	20.1
I40	27 Jul 2023	Weather	Overcast
I40	27 Jul 2023	Visibility (mi)	5
I40	27 Jul 2023	Wind Speed (kts)	5.3
I40	27 Jul 2023	Wind Dir	W
I40	27 Jul 2023	Water Color	Green
I40	27 Jul 2023	Wave Ht Low (ft)	3
I40	27 Jul 2023	Wave Period (sec)	15
I40	27 Jul 2023	Sea State	Wind Ripples
I40	27 Jul 2023	High Tide (ft)	5.34
I40	27 Jul 2023	High Tide Time	1706
I40	27 Jul 2023	Low Tide (ft)	0.78
I40	27 Jul 2023	Low Tide Time	2354
I40	27 Jul 2023	Comments	none

Table 3.9

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

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (µg/L)
I19	05 Jul 2023	1	16.49	74.66	8.2	33.40	8.1	24.4	0.77
I19	05 Jul 2023	2	16.31	75.03	8.2	33.43	8.1	24.5	0.82
I19	05 Jul 2023	3	15.27	73.99	8.6	33.42	8.1	24.7	1.30
I19	05 Jul 2023	4	15.31	74.36	8.6	33.39	8.1	24.7	1.75
I19	05 Jul 2023	5	15.16	75.35	8.6	33.38	8.1	24.7	2.41
I19	05 Jul 2023	6	15.09	76.87	8.6	33.39	8.1	24.7	2.69
I19	05 Jul 2023	7	14.40	79.76	8.6	33.44	8.1	24.9	2.52
I19	05 Jul 2023	8	13.66	81.21	8.7	33.38	8.1	25.0	2.16
I19	05 Jul 2023	9	13.60	80.61	8.7	33.38	8.1	25.0	2.17
I19	05 Jul 2023	10	13.53	80.76	8.6	33.38	8.1	25.0	2.01
I19	13 Jul 2023	1	16.81	74.02	8.5	33.37	8.1	24.3	1.65
I19	13 Jul 2023	2	16.03	72.71	8.3	33.41	8.1	24.5	1.84
I19	13 Jul 2023	3	15.08	73.34	8.3	33.39	8.0	24.7	2.29
I19	13 Jul 2023	4	14.62	74.57	8.1	33.38	8.0	24.8	2.61
I19	13 Jul 2023	5	13.97	76.93	7.7	33.38	8.0	24.9	2.46
I19	13 Jul 2023	6	12.86	78.22	7.2	33.40	8.0	25.2	2.21
I19	13 Jul 2023	7	12.29	79.23	7.0	33.38	7.9	25.3	2.15
I19	13 Jul 2023	8	12.04	75.37	6.8	33.40	7.9	25.3	2.38
I19	13 Jul 2023	9	11.74	73.04	6.7	33.40	7.9	25.4	2.75
I19	13 Jul 2023	10	11.74	69.99	6.7	33.39	7.9	25.4	2.80
I19	19 Jul 2023	1	18.68	77.41	9.4	33.35	8.2	23.8	1.14
I19	19 Jul 2023	2	18.70	75.78	9.4	33.37	8.2	23.9	1.14
I19	19 Jul 2023	3	18.54	73.22	9.5	33.41	8.2	23.9	1.35
I19	19 Jul 2023	4	17.99	76.71	9.8	33.43	8.2	24.1	1.96
I19	19 Jul 2023	5	17.54	75.97	9.9	33.42	8.2	24.2	2.76
I19	19 Jul 2023	6	17.10	75.97	10.1	33.42	8.2	24.3	3.44
I19	19 Jul 2023	7	16.88	76.46	10.4	33.42	8.2	24.3	4.59
I19	19 Jul 2023	8	16.77	75.67	10.1	33.41	8.2	24.3	4.98
I19	19 Jul 2023	9	16.43	76.00	9.8	33.41	8.2	24.4	4.27
I19	19 Jul 2023	10	15.85	75.62	10.0	33.42	8.2	24.6	4.01
I19	27 Jul 2023	1	19.69	75.62	9.2	33.36	8.2	23.6	4.25
I19	27 Jul 2023	2	19.44	75.65	9.1	33.36	8.2	23.7	4.30
I19	27 Jul 2023	3	18.14	76.59	9.1	33.38	8.2	24.0	3.93
I19	27 Jul 2023	4	17.37	79.38	9.2	33.36	8.1	24.2	3.59
I19	27 Jul 2023	5	16.90	81.00	9.1	33.35	8.1	24.3	5.39
I19	27 Jul 2023	6	16.56	79.85	8.8	33.35	8.1	24.3	8.15
I19	27 Jul 2023	7	16.43	76.33	8.4	33.34	8.1	24.4	8.68
I19	27 Jul 2023	8	15.97	71.95	8.2	33.35	8.1	24.5	8.25
I19	27 Jul 2023	9	15.87	69.73	8.2	33.34	8.0	24.5	7.24
I19	27 Jul 2023	10	15.79	69.31	8.2	33.34	8.1	24.5	5.83
I24	05 Jul 2023	1	16.68	89.24	8.9	33.40	8.1	24.4	0.35
I24	05 Jul 2023	2	16.68	89.21	8.9	33.40	8.1	24.4	0.36
I24	05 Jul 2023	3	16.66	89.22	8.9	33.40	8.1	24.4	0.38
I24	05 Jul 2023	4	16.48	88.78	8.9	33.41	8.1	24.4	0.49
I24	05 Jul 2023	5	16.27	87.64	9.0	33.41	8.1	24.5	0.60
I24	05 Jul 2023	6	16.04	86.06	9.0	33.41	8.1	24.5	0.75
I24	05 Jul 2023	7	15.60	84.97	9.0	33.43	8.1	24.6	0.94
I24	05 Jul 2023	8	15.00	84.17	9.2	33.40	8.1	24.7	1.08
I24	05 Jul 2023	9	14.89	83.67	9.1	33.39	8.1	24.8	1.19
I24	05 Jul 2023	10	14.35	83.15	9.2	33.40	8.1	24.9	1.32
I24	05 Jul 2023	11	14.26	83.58	9.2	33.38	8.1	24.9	1.40

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (µg/L)
I24	13 Jul 2023	1	18.02	79.17	8.4	33.40	8.1	24.0	1.09
I24	13 Jul 2023	2	16.47	78.88	8.4	33.42	8.1	24.4	1.19
I24	13 Jul 2023	3	14.36	78.25	8.2	33.38	8.0	24.9	1.52
I24	13 Jul 2023	4	13.19	79.33	7.3	33.36	8.0	25.1	1.45
I24	13 Jul 2023	5	12.21	77.87	7.0	33.35	7.9	25.3	1.39
I24	13 Jul 2023	6	12.02	74.05	6.9	33.34	7.9	25.3	1.62
I24	13 Jul 2023	7	12.03	73.06	6.8	33.34	7.9	25.3	2.05
I24	13 Jul 2023	8	11.76	70.07	6.5	33.37	7.9	25.4	2.16
I24	13 Jul 2023	9	11.77	73.52	6.5	33.37	7.9	25.4	2.19
I24	13 Jul 2023	10	11.70	76.26	6.6	33.39	7.9	25.4	2.26
I24	19 Jul 2023	1	20.13	82.83	9.0	33.43	8.2	23.5	0.70
I24	19 Jul 2023	2	20.05	82.91	9.0	33.43	8.2	23.6	0.75
I24	19 Jul 2023	3	19.69	82.75	8.9	33.44	8.2	23.6	0.85
I24	19 Jul 2023	4	18.84	82.52	9.0	33.44	8.2	23.9	0.99
I24	19 Jul 2023	5	16.12	80.82	9.9	33.44	8.2	24.5	1.28
I24	19 Jul 2023	6	15.58	82.07	9.9	33.40	8.2	24.6	1.53
I24	19 Jul 2023	7	15.20	81.95	9.8	33.38	8.2	24.7	1.96
I24	19 Jul 2023	8	15.11	80.97	9.7	33.38	8.2	24.7	2.50
I24	19 Jul 2023	9	15.07	78.68	9.6	33.38	8.2	24.7	3.39
I24	19 Jul 2023	10	14.91	76.83	9.5	33.38	8.2	24.7	3.58
I24	19 Jul 2023	11	14.87	77.03	9.6	33.38	8.1	24.8	3.64
I24	27 Jul 2023	1	20.62	78.36	9.3	33.36	8.2	23.3	1.35
I24	27 Jul 2023	2	20.47	78.79	9.1	33.36	8.2	23.4	1.40
I24	27 Jul 2023	3	19.38	79.46	9.1	33.38	8.2	23.7	1.55
I24	27 Jul 2023	4	17.91	80.25	9.1	33.39	8.2	24.1	1.69
I24	27 Jul 2023	5	16.88	81.14	8.9	33.37	8.1	24.3	1.76
I24	27 Jul 2023	6	16.44	83.22	8.5	33.35	8.1	24.4	2.49
I24	27 Jul 2023	7	16.31	82.46	8.2	33.34	8.1	24.4	4.14
I24	27 Jul 2023	8	16.13	79.34	8.2	33.34	8.1	24.4	5.42
I24	27 Jul 2023	9	15.77	77.04	8.2	33.36	8.1	24.5	4.53
I25	05 Jul 2023	1	16.51	88.47	8.9	33.40	8.1	24.4	0.35
I25	05 Jul 2023	2	16.51	88.85	8.9	33.40	8.1	24.4	0.36
I25	05 Jul 2023	3	16.40	88.90	8.9	33.41	8.1	24.4	0.38
I25	05 Jul 2023	4	16.10	88.85	9.0	33.40	8.1	24.5	0.44
I25	05 Jul 2023	5	15.76	87.61	9.0	33.41	8.1	24.6	0.61
I25	05 Jul 2023	6	15.61	85.85	8.9	33.39	8.1	24.6	0.79
I25	05 Jul 2023	7	15.19	84.79	9.0	33.42	8.1	24.7	0.96
I25	05 Jul 2023	8	14.87	84.30	9.1	33.39	8.1	24.8	1.08
I25	05 Jul 2023	9	14.77	84.38	9.2	33.39	8.1	24.8	1.14
I25	13 Jul 2023	1	18.34	79.23	8.6	33.40	8.1	24.0	0.98
I25	13 Jul 2023	2	16.50	78.82	8.8	33.45	8.1	24.4	1.22
I25	13 Jul 2023	3	15.05	77.83	8.6	33.42	8.1	24.7	1.48
I25	13 Jul 2023	4	14.52	77.62	8.5	33.40	8.1	24.8	1.79
I25	13 Jul 2023	5	14.28	78.93	7.8	33.37	8.0	24.9	1.94
I25	13 Jul 2023	6	12.15	79.27	6.9	33.42	8.0	25.3	1.67
I25	13 Jul 2023	7	11.83	81.45	6.5	33.38	7.9	25.4	1.34
I25	13 Jul 2023	8	11.81	82.89	6.6	33.37	7.9	25.4	1.11
I25	19 Jul 2023	1	20.27	82.94	9.0	33.42	8.2	23.5	0.72
I25	19 Jul 2023	2	20.18	83.00	9.0	33.43	8.2	23.5	0.73
I25	19 Jul 2023	3	19.85	82.88	9.1	33.43	8.2	23.6	0.83
I25	19 Jul 2023	4	19.33	82.97	9.2	33.44	8.2	23.7	0.87
I25	19 Jul 2023	5	18.87	83.06	9.2	33.42	8.2	23.8	1.00
I25	19 Jul 2023	6	17.36	81.98	9.4	33.45	8.2	24.2	1.39
I25	19 Jul 2023	7	15.93	79.65	9.8	33.40	8.2	24.5	1.71
I25	19 Jul 2023	8	15.36	78.58	9.7	33.39	8.2	24.7	1.87

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (µg/L)
I25	19 Jul 2023	9	15.22	78.65	9.7	33.38	8.1	24.7	1.99
I25	27 Jul 2023	1	20.75	75.45	9.3	33.35	8.2	23.3	1.54
I25	27 Jul 2023	2	20.06	76.42	9.4	33.38	8.2	23.5	1.48
I25	27 Jul 2023	3	19.37	79.96	9.5	33.37	8.2	23.7	1.60
I25	27 Jul 2023	4	18.49	79.79	9.5	33.38	8.2	23.9	1.93
I25	27 Jul 2023	5	17.78	80.88	9.3	33.36	8.2	24.1	1.91
I25	27 Jul 2023	6	16.88	82.55	9.0	33.37	8.2	24.3	2.03
I25	27 Jul 2023	7	15.89	83.33	8.8	33.36	8.1	24.5	2.86
I25	27 Jul 2023	8	15.62	81.57	8.6	33.34	8.1	24.6	2.29
I25	27 Jul 2023	9	15.62	82.32	8.6	33.34	8.1	24.6	2.02
I26	05 Jul 2023	1	15.70	87.98	8.8	33.39	8.1	24.6	0.40
I26	05 Jul 2023	2	15.65	87.97	8.8	33.39	8.1	24.6	0.44
I26	05 Jul 2023	3	15.57	87.56	8.9	33.39	8.1	24.6	0.54
I26	05 Jul 2023	4	15.54	87.33	8.9	33.39	8.1	24.6	0.63
I26	05 Jul 2023	5	15.48	87.08	8.9	33.39	8.1	24.6	0.72
I26	05 Jul 2023	6	15.42	86.45	9.0	33.38	8.1	24.6	0.85
I26	05 Jul 2023	7	15.35	86.15	9.0	33.39	8.1	24.7	1.00
I26	05 Jul 2023	8	15.32	85.50	9.0	33.38	8.1	24.7	1.12
I26	05 Jul 2023	9	15.05	84.28	9.1	33.41	8.1	24.7	1.34
I26	13 Jul 2023	1	18.11	78.00	8.8	33.41	8.1	24.0	1.20
I26	13 Jul 2023	2	17.20	78.03	8.9	33.43	8.1	24.3	1.39
I26	13 Jul 2023	3	15.89	77.88	8.9	33.43	8.1	24.6	1.61
I26	13 Jul 2023	4	15.02	73.67	8.8	33.42	8.1	24.7	1.85
I26	13 Jul 2023	5	14.68	77.35	8.5	33.39	8.1	24.8	2.07
I26	13 Jul 2023	6	14.26	79.00	8.1	33.38	8.1	24.9	2.61
I26	13 Jul 2023	7	12.97	78.94	7.8	33.40	8.0	25.2	2.35
I26	13 Jul 2023	8	12.54	82.29	7.6	33.38	8.0	25.2	1.75
I26	13 Jul 2023	9	12.47	83.11	7.6	33.37	8.0	25.2	1.61
I26	19 Jul 2023	1	20.24	82.66	9.0	33.43	8.2	23.5	0.71
I26	19 Jul 2023	2	20.15	82.60	9.0	33.43	8.2	23.5	0.74
I26	19 Jul 2023	3	19.75	82.50	9.2	33.44	8.2	23.6	0.81
I26	19 Jul 2023	4	19.29	82.21	9.3	33.44	8.2	23.8	0.89
I26	19 Jul 2023	5	18.43	82.80	9.6	33.44	8.2	24.0	1.00
I26	19 Jul 2023	6	17.86	82.67	9.6	33.43	8.2	24.1	1.04
I26	19 Jul 2023	7	17.19	82.78	9.8	33.42	8.2	24.3	1.24
I26	19 Jul 2023	8	17.14	82.11	9.7	33.39	8.2	24.2	1.37
I26	19 Jul 2023	9	16.17	81.12	9.4	33.42	8.2	24.5	1.83
I26	27 Jul 2023	1	19.46	77.51	9.4	33.36	8.2	23.6	1.79
I26	27 Jul 2023	2	19.36	77.75	9.3	33.38	8.2	23.7	1.72
I26	27 Jul 2023	3	18.69	77.95	9.3	33.38	8.2	23.9	1.86
I26	27 Jul 2023	4	17.81	78.56	9.1	33.38	8.2	24.1	2.15
I26	27 Jul 2023	5	16.50	80.07	8.8	33.40	8.1	24.4	2.84
I26	27 Jul 2023	6	15.66	80.92	8.3	33.38	8.1	24.6	3.68
I26	27 Jul 2023	7	15.49	80.03	8.1	33.35	8.0	24.6	2.67
I26	27 Jul 2023	8	15.39	81.24	8.1	33.35	8.0	24.6	2.19
I26	27 Jul 2023	9	15.27	82.32	8.2	33.35	8.0	24.6	1.94
I32	05 Jul 2023	1	16.93	83.10	8.9	33.41	8.1	24.3	0.65
I32	05 Jul 2023	2	16.90	82.97	9.0	33.41	8.1	24.3	0.69
I32	05 Jul 2023	3	16.87	82.72	8.9	33.41	8.1	24.3	0.75
I32	05 Jul 2023	4	16.80	81.64	8.9	33.41	8.1	24.3	0.93
I32	05 Jul 2023	5	16.55	77.69	8.8	33.41	8.1	24.4	1.44
I32	05 Jul 2023	6	16.48	73.81	8.8	33.41	8.1	24.4	1.98
I32	05 Jul 2023	7	16.34	72.46	8.8	33.41	8.1	24.4	2.69
I32	05 Jul 2023	8	16.20	75.30	9.0	33.41	8.1	24.5	2.75
I32	05 Jul 2023	9	15.90	79.87	8.9	33.41	8.1	24.5	2.37

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (µg/L)
I32	05 Jul 2023	10	15.21	79.01	8.4	33.46	8.1	24.7	2.45
I32	13 Jul 2023	1	18.16	74.53	8.8	33.39	8.1	24.0	1.30
I32	13 Jul 2023	2	17.93	75.26	8.8	33.40	8.1	24.1	1.44
I32	13 Jul 2023	3	17.47	74.62	8.6	33.39	8.1	24.2	2.15
I32	13 Jul 2023	4	15.82	68.05	8.4	33.43	8.1	24.6	4.00
I32	13 Jul 2023	5	15.08	70.46	8.4	33.40	8.1	24.7	4.74
I32	13 Jul 2023	6	14.58	75.61	8.3	33.39	8.1	24.8	4.70
I32	13 Jul 2023	7	14.34	78.61	8.2	33.38	8.0	24.9	4.00
I32	13 Jul 2023	8	13.66	80.73	7.6	33.40	8.0	25.0	3.85
I32	13 Jul 2023	9	12.50	81.01	7.3	33.41	8.0	25.3	3.17
I32	13 Jul 2023	10	12.50	80.32	7.2	33.39	8.0	25.2	2.71
I32	19 Jul 2023	1	20.46	83.45	9.2	33.43	8.2	23.4	1.36
I32	19 Jul 2023	2	20.33	83.37	9.1	33.44	8.2	23.5	1.16
I32	19 Jul 2023	3	19.98	82.49	9.2	33.44	8.2	23.6	1.53
I32	19 Jul 2023	4	19.94	80.52	9.2	33.43	8.2	23.6	1.88
I32	19 Jul 2023	5	19.92	79.74	9.1	33.44	8.2	23.6	2.15
I32	19 Jul 2023	6	19.91	79.76	9.0	33.43	8.2	23.6	2.48
I32	19 Jul 2023	7	19.90	79.72	8.9	33.44	8.2	23.6	2.72
I32	19 Jul 2023	8	19.88	79.82	8.8	33.44	8.2	23.6	2.83
I32	19 Jul 2023	9	19.71	79.80	8.8	33.45	8.2	23.7	2.76
I32	27 Jul 2023	1	20.68	75.60	8.7	33.37	8.2	23.3	1.27
I32	27 Jul 2023	2	19.81	75.43	8.9	33.40	8.2	23.6	1.36
I32	27 Jul 2023	3	18.04	75.41	9.8	33.40	8.2	24.0	1.47
I32	27 Jul 2023	4	17.30	77.82	10.0	33.38	8.2	24.2	2.36
I32	27 Jul 2023	5	17.02	78.00	9.3	33.36	8.2	24.3	7.20
I32	27 Jul 2023	6	16.56	66.13	8.5	33.37	8.1	24.4	12.84
I32	27 Jul 2023	7	16.35	62.73	8.2	33.35	8.1	24.4	11.91
I32	27 Jul 2023	8	16.16	68.01	8.2	33.36	8.1	24.4	10.41
I32	27 Jul 2023	9	16.09	71.35	8.3	33.35	8.1	24.5	8.60
I32	27 Jul 2023	10	16.00	74.85	8.3	33.36	8.0	24.5	6.74
I39	05 Jul 2023	1	15.96	85.34	8.6	33.41	8.1	24.5	0.53
I39	05 Jul 2023	2	15.66	85.14	8.6	33.43	8.1	24.6	0.62
I39	05 Jul 2023	3	15.51	84.48	8.6	33.41	8.1	24.6	0.75
I39	05 Jul 2023	4	15.33	84.65	8.6	33.41	8.1	24.7	0.82
I39	05 Jul 2023	5	14.80	85.82	8.9	33.39	8.1	24.8	0.73
I39	05 Jul 2023	6	14.77	89.91	9.0	33.35	8.1	24.8	0.65
I39	05 Jul 2023	7	14.49	91.59	9.2	33.34	8.1	24.8	0.58
I39	05 Jul 2023	8	14.47	91.84	9.2	33.34	8.1	24.8	0.56
I39	05 Jul 2023	9	14.20	91.20	9.1	33.35	8.1	24.9	0.70
I39	05 Jul 2023	10	14.12	89.87	9.1	33.35	8.1	24.9	0.91
I39	05 Jul 2023	11	14.11	89.47	9.0	33.35	8.1	24.9	1.14
I39	05 Jul 2023	12	14.11	89.44	9.0	33.35	8.1	24.9	1.15
I39	05 Jul 2023	13	14.11	89.42	9.0	33.35	8.1	24.9	1.25
I39	05 Jul 2023	14	14.11	88.90	8.9	33.36	8.1	24.9	1.42
I39	05 Jul 2023	15	13.55	87.79	8.5	33.41	8.1	25.1	1.74
I39	05 Jul 2023	16	12.94	86.07	8.2	33.40	8.0	25.2	2.09
I39	05 Jul 2023	17	12.73	85.36	7.9	33.40	8.0	25.2	2.61
I39	05 Jul 2023	18	12.68	85.43	7.8	33.39	8.0	25.2	2.58
I39	13 Jul 2023	1	18.15	80.46	8.7	33.40	8.1	24.0	0.88
I39	13 Jul 2023	2	16.72	80.32	8.5	33.45	8.1	24.4	1.14
I39	13 Jul 2023	3	14.89	79.83	8.1	33.42	8.1	24.8	1.51
I39	13 Jul 2023	4	13.14	79.76	7.4	33.43	8.0	25.1	1.41
I39	13 Jul 2023	5	12.42	83.19	6.8	33.39	7.9	25.3	1.17
I39	13 Jul 2023	6	12.32	86.60	6.7	33.37	7.9	25.3	1.02
I39	13 Jul 2023	7	12.18	88.37	6.7	33.39	7.9	25.3	1.05
I39	13 Jul 2023	8	11.96	89.23	6.6	33.43	7.9	25.4	0.88

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (µg/L)
I39	13 Jul 2023	9	11.84	90.25	6.5	33.43	7.9	25.4	0.83
I39	13 Jul 2023	10	11.75	90.66	6.5	33.44	7.9	25.4	1.05
I39	13 Jul 2023	11	11.71	89.78	6.5	33.44	7.9	25.4	1.28
I39	13 Jul 2023	12	11.62	89.09	6.4	33.44	7.9	25.5	1.26
I39	13 Jul 2023	13	11.59	89.25	6.3	33.45	7.9	25.5	1.16
I39	13 Jul 2023	14	11.58	89.77	6.2	33.46	7.9	25.5	1.09
I39	13 Jul 2023	15	11.52	90.17	6.1	33.48	7.9	25.5	1.00
I39	13 Jul 2023	16	11.49	90.39	6.1	33.49	7.8	25.5	1.00
I39	13 Jul 2023	17	11.47	90.50	6.1	33.49	7.8	25.5	0.98
I39	13 Jul 2023	18	11.47	90.65	6.1	33.50	7.8	25.5	0.94
I39	19 Jul 2023	1	20.53	81.18	8.9	33.43	8.2	23.4	0.95
I39	19 Jul 2023	2	20.50	80.98	8.9	33.43	8.2	23.4	1.05
I39	19 Jul 2023	3	20.23	81.12	9.0	33.43	8.2	23.5	1.20
I39	19 Jul 2023	4	19.16	81.06	9.5	33.44	8.2	23.8	1.38
I39	19 Jul 2023	5	18.29	80.87	9.7	33.43	8.2	24.0	1.62
I39	19 Jul 2023	6	17.20	81.19	9.4	33.42	8.2	24.3	1.73
I39	19 Jul 2023	7	15.11	82.24	9.6	33.42	8.2	24.7	2.05
I39	19 Jul 2023	8	14.95	83.59	9.4	33.37	8.1	24.7	2.27
I39	19 Jul 2023	9	14.44	83.86	9.0	33.37	8.1	24.8	2.78
I39	19 Jul 2023	10	14.29	82.27	9.0	33.37	8.1	24.9	3.54
I39	19 Jul 2023	11	14.19	82.40	9.0	33.36	8.1	24.9	3.84
I39	19 Jul 2023	12	14.06	83.19	8.8	33.37	8.1	24.9	3.85
I39	19 Jul 2023	13	13.69	83.04	8.4	33.37	8.1	25.0	3.63
I39	19 Jul 2023	14	13.30	85.31	8.1	33.38	8.0	25.1	2.49
I39	19 Jul 2023	15	13.34	88.87	8.1	33.37	8.0	25.1	1.96
I39	19 Jul 2023	16	13.21	89.39	8.0	33.38	8.0	25.1	1.68
I39	19 Jul 2023	17	13.18	89.60	8.0	33.38	8.0	25.1	1.52
I39	19 Jul 2023	18	13.18	89.74	8.0	33.38	8.0	25.1	1.39
I39	27 Jul 2023	1	19.90	82.94	9.6	33.37	8.2	23.5	1.06
I39	27 Jul 2023	2	19.73	83.07	9.6	33.38	8.2	23.6	1.28
I39	27 Jul 2023	3	19.48	83.00	9.6	33.38	8.2	23.7	1.48
I39	27 Jul 2023	4	18.81	83.07	9.8	33.38	8.2	23.8	1.48
I39	27 Jul 2023	5	18.43	83.85	9.7	33.37	8.2	23.9	1.58
I39	27 Jul 2023	6	18.01	83.97	9.3	33.36	8.2	24.0	1.63
I39	27 Jul 2023	7	16.54	84.93	9.1	33.37	8.1	24.4	1.55
I39	27 Jul 2023	8	15.52	86.26	9.2	33.35	8.1	24.6	1.57
I39	27 Jul 2023	9	15.16	87.88	8.9	33.35	8.1	24.7	1.47
I39	27 Jul 2023	10	14.59	89.05	9.0	33.31	8.1	24.8	1.29
I39	27 Jul 2023	11	14.27	90.32	9.1	33.28	8.1	24.8	1.23
I39	27 Jul 2023	12	14.13	90.83	8.9	33.30	8.1	24.8	1.41
I39	27 Jul 2023	13	14.04	90.93	8.8	33.31	8.1	24.9	1.62
I39	27 Jul 2023	14	13.94	90.53	8.5	33.31	8.1	24.9	2.05
I39	27 Jul 2023	15	13.93	89.52	8.3	33.32	8.0	24.9	1.87
I39	27 Jul 2023	16	13.90	89.62	8.2	33.33	8.0	24.9	1.41
I39	27 Jul 2023	17	13.90	89.88	8.2	33.33	8.0	24.9	1.18
I39	27 Jul 2023	18	13.90	89.98	8.2	33.34	8.0	24.9	1.04
I40	05 Jul 2023	1	16.51	79.34	8.9	33.40	8.1	24.4	0.77
I40	05 Jul 2023	2	16.49	79.33	8.9	33.41	8.1	24.4	0.77
I40	05 Jul 2023	3	16.43	78.85	8.8	33.40	8.1	24.4	0.83
I40	05 Jul 2023	4	16.06	76.01	8.5	33.43	8.1	24.5	0.95
I40	05 Jul 2023	5	15.66	72.38	8.3	33.38	8.1	24.6	1.33
I40	05 Jul 2023	6	15.25	67.82	8.1	33.40	8.0	24.7	1.66
I40	05 Jul 2023	7	15.05	67.87	8.0	33.39	8.0	24.7	2.11
I40	05 Jul 2023	8	14.48	71.13	8.3	33.46	8.1	24.9	2.37
I40	05 Jul 2023	9	13.71	78.28	8.4	33.43	8.0	25.0	2.29
I40	05 Jul 2023	10	13.53	74.88	8.3	33.41	8.0	25.1	2.13
I40	13 Jul 2023	1	18.16	79.15	8.8	33.39	8.1	24.0	1.00

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (µg/L)
I40	13 Jul 2023	2	17.90	78.54	8.6	33.40	8.1	24.1	1.10
I40	13 Jul 2023	3	16.19	76.13	8.3	33.37	8.1	24.4	1.69
I40	13 Jul 2023	4	14.77	74.55	8.1	33.37	8.0	24.8	2.10
I40	13 Jul 2023	5	14.04	74.43	7.5	33.36	8.0	24.9	2.13
I40	13 Jul 2023	6	12.88	75.32	6.8	33.37	8.0	25.1	1.91
I40	13 Jul 2023	7	11.96	75.96	6.3	33.37	7.9	25.3	2.16
I40	13 Jul 2023	8	11.83	68.97	6.2	33.36	7.9	25.3	2.57
I40	13 Jul 2023	9	11.83	57.29	6.2	33.35	7.9	25.3	2.90
I40	13 Jul 2023	10	11.83	50.76	6.2	33.36	7.9	25.3	3.02
I40	19 Jul 2023	1	20.15	82.60	8.7	33.42	8.2	23.5	0.74
I40	19 Jul 2023	2	19.15	82.51	8.9	33.41	8.2	23.8	0.82
I40	19 Jul 2023	3	17.93	80.72	9.3	33.39	8.2	24.1	1.04
I40	19 Jul 2023	4	17.51	78.74	9.4	33.40	8.2	24.2	1.25
I40	19 Jul 2023	5	16.53	79.58	9.9	33.41	8.2	24.4	1.52
I40	19 Jul 2023	6	16.23	80.97	10.0	33.40	8.2	24.5	1.74
I40	19 Jul 2023	7	15.84	80.55	10.2	33.40	8.2	24.6	2.27
I40	19 Jul 2023	8	15.72	78.73	10.0	33.39	8.2	24.6	2.83
I40	19 Jul 2023	9	15.48	74.08	9.8	33.39	8.2	24.6	3.42
I40	19 Jul 2023	10	15.47	71.04	9.8	33.39	8.2	24.6	3.82
I40	27 Jul 2023	1	19.35	77.11	9.3	33.37	8.2	23.7	3.41
I40	27 Jul 2023	2	18.67	77.04	9.1	33.37	8.2	23.9	4.11
I40	27 Jul 2023	3	18.13	75.65	8.3	33.36	8.1	24.0	6.01
I40	27 Jul 2023	4	17.22	73.74	8.7	33.38	8.1	24.2	5.77
I40	27 Jul 2023	5	16.61	78.02	9.0	33.35	8.1	24.3	5.78
I40	27 Jul 2023	6	16.43	78.48	8.6	33.36	8.1	24.4	6.13
I40	27 Jul 2023	7	16.25	77.52	8.3	33.35	8.1	24.4	4.99
I40	27 Jul 2023	8	16.29	78.74	7.9	33.34	8.0	24.4	4.81
I40	27 Jul 2023	9	15.88	76.71	7.5	33.36	8.0	24.5	3.57
I40	27 Jul 2023	10	15.80	73.20	7.6	33.36	8.0	24.5	2.58

NA = not available

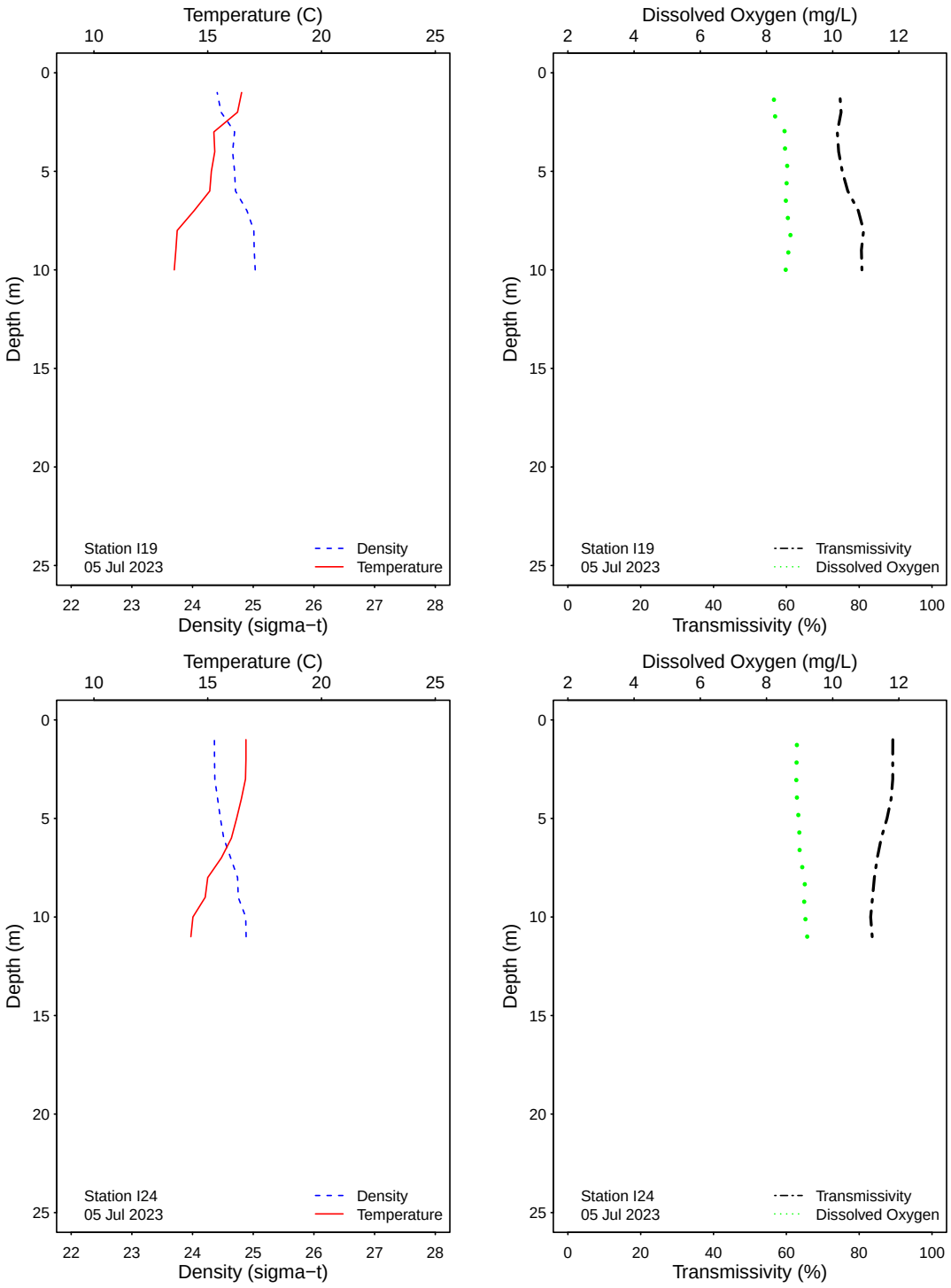

Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

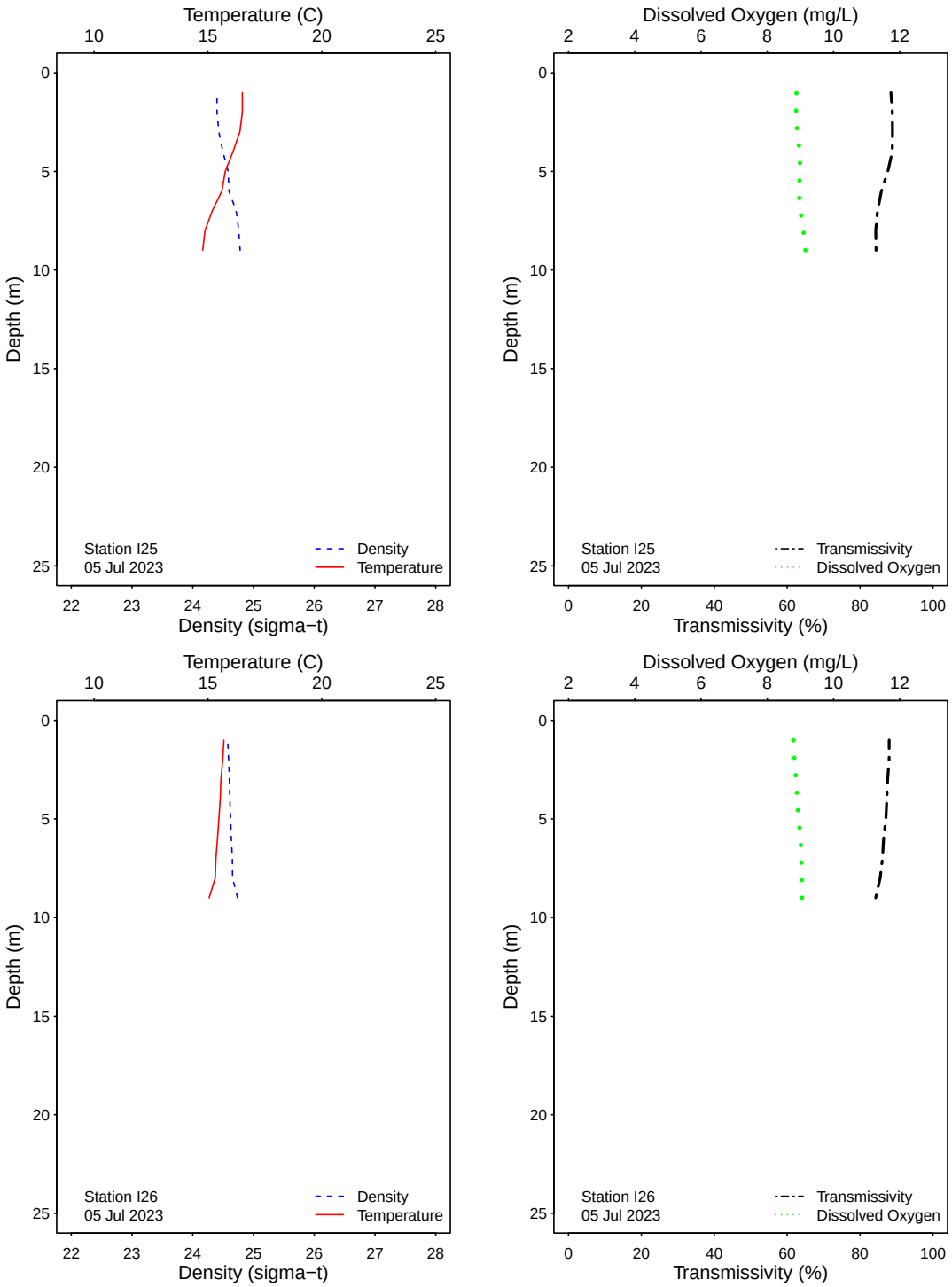

Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

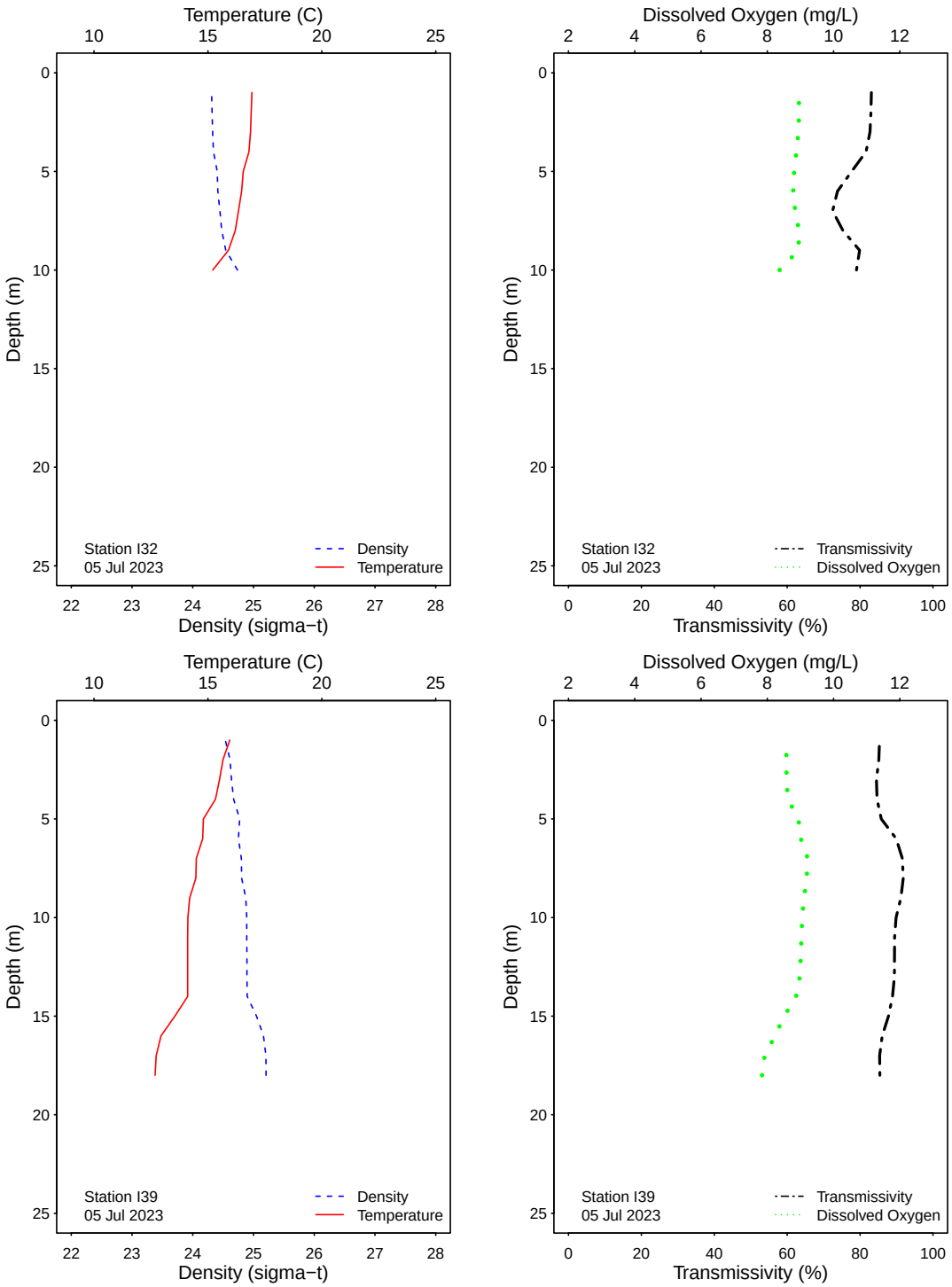

Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

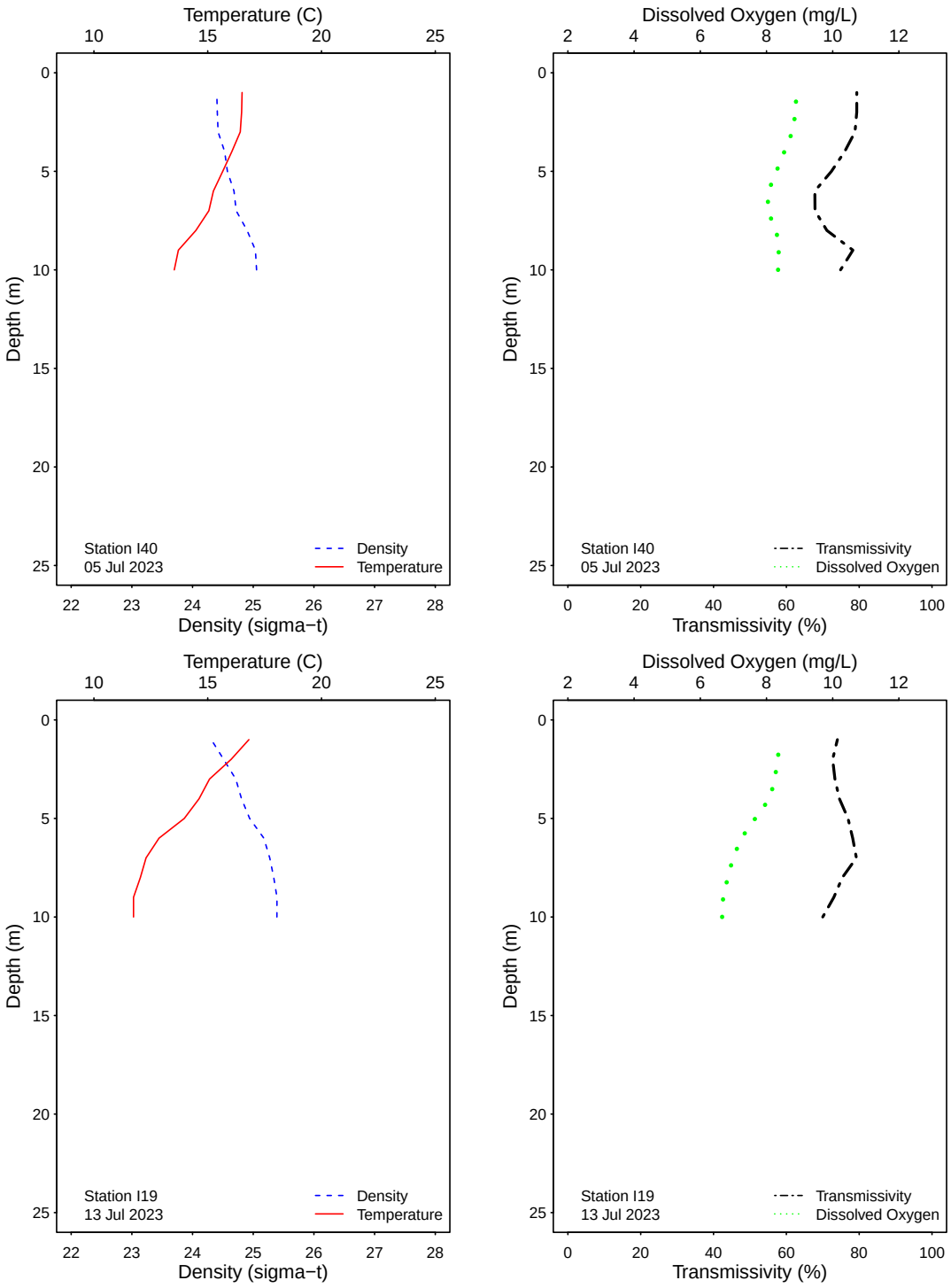

Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

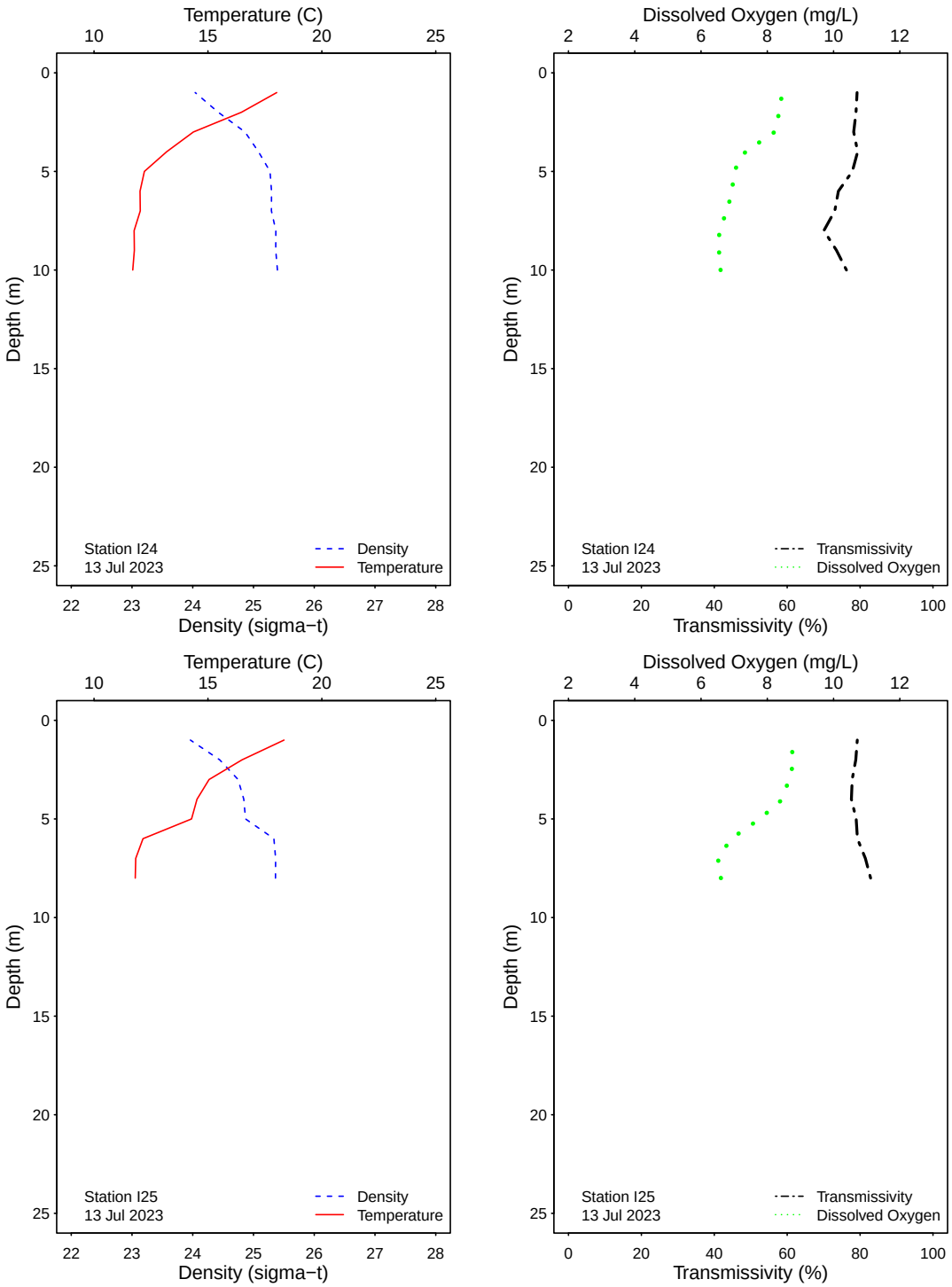

Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

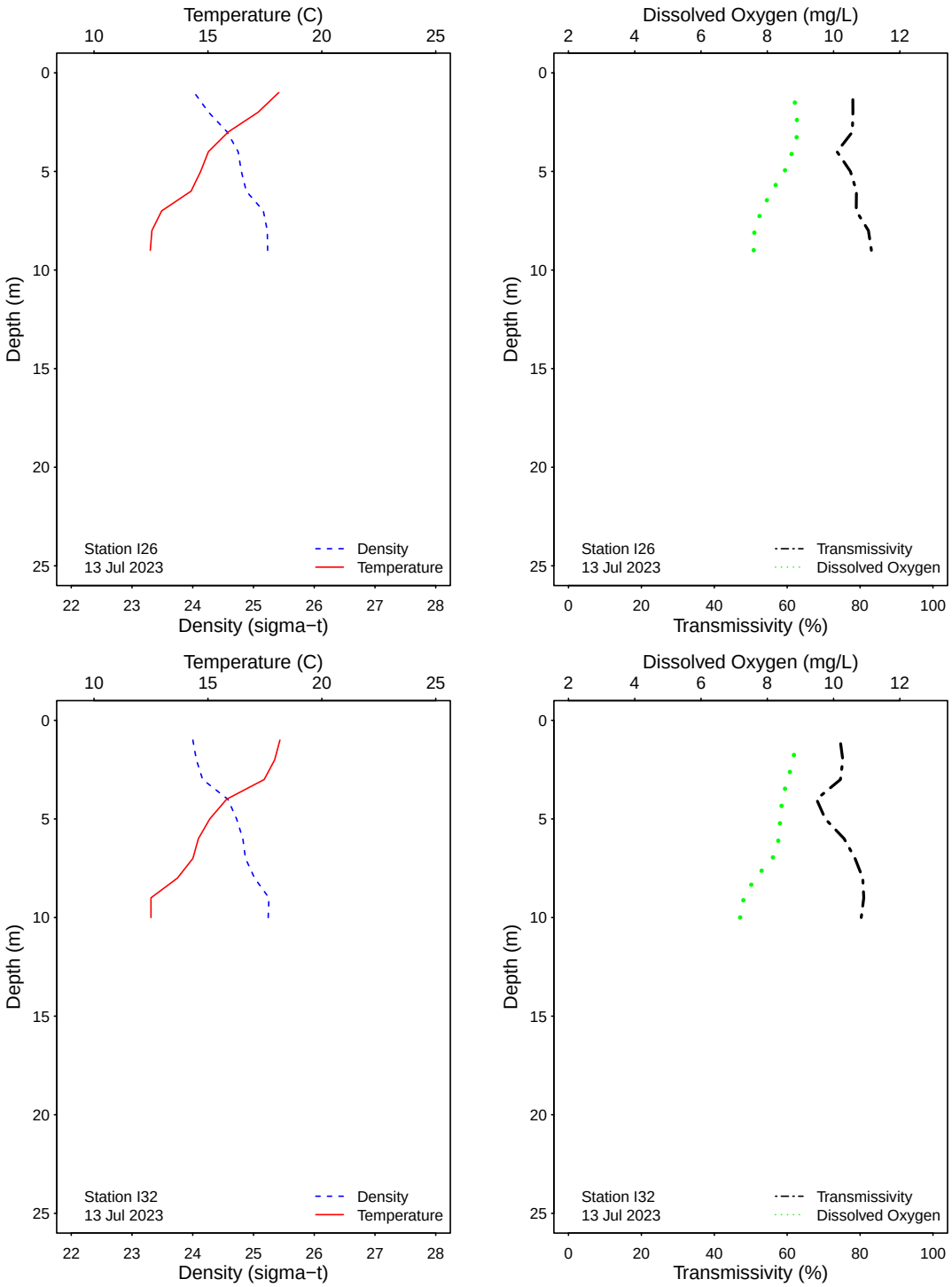

Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

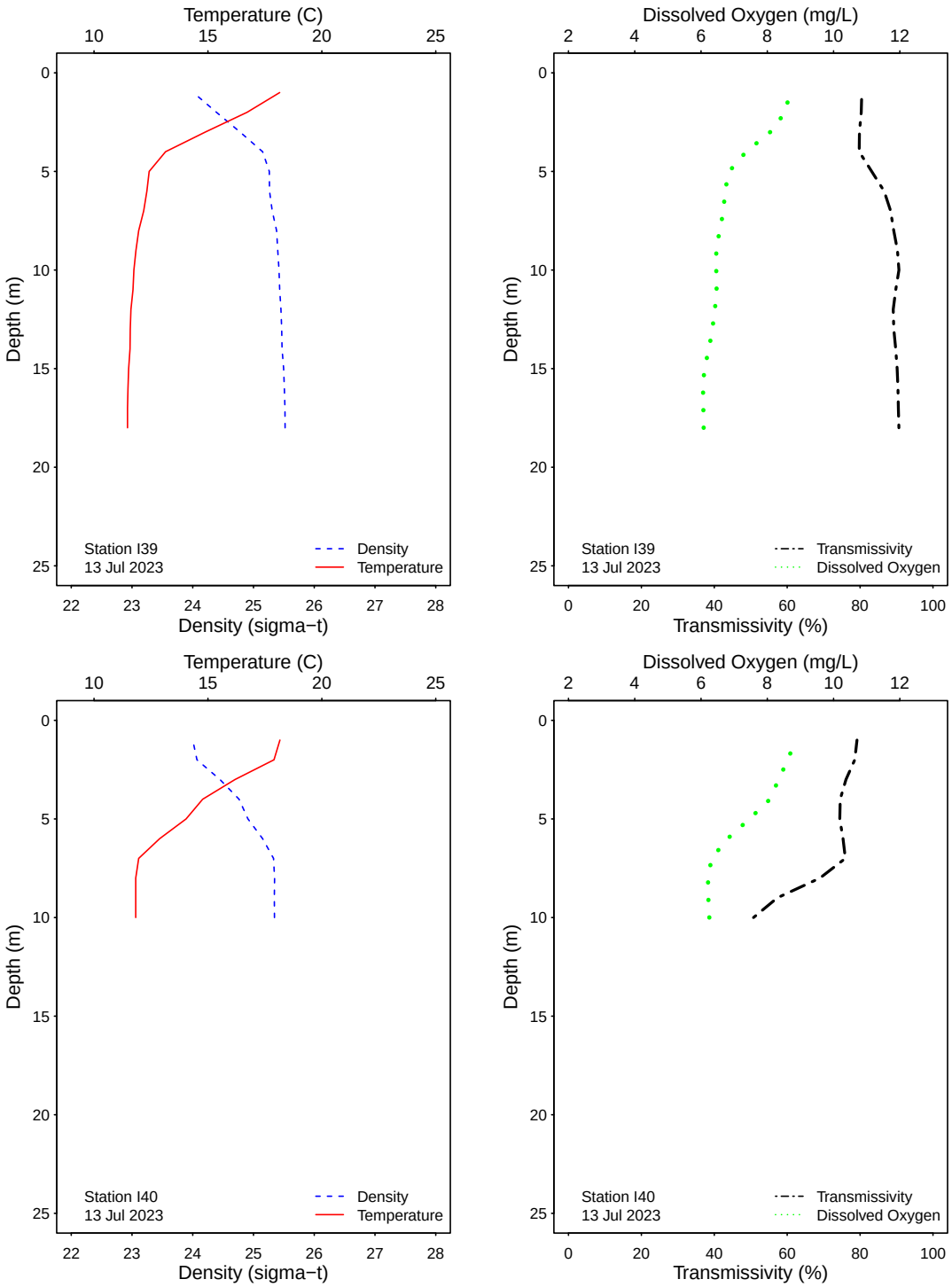

Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

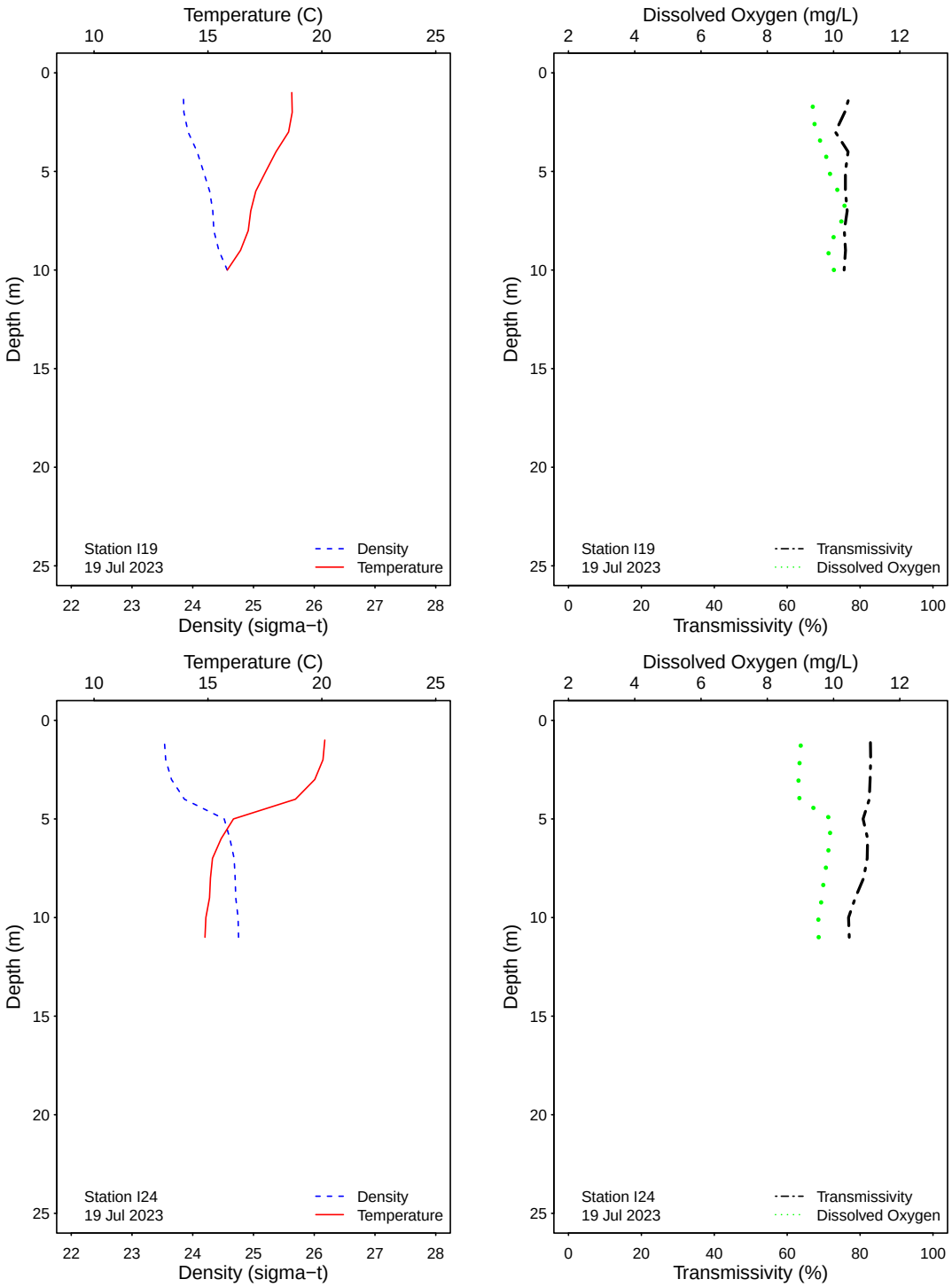

Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

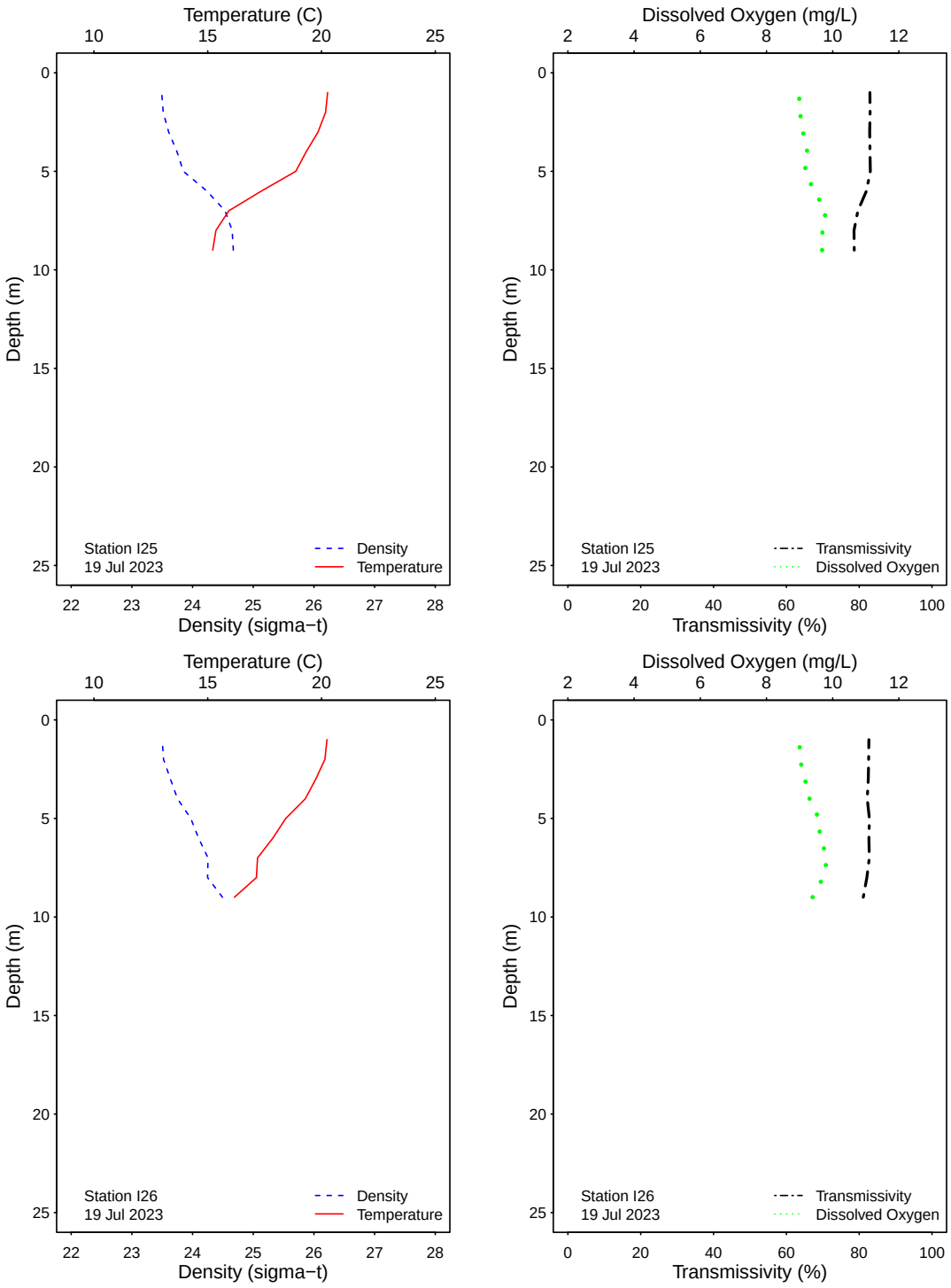

Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

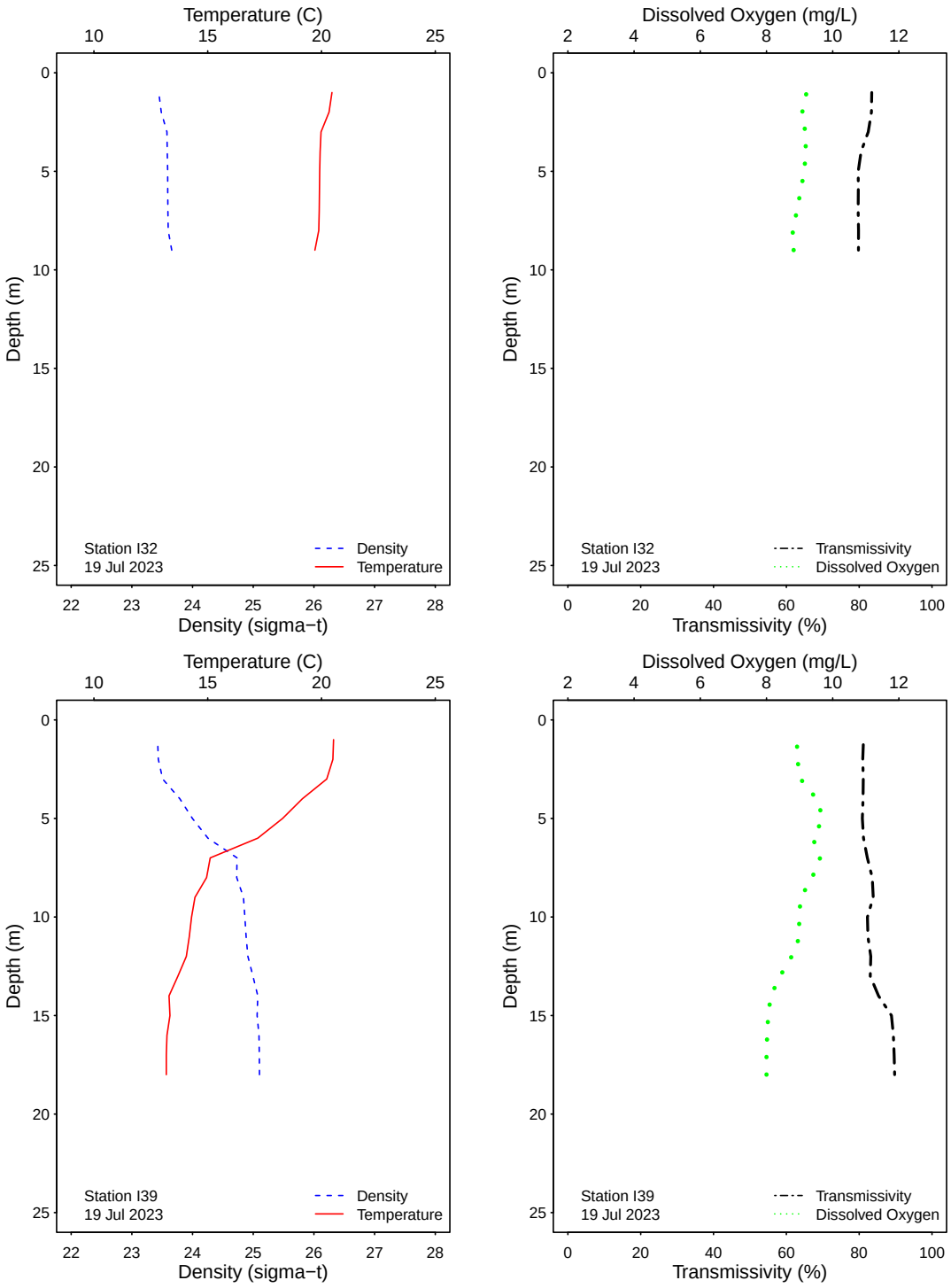

Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

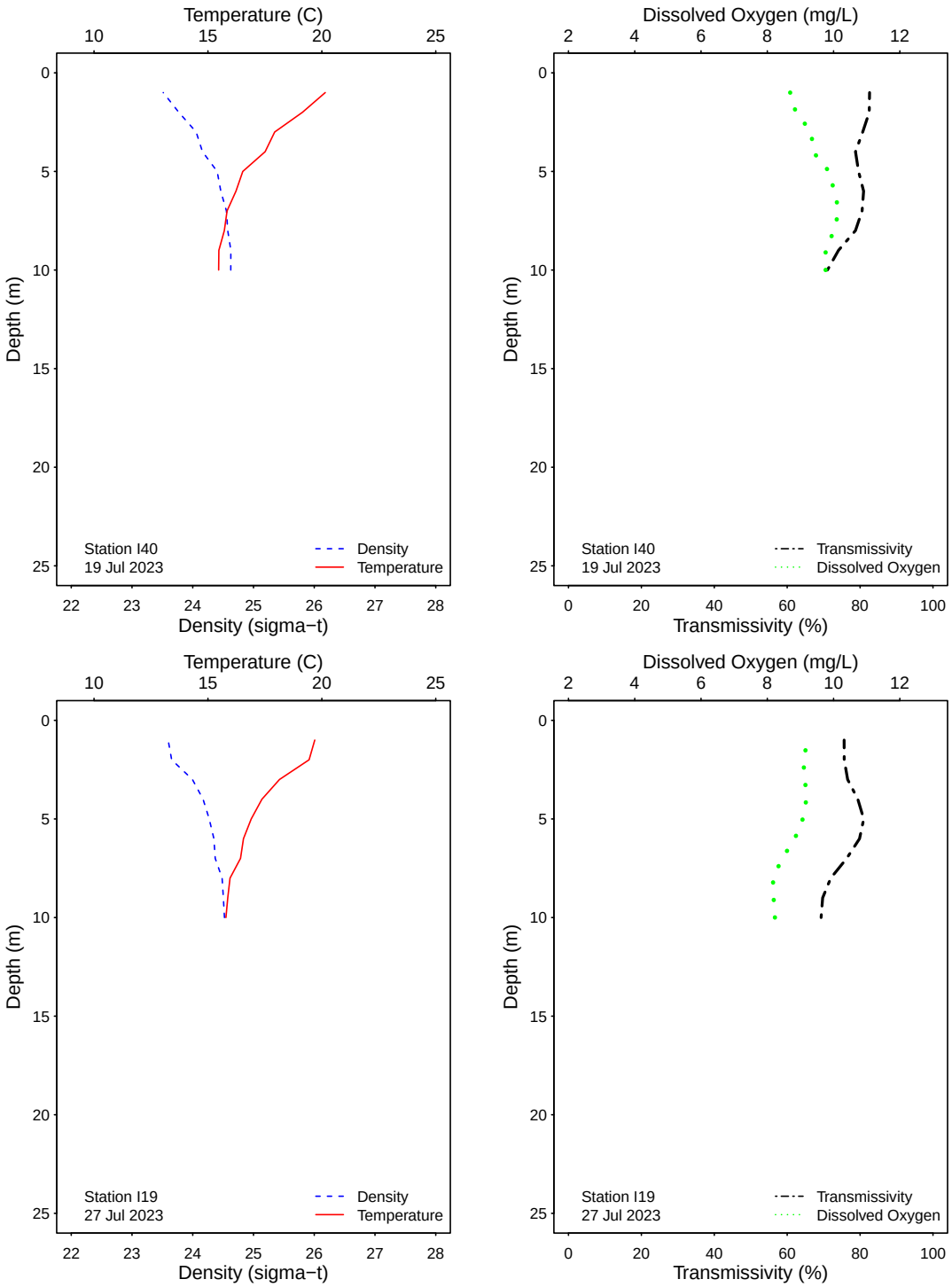

Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

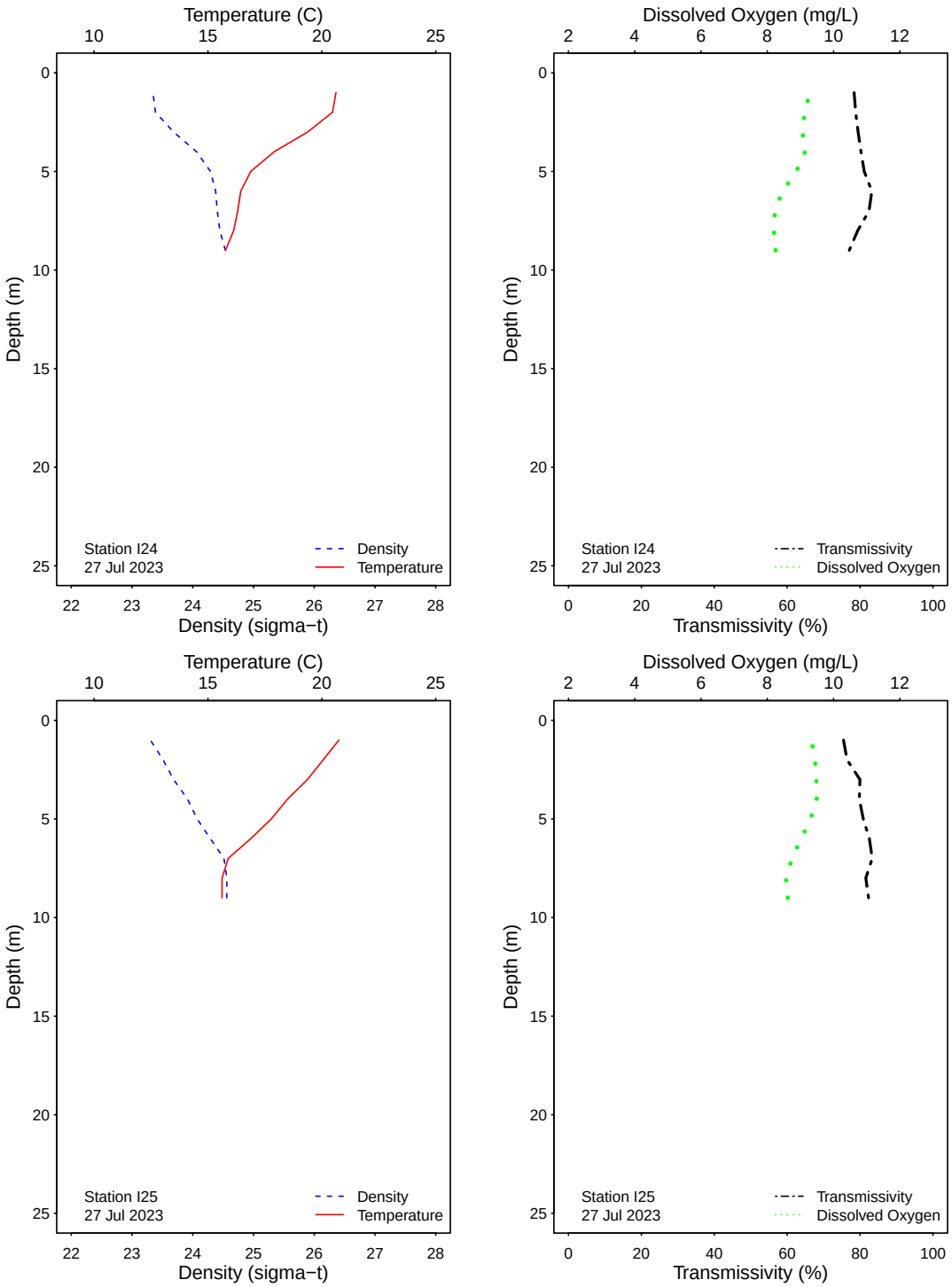

Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

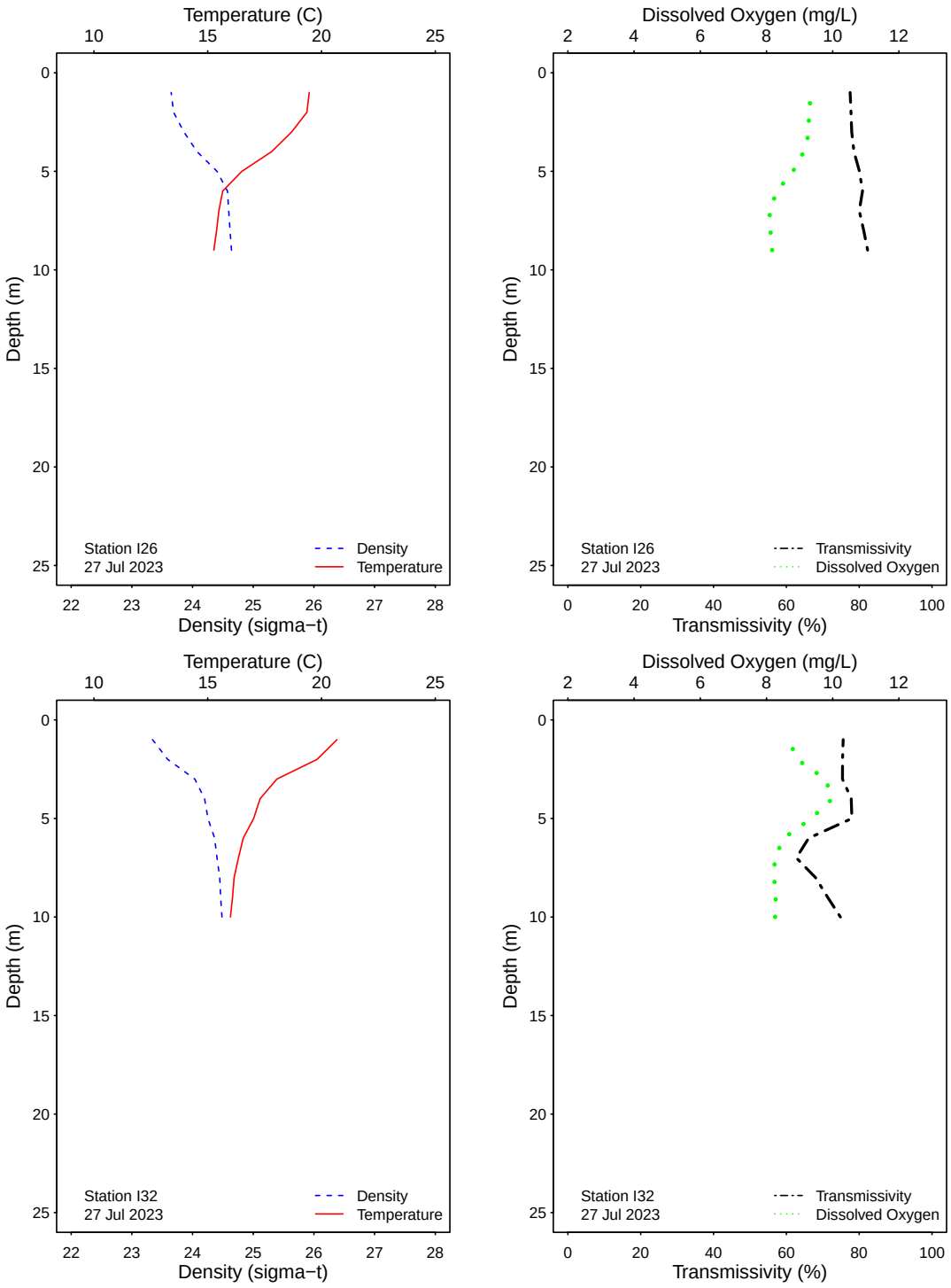

Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

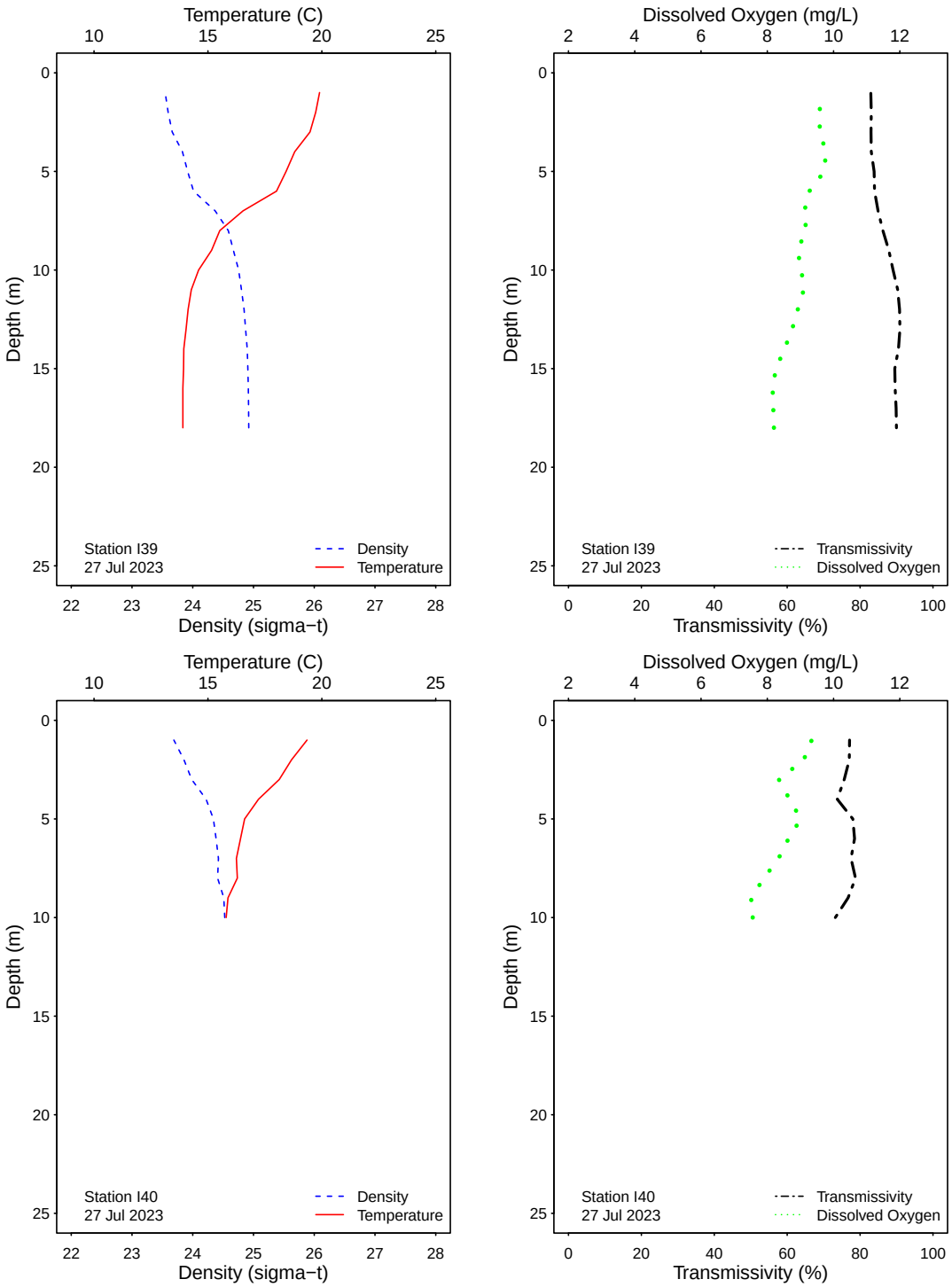

Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

APPENDIX A

Quality Assurance

Table A.1

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

Station	Date	Depth	Analyst	Procedure	Total	Fecal	Entero
I19	05 Jul 2023	6	CRE	LAB DUPLICATE	20e	<2	<2
I19	13 Jul 2023	6	JF	LAB DUPLICATE	2e	<2	2e
I19	19 Jul 2023	6	WT	LAB DUPLICATE	40e	<2	2e
I19	27 Jul 2023	6	JF	LAB DUPLICATE	<20	<2	<2
I40	05 Jul 2023	6	CRE	LAB DUPLICATE	60e	6e	4e
I40	13 Jul 2023	6	JF	LAB DUPLICATE	40e	<2	2e
I40	19 Jul 2023	6	WT	LAB DUPLICATE	20e	<2	<2
I40	27 Jul 2023	6	JF	LAB DUPLICATE	<2	<2	<2
S12	06 Jul 2023		JF	FIELD DUPLICATE	1000e	22e	22e
S12	06 Jul 2023		JF	LAB DUPLICATE	400e	100e	34e
S12	11 Jul 2023		CRE	FIELD DUPLICATE	<200	<20	<20
S12	11 Jul 2023		CRE	LAB DUPLICATE	<200	6e	28e
S12	18 Jul 2023		JF	FIELD DUPLICATE	<200	<20	<2
S12	18 Jul 2023		JF	LAB DUPLICATE	<200	4e	4e
S12	25 Jul 2023		JF	FIELD DUPLICATE	<200	28e	22e
S12	25 Jul 2023		JF	LAB DUPLICATE	200e	20e	28e

ns = not sampled
ND = no data

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