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

MARCH 2025

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

April 30, 2025

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 March 2025 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 weekly 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.

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 quarterly 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 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 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

<u>Shellfish Harvesting Standards</u>

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.

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 2025 Quality Assurance Report, which will be completed in March 2026.

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 March**,** six of the eight shore stations located north of the border were out of compliance with the 2019 California Ocean Plan (Ocean Plan) water contact standards on one or more days as follows:
    - The 30-day running geometric mean standard for fecal coliforms was exceeded at stations S4, S5, S6, S10, S11, and S12.
    - The single sample maximum (SSM) standard for fecal coliforms was exceeded at stations S4, S5, and S10.
    - The 6-week running geometric mean standard for *Enterococcus* was exceeded at stations S4, S5, S6, S10, S11, and S12.
    - The statistical threshold value (STV) standard for *Enterococcus* was exceeded at stations S4, S5, and S10.

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

        - The 30-day running median standard for total coliforms was exceeded at stations S4, S5, S6, S10, S11, and S12.
        - The STV standard for total coliforms was exceeded at stations S4, S5, S6, S10, and S11.
    - A sewage-like odor was observed at station S5 on one or more days in March.
    - 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 March 5, 10, 19, and 25.
    - During March, six of the seven kelp bed stations were out of compliance with the various 2019 Ocean Plan water contact standards on one or more days as follows:
        - The 30-day running geometric mean standard for fecal coliforms was exceeded at stations I19 and I40.
        - The SSM standard for fecal coliforms was exceeded at stations I19 and I40.
        - The 6-week running geometric mean standard for *Enterococcus* was exceeded at stations I19, I24, and I40.
        - The STV standard for *Enterococcus* was exceeded at stations I19 and I40.
        - The 30-day running median standard for total coliforms was exceeded at stations I19, I24, I25, I26, I39, and I40.
        - The STV standard for total coliforms was exceeded at stations I19, I24, I25, I26, and I40.
    - Water column temperatures ranged from 11.04 to 15.34°C. The difference between surface and bottom waters ranged from 0.29 to 3.83°C.
    - Concentrations of chlorophyll *a* ranged from 0.30 to 17.88 µg/L at the kelp bed stations.
    - A sewage-like odor was observed at station I40 on one or more days in March.

- **Offshore Water Quality Sampling**
    - Quarterly sampling was not conducted during March at the offshore stations. The next quarterly sampling is scheduled for May 2025.

TABLES AND FIGURES

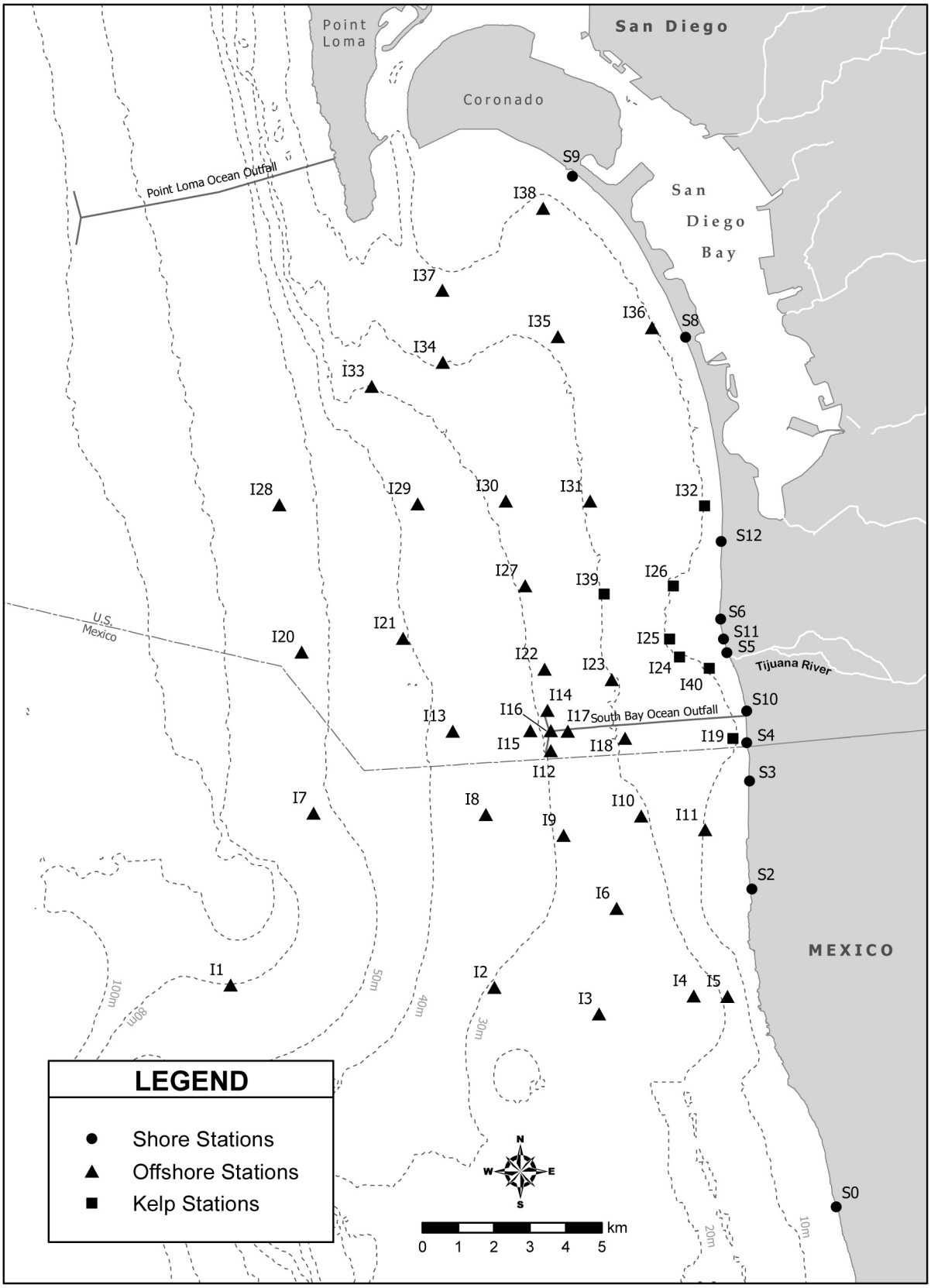

Figure 1.1 Station Map

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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 Mar 2025	***556**	***12000**	***551**	*2	*6	***1485**	***1098**	***296**
02 Mar 2025	***556**	***12000**	***551**	*2	*6	***1485**	***1098**	***296**
03 Mar 2025	***556**	***12000**	***551**	*2	*6	***1485**	***1098**	***296**
04 Mar 2025	**1028**	**12000**	179	2	5	**2255**	**311**	109
05 Mar 2025	**1028**	**12000**	179	2	5	**2255**	**311**	109
06 Mar 2025	***1257**	***12000**	*132	*2	*5	***2764**	*127	***209**
07 Mar 2025	***1257**	***12000**	*132	*2	*5	***2764**	*127	***209**
08 Mar 2025	***1257**	***12000**	*132	*2	*5	***2764**	*127	***209**
09 Mar 2025	***1257**	***12000**	*132	*2	*5	***2764**	*127	***209**
10 Mar 2025	**758**	**12000**	76	2	4	**2771**	88	83
11 Mar 2025	**758**	**12000**	76	2	4	**2771**	88	83
12 Mar 2025	**758**	**12000**	76	2	4	**2771**	88	83
13 Mar 2025	***557**	***12000**	*21	*2	*4	***2561**	*26	*24
14 Mar 2025	***557**	***12000**	*21	*2	*4	***2561**	*26	*24
15 Mar 2025	***557**	***12000**	*21	*2	*4	***2561**	*26	*24
16 Mar 2025	***557**	***12000**	*21	*2	*4	***2561**	*26	*24
17 Mar 2025	***557**	***12000**	*21	*2	*4	***2561**	*26	*24
18 Mar 2025	**583**	**4927**	15	2	5	**2484**	20	14
19 Mar 2025	**583**	**4927**	15	2	5	**2484**	20	14
20 Mar 2025	***509**	***3944**	*5	*2	*7	***2773**	*8	*4
21 Mar 2025	***509**	***3944**	*5	*2	*7	***2773**	*8	*4
22 Mar 2025	***509**	***3944**	*5	*2	*7	***2773**	*8	*4
23 Mar 2025	***509**	***3944**	*5	*2	*7	***2773**	*8	*4
24 Mar 2025	***509**	***3944**	*5	*2	*7	***2773**	*8	*4
25 Mar 2025	**565**	**4927**	8	3	5	**3717**	10	5
26 Mar 2025	**565**	**4927**	8	3	5	**3717**	10	5
27 Mar 2025	***922**	***3944**	*8	*3	*4	***5457**	*11	*4
28 Mar 2025	***922**	***3944**	*8	*3	*4	***5457**	*11	*4
29 Mar 2025	***922**	***3944**	*8	*3	*4	***5457**	*11	*4
30 Mar 2025	***922**	***3944**	*8	*3	*4	***5457**	*11	*4
31 Mar 2025	***922**	***3944**	*8	*3	*4	***5457**	*11	*4

* 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
04 Mar 2025	**E**	**E**	IC	IC	IC	**E**	IC	IC
10 Mar 2025	IC	**E**	IC	IC	IC	**E**	IC	IC
18 Mar 2025	**E**	IC	IC	IC	IC	**E**	IC	IC
25 Mar 2025	**E**	**E**	IC	IC	IC	**E**	IC	IC

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

Table 2.3

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

Date	S4	S5	S6	S8	S9	S10	S11	S12
01 Mar 2025	**152**	**11438**	**202**	2	3	**385**	**302**	**89**
02 Mar 2025	**152**	**11438**	**202**	2	3	**385**	**302**	**89**
03 Mar 2025	**152**	**11438**	**202**	2	3	**385**	**302**	**89**
04 Mar 2025	**449**	**11438**	**202**	2	3	**592**	**302**	**80**
05 Mar 2025	**449**	**11438**	**202**	2	3	**592**	**302**	**80**
06 Mar 2025	**449**	**11438**	**202**	2	3	**592**	**302**	**80**
07 Mar 2025	**449**	**11438**	**202**	2	3	**592**	**302**	**80**
08 Mar 2025	**449**	**11438**	**202**	2	3	**592**	**302**	**80**
09 Mar 2025	**449**	**11438**	**202**	2	3	**592**	**302**	**80**
10 Mar 2025	**335**	**11517**	**105**	2	3	**602**	**205**	**47**
11 Mar 2025	**372**	**11438**	**60**	2	3	**1155**	**120**	**36**
12 Mar 2025	**372**	**11438**	**60**	2	3	**1155**	**120**	**36**
13 Mar 2025	**372**	**11438**	**60**	2	3	**1155**	**120**	**36**
14 Mar 2025	**372**	**11438**	**60**	2	3	**1155**	**120**	**36**
15 Mar 2025	**372**	**11438**	**60**	2	3	**1155**	**120**	**36**
16 Mar 2025	**372**	**11438**	**60**	2	3	**1155**	**120**	**36**
17 Mar 2025	**372**	**11438**	**60**	2	3	**1155**	**120**	**36**
18 Mar 2025	**353**	**5022**	**40**	2	3	**1074**	**41**	24
19 Mar 2025	**353**	**5022**	**40**	2	3	**1074**	**41**	24
20 Mar 2025	**353**	**5022**	**40**	2	3	**1074**	**41**	24
21 Mar 2025	**353**	**5022**	**40**	2	3	**1074**	**41**	24
22 Mar 2025	**353**	**5022**	**40**	2	3	**1074**	**41**	24
23 Mar 2025	**353**	**5022**	**40**	2	3	**1074**	**41**	24
24 Mar 2025	**353**	**5022**	**40**	2	3	**1074**	**41**	24
25 Mar 2025	**287**	**5269**	12	2	3	**1447**	10	8
26 Mar 2025	**287**	**5269**	12	2	3	**1447**	10	8
27 Mar 2025	**287**	**5269**	12	2	3	**1447**	10	8
28 Mar 2025	**287**	**5269**	12	2	3	**1447**	10	8
29 Mar 2025	**287**	**5269**	12	2	3	**1447**	10	8
30 Mar 2025	**287**	**5269**	12	2	3	**1447**	10	8
31 Mar 2025	**287**	**5269**	12	2	3	**1447**	10	8

* 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
March	**E**	**E**	IC	IC	IC	**E**	IC	IC

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

Table 2.5

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

Date	S4	S5	S6	S8	S9	S10	S11	S12
01 Mar 2025	***8700**	***16000**	***11400**	*2	*11	***12500**	***14500**	***8020**
02 Mar 2025	***8700**	***16000**	***11400**	*2	*11	***12500**	***14500**	***8020**
03 Mar 2025	***8700**	***16000**	***11400**	*2	*11	***12500**	***14500**	***8020**
04 Mar 2025	**13000**	**16000**	**7800**	2	6	**14000**	**13000**	40
05 Mar 2025	**13000**	**16000**	**7800**	2	6	**14000**	**13000**	40
06 Mar 2025	***13500**	***16000**	***7510**	*2	*13	***15000**	***6510**	***8010**
07 Mar 2025	***13500**	***16000**	***7510**	*2	*13	***15000**	***6510**	***8010**
08 Mar 2025	***13500**	***16000**	***7510**	*2	*13	***15000**	***6510**	***8010**
09 Mar 2025	***13500**	***16000**	***7510**	*2	*13	***15000**	***6510**	***8010**
10 Mar 2025	**13000**	**16000**	56	2	20	**16000**	**180**	20
11 Mar 2025	**13000**	**16000**	56	2	20	**16000**	**180**	20
12 Mar 2025	**13000**	**16000**	56	2	20	**16000**	**180**	20
13 Mar 2025	***8200**	***16000**	*38	*2	*13	***16000**	***100**	*20
14 Mar 2025	***8200**	***16000**	*38	*2	*13	***16000**	***100**	*20
15 Mar 2025	***8200**	***16000**	*38	*2	*13	***16000**	***100**	*20
16 Mar 2025	***8200**	***16000**	*38	*2	*13	***16000**	***100**	*20
17 Mar 2025	***8200**	***16000**	*38	*2	*13	***16000**	***100**	*20
18 Mar 2025	**8600**	**16000**	20	2	20	**16000**	60	20
19 Mar 2025	**8600**	**16000**	20	2	20	**16000**	60	20
20 Mar 2025	***6000**	***16000**	*20	*2	*30	***16000**	*40	*20
21 Mar 2025	***6000**	***16000**	*20	*2	*30	***16000**	*40	*20
22 Mar 2025	***6000**	***16000**	*20	*2	*30	***16000**	*40	*20
23 Mar 2025	***6000**	***16000**	*20	*2	*30	***16000**	*40	*20
24 Mar 2025	***6000**	***16000**	*20	*2	*30	***16000**	*40	*20
25 Mar 2025	**7000**	**16000**	20	2	20	**16000**	60	20
26 Mar 2025	**7000**	**16000**	20	2	20	**16000**	60	20
27 Mar 2025	***7800**	***16000**	*38	*11	*20	***16000**	***120**	*20
28 Mar 2025	***7800**	***16000**	*38	*11	*20	***16000**	***120**	*20
29 Mar 2025	***7800**	***16000**	*38	*11	*20	***16000**	***120**	*20
30 Mar 2025	***7800**	***16000**	*38	*11	*20	***16000**	***120**	*20
31 Mar 2025	***7800**	***16000**	*38	*11	*20	***16000**	***120**	*20

* Median calculated using n<5

Table 2.6

Summary of compliance at the SBOO shore stations with the Ocean Plan's Statistical Threshold Value 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
March	**E**	**E**	**E**	IC	IC	**E**	**E**	IC

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

Table 2.7

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

Station	Date	Time	Total	Fecal	Entero
S0	04 Mar 2025	910	>16000	11000	5600
S0	10 Mar 2025	930	8000	2600e	2200e
S0	18 Mar 2025	930	>16000	>12000	7400
S0	25 Mar 2025	930	14000	5000	3200e
S10	04 Mar 2025	1031	>16000	>12000	>12000
S10	10 Mar 2025	1209	>16000	2800e	660
S10	18 Mar 2025	1153	>16000	2200e	400
S10	25 Mar 2025	1029	>16000	>12000	7200
S11	04 Mar 2025	938	4e	2e	<2
S11	10 Mar 2025	1043	180e	<20	<20
S11	18 Mar 2025	1024	60e	8e	4e
S11	25 Mar 2025	934	600e	38e	2e
S12	04 Mar 2025	834	<2	<2	2e
S12	10 Mar 2025	930	<20	2e	<2
S12	18 Mar 2025	909	<20	2e	<2
S12	25 Mar 2025	834	<200	22e	6e
S2	04 Mar 2025	1010	15000	5000	840
S2	10 Mar 2025	1030	1500	140e	34e
S2	18 Mar 2025	1035	>16000	>12000	2200e
S2	25 Mar 2025	1030	600e	60e	40e
S3	04 Mar 2025	940	>16000	>12000	5600
S3	10 Mar 2025	1000	7000	580	80e
S3	18 Mar 2025	1005	>16000	>12000	4800
S3	25 Mar 2025	1005	11000	3000e	640
S4	04 Mar 2025	1054	>16000	>12000	>12000
S4	10 Mar 2025	1225	3400e	100e	58
S4	18 Mar 2025	1137	8600	700	160e
S4	25 Mar 2025	1048	7000	860	520
S5	04 Mar 2025	916	>16000	>12000	>12000
S5	10 Mar 2025	1018	>16000	>12000	>12000
S5	18 Mar 2025	959	1000	140e	86
S5	25 Mar 2025	911	>16000	>12000	>12000
S6	04 Mar 2025	952	<20	2e	<2
S6	10 Mar 2025	1059	56	8e	2e
S6	18 Mar 2025	1039	20e	4e	46
S6	25 Mar 2025	947	260e	60e	8e
S8	04 Mar 2025	816	2e	2e	2e
S8	10 Mar 2025	909	2e	<2	<2
S8	18 Mar 2025	849	20e	4e	2e
S8	25 Mar 2025	819	100e	6e	2e
S9	04 Mar 2025	759	6e	<2	<2
S9	10 Mar 2025	849	<20	<2	4e
S9	18 Mar 2025	831	40e	<20	2e
S9	25 Mar 2025	806	20e	<2	6e

ns = not sampled
ND = no data

Table 2.8

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

Station	Date	Parameter	Value
S0	04 Mar 2025	Arrive Time	910
S0	04 Mar 2025	Wind Speed (kts)	0
S0	04 Mar 2025	Wind Dir	NE
S0	04 Mar 2025	Animal Life	Dog-2; Seagull-10;
S0	04 Mar 2025	Floatables	
S0	04 Mar 2025	Current Direction	N
S0	04 Mar 2025	Water Temp (C)	12
S0	04 Mar 2025	High Tide Time	
S0	04 Mar 2025	Low Tide Time	
S0	04 Mar 2025	Comments	Water clear; Trash-0; Kelp; Person/Walker/Jogger-2; 0.5 L/s water flowing from storm drain
S0	10 Mar 2025	Arrive Time	930
S0	10 Mar 2025	Wind Speed (kts)	0
S0	10 Mar 2025	Wind Dir	NE
S0	10 Mar 2025	Animal Life	Dog-1; Seagull-10;
S0	10 Mar 2025	Floatables	
S0	10 Mar 2025	Current Direction	N
S0	10 Mar 2025	Water Temp (C)	12
S0	10 Mar 2025	High Tide Time	
S0	10 Mar 2025	Low Tide Time	
S0	10 Mar 2025	Comments	Water clear; Trash-0; Kelp; Person/Walker/Jogger-2; 0.5 L/s water flowing from storm drain
S0	18 Mar 2025	Arrive Time	930
S0	18 Mar 2025	Wind Speed (kts)	0
S0	18 Mar 2025	Wind Dir	NE
S0	18 Mar 2025	Animal Life	Dog-2; Seagull-20;
S0	18 Mar 2025	Floatables	
S0	18 Mar 2025	Current Direction	N
S0	18 Mar 2025	Water Temp (C)	11
S0	18 Mar 2025	High Tide Time	
S0	18 Mar 2025	Low Tide Time	
S0	18 Mar 2025	Comments	Water clear; Trash-0; Kelp; 0.5 L/s water flowing from storm drain
S0	25 Mar 2025	Arrive Time	930
S0	25 Mar 2025	Wind Speed (kts)	0
S0	25 Mar 2025	Wind Dir	NE
S0	25 Mar 2025	Animal Life	Dog-1; Seagull-10;
S0	25 Mar 2025	Floatables	
S0	25 Mar 2025	Current Direction	N
S0	25 Mar 2025	Water Temp (C)	12
S0	25 Mar 2025	High Tide Time	
S0	25 Mar 2025	Low Tide Time	
S0	25 Mar 2025	Comments	Water clear; Trash-0; Kelp; Person/Walker/Jogger-2; 0.5 L/s water flowing from storm drain
S2	04 Mar 2025	Arrive Time	1010
S2	04 Mar 2025	Wind Speed (kts)	0
S2	04 Mar 2025	Wind Dir	NE
S2	04 Mar 2025	Animal Life	Dog-4; Seagull-10;
S2	04 Mar 2025	Floatables	
S2	04 Mar 2025	Current Direction	N
S2	04 Mar 2025	Water Temp (C)	12
S2	04 Mar 2025	High Tide Time	

Station	Date	Parameter	Value
S2	04 Mar 2025	Low Tide Time	
S2	04 Mar 2025	Comments	Water clear; Trash-0; Kelp; Person/Walker/Jogger-5; No flow from storm drain
S2	10 Mar 2025	Arrive Time	1030
S2	10 Mar 2025	Wind Speed (kts)	0
S2	10 Mar 2025	Wind Dir	NE
S2	10 Mar 2025	Animal Life	Dog-4; Seagull-10;
S2	10 Mar 2025	Floatables	
S2	10 Mar 2025	Current Direction	N
S2	10 Mar 2025	Water Temp (C)	12
S2	10 Mar 2025	High Tide Time	
S2	10 Mar 2025	Low Tide Time	
S2	10 Mar 2025	Comments	Water clear; Trash-0; Kelp; Person/Walker/Jogger-10; No flow from storm drain
S2	18 Mar 2025	Arrive Time	1035
S2	18 Mar 2025	Wind Speed (kts)	0
S2	18 Mar 2025	Wind Dir	NE
S2	18 Mar 2025	Animal Life	Dog-2; Seagull-10;
S2	18 Mar 2025	Floatables	
S2	18 Mar 2025	Current Direction	N
S2	18 Mar 2025	Water Temp (C)	11
S2	18 Mar 2025	High Tide Time	
S2	18 Mar 2025	Low Tide Time	
S2	18 Mar 2025	Comments	Water clear; Trash-0; Kelp; Person/Walker/Jogger-4; No flow from storm drain
S2	25 Mar 2025	Arrive Time	1030
S2	25 Mar 2025	Wind Speed (kts)	0
S2	25 Mar 2025	Wind Dir	NE
S2	25 Mar 2025	Animal Life	Dog-4; Seagull-10;
S2	25 Mar 2025	Floatables	
S2	25 Mar 2025	Current Direction	N
S2	25 Mar 2025	Water Temp (C)	12
S2	25 Mar 2025	High Tide Time	
S2	25 Mar 2025	Low Tide Time	
S2	25 Mar 2025	Comments	Water clear; Trash-0; Kelp; Person/Walker/Jogger-5; No flow from storm drain
S3	04 Mar 2025	Arrive Time	940
S3	04 Mar 2025	Wind Speed (kts)	0
S3	04 Mar 2025	Wind Dir	NE
S3	04 Mar 2025	Animal Life	Seagull-10;
S3	04 Mar 2025	Floatables	
S3	04 Mar 2025	Current Direction	N
S3	04 Mar 2025	Water Temp (C)	12
S3	04 Mar 2025	High Tide Time	
S3	04 Mar 2025	Low Tide Time	
S3	04 Mar 2025	Comments	Water clear; Trash-0; Kelp; No flow from storm drain
S3	10 Mar 2025	Arrive Time	1000
S3	10 Mar 2025	Wind Speed (kts)	0
S3	10 Mar 2025	Wind Dir	NE
S3	10 Mar 2025	Animal Life	Seagull-10;
S3	10 Mar 2025	Floatables	
S3	10 Mar 2025	Current Direction	N
S3	10 Mar 2025	Water Temp (C)	12
S3	10 Mar 2025	High Tide Time	
S3	10 Mar 2025	Low Tide Time	
S3	10 Mar 2025	Comments	Water clear; Trash-0; Kelp; No flow from storm drain

Station	Date	Parameter	Value
S3	18 Mar 2025	Arrive Time	1005
S3	18 Mar 2025	Wind Speed (kts)	0
S3	18 Mar 2025	Wind Dir	NE
S3	18 Mar 2025	Animal Life	Seagull-10;
S3	18 Mar 2025	Floatables	
S3	18 Mar 2025	Current Direction	N
S3	18 Mar 2025	Water Temp (C)	11
S3	18 Mar 2025	High Tide Time	
S3	18 Mar 2025	Low Tide Time	
S3	18 Mar 2025	Comments	Water clear; Trash-0; Kelp; No flow from storm drain
S3	25 Mar 2025	Arrive Time	1005
S3	25 Mar 2025	Wind Speed (kts)	0
S3	25 Mar 2025	Wind Dir	NE
S3	25 Mar 2025	Animal Life	Seagull-10;
S3	25 Mar 2025	Floatables	
S3	25 Mar 2025	Current Direction	N
S3	25 Mar 2025	Water Temp (C)	12
S3	25 Mar 2025	High Tide Time	
S3	25 Mar 2025	Low Tide Time	
S3	25 Mar 2025	Comments	Water clear; Trash-0; Kelp; No flow from storm drain
S4	04 Mar 2025	Arrive Time	1054
S4	04 Mar 2025	Wind Speed (kts)	6.4
S4	04 Mar 2025	Wind Dir	NW
S4	04 Mar 2025	Animal Life	
S4	04 Mar 2025	Floatables	
S4	04 Mar 2025	Current Direction	E
S4	04 Mar 2025	Water Temp (C)	14.4
S4	04 Mar 2025	High Tide Time	
S4	04 Mar 2025	Low Tide Time	
S4	04 Mar 2025	Comments	Water clear; Trash-1; Kelp;Seagrass;Algae;Debris
S4	10 Mar 2025	Arrive Time	1225
S4	10 Mar 2025	Wind Speed (kts)	7.4
S4	10 Mar 2025	Wind Dir	SW
S4	10 Mar 2025	Animal Life	Bird-3;
S4	10 Mar 2025	Floatables	
S4	10 Mar 2025	Current Direction	S
S4	10 Mar 2025	Water Temp (C)	15
S4	10 Mar 2025	High Tide Time	
S4	10 Mar 2025	Low Tide Time	
S4	10 Mar 2025	Comments	Water clear; Trash-1; Kelp;Seagrass
S4	18 Mar 2025	Arrive Time	1137
S4	18 Mar 2025	Wind Speed (kts)	8.5
S4	18 Mar 2025	Wind Dir	NW
S4	18 Mar 2025	Animal Life	
S4	18 Mar 2025	Floatables	
S4	18 Mar 2025	Current Direction	S
S4	18 Mar 2025	Water Temp (C)	13.7
S4	18 Mar 2025	High Tide Time	
S4	18 Mar 2025	Low Tide Time	
S4	18 Mar 2025	Comments	Water clear; Trash-3; Kelp;Seagrass;Debris
S4	25 Mar 2025	Arrive Time	1048
S4	25 Mar 2025	Wind Speed (kts)	5.8
S4	25 Mar 2025	Wind Dir	NW
S4	25 Mar 2025	Animal Life	Bird-12;
S4	25 Mar 2025	Floatables	

Station	Date	Parameter	Value
S4	25 Mar 2025	Current Direction	E
S4	25 Mar 2025	Water Temp (C)	13.4
S4	25 Mar 2025	High Tide Time	
S4	25 Mar 2025	Low Tide Time	
S4	25 Mar 2025	Comments	Water clear; Trash-3; Kelp;Algae;Seagrass;Debris
S10	04 Mar 2025	Arrive Time	1031
S10	04 Mar 2025	Wind Speed (kts)	6.8
S10	04 Mar 2025	Wind Dir	NW
S10	04 Mar 2025	Animal Life	
S10	04 Mar 2025	Floatables	
S10	04 Mar 2025	Current Direction	E
S10	04 Mar 2025	Water Temp (C)	13.7
S10	04 Mar 2025	High Tide Time	
S10	04 Mar 2025	Low Tide Time	
S10	04 Mar 2025	Comments	Water clear; Trash-2; Kelp;Seagrass;Debris
S10	10 Mar 2025	Arrive Time	1209
S10	10 Mar 2025	Wind Speed (kts)	11.8
S10	10 Mar 2025	Wind Dir	SW
S10	10 Mar 2025	Animal Life	Bird-9;
S10	10 Mar 2025	Floatables	
S10	10 Mar 2025	Current Direction	S
S10	10 Mar 2025	Water Temp (C)	14.1
S10	10 Mar 2025	High Tide Time	
S10	10 Mar 2025	Low Tide Time	
S10	10 Mar 2025	Comments	Water clear; Trash-2; Kelp;Debris
S10	18 Mar 2025	Arrive Time	1153
S10	18 Mar 2025	Wind Speed (kts)	14.2
S10	18 Mar 2025	Wind Dir	NW
S10	18 Mar 2025	Animal Life	Bird-14;
S10	18 Mar 2025	Floatables	
S10	18 Mar 2025	Current Direction	S
S10	18 Mar 2025	Water Temp (C)	13.7
S10	18 Mar 2025	High Tide Time	
S10	18 Mar 2025	Low Tide Time	
S10	18 Mar 2025	Comments	Water clear; Trash-5; Kelp;Seagrass;Debris
S10	25 Mar 2025	Arrive Time	1029
S10	25 Mar 2025	Wind Speed (kts)	2.5
S10	25 Mar 2025	Wind Dir	NW
S10	25 Mar 2025	Animal Life	
S10	25 Mar 2025	Floatables	
S10	25 Mar 2025	Current Direction	E
S10	25 Mar 2025	Water Temp (C)	12.9
S10	25 Mar 2025	High Tide Time	
S10	25 Mar 2025	Low Tide Time	
S10	25 Mar 2025	Comments	Water clear; Trash-1; Kelp;Seagrass;Debris
S5	04 Mar 2025	Arrive Time	916
S5	04 Mar 2025	Wind Speed (kts)	3.2
S5	04 Mar 2025	Wind Dir	SW
S5	04 Mar 2025	Animal Life	
S5	04 Mar 2025	Floatables	Foam
S5	04 Mar 2025	Current Direction	E
S5	04 Mar 2025	Water Temp (C)	14.2
S5	04 Mar 2025	High Tide Time	
S5	04 Mar 2025	Low Tide Time	
S5	04 Mar 2025	Comments	Water clear; Trash-2; Kelp;Seagrass;Debris; Sewage-like odor

Station	Date	Parameter	Value
S5	10 Mar 2025	Arrive Time	1018
S5	10 Mar 2025	Wind Speed (kts)	3
S5	10 Mar 2025	Wind Dir	SE
S5	10 Mar 2025	Animal Life	
S5	10 Mar 2025	Floatables	Foam
S5	10 Mar 2025	Current Direction	S
S5	10 Mar 2025	Water Temp (C)	12.5
S5	10 Mar 2025	High Tide Time	
S5	10 Mar 2025	Low Tide Time	
S5	10 Mar 2025	Comments	Water turbid; Trash-1; Kelp;Debris; Person/Walker/Jogger-1; Sewage-like odor
S5	18 Mar 2025	Arrive Time	959
S5	18 Mar 2025	Wind Speed (kts)	8.1
S5	18 Mar 2025	Wind Dir	NW
S5	18 Mar 2025	Animal Life	
S5	18 Mar 2025	Floatables	
S5	18 Mar 2025	Current Direction	S
S5	18 Mar 2025	Water Temp (C)	15.3
S5	18 Mar 2025	High Tide Time	
S5	18 Mar 2025	Low Tide Time	
S5	18 Mar 2025	Comments	Water clear; Trash-3; Kelp;Seagrass;Debris
S5	25 Mar 2025	Arrive Time	911
S5	25 Mar 2025	Wind Speed (kts)	4
S5	25 Mar 2025	Wind Dir	NW
S5	25 Mar 2025	Animal Life	
S5	25 Mar 2025	Floatables	
S5	25 Mar 2025	Current Direction	E
S5	25 Mar 2025	Water Temp (C)	15.2
S5	25 Mar 2025	High Tide Time	
S5	25 Mar 2025	Low Tide Time	
S5	25 Mar 2025	Comments	Water clear; Trash-2; Kelp;Seagrass;Debris
S11	04 Mar 2025	Arrive Time	938
S11	04 Mar 2025	Wind Speed (kts)	3.9
S11	04 Mar 2025	Wind Dir	W
S11	04 Mar 2025	Animal Life	
S11	04 Mar 2025	Floatables	Foam
S11	04 Mar 2025	Current Direction	E
S11	04 Mar 2025	Water Temp (C)	13.4
S11	04 Mar 2025	High Tide Time	
S11	04 Mar 2025	Low Tide Time	
S11	04 Mar 2025	Comments	Water clear; Trash-1; Kelp;Seagrass;Debris;Algae
S11	10 Mar 2025	Arrive Time	1043
S11	10 Mar 2025	Wind Speed (kts)	0
S11	10 Mar 2025	Wind Dir	XX
S11	10 Mar 2025	Animal Life	
S11	10 Mar 2025	Floatables	Foam
S11	10 Mar 2025	Current Direction	S
S11	10 Mar 2025	Water Temp (C)	12.2
S11	10 Mar 2025	High Tide Time	
S11	10 Mar 2025	Low Tide Time	
S11	10 Mar 2025	Comments	Water clear; Trash-1; Kelp;Seagrass
S11	18 Mar 2025	Arrive Time	1024
S11	18 Mar 2025	Wind Speed (kts)	7.2
S11	18 Mar 2025	Wind Dir	NW
S11	18 Mar 2025	Animal Life	

Station	Date	Parameter	Value
S11	18 Mar 2025	Floatables	
S11	18 Mar 2025	Current Direction	S
S11	18 Mar 2025	Water Temp (C)	13.8
S11	18 Mar 2025	High Tide Time	
S11	18 Mar 2025	Low Tide Time	
S11	18 Mar 2025	Comments	Water clear; Trash-4; Seagrass;Kelp;Debris
S11	25 Mar 2025	Arrive Time	934
S11	25 Mar 2025	Wind Speed (kts)	5.6
S11	25 Mar 2025	Wind Dir	NW
S11	25 Mar 2025	Animal Life	
S11	25 Mar 2025	Floatables	
S11	25 Mar 2025	Current Direction	E
S11	25 Mar 2025	Water Temp (C)	15
S11	25 Mar 2025	High Tide Time	
S11	25 Mar 2025	Low Tide Time	
S11	25 Mar 2025	Comments	Water clear; Trash-1; Kelp;Seagrass;Debris
S6	04 Mar 2025	Arrive Time	952
S6	04 Mar 2025	Wind Speed (kts)	1.6
S6	04 Mar 2025	Wind Dir	W
S6	04 Mar 2025	Animal Life	
S6	04 Mar 2025	Floatables	Foam
S6	04 Mar 2025	Current Direction	E
S6	04 Mar 2025	Water Temp (C)	12.5
S6	04 Mar 2025	High Tide Time	
S6	04 Mar 2025	Low Tide Time	
S6	04 Mar 2025	Comments	Water clear; Trash-1; Debris;Seagrass;Kelp;Algae
S6	10 Mar 2025	Arrive Time	1059
S6	10 Mar 2025	Wind Speed (kts)	1.3
S6	10 Mar 2025	Wind Dir	NW
S6	10 Mar 2025	Animal Life	
S6	10 Mar 2025	Floatables	
S6	10 Mar 2025	Current Direction	S
S6	10 Mar 2025	Water Temp (C)	13.9
S6	10 Mar 2025	High Tide Time	
S6	10 Mar 2025	Low Tide Time	
S6	10 Mar 2025	Comments	Water clear; Trash-1; Kelp; Person/Walker/Jogger-3
S6	18 Mar 2025	Arrive Time	1039
S6	18 Mar 2025	Wind Speed (kts)	9.4
S6	18 Mar 2025	Wind Dir	W
S6	18 Mar 2025	Animal Life	
S6	18 Mar 2025	Floatables	Foam
S6	18 Mar 2025	Current Direction	S
S6	18 Mar 2025	Water Temp (C)	15.4
S6	18 Mar 2025	High Tide Time	
S6	18 Mar 2025	Low Tide Time	
S6	18 Mar 2025	Comments	Water clear; Trash-3; Kelp;Seagrass;Debris
S6	25 Mar 2025	Arrive Time	947
S6	25 Mar 2025	Wind Speed (kts)	5
S6	25 Mar 2025	Wind Dir	NW
S6	25 Mar 2025	Animal Life	
S6	25 Mar 2025	Floatables	
S6	25 Mar 2025	Current Direction	E
S6	25 Mar 2025	Water Temp (C)	14.3
S6	25 Mar 2025	High Tide Time	
S6	25 Mar 2025	Low Tide Time	

Station	Date	Parameter	Value
S6	25 Mar 2025	Comments	Water clear; Trash-1; Seagrass;Kelp;Algae;Debris; Person/Walker/Jogger-2
S12	04 Mar 2025	Arrive Time	834
S12	04 Mar 2025	Wind Speed (kts)	0.6
S12	04 Mar 2025	Wind Dir	W
S12	04 Mar 2025	Animal Life	
S12	04 Mar 2025	Floatables	Foam
S12	04 Mar 2025	Current Direction	E
S12	04 Mar 2025	Water Temp (C)	12.3
S12	04 Mar 2025	High Tide Time	
S12	04 Mar 2025	Low Tide Time	
S12	04 Mar 2025	Comments	Water clear; Trash-2; Kelp;Seagrass;Debris
S12	10 Mar 2025	Arrive Time	930
S12	10 Mar 2025	Wind Speed (kts)	0.5
S12	10 Mar 2025	Wind Dir	E
S12	10 Mar 2025	Animal Life	Dog-1;
S12	10 Mar 2025	Floatables	
S12	10 Mar 2025	Current Direction	S
S12	10 Mar 2025	Water Temp (C)	12.2
S12	10 Mar 2025	High Tide Time	
S12	10 Mar 2025	Low Tide Time	
S12	10 Mar 2025	Comments	Water clear; Surfer/Paddle boarder-1; Fisherperson-1; Trash-1; Kelp;Seagrass; Person/Walker/Jogger-3
S12	18 Mar 2025	Arrive Time	909
S12	18 Mar 2025	Wind Speed (kts)	7.8
S12	18 Mar 2025	Wind Dir	NW
S12	18 Mar 2025	Animal Life	
S12	18 Mar 2025	Floatables	Foam
S12	18 Mar 2025	Current Direction	S
S12	18 Mar 2025	Water Temp (C)	12
S12	18 Mar 2025	High Tide Time	
S12	18 Mar 2025	Low Tide Time	
S12	18 Mar 2025	Comments	Water clear; Trash-3; Kelp;Seagrass;Debris; Person/Walker/Jogger-3
S12	25 Mar 2025	Arrive Time	834
S12	25 Mar 2025	Wind Speed (kts)	3.1
S12	25 Mar 2025	Wind Dir	W
S12	25 Mar 2025	Animal Life	
S12	25 Mar 2025	Floatables	
S12	25 Mar 2025	Current Direction	S
S12	25 Mar 2025	Water Temp (C)	14.5
S12	25 Mar 2025	High Tide Time	
S12	25 Mar 2025	Low Tide Time	
S12	25 Mar 2025	Comments	Water clear; Trash-1; Kelp;Seagrass;Debris; Person/Walker/Jogger-2
S8	04 Mar 2025	Arrive Time	816
S8	04 Mar 2025	Wind Speed (kts)	2.1
S8	04 Mar 2025	Wind Dir	SW
S8	04 Mar 2025	Animal Life	
S8	04 Mar 2025	Floatables	Foam
S8	04 Mar 2025	Current Direction	E
S8	04 Mar 2025	Water Temp (C)	12.7
S8	04 Mar 2025	High Tide Time	
S8	04 Mar 2025	Low Tide Time	
S8	04 Mar 2025	Comments	Water clear; Trash-1; Kelp;Seagrass;Debris

Station	Date	Parameter	Value
S8	10 Mar 2025	Arrive Time	909
S8	10 Mar 2025	Wind Speed (kts)	4.6
S8	10 Mar 2025	Wind Dir	SE
S8	10 Mar 2025	Animal Life	
S8	10 Mar 2025	Floatables	
S8	10 Mar 2025	Current Direction	S
S8	10 Mar 2025	Water Temp (C)	12
S8	10 Mar 2025	High Tide Time	
S8	10 Mar 2025	Low Tide Time	
S8	10 Mar 2025	Comments	Water clear; Trash-1; Kelp;Seagrass;Debris; Person/Walker/Jogger-3
S8	18 Mar 2025	Arrive Time	849
S8	18 Mar 2025	Wind Speed (kts)	6.3
S8	18 Mar 2025	Wind Dir	W
S8	18 Mar 2025	Animal Life	
S8	18 Mar 2025	Floatables	
S8	18 Mar 2025	Current Direction	S
S8	18 Mar 2025	Water Temp (C)	12.2
S8	18 Mar 2025	High Tide Time	
S8	18 Mar 2025	Low Tide Time	
S8	18 Mar 2025	Comments	Water clear; Trash-1; Seagrass;Kelp;Debris
S8	25 Mar 2025	Arrive Time	819
S8	25 Mar 2025	Wind Speed (kts)	5
S8	25 Mar 2025	Wind Dir	NW
S8	25 Mar 2025	Animal Life	
S8	25 Mar 2025	Floatables	
S8	25 Mar 2025	Current Direction	E
S8	25 Mar 2025	Water Temp (C)	13.5
S8	25 Mar 2025	High Tide Time	
S8	25 Mar 2025	Low Tide Time	
S8	25 Mar 2025	Comments	Water clear; Trash-1; Kelp;Seagrass;Debris
S9	04 Mar 2025	Arrive Time	759
S9	04 Mar 2025	Wind Speed (kts)	2
S9	04 Mar 2025	Wind Dir	SW
S9	04 Mar 2025	Animal Life	
S9	04 Mar 2025	Floatables	Foam
S9	04 Mar 2025	Current Direction	E
S9	04 Mar 2025	Water Temp (C)	13.5
S9	04 Mar 2025	High Tide Time	
S9	04 Mar 2025	Low Tide Time	
S9	04 Mar 2025	Comments	Water clear; Trash-1; Kelp;Seagrass;Algae;Debris
S9	10 Mar 2025	Arrive Time	849
S9	10 Mar 2025	Wind Speed (kts)	3.6
S9	10 Mar 2025	Wind Dir	W
S9	10 Mar 2025	Animal Life	
S9	10 Mar 2025	Floatables	
S9	10 Mar 2025	Current Direction	S
S9	10 Mar 2025	Water Temp (C)	11.3
S9	10 Mar 2025	High Tide Time	
S9	10 Mar 2025	Low Tide Time	
S9	10 Mar 2025	Comments	Water clear; Surfer/Paddle boarder-1; Trash-1; Kelp;Seagrass
S9	18 Mar 2025	Arrive Time	831
S9	18 Mar 2025	Wind Speed (kts)	2.9
S9	18 Mar 2025	Wind Dir	W
S9	18 Mar 2025	Animal Life	

Station	Date	Parameter	Value
S9	18 Mar 2025	Floatables	
S9	18 Mar 2025	Current Direction	S
S9	18 Mar 2025	Water Temp (C)	12.1
S9	18 Mar 2025	High Tide Time	
S9	18 Mar 2025	Low Tide Time	
S9	18 Mar 2025	Comments	Water clear; Trash-1; Debris
S9	25 Mar 2025	Wind Speed (kts)	1.5
S9	25 Mar 2025	Wind Dir	W
S9	25 Mar 2025	Animal Life	
S9	25 Mar 2025	Floatables	
S9	25 Mar 2025	Current Direction	E
S9	25 Mar 2025	Water Temp (C)	14.2
S9	25 Mar 2025	High Tide Time	
S9	25 Mar 2025	Low Tide Time	
S9	25 Mar 2025	Comments	Water clear; Trash-1; Kelp;Seagrass;Debris; Person/Walker/Jogger-1

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 Mar 2025	*101	*157	*25	*17	*4	*21	***1774**
02 Mar 2025	*101	*157	*25	*17	*4	*21	***1774**
03 Mar 2025	*101	*157	*25	*17	*4	*21	***1774**
04 Mar 2025	*101	*157	*25	*17	*4	*21	***1774**
05 Mar 2025	*126	*77	*61	*17	*4	*16	***1442**
06 Mar 2025	*126	*77	*61	*17	*4	*16	***1442**
07 Mar 2025	*126	*77	*61	*17	*4	*16	***1442**
08 Mar 2025	*126	*77	*61	*17	*4	*16	***1442**
09 Mar 2025	*126	*77	*61	*17	*4	*16	***1442**
10 Mar 2025	**207**	61	48	16	3	15	**1776**
11 Mar 2025	**207**	61	48	16	3	15	**1776**
12 Mar 2025	***242**	*27	*27	*9	*4	*7	***1269**
13 Mar 2025	***242**	*27	*27	*9	*4	*7	***1269**
14 Mar 2025	***242**	*27	*27	*9	*4	*7	***1269**
15 Mar 2025	***242**	*27	*27	*9	*4	*7	***1269**
16 Mar 2025	***242**	*27	*27	*9	*4	*7	***1269**
17 Mar 2025	***242**	*27	*27	*9	*4	*7	***1269**
18 Mar 2025	***242**	*27	*27	*9	*4	*7	***1269**
19 Mar 2025	**444**	16	16	7	3	6	**534**
20 Mar 2025	**444**	16	16	7	3	6	**534**
21 Mar 2025	***244**	*10	*9	*3	*2	*3	***552**
22 Mar 2025	***244**	*10	*9	*3	*2	*3	***552**
23 Mar 2025	***244**	*10	*9	*3	*2	*3	***552**
24 Mar 2025	***244**	*10	*9	*3	*2	*3	***552**
25 Mar 2025	**436**	13	12	5	3	4	**335**
26 Mar 2025	***1674**	*15	*19	*6	*3	*5	*179
27 Mar 2025	***1674**	*15	*19	*6	*3	*5	*179
28 Mar 2025	***1674**	*15	*19	*6	*3	*5	*179
29 Mar 2025	***1674**	*15	*19	*6	*3	*5	*179
30 Mar 2025	***1674**	*15	*19	*6	*3	*5	*179
31 Mar 2025	***1674**	*15	*19	*6	*3	*5	*179

* 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 Mar 2025	**E**	IC	IC	IC	IC	IC	**E**
10 Mar 2025	**E**	IC	IC	IC	IC	IC	**E**
19 Mar 2025	**E**	IC	IC	IC	IC	IC	IC
25 Mar 2025	**E**	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 Mar 2025	**42**	**67**	13	14	6	10	**650**
02 Mar 2025	**42**	**67**	13	14	6	10	**650**
03 Mar 2025	**42**	**67**	13	14	6	10	**650**
04 Mar 2025	**58**	**59**	19	18	8	14	**681**
05 Mar 2025	**56**	**44**	17	13	6	10	**604**
06 Mar 2025	**56**	**44**	17	13	6	10	**604**
07 Mar 2025	**56**	**44**	17	13	6	10	**604**
08 Mar 2025	**56**	**44**	17	13	6	10	**604**
09 Mar 2025	**56**	**44**	17	13	6	10	**604**
10 Mar 2025	**73**	**40**	17	11	5	9	**680**
11 Mar 2025	**73**	**37**	13	6	3	6	**825**
12 Mar 2025	**73**	**37**	13	6	3	6	**825**
13 Mar 2025	**73**	**37**	13	6	3	6	**825**
14 Mar 2025	**73**	**37**	13	6	3	6	**825**
15 Mar 2025	**73**	**37**	13	6	3	6	**825**
16 Mar 2025	**73**	**37**	13	6	3	6	**825**
17 Mar 2025	**90**	**32**	19	8	3	8	**805**
18 Mar 2025	**90**	**32**	19	8	3	8	**805**
19 Mar 2025	**157**	20	13	6	3	6	**567**
20 Mar 2025	**157**	20	13	6	3	6	**567**
21 Mar 2025	**157**	20	13	6	3	6	**567**
22 Mar 2025	**157**	20	13	6	3	6	**567**
23 Mar 2025	**157**	20	13	6	3	6	**567**
24 Mar 2025	**160**	10	7	4	3	3	**385**
25 Mar 2025	**217**	11	8	4	4	4	**260**
26 Mar 2025	**217**	11	8	4	4	4	**260**
27 Mar 2025	**217**	11	8	4	4	4	**260**
28 Mar 2025	**217**	11	8	4	4	4	**260**
29 Mar 2025	**217**	11	8	4	4	4	**260**
30 Mar 2025	**217**	11	8	4	4	4	**260**
31 Mar 2025	**217**	11	8	4	4	4	**260**

* 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
March	**E**	IC	IC	IC	IC	IC	**E**

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

Table 3.5

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

	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 Mar 2025	***1250**	***1170**	***590**	***5700**	***890**	***329**	***1301**	***410**	*51	***81**	***351**	***241**	*2	*5	*3	***501**	***75**	*51	***13000**	***8000**	***7200**
02 Mar 2025	***1250**	***1170**	***590**	***5700**	***890**	***329**	***1301**	***410**	*51	***81**	***351**	***241**	*2	*5	*3	***501**	***75**	*51	***13000**	***8000**	***7200**
03 Mar 2025	***1250**	***1170**	***590**	***5700**	***890**	***329**	***1301**	***410**	*51	***81**	***351**	***241**	*2	*5	*3	***501**	***75**	*51	***13000**	***8000**	***7200**
04 Mar 2025	***1250**	***1170**	***590**	***5700**	***890**	***329**	***1301**	***410**	*51	***81**	***351**	***241**	*2	*5	*3	***501**	***75**	*51	***13000**	***8000**	***7200**
05 Mar 2025	***2150**	***1400**	***570**	***950**	***160**	*69	***1450**	***760**	***170**	***81**	***351**	***241**	*2	*4	*2	***501**	*41	*10	***11700**	***8000**	***7200**
06 Mar 2025	***2150**	***1400**	***570**	***950**	***160**	*69	***1450**	***760**	***170**	***81**	***351**	***241**	*2	*4	*2	***501**	*41	*10	***11700**	***8000**	***7200**
07 Mar 2025	***2150**	***1400**	***570**	***950**	***160**	*69	***1450**	***760**	***170**	***81**	***351**	***241**	*2	*4	*2	***501**	*41	*10	***11700**	***8000**	***7200**
08 Mar 2025	***2150**	***1400**	***570**	***950**	***160**	*69	***1450**	***760**	***170**	***81**	***351**	***241**	*2	*4	*2	***501**	*41	*10	***11700**	***8000**	***7200**
09 Mar 2025	***2150**	***1400**	***570**	***950**	***160**	*69	***1450**	***760**	***170**	***81**	***351**	***241**	*2	*4	*2	***501**	*41	*10	***11700**	***8000**	***7200**
10 Mar 2025	**3000**	**2000**	**980**	**300**	**180**	**100**	**300**	**720**	**240**	6	**320**	**100**	2	6	2	40	60	16	**16000**	**3000**	**3400**
11 Mar 2025	**3000**	**2000**	**980**	**300**	**180**	**100**	**300**	**720**	**240**	6	**320**	**100**	2	6	2	40	60	16	**16000**	**3000**	**3400**
12 Mar 2025	***6300**	***7400**	***5580**	***220**	***160**	*69	***160**	***435**	***170**	*4	***161**	*51	*3	*6	*7	*21	*41	*10	***11700**	***2700**	***3200**
13 Mar 2025	***6300**	***7400**	***5580**	***220**	***160**	*69	***160**	***435**	***170**	*4	***161**	*51	*3	*6	*7	*21	*41	*10	***11700**	***2700**	***3200**
14 Mar 2025	***6300**	***7400**	***5580**	***220**	***160**	*69	***160**	***435**	***170**	*4	***161**	*51	*3	*6	*7	*21	*41	*10	***11700**	***2700**	***3200**
15 Mar 2025	***6300**	***7400**	***5580**	***220**	***160**	*69	***160**	***435**	***170**	*4	***161**	*51	*3	*6	*7	*21	*41	*10	***11700**	***2700**	***3200**
16 Mar 2025	***6300**	***7400**	***5580**	***220**	***160**	*69	***160**	***435**	***170**	*4	***161**	*51	*3	*6	*7	*21	*41	*10	***11700**	***2700**	***3200**
17 Mar 2025	***6300**	***7400**	***5580**	***220**	***160**	*69	***160**	***435**	***170**	*4	***161**	*51	*3	*6	*7	*21	*41	*10	***11700**	***2700**	***3200**
18 Mar 2025	***6300**	***7400**	***5580**	***220**	***160**	*69	***160**	***435**	***170**	*4	***161**	*51	*3	*6	*7	*21	*41	*10	***11700**	***2700**	***3200**
19 Mar 2025	**9600**	**11000**	**11000**	**140**	**140**	38	20	**150**	**100**	2	2	2	2	2	12	2	22	4	**7400**	**2400**	**3000**
20 Mar 2025	**9600**	**11000**	**11000**	**140**	**140**	38	20	**150**	**100**	2	2	2	2	2	12	2	22	4	**7400**	**2400**	**3000**
21 Mar 2025	***6300**	***5900**	***6080**	***77**	***120**	*69	*11	***79**	***121**	*2	*2	*2	*2	*2	*7	*2	*12	*4	***11700**	***1560**	***2000**
22 Mar 2025	***6300**	***5900**	***6080**	***77**	***120**	*69	*11	***79**	***121**	*2	*2	*2	*2	*2	*7	*2	*12	*4	***11700**	***1560**	***2000**
23 Mar 2025	***6300**	***5900**	***6080**	***77**	***120**	*69	*11	***79**	***121**	*2	*2	*2	*2	*2	*7	*2	*12	*4	***11700**	***1560**	***2000**
24 Mar 2025	***6300**	***5900**	***6080**	***77**	***120**	*69	*11	***79**	***121**	*2	*2	*2	*2	*2	*7	*2	*12	*4	***11700**	***1560**	***2000**
25 Mar 2025	**5400**	**11000**	**12000**	**120**	**140**	**100**	20	**150**	**220**	2	2	2	2	2	12	2	22	4	**7400**	**720**	**1000**
26 Mar 2025	***7500**	***12500**	***12500**	***130**	***180**	***320**	*50	***185**	***230**	*4	***121**	*24	*3	*6	*12	*21	*27	*13	***3790**	***650**	***640**
27 Mar 2025	***7500**	***12500**	***12500**	***130**	***180**	***320**	*50	***185**	***230**	*4	***121**	*24	*3	*6	*12	*21	*27	*13	***3790**	***650**	***640**
28 Mar 2025	***7500**	***12500**	***12500**	***130**	***180**	***320**	*50	***185**	***230**	*4	***121**	*24	*3	*6	*12	*21	*27	*13	***3790**	***650**	***640**
29 Mar 2025	***7500**	***12500**	***12500**	***130**	***180**	***320**	*50	***185**	***230**	*4	***121**	*24	*3	*6	*12	*21	*27	*13	***3790**	***650**	***640**
30 Mar 2025	***7500**	***12500**	***12500**	***130**	***180**	***320**	*50	***185**	***230**	*4	***121**	*24	*3	*6	*12	*21	*27	*13	***3790**	***650**	***640**
31 Mar 2025	***7500**	***12500**	***12500**	***130**	***180**	***320**	*50	***185**	***230**	*4	***121**	*24	*3	*6	*12	*21	*27	*13	***3790**	***650**	***640**

* Median calculated using n<5

Table 3.6

Summary of compliance at the SBOO kelp stations with the Ocean Plan's Statistical Threshold Value 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.

	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**
March	**E**	**E**	**E**	**E**	**E**	**E**	**E**	**E**	**E**	IC	**E**	IC	IC	IC	IC	IC	IC	IC	**E**	**E**	**E**

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

Table 3.7

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

Station	Date	Time	Depth	Total	Fecal	Entero
I19	05 Mar 2025	1111	2	3000e	540	98
I19	05 Mar 2025	1111	6	800	140e	16e
I19	05 Mar 2025	1111	11	160e	8e	36e
I19	10 Mar 2025	1037	2	9600	980	220e
I19	10 Mar 2025	1037	6	14000	2200e	300e
I19	10 Mar 2025	1037	11	12000	1400e	500
I19	19 Mar 2025	1059	2	>16000	>12000	7200
I19	19 Mar 2025	1059	6	11000	960	100e
I19	19 Mar 2025	1059	11	>16000	2200e	340e
I19	25 Mar 2025	1036	2	5400	1100	200e
I19	25 Mar 2025	1036	6	>16000	7000	2200e
I19	25 Mar 2025	1036	11	13000	5200	580
I24	05 Mar 2025	1130	2	300e	28e	26e
I24	05 Mar 2025	1130	6	140e	30e	4e
I24	05 Mar 2025	1130	11	100e	8e	2e
I24	10 Mar 2025	1058	2	140	8e	4e
I24	10 Mar 2025	1058	6	460	14e	4e
I24	10 Mar 2025	1058	11	1100	50	58
I24	19 Mar 2025	1120	2	2e	<2	<2
I24	19 Mar 2025	1120	6	4e	<2	<2
I24	19 Mar 2025	1120	11	6e	<2	<2
I24	25 Mar 2025	1058	2	120e	22e	4e
I24	25 Mar 2025	1058	6	220e	58	14e
I24	25 Mar 2025	1058	11	540	60	24e
I25	05 Mar 2025	1139	2	300e	24e	12e
I25	05 Mar 2025	1139	6	720	220e	16e
I25	05 Mar 2025	1139	9	240e	36e	4e
I25	10 Mar 2025	1104	2	20e	2e	<2
I25	10 Mar 2025	1104	6	150	12e	20e
I25	10 Mar 2025	1104	9	440	40	30e
I25	19 Mar 2025	1130	2	2e	<2	<2
I25	19 Mar 2025	1130	6	8e	<2	2e
I25	19 Mar 2025	1130	9	<2	<2	<2
I25	25 Mar 2025	1105	2	80e	14e	<2
I25	25 Mar 2025	1105	6	220e	54	20e
I25	25 Mar 2025	1105	9	220e	56	22e
I26	05 Mar 2025	1149	2	<2	<2	<2
I26	05 Mar 2025	1149	6	<2	<2	<2
I26	05 Mar 2025	1149	9	<2	<2	<2

Station	Date	Time	Depth	Total	Fecal	Entero
I26	10 Mar 2025	1113	2	6e	<2	<2
I26	10 Mar 2025	1113	6	320e	22e	10e
I26	10 Mar 2025	1113	9	100	14e	6e
I26	19 Mar 2025	1139	2	<2	<2	<2
I26	19 Mar 2025	1139	6	<2	<2	<2
I26	19 Mar 2025	1139	9	<2	<2	<2
I26	25 Mar 2025	1116	2	8e	4e	2e
I26	25 Mar 2025	1116	6	240e	46	12e
I26	25 Mar 2025	1116	9	46	6e	6e
I32	05 Mar 2025	1201	2	2e	<2	<2
I32	05 Mar 2025	1201	6	2e	<2	2e
I32	05 Mar 2025	1201	9	2e	2e	<2
I32	10 Mar 2025	1125	2	4e	<2	<2
I32	10 Mar 2025	1125	6	10e	2e	<2
I32	10 Mar 2025	1125	9	12e	<2	2e
I32	19 Mar 2025	1153	2	<2	<2	2e
I32	19 Mar 2025	1153	6	2e	<2	<2
I32	19 Mar 2025	1153	9	12e	<2	<2
I32	25 Mar 2025	1129	2	4e	<2	<2
I32	25 Mar 2025	1129	6	160e	20e	4e
I32	25 Mar 2025	1129	9	120e	12e	16e
I39	05 Mar 2025	1050	2	<2	<2	<2
I39	05 Mar 2025	1050	12	<2	<2	<2
I39	05 Mar 2025	1050	18	<2	<2	<2
I39	10 Mar 2025	1015	2	40e	2e	<2
I39	10 Mar 2025	1015	12	120e	18e	2e
I39	10 Mar 2025	1015	18	180e	10e	6e
I39	19 Mar 2025	1037	2	<2	<2	<2
I39	19 Mar 2025	1037	12	<2	<2	<2
I39	19 Mar 2025	1037	18	4e	<2	<2
I39	25 Mar 2025	1014	2	62	20e	6e
I39	25 Mar 2025	1014	12	52	10e	12e
I39	25 Mar 2025	1014	18	22e	4e	8e
I40	05 Mar 2025	1123	2	7400	920	920
I40	05 Mar 2025	1123	6	500	82	70
I40	05 Mar 2025	1123	9	54	4e	4e
I40	10 Mar 2025	1049	2	>16000	>12000	4000
I40	10 Mar 2025	1049	6	2400e	120	82
I40	10 Mar 2025	1049	9	3000e	120e	80e
I40	19 Mar 2025	1112	2	180e	4e	16e
I40	19 Mar 2025	1112	6	720	34e	120e
I40	19 Mar 2025	1112	9	1000	12e	160e
I40	25 Mar 2025	1051	2	180e	22e	14e
I40	25 Mar 2025	1051	6	580	66	20e
I40	25 Mar 2025	1051	9	280e	48	76

ns = not sampled
ND = no data

Table 3.8

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

Station	Date	Parameter	Value
I19	05 Mar 2025	Arrive Time	1111
I19	05 Mar 2025	Depart Time	1114
I19	05 Mar 2025	Air Temp (C)	13.6
I19	05 Mar 2025	Visibility (mi)	10
I19	05 Mar 2025	Wind Speed (kts)	0
I19	05 Mar 2025	Wind Dir	NW
I19	05 Mar 2025	Sea State	Regular Swell
I19	05 Mar 2025	High Tide Time	12
I19	05 Mar 2025	Low Tide Time	742
I19	05 Mar 2025	Comments	
I19	10 Mar 2025	Arrive Time	1037
I19	10 Mar 2025	Depart Time	1041
I19	10 Mar 2025	Air Temp (C)	15
I19	10 Mar 2025	Visibility (mi)	10
I19	10 Mar 2025	Wind Speed (kts)	6.1
I19	10 Mar 2025	Wind Dir	S
I19	10 Mar 2025	Sea State	Wind Ripples
I19	10 Mar 2025	High Tide Time	730
I19	10 Mar 2025	Low Tide Time	1430
I19	10 Mar 2025	Comments	
I19	19 Mar 2025	Arrive Time	1059
I19	19 Mar 2025	Depart Time	1102
I19	19 Mar 2025	Air Temp (C)	17.7
I19	19 Mar 2025	Visibility (mi)	10
I19	19 Mar 2025	Wind Speed (kts)	5
I19	19 Mar 2025	Wind Dir	NW
I19	19 Mar 2025	Sea State	Regular Swell
I19	19 Mar 2025	High Tide Time	6
I19	19 Mar 2025	Low Tide Time	700
I19	19 Mar 2025	Comments	Higher surface CDOM even on SeaPoint sensor.
I19	25 Mar 2025	Arrive Time	1036
I19	25 Mar 2025	Depart Time	1040
I19	25 Mar 2025	Air Temp (C)	16.5
I19	25 Mar 2025	Visibility (mi)	6
I19	25 Mar 2025	Wind Speed (kts)	4.8
I19	25 Mar 2025	Wind Dir	N
I19	25 Mar 2025	Sea State	Confused Swell
I19	25 Mar 2025	High Tide Time	642
I19	25 Mar 2025	Low Tide Time	1348
I19	25 Mar 2025	Comments	
I40	05 Mar 2025	Arrive Time	1123
I40	05 Mar 2025	Depart Time	1127
I40	05 Mar 2025	Air Temp (C)	13.6
I40	05 Mar 2025	Visibility (mi)	10
I40	05 Mar 2025	Wind Speed (kts)	0
I40	05 Mar 2025	Wind Dir	NW
I40	05 Mar 2025	Sea State	Regular Swell
I40	05 Mar 2025	High Tide Time	12
I40	05 Mar 2025	Low Tide Time	742
I40	05 Mar 2025	Comments	Sewage Odor
I40	10 Mar 2025	Arrive Time	1049

Station	Date	Parameter	Value
I40	10 Mar 2025	Depart Time	1055
I40	10 Mar 2025	Air Temp (C)	18.6
I40	10 Mar 2025	Visibility (mi)	10
I40	10 Mar 2025	Wind Speed (kts)	3
I40	10 Mar 2025	Wind Dir	NW
I40	10 Mar 2025	Sea State	Wind Ripples
I40	10 Mar 2025	High Tide Time	730
I40	10 Mar 2025	Low Tide Time	1430
I40	10 Mar 2025	Comments	slight odor; Sewage-like Odor; Freshwater Lens
I40	19 Mar 2025	Arrive Time	1112
I40	19 Mar 2025	Depart Time	1115
I40	19 Mar 2025	Air Temp (C)	15.9
I40	19 Mar 2025	Visibility (mi)	10
I40	19 Mar 2025	Wind Speed (kts)	8.2
I40	19 Mar 2025	Wind Dir	NW
I40	19 Mar 2025	Sea State	Regular Swell
I40	19 Mar 2025	High Tide Time	6
I40	19 Mar 2025	Low Tide Time	700
I40	19 Mar 2025	Comments	
I40	25 Mar 2025	Arrive Time	1051
I40	25 Mar 2025	Depart Time	1055
I40	25 Mar 2025	Air Temp (C)	15.6
I40	25 Mar 2025	Visibility (mi)	6
I40	25 Mar 2025	Wind Speed (kts)	6.6
I40	25 Mar 2025	Wind Dir	NW
I40	25 Mar 2025	Sea State	Confused Swell
I40	25 Mar 2025	High Tide Time	642
I40	25 Mar 2025	Low Tide Time	1348
I40	25 Mar 2025	Comments	
I24	05 Mar 2025	Arrive Time	1130
I24	05 Mar 2025	Depart Time	1135
I24	05 Mar 2025	Air Temp (C)	13.5
I24	05 Mar 2025	Visibility (mi)	10
I24	05 Mar 2025	Wind Speed (kts)	0
I24	05 Mar 2025	Wind Dir	W
I24	05 Mar 2025	Sea State	Regular Swell
I24	05 Mar 2025	High Tide Time	12
I24	05 Mar 2025	Low Tide Time	742
I24	05 Mar 2025	Comments	
I24	10 Mar 2025	Arrive Time	1058
I24	10 Mar 2025	Depart Time	1100
I24	10 Mar 2025	Air Temp (C)	17.4
I24	10 Mar 2025	Visibility (mi)	10
I24	10 Mar 2025	Wind Speed (kts)	0
I24	10 Mar 2025	Wind Dir	NW
I24	10 Mar 2025	Sea State	Wind Ripples
I24	10 Mar 2025	High Tide Time	730
I24	10 Mar 2025	Low Tide Time	1430
I24	10 Mar 2025	Comments	
I24	19 Mar 2025	Arrive Time	1120
I24	19 Mar 2025	Depart Time	1124
I24	19 Mar 2025	Air Temp (C)	15.5
I24	19 Mar 2025	Visibility (mi)	10
I24	19 Mar 2025	Wind Speed (kts)	8.8
I24	19 Mar 2025	Wind Dir	NW
I24	19 Mar 2025	Sea State	Regular Swell

Station	Date	Parameter	Value
I24	19 Mar 2025	High Tide Time	6
I24	19 Mar 2025	Low Tide Time	700
I24	19 Mar 2025	Comments	
I24	25 Mar 2025	Arrive Time	1058
I24	25 Mar 2025	Depart Time	1103
I24	25 Mar 2025	Air Temp (C)	15
I24	25 Mar 2025	Visibility (mi)	6
I24	25 Mar 2025	Wind Speed (kts)	10.9
I24	25 Mar 2025	Wind Dir	W
I24	25 Mar 2025	Sea State	Confused Swell
I24	25 Mar 2025	High Tide Time	642
I24	25 Mar 2025	Low Tide Time	1348
I24	25 Mar 2025	Comments	
I25	05 Mar 2025	Arrive Time	1139
I25	05 Mar 2025	Depart Time	1142
I25	05 Mar 2025	Air Temp (C)	13.5
I25	05 Mar 2025	Visibility (mi)	10
I25	05 Mar 2025	Wind Speed (kts)	0
I25	05 Mar 2025	Wind Dir	NW
I25	05 Mar 2025	Sea State	Regular Swell
I25	05 Mar 2025	High Tide Time	12
I25	05 Mar 2025	Low Tide Time	742
I25	05 Mar 2025	Comments	
I25	10 Mar 2025	Arrive Time	1104
I25	10 Mar 2025	Depart Time	1106
I25	10 Mar 2025	Air Temp (C)	17.5
I25	10 Mar 2025	Visibility (mi)	10
I25	10 Mar 2025	Wind Speed (kts)	0
I25	10 Mar 2025	Wind Dir	W
I25	10 Mar 2025	Sea State	Wind Ripples
I25	10 Mar 2025	High Tide Time	730
I25	10 Mar 2025	Low Tide Time	1430
I25	10 Mar 2025	Comments	
I25	19 Mar 2025	Arrive Time	1130
I25	19 Mar 2025	Depart Time	1138
I25	19 Mar 2025	Air Temp (C)	17.1
I25	19 Mar 2025	Visibility (mi)	10
I25	19 Mar 2025	Wind Speed (kts)	9.4
I25	19 Mar 2025	Wind Dir	NW
I25	19 Mar 2025	Sea State	Regular Swell
I25	19 Mar 2025	High Tide Time	6
I25	19 Mar 2025	Low Tide Time	700
I25	19 Mar 2025	Comments	
I25	25 Mar 2025	Arrive Time	1105
I25	25 Mar 2025	Depart Time	1110
I25	25 Mar 2025	Air Temp (C)	15
I25	25 Mar 2025	Visibility (mi)	6
I25	25 Mar 2025	Wind Speed (kts)	9.9
I25	25 Mar 2025	Wind Dir	W
I25	25 Mar 2025	Sea State	Confused Swell
I25	25 Mar 2025	High Tide Time	642
I25	25 Mar 2025	Low Tide Time	1348
I25	25 Mar 2025	Comments	Phyotplankton Bloom
I39	05 Mar 2025	Arrive Time	1050
I39	05 Mar 2025	Depart Time	1054

Station	Date	Parameter	Value
I39	05 Mar 2025	Air Temp (C)	13.6
I39	05 Mar 2025	Visibility (mi)	10
I39	05 Mar 2025	Wind Speed (kts)	0
I39	05 Mar 2025	Wind Dir	NW
I39	05 Mar 2025	Sea State	Regular Swell
I39	05 Mar 2025	High Tide Time	12
I39	05 Mar 2025	Low Tide Time	742
I39	05 Mar 2025	Comments	
I39	10 Mar 2025	Arrive Time	1015
I39	10 Mar 2025	Depart Time	1019
I39	10 Mar 2025	Air Temp (C)	17.3
I39	10 Mar 2025	Visibility (mi)	10
I39	10 Mar 2025	Wind Speed (kts)	0
I39	10 Mar 2025	Wind Dir	N
I39	10 Mar 2025	Sea State	Wind Ripples
I39	10 Mar 2025	High Tide Time	730
I39	10 Mar 2025	Low Tide Time	1430
I39	10 Mar 2025	Comments	
I39	19 Mar 2025	Arrive Time	1037
I39	19 Mar 2025	Depart Time	1042
I39	19 Mar 2025	Air Temp (C)	14.9
I39	19 Mar 2025	Visibility (mi)	10
I39	19 Mar 2025	Wind Speed (kts)	6.2
I39	19 Mar 2025	Wind Dir	NW
I39	19 Mar 2025	Sea State	Regular Swell
I39	19 Mar 2025	High Tide Time	6
I39	19 Mar 2025	Low Tide Time	700
I39	19 Mar 2025	Comments	Strong upwelling signature.
I39	25 Mar 2025	Arrive Time	1014
I39	25 Mar 2025	Depart Time	1018
I39	25 Mar 2025	Air Temp (C)	15.3
I39	25 Mar 2025	Visibility (mi)	6
I39	25 Mar 2025	Wind Speed (kts)	2.2
I39	25 Mar 2025	Wind Dir	NW
I39	25 Mar 2025	Sea State	Confused Swell
I39	25 Mar 2025	High Tide Time	642
I39	25 Mar 2025	Low Tide Time	1348
I39	25 Mar 2025	Comments	
I26	05 Mar 2025	Arrive Time	1149
I26	05 Mar 2025	Depart Time	1152
I26	05 Mar 2025	Air Temp (C)	13.4
I26	05 Mar 2025	Visibility (mi)	10
I26	05 Mar 2025	Wind Speed (kts)	0
I26	05 Mar 2025	Wind Dir	W
I26	05 Mar 2025	Sea State	Regular Swell
I26	05 Mar 2025	High Tide Time	12
I26	05 Mar 2025	Low Tide Time	742
I26	05 Mar 2025	Comments	
I26	10 Mar 2025	Arrive Time	1113
I26	10 Mar 2025	Depart Time	1116
I26	10 Mar 2025	Air Temp (C)	15.9
I26	10 Mar 2025	Visibility (mi)	10
I26	10 Mar 2025	Wind Speed (kts)	1.3
I26	10 Mar 2025	Wind Dir	W
I26	10 Mar 2025	Sea State	Wind Ripples
I26	10 Mar 2025	High Tide Time	730

Station	Date	Parameter	Value
I26	10 Mar 2025	Low Tide Time	1430
I26	10 Mar 2025	Comments	
I26	19 Mar 2025	Arrive Time	1139
I26	19 Mar 2025	Depart Time	1143
I26	19 Mar 2025	Air Temp (C)	15.3
I26	19 Mar 2025	Visibility (mi)	10
I26	19 Mar 2025	Wind Speed (kts)	7.9
I26	19 Mar 2025	Wind Dir	NW
I26	19 Mar 2025	Sea State	Regular Swell
I26	19 Mar 2025	High Tide Time	6
I26	19 Mar 2025	Low Tide Time	700
I26	19 Mar 2025	Comments	
I26	25 Mar 2025	Arrive Time	1116
I26	25 Mar 2025	Depart Time	1119
I26	25 Mar 2025	Air Temp (C)	15.1
I26	25 Mar 2025	Visibility (mi)	8
I26	25 Mar 2025	Wind Speed (kts)	12.3
I26	25 Mar 2025	Wind Dir	NW
I26	25 Mar 2025	Sea State	Confused Swell
I26	25 Mar 2025	High Tide Time	642
I26	25 Mar 2025	Low Tide Time	1348
I26	25 Mar 2025	Comments	
I32	05 Mar 2025	Arrive Time	1201
I32	05 Mar 2025	Depart Time	1204
I32	05 Mar 2025	Air Temp (C)	13.3
I32	05 Mar 2025	Visibility (mi)	10
I32	05 Mar 2025	Wind Speed (kts)	0
I32	05 Mar 2025	Wind Dir	W
I32	05 Mar 2025	Sea State	Regular Swell
I32	05 Mar 2025	High Tide Time	12
I32	05 Mar 2025	Low Tide Time	742
I32	05 Mar 2025	Comments	
I32	10 Mar 2025	Arrive Time	1125
I32	10 Mar 2025	Depart Time	1129
I32	10 Mar 2025	Air Temp (C)	15.9
I32	10 Mar 2025	Visibility (mi)	10
I32	10 Mar 2025	Wind Speed (kts)	3.3
I32	10 Mar 2025	Wind Dir	W
I32	10 Mar 2025	Sea State	Wind Ripples
I32	10 Mar 2025	High Tide Time	730
I32	10 Mar 2025	Low Tide Time	1430
I32	10 Mar 2025	Comments	
I32	19 Mar 2025	Arrive Time	1153
I32	19 Mar 2025	Depart Time	1159
I32	19 Mar 2025	Air Temp (C)	15.9
I32	19 Mar 2025	Visibility (mi)	10
I32	19 Mar 2025	Wind Speed (kts)	6.1
I32	19 Mar 2025	Wind Dir	NW
I32	19 Mar 2025	Sea State	Regular Swell
I32	19 Mar 2025	High Tide Time	6
I32	19 Mar 2025	Low Tide Time	700
I32	19 Mar 2025	Comments	
I32	25 Mar 2025	Arrive Time	1129
I32	25 Mar 2025	Depart Time	1132
I32	25 Mar 2025	Air Temp (C)	15.7

Station	Date	Parameter	Value
I32	25 Mar 2025	Visibility (mi)	8
I32	25 Mar 2025	Wind Speed (kts)	6.7
I32	25 Mar 2025	Wind Dir	NW
I32	25 Mar 2025	Sea State	Confused Swell
I32	25 Mar 2025	High Tide Time	642
I32	25 Mar 2025	Low Tide Time	1348
I32	25 Mar 2025	Comments	

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 (s-t)	Chlor (µg/L)
I19	05 Mar 2025	1	14.35	66.08	8.0	33.34	8.0	24.8	1.66
I19	05 Mar 2025	2	14.08	65.92	7.9	33.47	8.0	25.0	1.87
I19	05 Mar 2025	3	13.63	64.84	7.2	33.52	7.9	25.1	2.30
I19	05 Mar 2025	4	13.03	66.51	6.2	33.58	7.9	25.3	2.54
I19	05 Mar 2025	5	12.44	71.16	4.7	33.60	7.8	25.4	2.59
I19	05 Mar 2025	6	12.32	72.34	4.2	33.60	7.7	25.4	2.64
I19	05 Mar 2025	7	12.06	72.75	3.9	33.62	7.7	25.5	2.99
I19	05 Mar 2025	8	11.94	70.95	3.5	33.63	7.7	25.5	2.46
I19	05 Mar 2025	9	11.93	53.23	3.1	33.63	7.7	25.5	2.37
I19	05 Mar 2025	10	11.93	25.03	2.6	33.63	7.6	25.5	3.09
I19	10 Mar 2025	1	13.21	69.98	8.1	33.46	8.0	25.2	2.53
I19	10 Mar 2025	2	13.08	69.47	8.0	33.47	8.0	25.2	2.49
I19	10 Mar 2025	3	12.59	68.77	7.8	33.50	8.0	25.3	3.18
I19	10 Mar 2025	4	12.49	69.06	7.5	33.51	7.9	25.3	4.20
I19	10 Mar 2025	5	12.46	69.50	7.1	33.54	7.9	25.4	5.86
I19	10 Mar 2025	6	12.45	71.24	6.8	33.56	7.9	25.4	6.52
I19	10 Mar 2025	7	12.39	74.09	6.7	33.56	7.9	25.4	6.18
I19	10 Mar 2025	8	12.30	73.09	6.9	33.57	7.9	25.4	5.72
I19	10 Mar 2025	9	12.25	70.24	7.0	33.57	7.9	25.4	4.85
I19	10 Mar 2025	10	12.22	67.94	7.0	33.58	7.8	25.4	4.38
I19	19 Mar 2025	1	12.47	35.23	6.8	33.25	7.8	25.1	0.78
I19	19 Mar 2025	2	12.45	35.05	7.0	33.27	7.8	25.2	0.86
I19	19 Mar 2025	3	12.23	36.07	7.1	33.45	7.8	25.3	0.98
I19	19 Mar 2025	4	12.06	46.10	7.0	33.59	7.8	25.5	1.18
I19	19 Mar 2025	5	11.92	56.82	6.8	33.71	7.8	25.6	1.23
I19	19 Mar 2025	6	11.76	66.05	6.4	33.79	7.7	25.7	1.07
I19	19 Mar 2025	7	11.71	74.43	5.8	33.77	7.7	25.7	1.05
I19	19 Mar 2025	8	11.61	77.88	5.2	33.81	7.7	25.7	0.95
I19	19 Mar 2025	9	11.52	80.54	4.8	33.85	7.7	25.8	1.08
I19	19 Mar 2025	10	11.46	73.35	4.3	33.84	7.7	25.8	1.32
I19	25 Mar 2025	1	14.67	49.96	9.4	33.55	8.2	24.9	14.25
I19	25 Mar 2025	2	14.69	50.11	9.4	33.55	8.2	24.9	15.52
I19	25 Mar 2025	3	14.55	52.11	9.2	33.56	8.2	25.0	15.93
I19	25 Mar 2025	4	14.09	56.27	8.8	33.59	8.1	25.1	14.85
I19	25 Mar 2025	5	13.85	56.49	8.4	33.58	8.0	25.1	13.73
I19	25 Mar 2025	6	13.78	57.04	8.2	33.57	8.0	25.1	12.54
I19	25 Mar 2025	7	13.72	56.63	8.2	33.59	8.0	25.2	12.78
I19	25 Mar 2025	8	13.73	56.44	8.2	33.59	8.0	25.2	12.88
I19	25 Mar 2025	9	13.73	55.87	8.1	33.60	8.0	25.2	12.98
I19	25 Mar 2025	10	13.14	52.52	7.7	33.70	8.0	25.4	11.23
I40	05 Mar 2025	1	14.26	54.84	7.9	33.10	8.0	24.7	1.59
I40	05 Mar 2025	2	14.11	55.50	8.1	33.34	8.0	24.9	3.28
I40	05 Mar 2025	3	13.55	60.39	7.6	33.52	8.0	25.1	3.86
I40	05 Mar 2025	4	13.25	65.84	6.4	33.53	7.9	25.2	2.41
I40	05 Mar 2025	5	12.94	67.96	5.4	33.56	7.8	25.3	2.54
I40	05 Mar 2025	6	12.15	65.42	4.2	33.63	7.7	25.5	2.65
I40	05 Mar 2025	7	12.03	65.26	3.5	33.62	7.7	25.5	2.34
I40	05 Mar 2025	8	11.93	60.03	3.2	33.63	7.7	25.5	2.31
I40	05 Mar 2025	9	11.90	50.14	3.0	33.63	7.7	25.5	2.40
I40	05 Mar 2025	10	12.00	35.75	3.0	33.62	7.7	25.5	2.60
I40	10 Mar 2025	1	13.15	31.36	7.9	33.16	7.9	24.9	3.15
I40	10 Mar 2025	2	13.08	37.48	7.8	33.50	8.0	25.2	4.38
I40	10 Mar 2025	3	12.93	48.83	7.4	33.56	8.0	25.3	5.94
I40	10 Mar 2025	4	12.30	56.47	6.6	33.60	7.9	25.4	5.61
I40	10 Mar 2025	5	12.21	66.67	5.8	33.60	7.8	25.5	4.84
I40	10 Mar 2025	6	12.20	72.89	5.4	33.60	7.8	25.5	4.82
I40	10 Mar 2025	7	12.19	72.40	5.2	33.60	7.8	25.5	4.77
I40	10 Mar 2025	8	12.20	71.84	5.0	33.60	7.8	25.5	4.60
I40	10 Mar 2025	9	12.18	67.06	4.6	33.60	7.8	25.5	4.55
I40	10 Mar 2025	10	12.14	51.07	3.9	33.61	7.7	25.5	5.49
I40	19 Mar 2025	1	12.95	67.49	6.2	33.55	7.9	25.3	0.44
I40	19 Mar 2025	2	12.96	67.30	6.2	33.55	7.9	25.3	0.44

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/l)	Sal (ppt)	pH	Dens (s-t)	Chlor (µg/L)
I40	19 Mar 2025	3	12.51	64.19	5.5	33.59	7.8	25.4	0.54
I40	19 Mar 2025	4	12.04	48.61	4.7	33.65	7.8	25.5	0.98
I40	19 Mar 2025	5	11.96	37.33	4.7	33.65	7.8	25.5	1.59
I40	19 Mar 2025	6	11.92	43.28	4.6	33.65	7.8	25.6	1.47
I40	19 Mar 2025	7	11.84	54.62	4.3	33.66	7.8	25.6	1.26
I40	19 Mar 2025	8	11.65	47.82	3.8	33.72	7.7	25.7	1.32
I40	19 Mar 2025	9	11.63	35.23	3.5	33.73	7.7	25.7	1.62
I40	19 Mar 2025	10	11.64	14.17	3.3	33.73	7.7	25.7	2.07
I40	25 Mar 2025	1	14.61	44.77	9.0	33.59	8.1	25.0	14.98
I40	25 Mar 2025	2	14.54	44.26	8.8	33.60	8.1	25.0	15.35
I40	25 Mar 2025	3	13.55	45.74	7.5	33.70	8.0	25.3	10.84
I40	25 Mar 2025	4	13.23	65.14	6.5	33.68	7.9	25.3	5.71
I40	25 Mar 2025	5	13.11	68.20	6.2	33.69	7.8	25.4	5.22
I40	25 Mar 2025	6	12.91	67.57	6.0	33.71	7.8	25.4	5.27
I40	25 Mar 2025	7	12.65	66.48	5.8	33.73	7.8	25.5	5.52
I40	25 Mar 2025	8	12.54	69.42	5.6	33.74	7.8	25.5	5.40
I40	25 Mar 2025	9	12.27	57.46	4.8	33.76	7.8	25.6	4.24
I40	25 Mar 2025	10	12.08	44.69	4.2	33.77	7.7	25.6	3.96
I24	05 Mar 2025	1	13.60	73.25	7.3	33.46	8.0	25.1	2.35
I24	05 Mar 2025	2	13.71	71.28	7.3	33.43	8.0	25.0	2.50
I24	05 Mar 2025	3	13.32	70.25	7.0	33.51	8.0	25.2	2.45
I24	05 Mar 2025	4	12.97	71.71	6.2	33.54	7.9	25.3	2.64
I24	05 Mar 2025	5	12.63	71.01	5.7	33.57	7.8	25.4	2.31
I24	05 Mar 2025	6	12.38	73.14	5.2	33.58	7.8	25.4	1.94
I24	05 Mar 2025	7	12.36	78.61	5.0	33.57	7.8	25.4	1.68
I24	05 Mar 2025	8	12.28	75.46	4.7	33.59	7.8	25.4	1.72
I24	05 Mar 2025	9	11.87	60.55	3.6	33.64	7.7	25.6	2.21
I24	05 Mar 2025	10	11.91	32.41	3.1	33.62	7.6	25.5	2.75
I24	10 Mar 2025	1	13.43	67.52	7.8	33.56	8.0	25.2	1.98
I24	10 Mar 2025	2	13.35	67.11	7.8	33.56	8.0	25.2	2.39
I24	10 Mar 2025	3	13.24	66.74	7.8	33.56	8.0	25.2	3.63
I24	10 Mar 2025	4	12.81	66.22	7.4	33.59	8.0	25.3	5.54
I24	10 Mar 2025	5	12.39	67.56	6.6	33.60	7.9	25.4	5.25
I24	10 Mar 2025	6	12.26	72.11	6.1	33.60	7.9	25.5	4.86
I24	10 Mar 2025	7	12.14	78.75	5.6	33.61	7.8	25.5	4.33
I24	10 Mar 2025	8	12.13	80.10	5.3	33.61	7.8	25.5	4.37
I24	10 Mar 2025	9	12.12	77.53	5.2	33.61	7.8	25.5	4.53
I24	10 Mar 2025	10	12.05	72.55	4.4	33.62	7.8	25.5	3.80
I24	19 Mar 2025	1	12.15	67.62	5.2	33.65	7.8	25.5	0.40
I24	19 Mar 2025	2	12.14	70.73	5.2	33.67	7.8	25.5	0.38
I24	19 Mar 2025	3	12.11	70.41	5.2	33.67	7.8	25.5	0.40
I24	19 Mar 2025	4	12.01	71.10	5.0	33.66	7.8	25.5	0.48
I24	19 Mar 2025	5	11.91	71.11	4.9	33.66	7.8	25.6	0.68
I24	19 Mar 2025	6	11.89	69.19	4.8	33.66	7.8	25.6	0.95
I24	19 Mar 2025	7	11.88	68.94	4.7	33.66	7.8	25.6	1.09
I24	19 Mar 2025	8	11.86	67.71	4.8	33.67	7.8	25.6	1.12
I24	19 Mar 2025	9	11.87	63.45	4.4	33.67	7.8	25.6	1.06
I24	19 Mar 2025	10	11.87	60.50	4.4	33.67	7.8	25.6	1.16
I24	25 Mar 2025	1	15.22	56.93	11.4	33.55	8.3	24.8	14.81
I24	25 Mar 2025	2	15.20	56.63	11.3	33.55	8.3	24.8	14.80
I24	25 Mar 2025	3	15.11	56.35	11.0	33.56	8.3	24.8	16.02
I24	25 Mar 2025	4	15.05	58.24	10.6	33.56	8.3	24.9	15.46
I24	25 Mar 2025	5	14.85	60.43	10.2	33.57	8.2	24.9	14.19
I24	25 Mar 2025	6	14.75	61.12	9.7	33.57	8.2	24.9	15.64
I24	25 Mar 2025	7	13.90	60.85	8.5	33.66	8.1	25.2	14.05
I24	25 Mar 2025	8	12.85	68.88	7.0	33.75	7.9	25.5	7.04
I24	25 Mar 2025	9	12.44	69.97	5.4	33.75	7.8	25.5	3.99
I24	25 Mar 2025	10	13.22	65.17	6.1	33.66	7.9	25.3	6.21
I25	05 Mar 2025	1	14.24	64.99	7.6	33.25	8.0	24.8	1.53
I25	05 Mar 2025	2	13.64	67.15	7.1	33.46	7.9	25.1	1.71
I25	05 Mar 2025	3	13.09	71.35	6.6	33.54	7.9	25.2	2.06
I25	05 Mar 2025	4	12.85	71.29	6.1	33.54	7.9	25.3	2.29
I25	05 Mar 2025	5	12.62	69.96	5.7	33.55	7.8	25.3	2.27
I25	05 Mar 2025	6	12.52	72.15	5.5	33.56	7.8	25.4	2.38
I25	05 Mar 2025	7	12.30	80.73	5.2	33.57	7.8	25.4	1.86
I25	05 Mar 2025	8	12.30	82.19	5.0	33.57	7.8	25.4	1.57
I25	05 Mar 2025	9	12.33	79.67	4.9	33.57	7.8	25.4	1.59

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/l)	Sal (ppt)	pH	Dens (s-t)	Chlor (µg/L)
I25	10 Mar 2025	1	13.26	71.99	7.4	33.58	8.0	25.2	1.79
I25	10 Mar 2025	2	13.13	71.69	7.3	33.58	8.0	25.3	2.02
I25	10 Mar 2025	3	12.96	71.09	7.1	33.59	8.0	25.3	2.95
I25	10 Mar 2025	4	12.58	71.73	6.4	33.61	7.9	25.4	3.86
I25	10 Mar 2025	5	12.30	73.05	5.5	33.63	7.8	25.5	3.25
I25	10 Mar 2025	6	12.26	76.02	5.0	33.62	7.8	25.5	2.47
I25	10 Mar 2025	7	12.24	77.50	4.9	33.62	7.8	25.5	2.39
I25	10 Mar 2025	8	12.20	76.11	4.6	33.61	7.8	25.5	2.45
I25	10 Mar 2025	9	12.20	73.80	4.6	33.61	7.8	25.5	2.44
I25	19 Mar 2025	1	12.68	69.61	6.0	33.61	7.8	25.4	0.37
I25	19 Mar 2025	2	12.62	69.07	5.9	33.61	7.8	25.4	0.40
I25	19 Mar 2025	3	12.42	67.98	6.0	33.63	7.8	25.4	0.42
I25	19 Mar 2025	4	12.06	62.82	6.1	33.69	7.8	25.6	0.61
I25	19 Mar 2025	5	11.92	62.25	5.5	33.69	7.8	25.6	0.79
I25	19 Mar 2025	6	11.80	65.85	4.9	33.70	7.8	25.6	0.93
I25	19 Mar 2025	7	11.73	67.53	4.6	33.70	7.8	25.6	1.01
I25	19 Mar 2025	8	11.75	71.17	4.5	33.70	7.7	25.6	1.04
I25	19 Mar 2025	9	11.67	73.64	4.2	33.72	7.7	25.7	1.03
I25	25 Mar 2025	1	15.23	54.68	10.2	33.54	8.3	24.8	17.88
I25	25 Mar 2025	2	15.23	54.65	10.7	33.54	8.3	24.8	16.94
I25	25 Mar 2025	3	15.21	55.55	10.5	33.56	8.3	24.8	17.05
I25	25 Mar 2025	4	14.98	61.06	10.4	33.68	8.2	25.0	15.40
I25	25 Mar 2025	5	14.91	60.55	10.5	33.64	8.2	24.9	16.48
I25	25 Mar 2025	6	14.78	61.08	10.5	33.67	8.2	25.0	15.40
I25	25 Mar 2025	7	13.35	63.27	10.0	34.20	8.0	25.7	11.33
I25	25 Mar 2025	8	12.71	74.35	7.2	33.83	7.8	25.5	4.67
I25	25 Mar 2025	9	12.93	72.74	6.2	33.85	7.9	25.5	6.66
I39	05 Mar 2025	1	13.80	78.04	6.7	33.43	8.0	25.0	1.69
I39	05 Mar 2025	2	13.48	78.08	7.1	33.62	8.0	25.2	1.75
I39	05 Mar 2025	3	13.18	80.72	7.0	33.56	7.9	25.2	1.48
I39	05 Mar 2025	4	13.12	84.61	6.8	33.55	7.9	25.2	1.50
I39	05 Mar 2025	5	13.08	88.26	6.6	33.55	7.9	25.3	1.79
I39	05 Mar 2025	6	13.04	90.36	6.4	33.56	7.9	25.3	2.00
I39	05 Mar 2025	7	12.99	91.10	6.4	33.57	7.9	25.3	2.73
I39	05 Mar 2025	8	12.89	91.13	6.5	33.59	7.9	25.3	2.53
I39	05 Mar 2025	9	12.66	92.44	6.3	33.70	7.9	25.5	1.70
I39	05 Mar 2025	10	12.49	93.14	6.2	33.77	7.9	25.5	2.18
I39	05 Mar 2025	11	12.47	92.85	6.2	33.63	7.9	25.4	2.11
I39	05 Mar 2025	12	12.45	93.08	6.0	33.60	7.9	25.4	1.84
I39	05 Mar 2025	13	12.45	93.24	5.8	33.59	7.8	25.4	2.34
I39	05 Mar 2025	14	12.34	93.29	5.6	33.60	7.8	25.4	1.81
I39	05 Mar 2025	15	12.07	92.92	5.3	33.62	7.8	25.5	1.74
I39	05 Mar 2025	16	12.09	92.21	5.0	33.59	7.8	25.5	1.84
I39	05 Mar 2025	17	11.96	91.64	4.8	33.62	7.8	25.5	1.52
I39	05 Mar 2025	18	11.74	90.36	4.3	33.66	7.7	25.6	1.49
I39	10 Mar 2025	1	13.58	70.81	9.5	33.52	8.1	25.1	3.38
I39	10 Mar 2025	2	13.54	70.56	9.6	33.52	8.1	25.1	4.06
I39	10 Mar 2025	3	13.46	71.08	9.6	33.52	8.1	25.2	5.91
I39	10 Mar 2025	4	13.45	70.31	9.5	33.52	8.1	25.2	8.20
I39	10 Mar 2025	5	13.42	69.57	9.5	33.51	8.1	25.2	10.03
I39	10 Mar 2025	6	13.39	69.43	9.4	33.51	8.1	25.2	10.11
I39	10 Mar 2025	7	13.37	69.43	9.3	33.51	8.1	25.2	10.59
I39	10 Mar 2025	8	13.35	69.72	9.1	33.51	8.1	25.2	10.70
I39	10 Mar 2025	9	13.33	70.98	9.0	33.51	8.1	25.2	10.24
I39	10 Mar 2025	10	13.31	72.07	8.8	33.51	8.1	25.2	9.64
I39	10 Mar 2025	11	13.16	72.92	8.5	33.52	8.0	25.2	8.89
I39	10 Mar 2025	12	13.07	75.44	8.0	33.53	8.0	25.2	7.71
I39	10 Mar 2025	13	12.85	77.64	7.5	33.55	8.0	25.3	7.01
I39	10 Mar 2025	14	12.57	78.59	6.8	33.58	7.9	25.4	5.58
I39	10 Mar 2025	15	12.41	80.42	6.2	33.60	7.9	25.4	4.91
I39	10 Mar 2025	16	12.18	81.65	5.5	33.63	7.8	25.5	4.37
I39	10 Mar 2025	17	11.70	82.16	4.7	33.72	7.8	25.6	3.17
I39	10 Mar 2025	18	11.60	82.89	4.0	33.73	7.7	25.7	1.89
I39	19 Mar 2025	1	13.65	84.64	7.3	33.45	8.0	25.1	0.49
I39	19 Mar 2025	2	13.64	84.45	7.3	33.45	8.0	25.1	0.51
I39	19 Mar 2025	3	13.56	84.54	7.2	33.46	8.0	25.1	0.62
I39	19 Mar 2025	4	13.29	84.23	6.9	33.51	8.0	25.2	0.75
I39	19 Mar 2025	5	12.68	87.76	6.0	33.60	7.9	25.4	0.88
I39	19 Mar 2025	6	11.65	90.53	4.8	33.76	7.8	25.7	0.62

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/l)	Sal (ppt)	pH	Dens (s-t)	Chlor (µg/L)
I39	19 Mar 2025	7	11.41	92.76	4.0	33.79	7.7	25.8	0.36
I39	19 Mar 2025	8	11.40	94.51	3.7	33.78	7.7	25.8	0.30
I39	19 Mar 2025	9	11.39	94.71	3.6	33.78	7.7	25.8	0.34
I39	19 Mar 2025	10	11.38	94.63	3.5	33.78	7.7	25.8	0.38
I39	19 Mar 2025	11	11.39	94.22	3.5	33.78	7.7	25.8	0.43
I39	19 Mar 2025	12	11.36	94.00	3.5	33.78	7.7	25.8	0.47
I39	19 Mar 2025	13	11.33	93.46	3.4	33.79	7.7	25.8	0.47
I39	19 Mar 2025	14	11.26	92.69	3.3	33.81	7.7	25.8	0.48
I39	19 Mar 2025	15	11.13	91.22	3.1	33.85	7.7	25.9	0.56
I39	19 Mar 2025	16	11.09	88.77	3.0	33.86	7.7	25.9	0.56
I39	19 Mar 2025	17	11.06	87.33	2.9	33.86	7.7	25.9	0.57
I39	19 Mar 2025	18	11.04	83.52	2.9	33.87	7.7	25.9	0.59
I39	25 Mar 2025	1	15.01	69.97	11.0	33.52	8.3	24.8	7.84
I39	25 Mar 2025	2	15.03	70.96	10.8	33.51	8.3	24.8	7.90
I39	25 Mar 2025	3	14.48	70.46	10.1	33.55	8.2	25.0	8.61
I39	25 Mar 2025	4	13.91	76.30	9.2	33.59	8.1	25.1	8.84
I39	25 Mar 2025	5	13.03	81.66	8.3	33.66	8.1	25.3	8.69
I39	25 Mar 2025	6	12.75	82.97	7.5	33.66	8.0	25.4	7.71
I39	25 Mar 2025	7	12.75	84.04	7.1	33.65	8.0	25.4	6.96
I39	25 Mar 2025	8	12.69	84.22	6.9	33.64	8.0	25.4	6.85
I39	25 Mar 2025	9	12.62	84.72	6.6	33.65	8.0	25.4	6.55
I39	25 Mar 2025	10	12.09	84.08	5.8	33.73	7.9	25.6	5.69
I39	25 Mar 2025	11	11.65	81.99	4.7	33.78	7.8	25.7	3.67
I39	25 Mar 2025	12	11.52	81.56	4.0	33.79	7.7	25.7	2.85
I39	25 Mar 2025	13	11.40	80.88	3.8	33.79	7.7	25.8	2.23
I39	25 Mar 2025	14	11.29	82.26	3.6	33.80	7.7	25.8	1.78
I39	25 Mar 2025	15	11.25	84.20	3.5	33.80	7.7	25.8	1.43
I39	25 Mar 2025	16	11.24	84.61	3.4	33.80	7.7	25.8	1.16
I39	25 Mar 2025	17	11.21	85.15	3.4	33.80	7.7	25.8	1.15
I39	25 Mar 2025	18	11.20	85.49	3.3	33.80	7.7	25.8	1.07
I26	05 Mar 2025	1	13.43	75.23	6.6	33.51	7.9	25.2	1.31
I26	05 Mar 2025	2	13.31	75.22	6.5	33.54	7.9	25.2	1.30
I26	05 Mar 2025	3	12.75	76.09	6.3	33.58	7.9	25.3	1.80
I26	05 Mar 2025	4	12.54	81.12	6.0	33.56	7.9	25.4	1.92
I26	05 Mar 2025	5	12.46	88.05	5.7	33.56	7.8	25.4	1.69
I26	05 Mar 2025	6	12.37	89.50	5.5	33.56	7.8	25.4	2.07
I26	05 Mar 2025	7	12.28	89.07	5.4	33.57	7.8	25.4	2.07
I26	05 Mar 2025	8	12.21	89.04	5.1	33.58	7.8	25.4	2.22
I26	05 Mar 2025	9	12.15	86.49	4.9	33.59	7.8	25.5	1.91
I26	10 Mar 2025	1	13.26	70.86	7.6	33.56	8.0	25.2	3.32
I26	10 Mar 2025	2	13.25	70.70	7.6	33.56	8.0	25.2	3.07
I26	10 Mar 2025	3	13.05	70.32	7.6	33.57	8.0	25.3	3.11
I26	10 Mar 2025	4	12.75	70.27	7.3	33.58	8.0	25.3	4.49
I26	10 Mar 2025	5	12.27	70.87	6.3	33.63	7.9	25.5	5.07
I26	10 Mar 2025	6	11.99	74.24	5.2	33.65	7.8	25.5	3.55
I26	10 Mar 2025	7	11.90	79.09	4.8	33.65	7.8	25.6	3.19
I26	10 Mar 2025	8	11.85	81.69	4.5	33.66	7.8	25.6	2.94
I26	10 Mar 2025	9	11.84	82.92	4.2	33.66	7.8	25.6	2.65
I26	19 Mar 2025	1	13.00	75.98	6.2	33.56	7.9	25.3	0.33
I26	19 Mar 2025	2	12.90	74.89	6.1	33.56	7.9	25.3	0.34
I26	19 Mar 2025	3	12.54	73.69	5.8	33.59	7.9	25.4	0.43
I26	19 Mar 2025	4	12.36	75.40	5.4	33.60	7.8	25.4	0.54
I26	19 Mar 2025	5	12.02	79.28	4.9	33.66	7.8	25.5	0.65
I26	19 Mar 2025	6	11.82	86.00	4.5	33.68	7.8	25.6	0.67
I26	19 Mar 2025	7	11.68	88.53	4.2	33.70	7.8	25.6	0.57
I26	19 Mar 2025	8	11.63	89.58	4.0	33.71	7.8	25.7	0.72
I26	19 Mar 2025	9	11.54	75.00	3.6	33.75	7.7	25.7	0.67
I26	25 Mar 2025	1	15.34	57.70	11.9	33.55	8.3	24.8	15.60
I26	25 Mar 2025	2	15.29	52.68	11.8	33.55	8.3	24.8	15.07
I26	25 Mar 2025	3	15.14	57.22	11.3	33.55	8.3	24.8	15.47
I26	25 Mar 2025	4	15.00	58.83	10.6	33.56	8.2	24.9	16.05
I26	25 Mar 2025	5	14.90	60.41	9.9	33.57	8.2	24.9	16.49
I26	25 Mar 2025	6	14.61	59.69	9.0	33.57	8.2	25.0	16.59
I26	25 Mar 2025	7	13.18	62.01	8.0	33.68	8.0	25.3	12.70
I26	25 Mar 2025	8	12.97	73.22	6.8	33.67	7.9	25.4	7.79
I26	25 Mar 2025	9	11.89	73.10	5.1	33.78	7.8	25.7	4.68
I32	05 Mar 2025	1	13.19	73.37	6.5	33.51	7.9	25.2	1.65
I32	05 Mar 2025	2	13.16	73.18	6.7	33.52	7.9	25.2	1.71

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/l)	Sal (ppt)	pH	Dens (s-t)	Chlor (µg/L)
I32	05 Mar 2025	3	12.91	73.25	6.7	33.56	7.9	25.3	2.06
I32	05 Mar 2025	4	12.67	70.48	6.4	33.57	7.9	25.3	2.60
I32	05 Mar 2025	5	12.61	67.88	5.8	33.55	7.8	25.3	2.82
I32	05 Mar 2025	6	12.44	68.19	5.3	33.57	7.8	25.4	2.94
I32	05 Mar 2025	7	12.27	59.45	4.7	33.59	7.8	25.4	2.72
I32	05 Mar 2025	8	12.25	56.02	4.3	33.58	7.7	25.4	2.74
I32	05 Mar 2025	9	12.20	49.45	4.1	33.58	7.7	25.5	2.78
I32	05 Mar 2025	10	12.19	32.38	3.8	33.58	7.7	25.5	2.97
I32	10 Mar 2025	1	12.92	67.79	7.8	33.55	8.0	25.3	5.83
I32	10 Mar 2025	2	12.88	66.67	7.8	33.55	8.0	25.3	6.56
I32	10 Mar 2025	3	12.85	66.34	7.7	33.55	8.0	25.3	8.31
I32	10 Mar 2025	4	12.65	66.70	7.3	33.57	8.0	25.4	8.91
I32	10 Mar 2025	5	12.48	68.89	6.8	33.58	7.9	25.4	9.13
I32	10 Mar 2025	6	12.32	71.89	6.2	33.59	7.9	25.4	7.63
I32	10 Mar 2025	7	12.29	76.24	5.8	33.60	7.9	25.4	7.01
I32	10 Mar 2025	8	12.26	77.20	5.6	33.60	7.8	25.5	6.89
I32	10 Mar 2025	9	12.09	76.07	5.1	33.63	7.8	25.5	5.85
I32	10 Mar 2025	10	11.96	68.50	4.6	33.64	7.8	25.5	4.14
I32	19 Mar 2025	1	12.84	62.13	6.6	33.55	7.8	25.3	0.42
I32	19 Mar 2025	2	12.71	59.26	6.6	33.57	7.8	25.3	0.42
I32	19 Mar 2025	3	12.47	63.56	6.5	33.60	7.8	25.4	0.55
I32	19 Mar 2025	4	12.09	61.82	5.8	33.65	7.8	25.5	0.70
I32	19 Mar 2025	5	11.84	65.29	4.7	33.68	7.8	25.6	0.73
I32	19 Mar 2025	6	11.65	76.97	4.0	33.73	7.7	25.7	0.81
I32	19 Mar 2025	7	11.46	71.64	3.6	33.77	7.7	25.7	1.01
I32	19 Mar 2025	8	11.42	73.50	3.4	33.78	7.7	25.8	1.00
I32	19 Mar 2025	9	11.42	67.26	3.3	33.78	7.7	25.8	1.09
I32	19 Mar 2025	10	11.42	62.14	3.3	33.78	7.7	25.7	1.09
I32	25 Mar 2025	1	15.23	51.39	8.5	33.49	8.2	24.8	7.17
I32	25 Mar 2025	2	15.21	54.33	9.0	33.54	8.2	24.8	8.41
I32	25 Mar 2025	3	15.02	56.11	8.9	33.73	8.2	25.0	10.25
I32	25 Mar 2025	4	14.65	53.27	8.8	33.88	8.2	25.2	12.91
I32	25 Mar 2025	5	14.15	52.95	8.9	34.05	8.1	25.4	13.25
I32	25 Mar 2025	6	13.38	58.50	8.8	34.30	8.0	25.8	13.09
I32	25 Mar 2025	7	12.91	68.84	8.7	34.27	7.9	25.8	10.53
I32	25 Mar 2025	8	12.50	69.10	8.3	34.35	7.8	26.0	7.82
I32	25 Mar 2025	9	11.96	65.52	8.1	34.51	7.7	26.2	4.84
I32	25 Mar 2025	10	12.22	45.93	7.3	34.05	7.8	25.8	6.65

NA = not available

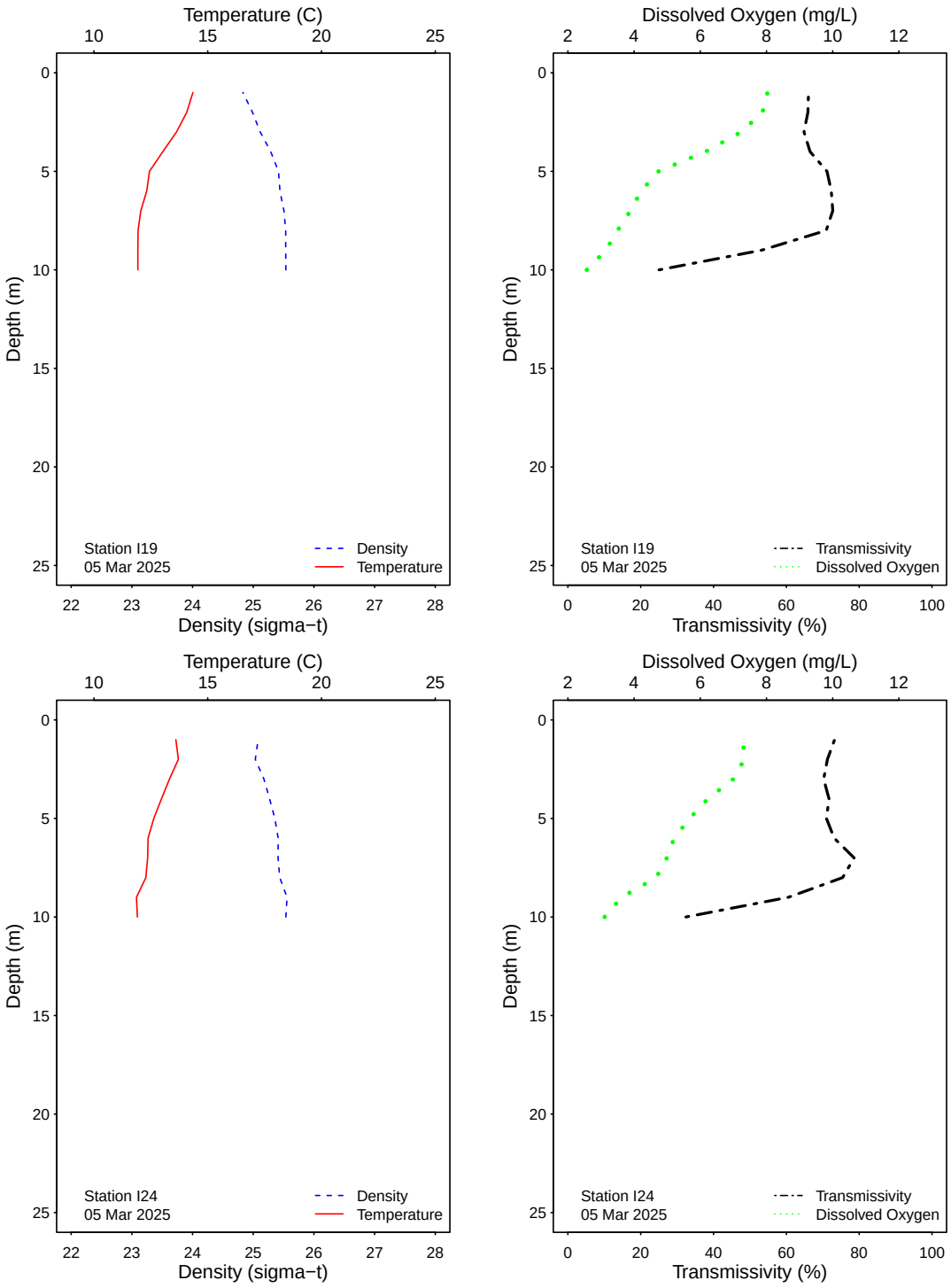
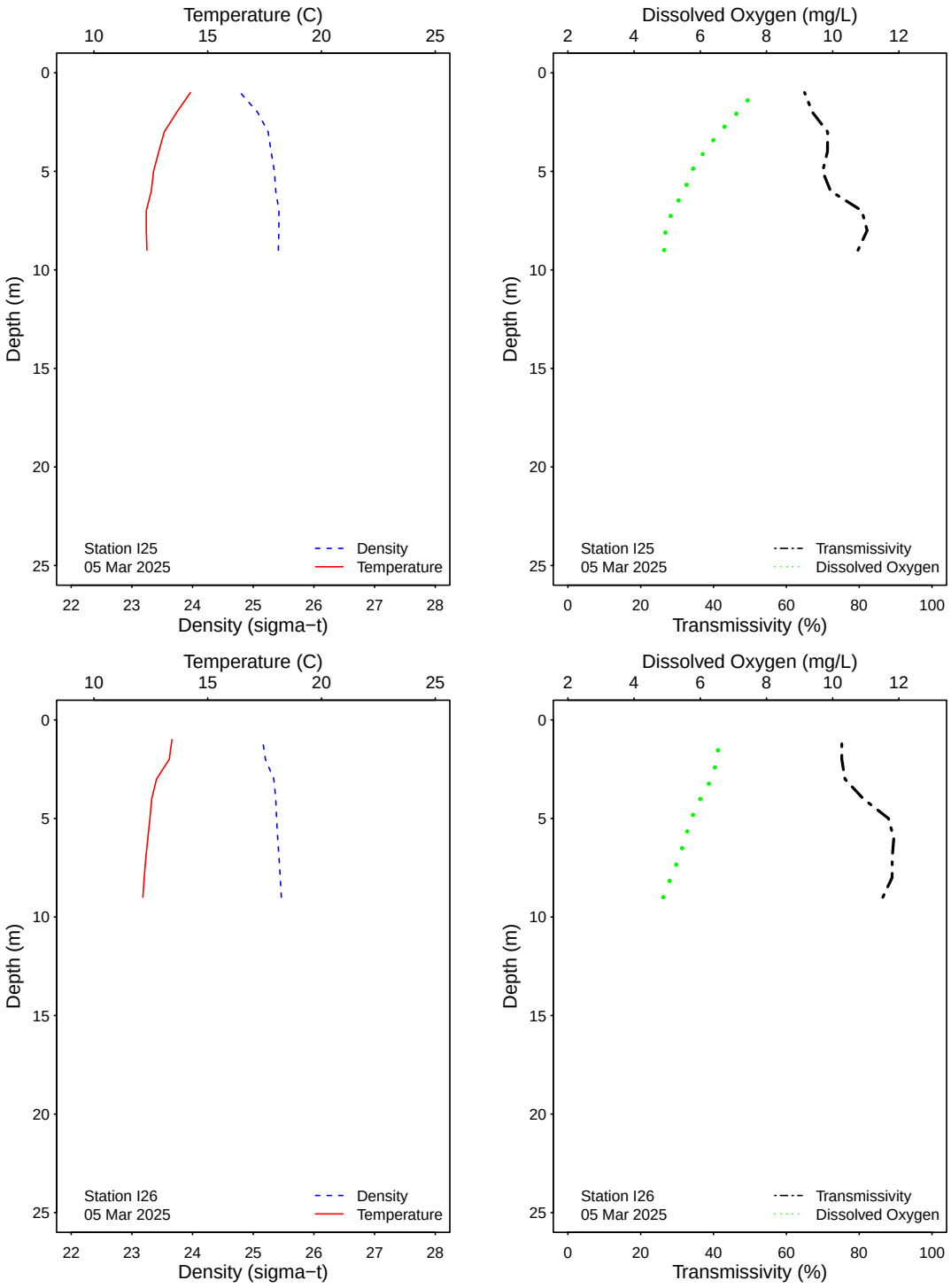


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.



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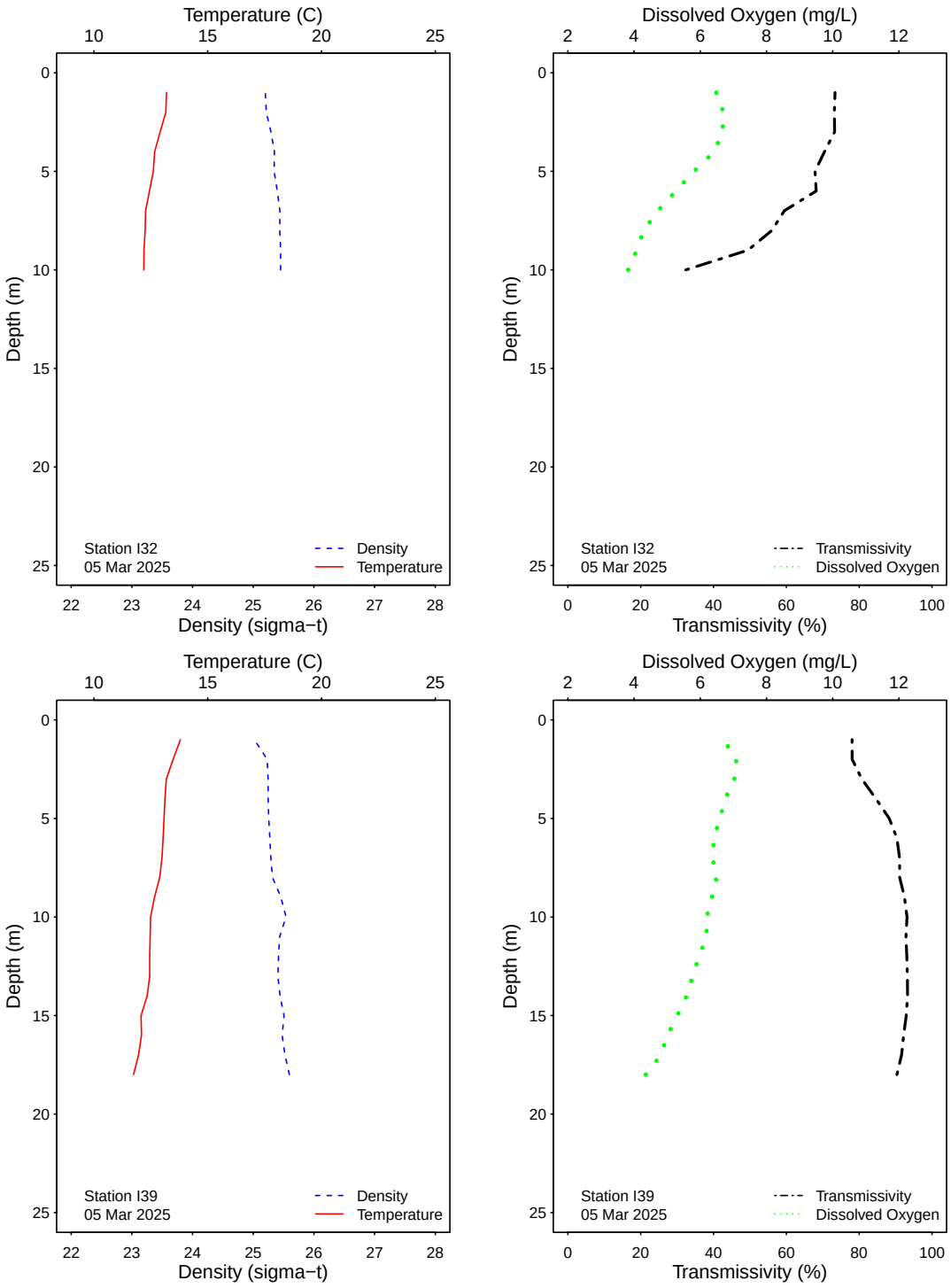

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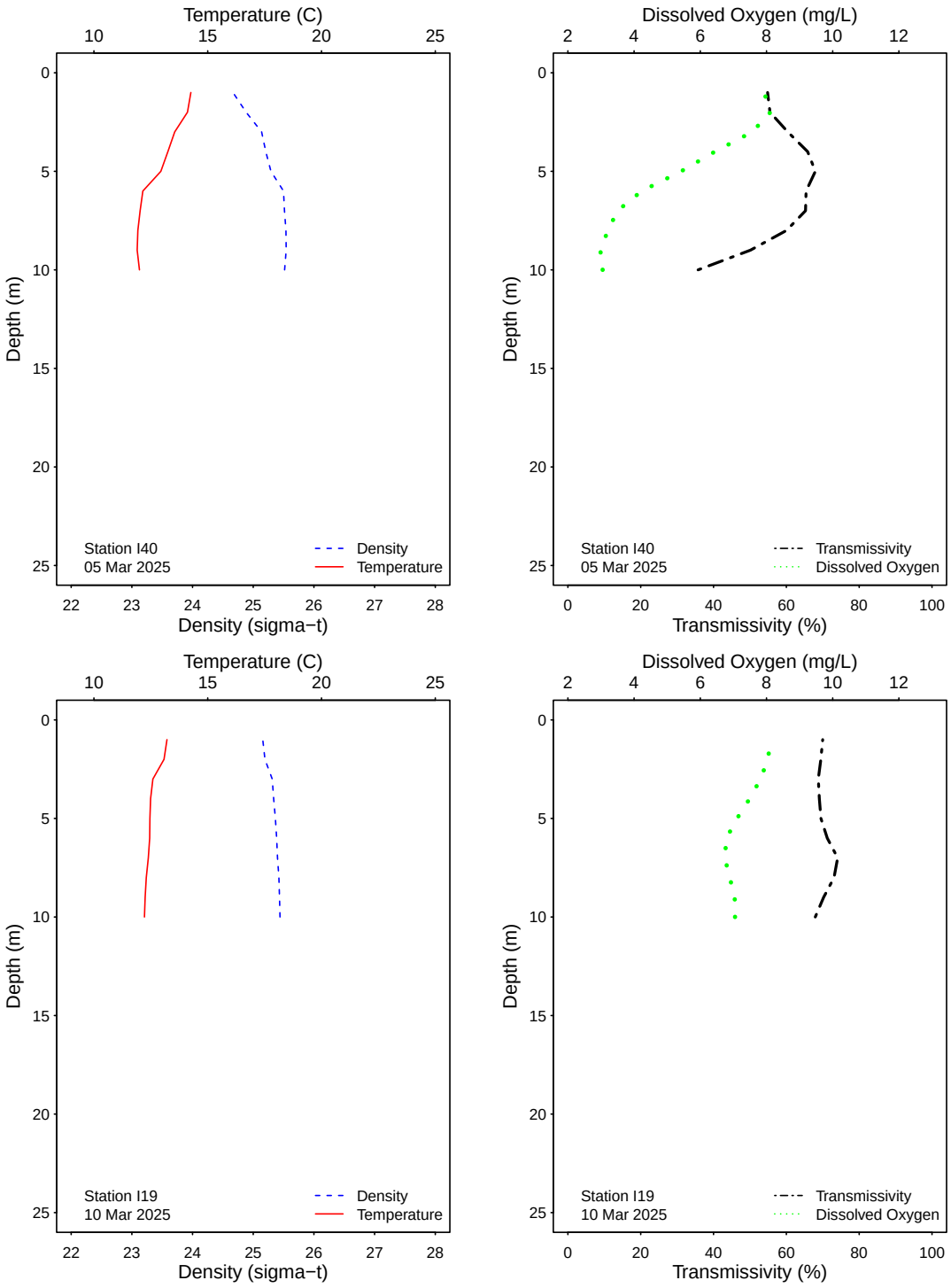

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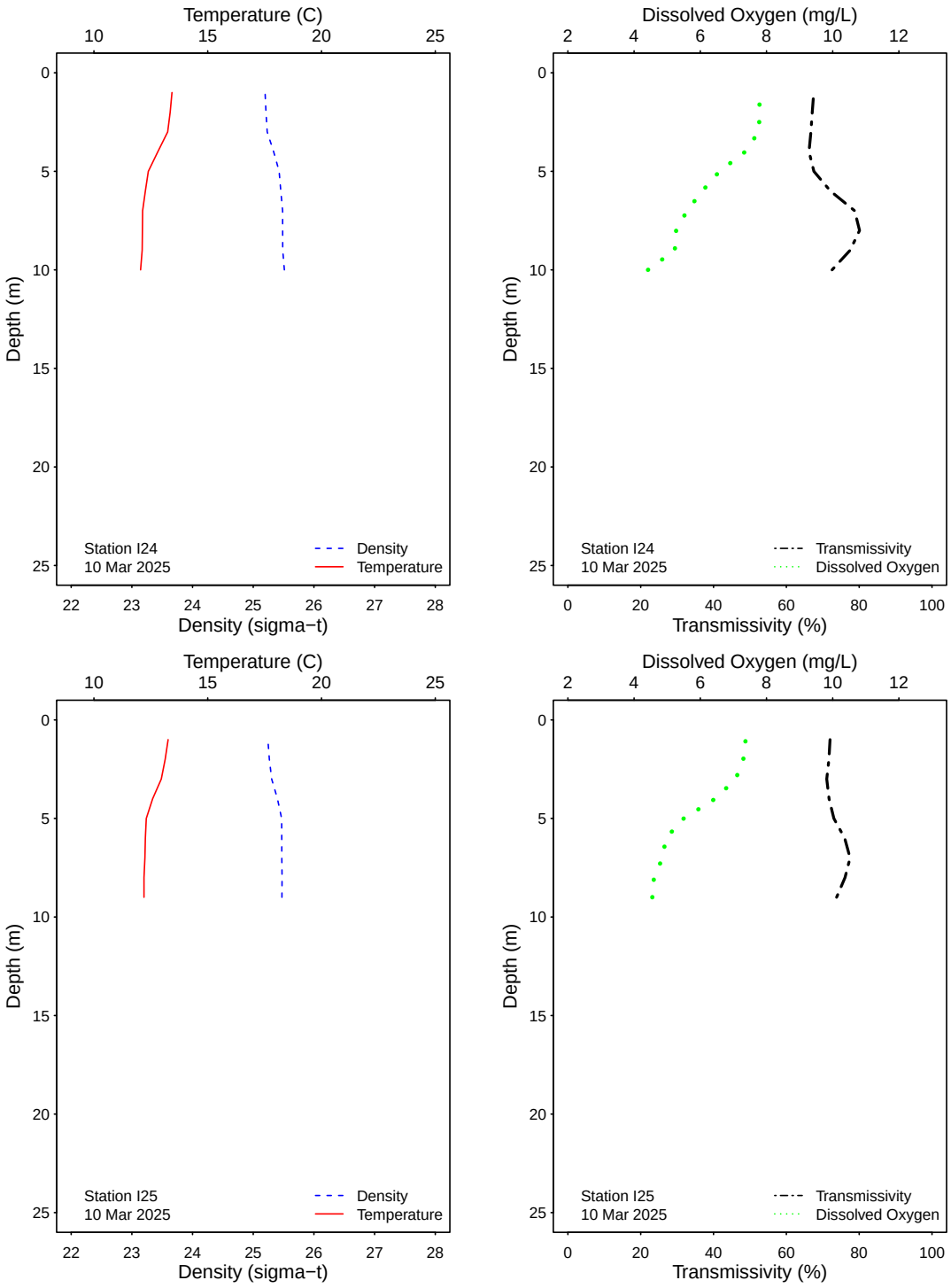

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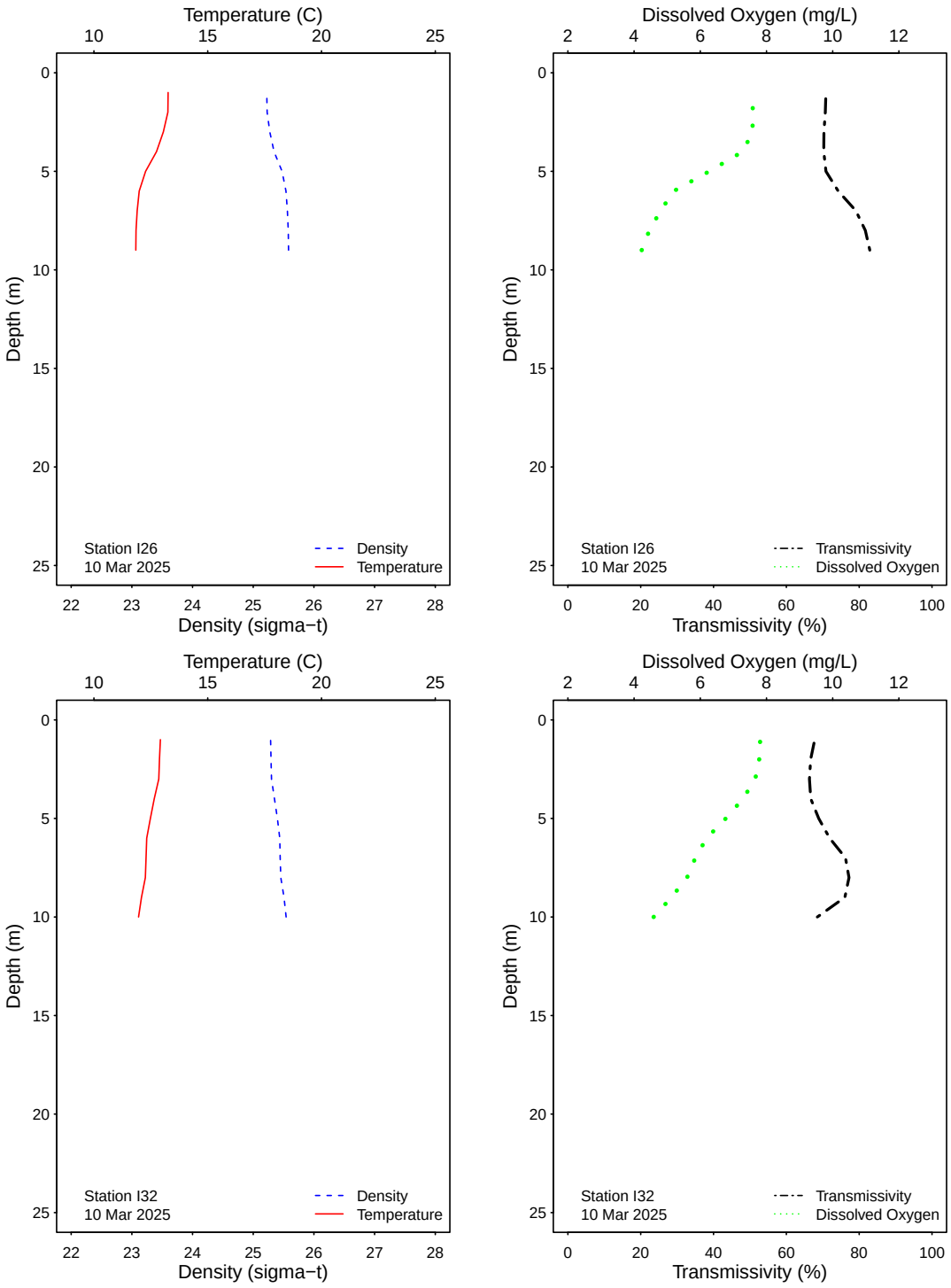

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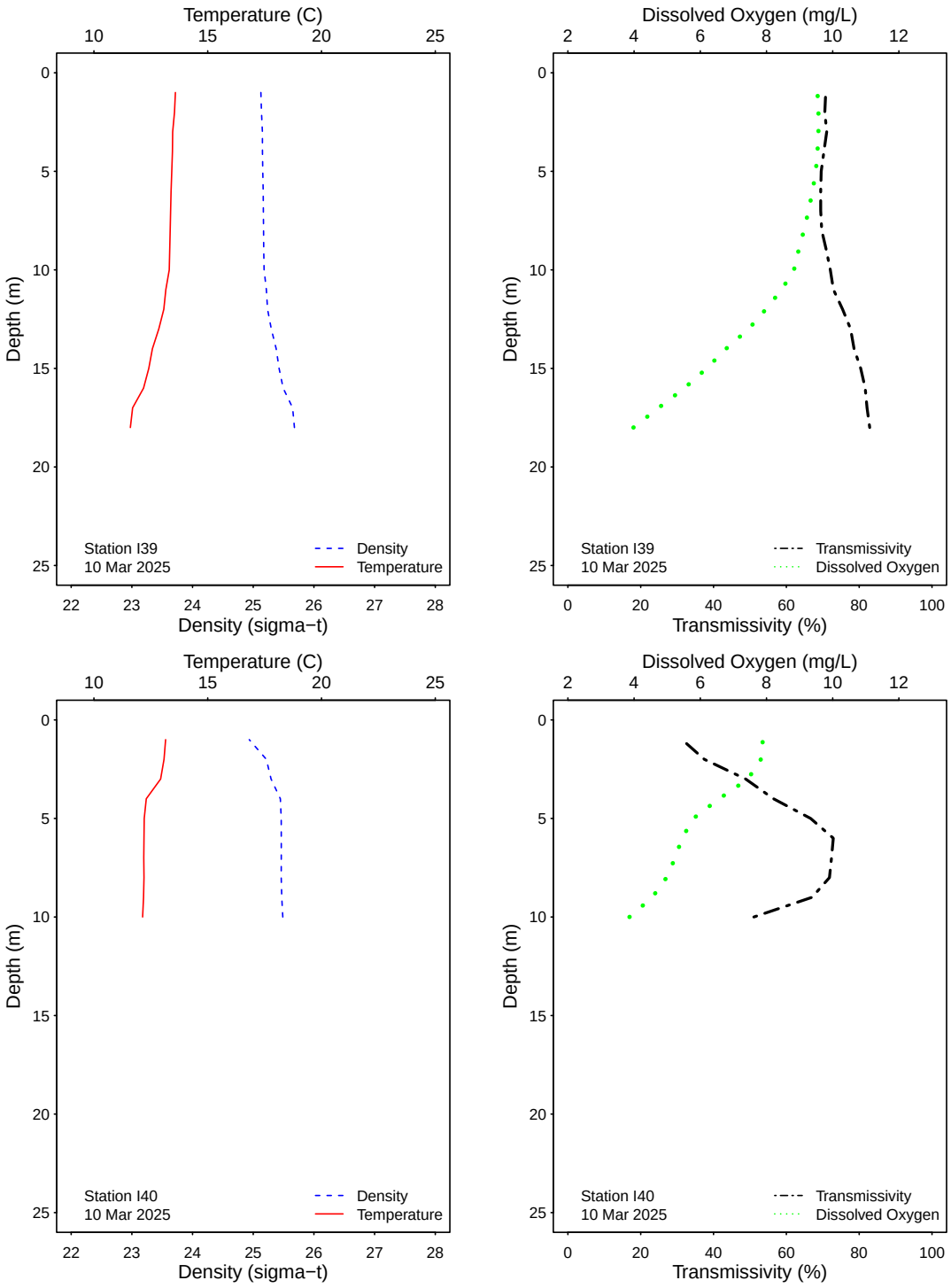
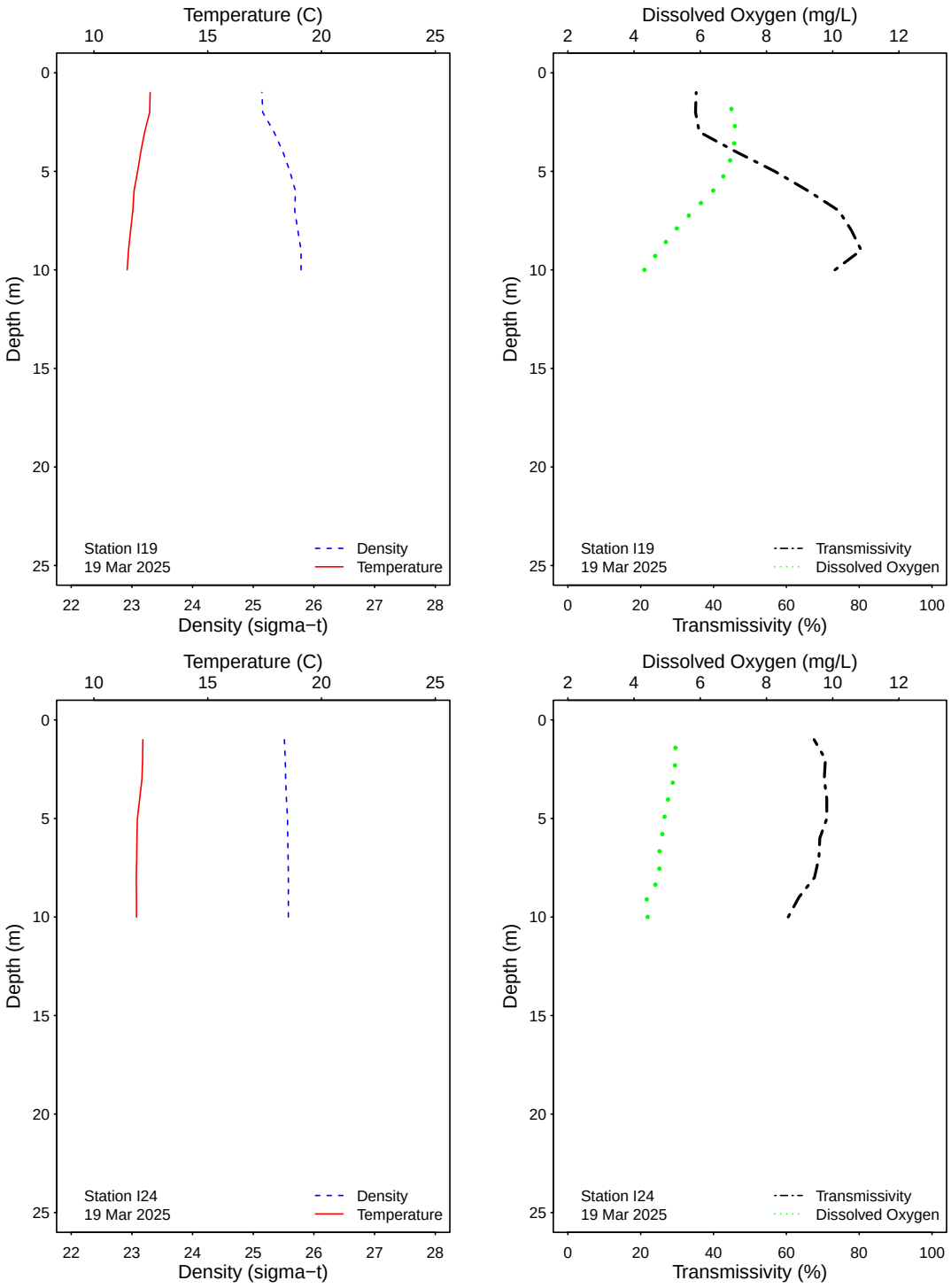


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.



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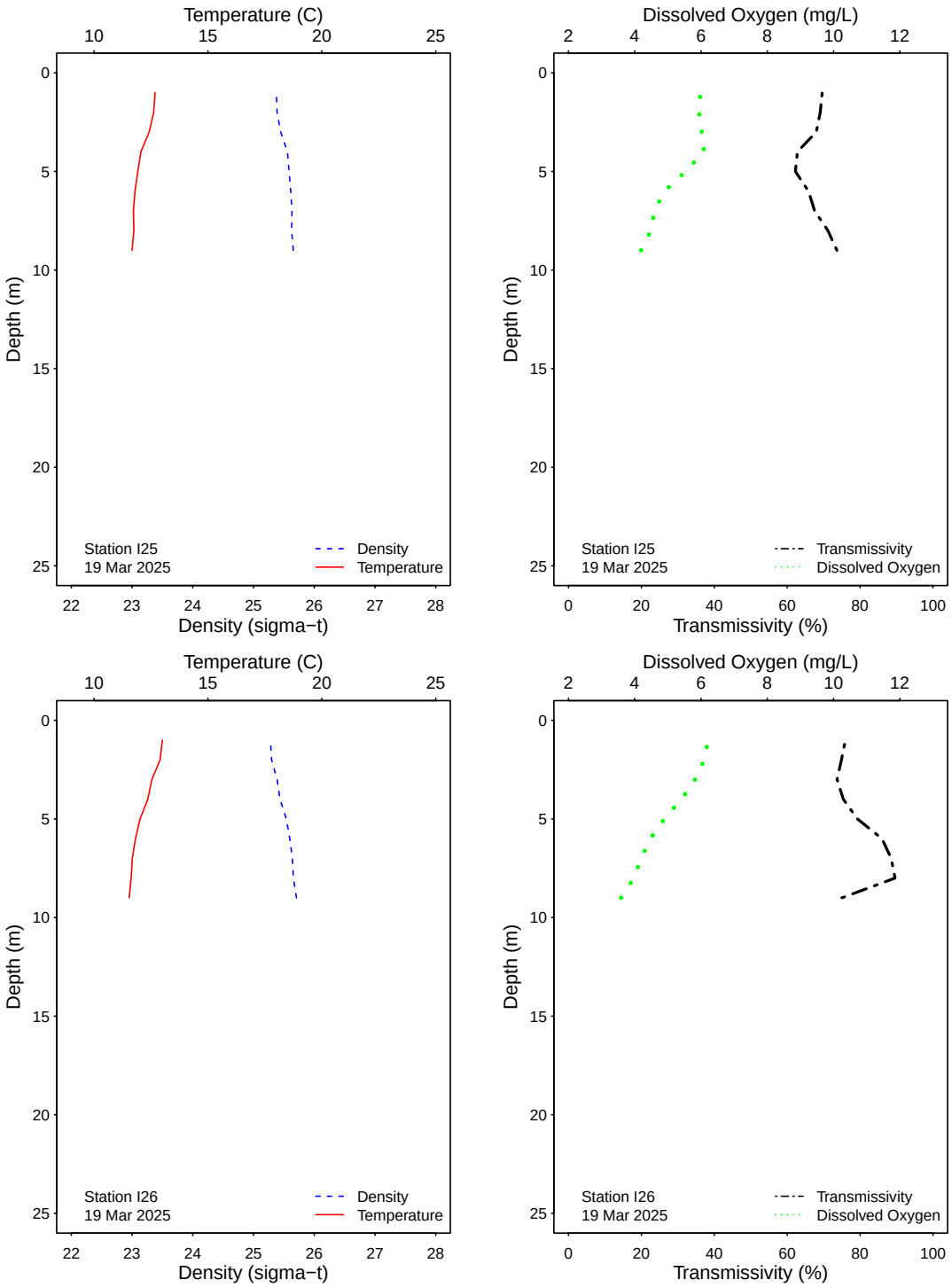

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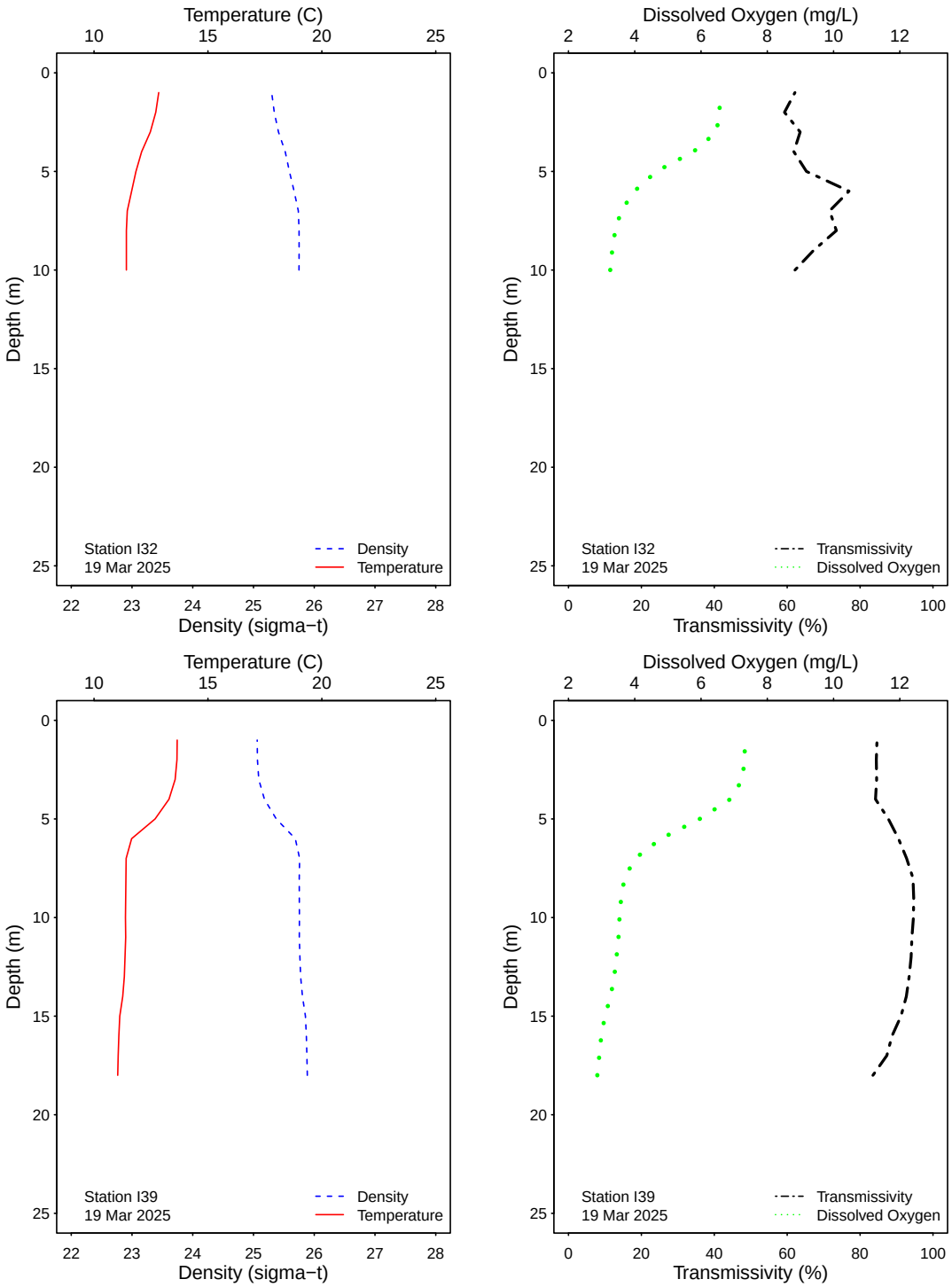
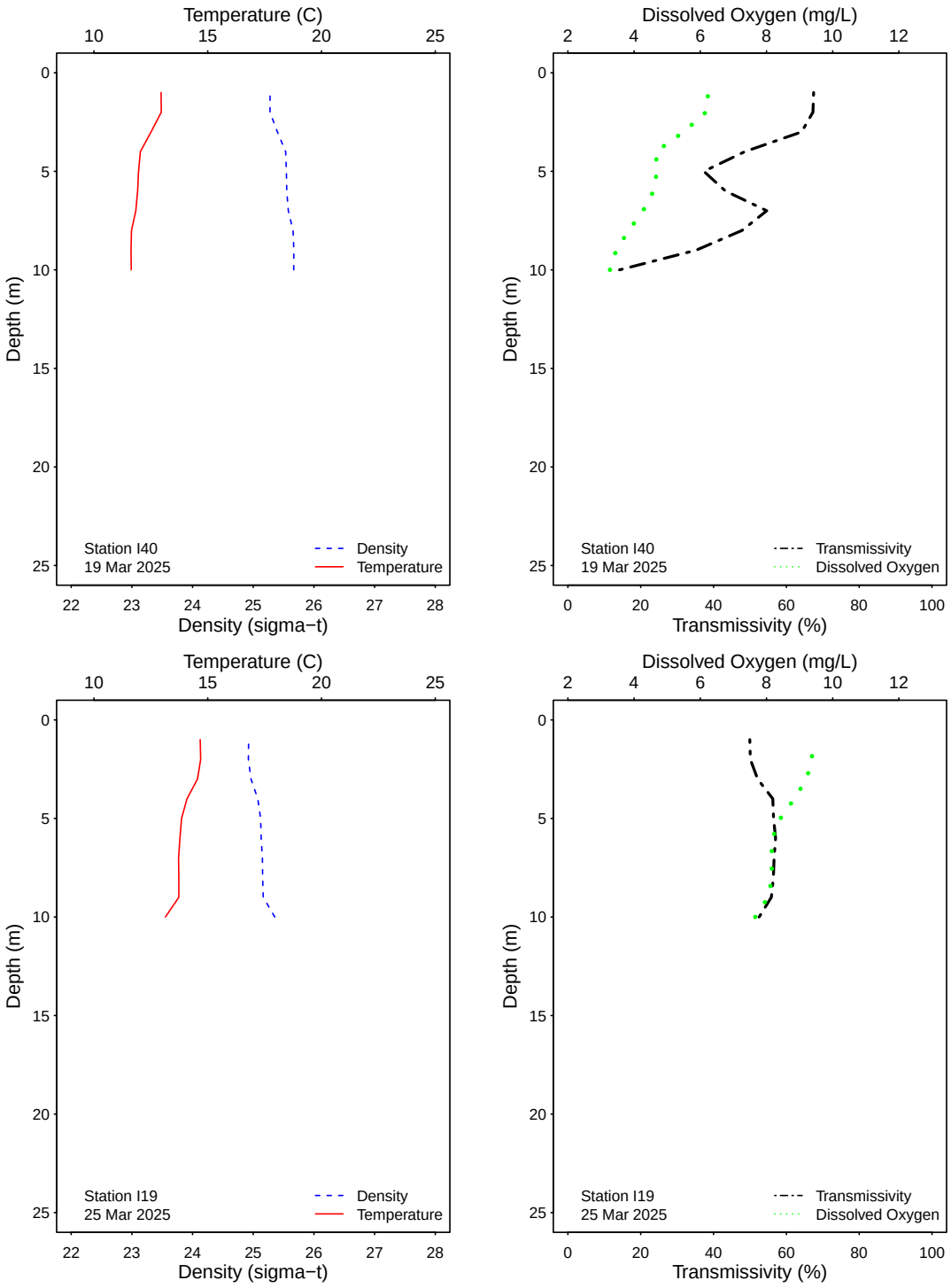


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.



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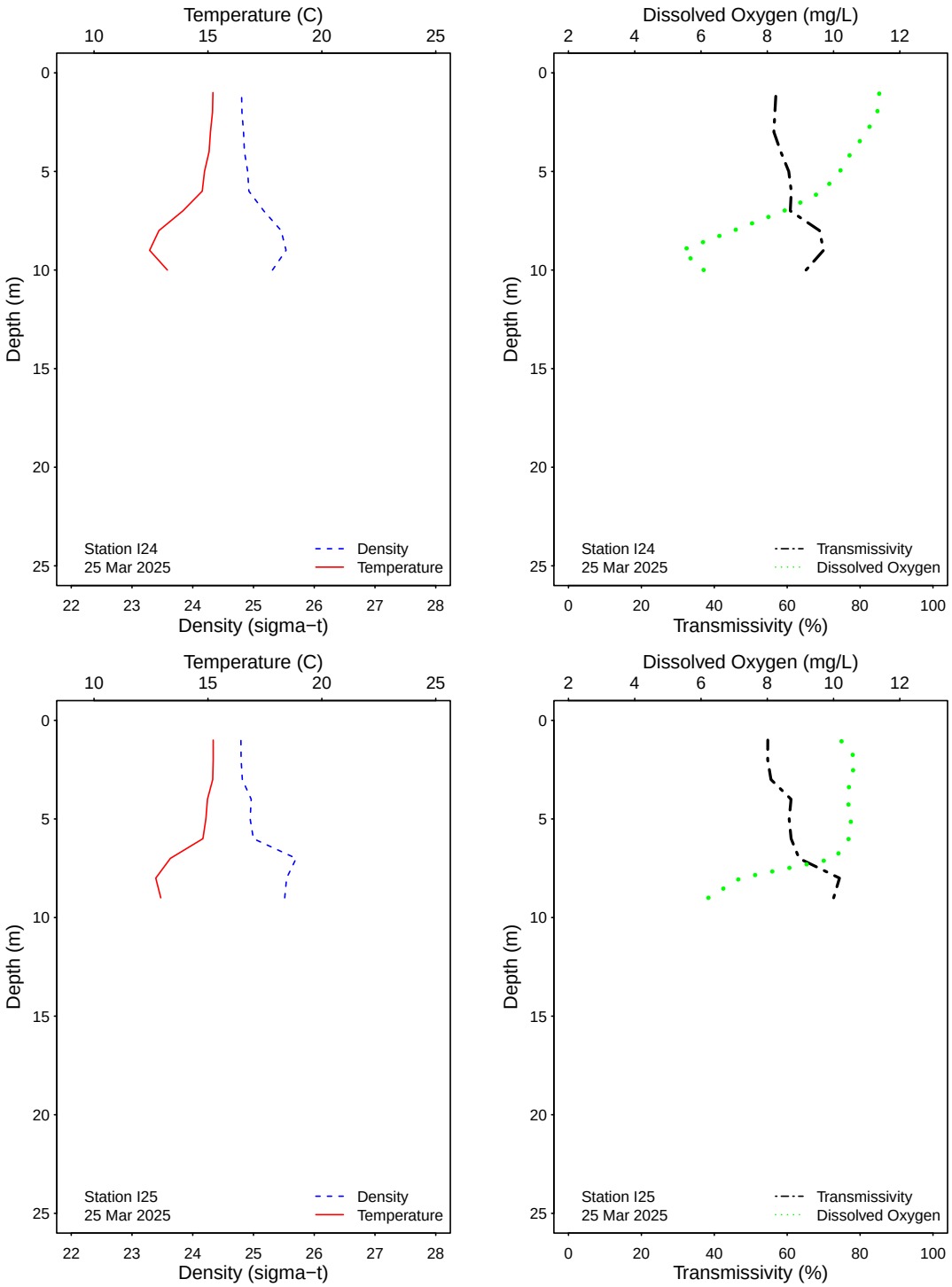

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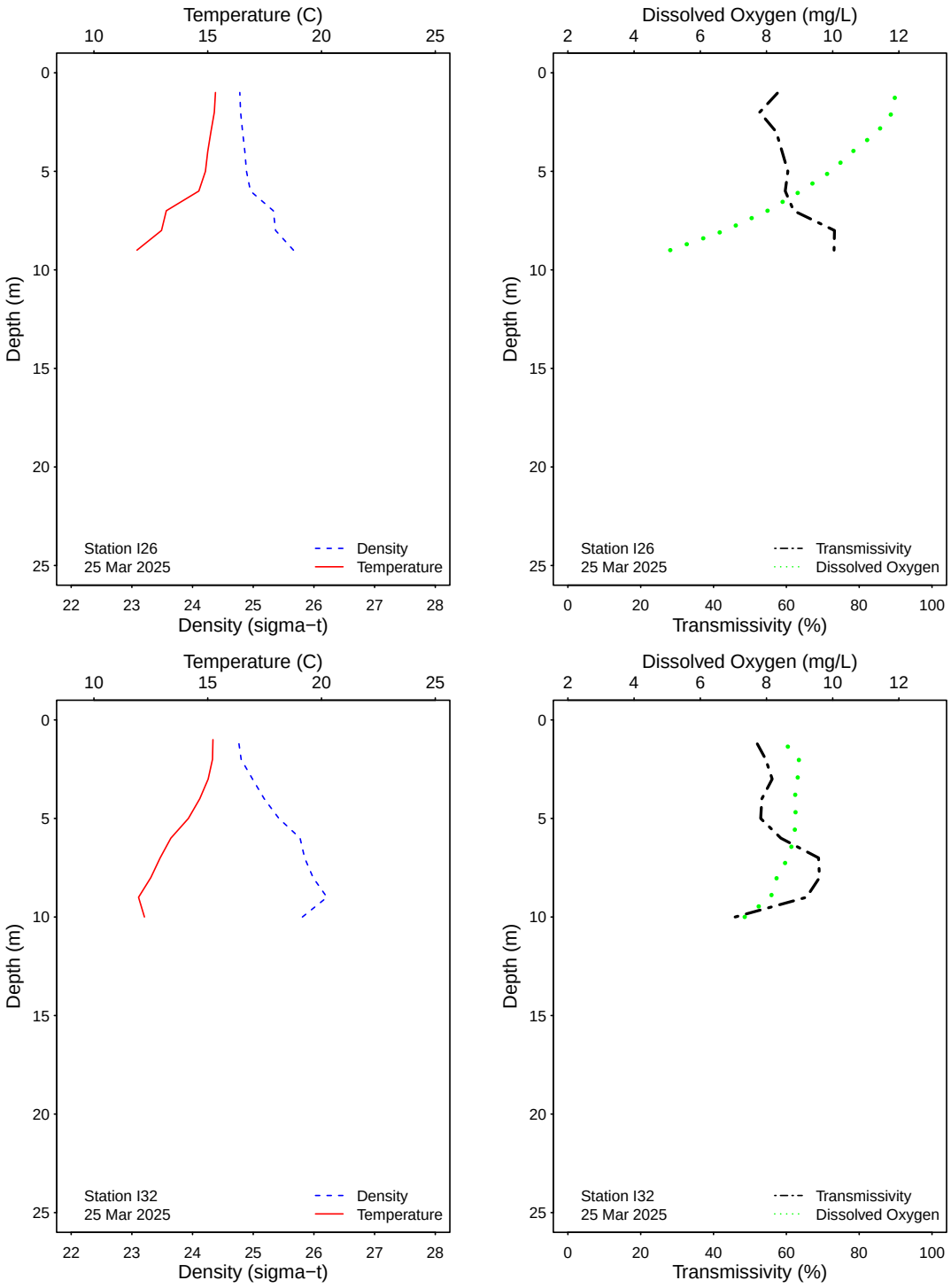

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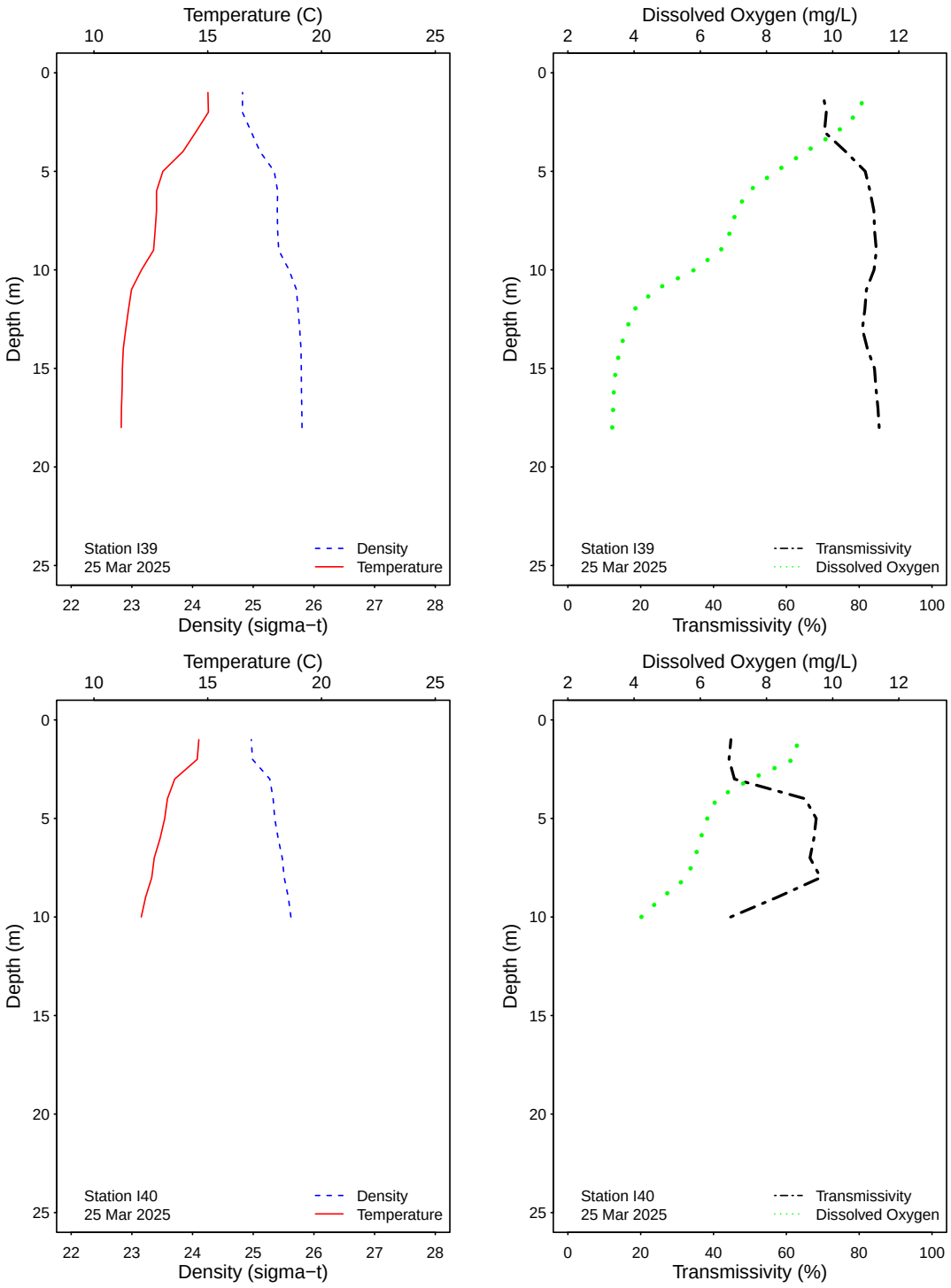

Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

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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 Mar 2025	6	WT	LAB DUPLICATE	540	60	26
I19	10 Mar 2025	6	ADG	LAB DUPLICATE	14000	1400	160
I19	19 Mar 2025	6	WT	LAB DUPLICATE	8800	1100	100
I19	25 Mar 2025	6	ADG	LAB DUPLICATE	16000	9600	2800
I40	05 Mar 2025	6	WT	LAB DUPLICATE	520	100	70
I40	10 Mar 2025	6	ADG	LAB DUPLICATE	1600	100	56
I40	19 Mar 2025	6	WT	LAB DUPLICATE	640	34	100
I40	25 Mar 2025	6	ADG	LAB DUPLICATE	660	70	34
S12	04 Mar 2025		KT	FIELD DUPLICATE	20	4	2
S12	04 Mar 2025		KT	LAB DUPLICATE	2	2	2
S12	10 Mar 2025		ADG	LAB DUPLICATE	40	2	2
S12	10 Mar 2025		ADG	FIELD DUPLICATE	20	2	2
S12	18 Mar 2025		JF	LAB DUPLICATE	20	2	2
S12	18 Mar 2025		JF	FIELD DUPLICATE	20	2	2
S12	25 Mar 2025		KA	FIELD DUPLICATE	80	30	12
S12	25 Mar 2025		KA	LAB DUPLICATE	600	20	8

ns = not sampled
ND = no data

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