

POINT LOMA OCEAN OUTFALL MONTHLY RECEIVING WATERS MONITORING REPORT

POINT LOMA WASTEWATER TREATMENT PLANT

NPDES Permit No. CA0107409
SDRWQCB Order No. R9-2017-0007

OCTOBER 2023

Environmental Monitoring and Technical Services
2392 Kincaid Road • Mail Station 45A • San Diego, CA 92101
Tel (619) 758-2300 Fax (619) 758-2309



November 30, 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 October 2023 Monthly Receiving Waters Monitoring Report for the Point Loma Ocean Outfall, Point Loma Wastewater Treatment Plant as required per Order No. R9-2017-0007, NPDES Permit No. CA0107409.

This report includes raw ocean monitoring data and summaries of water quality parameters and ocean conditions measured during the month for the Point Loma outfall region. Also included are summaries of compliance with the bacterial water-contact standards specified in the California Ocean Plan.

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 for the San Diego coastal region surrounding the Point Loma Ocean Outfall are submitted to the San Diego Regional Water Quality Control Board and U.S. EPA Region 9 in accordance with Order No. R9-2017-0007, NPDES Permit No. CA0107409 for the Point Loma Wastewater Treatment Plant (PLWTP), Point Loma Ocean Outfall (PLOO). 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 PLWTP are presented in separate reports.

MATERIALS AND METHODS

Shore Stations

Water quality conditions are required to be monitored at eight shoreline stations, including D4, D5, D7, D8, D9, D10, D11 and D12, which range from the tip of the Point Loma Peninsula to west of Mission Bay (see station locations map). Over the past several years, due to increasing instability in several cliffside areas of Point Loma, City staff have been unable to safely access and sample several stations at various times. This has resulted in the following modifications:

- Station D8 was replaced by alternate station D8-A during July 2016, which was subsequently replaced by station D8-B in March 2018, after which sampling at station D8-A resumed in December 2020. Due to recent access issues at D8-A, sampling resumed at D8-B during February 2021.

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

Kelp Bed Stations

The eight kelp stations are sampled weekly according to permit specifications to monitor water quality conditions within the Point Loma kelp forest. These stations include three sites located along the inshore edge of the kelp bed paralleling the 9-m depth contour (i.e., stations C4, C5 and C6), and five sites located near the offshore edge of the kelp bed along the 18-m depth contour (i.e., stations A1, A6, A7, C7 and C8).

Routine weekly monitoring at each of the kelp bed sites consists primarily of collecting seawater samples at discrete depths to determine concentrations of fecal indicator bacteria (i.e., total coliforms, fecal coliforms, and *Enterococcus*). Water column profiles of various physical/chemical parameters are also generated during each sampling event, and visual observations of weather and water conditions are recorded at each station.

Seawater samples at the kelp bed stations are collected using a CTD-integrated rosette sampler with Niskin bottles. Aliquots for bacteriological analyses are drawn from these bottles into sterile sample bottles for processing at the City's Marine Microbiology Laboratory. Water column

profiles of temperature, transmissivity, dissolved oxygen, pH, salinity, density, chlorophyll *a* are generated using a Sea-Bird conductivity, temperature and depth instrument (CTD), which collects these data at a rate of ≥ 4 scans per second. These scans are then internally averaged to create water column profiles with data readings at a rate of one per meter. Additionally, CTD profile data for each water sample depth are presented with the bacteriological data.

Offshore Stations

Offshore water quality sampling is conducted quarterly typically during the months of February, May, August and November. A total of 36 offshore stations (F01–F36) are sampled during each survey usually over a 3-day period. Three of the stations (F01–F03) are located along the 18 m depth contour, while 11 stations are located along each of the following contours: 60 m (stations F04–F14), 80 m (stations F15–F25), and 98 m (stations F26–F36). Of these 36 stations, 15 (F01–F03, F06–F14, F18–F20) are located within State jurisdictional waters (i.e., within 3 nautical miles of shore) and are subject to the California Ocean Plan’s compliance standards. Monitoring at all offshore sites includes measurements of *Enterococcus* bacteria, water temperature, salinity, density, dissolved oxygen, pH, chlorophyll *a*, transmissivity, chromomorphpic dissolved organic matter (CDOM), and visual observations of weather and water conditions.

Seawater samples for bacteriological analyses at the offshore stations are collected using a CTD-integrated rosette sampler with Niskin bottles. Profiles of the various physical/chemical parameters (listed above) are taken using a Sea-Bird CTD. Additionally, data for depths closest to those at which bacteriological samples were collected are extracted from the CTD profiles and 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 geometric mean and single sample maximum water-contact standards specified in the California Ocean Plan. The seven standards are defined as follows:

30-day Geometric Mean: The following standards are based on the geometric mean of the five most recent samples from each site.

- (1) Total coliform density shall not exceed 1000 CFU/100 mL;
- (2) Fecal coliform density shall not exceed 200 CFU/100 mL;
- (3) *Enterococcus* density shall not exceed 35 CFU/100 mL

Single Sample Maximums:

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.

- (1) Total coliform density shall not exceed 10,000 CFU/100 mL;
- (2) Fecal coliform density shall not exceed 400 CFU/100 mL;
- (3) *Enterococcus* density shall not exceed 104 CFU/100 mL;
- (4) Total coliform density shall not exceed 1,000 CFU/100 mL when the fecal coliform/total coliform ratio exceeds 0.1.

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 the same throughout field and lab procedures. The results of these analyses provide a measure of precision associated with sample collection, preservation, storage, and lab procedures. The sign test (see Gilbert, 1987²) is used to statistically compare both the results from the laboratory duplicates, as well as the results from the field duplicates. These data will be further analyzed in the City's 2023 Quality Assurance Report, which will be completed in March 2024.

SUMMARY OF RESULTS

As of October 2020, new 2019 Ocean Plan Water Quality Objectives are included for *Enterococcus* and total coliforms, see Appendix B.

Shore Stations

- The eight shore stations (D4, D5, D7, D8-B, D9, D10, D11, D12) were sampled on October 4, 11, 18, and 25.
- During the October reporting period, each of the eight shore stations was in compliance with the various 2015 California Ocean Plan (Ocean Plan) water contact standards.
- A sewage like odor was observed at stations D5 and D7 on one or more days in October.
- Over the years, elevated bacteria levels at shore and kelp bed stations have tended to be associated with rainfall events, heavy recreational use, or the presence of seabirds or decaying kelp and surf grass. 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 Stations

- The eight kelp bed water quality stations (A1, A6, A7, C4, C5, C6, C7, C8) were sampled on October 2, 9, 16, 24, and 30.
- During the October reporting period, each of the eight kelp stations was in compliance with the various 2015 California Ocean Plan (Ocean Plan) water contact standards.
- Water column temperatures ranged from 13.57 to 19.08°C. The difference between surface and bottom waters ranged from 1.70 to 5.17°C.
- Chlorophyll *a* concentrations ranged from 0.41 to 10.03 µg/L.

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

- Nothing of sewage origin was observed at PLOO kelp stations in October.

Offshore Stations

- Quarterly water quality sampling was not conducted during October at the offshore stations. The next quarterly sampling is scheduled for November 2023.



TABLES AND FIGURES

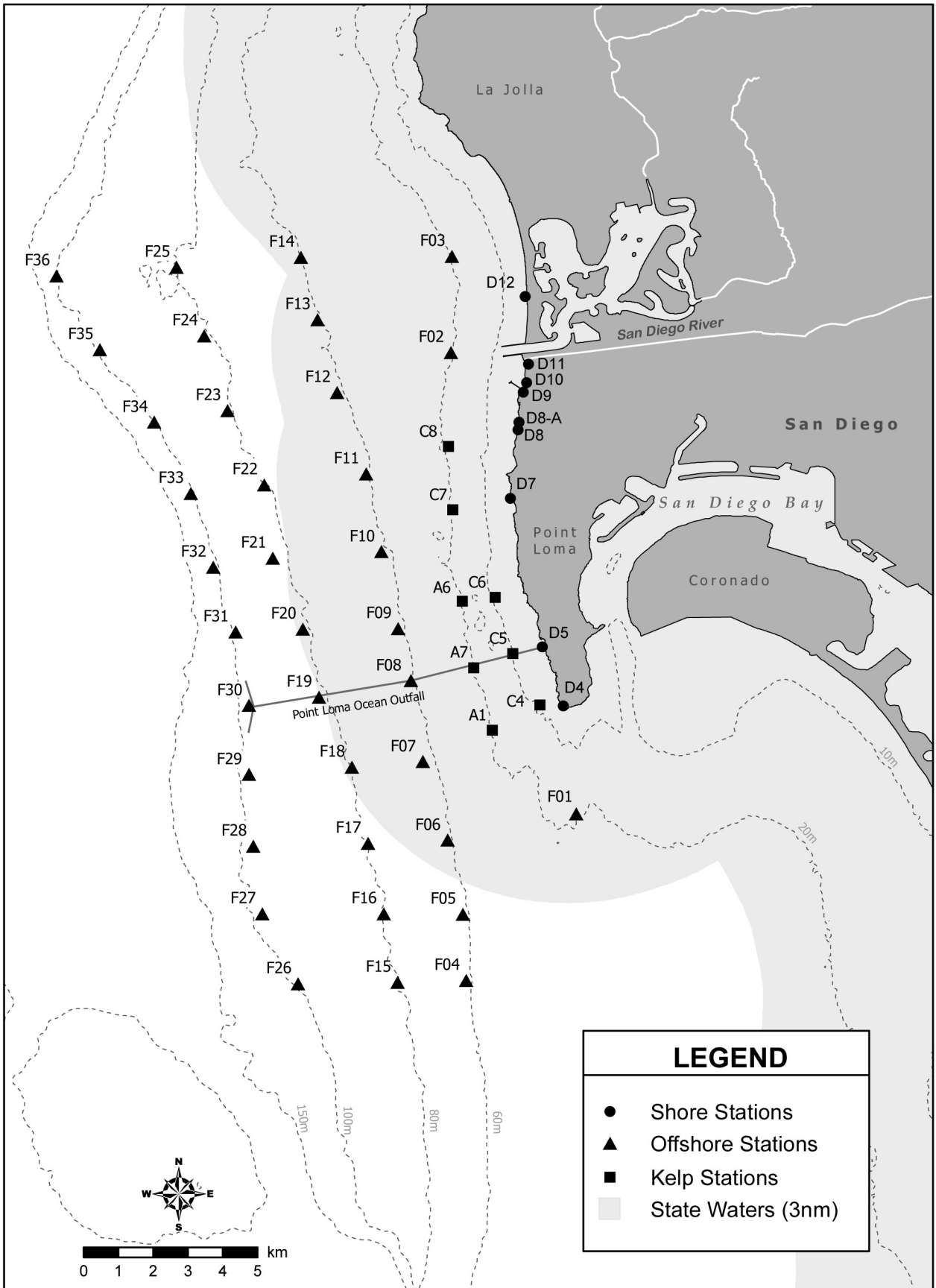


Figure 1.1 Station Map

Shore Stations

Table 2.1

Summary of compliance with the Ocean Plan's 30-day Geometric Mean standard for total coliform bacteria at the PLOO 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 >1,000 CFU/100 mL exceed the standard.

Date	D4	D5	D7	D8-B	D9	D10	D11	D12
01 Oct 2023	26	75	42	130	101	53	36	36
02 Oct 2023	26	75	42	130	101	53	36	36
03 Oct 2023	26	75	42	130	101	53	36	36
04 Oct 2023	25	58	36	90	111	36	35	20
05 Oct 2023	25	58	36	90	111	36	35	20
06 Oct 2023	26	42	24	73	96	30	34	20
07 Oct 2023	26	42	24	73	96	30	34	20
08 Oct 2023	26	42	24	73	96	30	34	20
09 Oct 2023	26	42	24	73	96	30	34	20
10 Oct 2023	26	42	24	73	96	30	34	20
11 Oct 2023	25	36	23	57	70	34	43	20
12 Oct 2023	25	36	23	57	70	34	43	20
13 Oct 2023	26	42	24	62	73	30	35	11
14 Oct 2023	26	42	24	62	73	30	35	11
15 Oct 2023	26	42	24	62	73	30	35	11
16 Oct 2023	26	42	24	62	73	30	35	11
17 Oct 2023	26	42	24	62	73	30	35	11
18 Oct 2023	39	58	23	78	65	31	25	8
19 Oct 2023	39	58	23	78	65	31	25	8
20 Oct 2023	47	63	24	83	73	35	26	6
21 Oct 2023	47	63	24	83	73	35	26	6
22 Oct 2023	47	63	24	83	73	35	26	6
23 Oct 2023	47	63	24	83	73	35	26	6
24 Oct 2023	47	63	24	83	73	35	26	6
25 Oct 2023	39	50	19	63	44	31	28	8
26 Oct 2023	39	50	19	63	44	31	28	8
27 Oct 2023	36	36	16	36	30	25	31	6
28 Oct 2023	36	36	16	36	30	25	31	6
29 Oct 2023	36	36	16	36	30	25	31	6
30 Oct 2023	36	36	16	36	30	25	31	6
31 Oct 2023	36	36	16	36	30	25	31	6

* Geometric mean calculated using n<5
 ns = not sampled

Table 2.2

Summary of compliance with the Ocean Plan’s 30-day Geometric Mean standard for fecal coliform bacteria at the PLOO 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	D4	D5	D7	D8-B	D9	D10	D11	D12
01 Oct 2023	2	8	3	14	11	10	3	5
02 Oct 2023	2	8	3	14	11	10	3	5
03 Oct 2023	2	8	3	14	11	10	3	5
04 Oct 2023	3	6	3	12	11	10	3	4
05 Oct 2023	3	6	3	12	11	10	3	4
06 Oct 2023	3	8	3	17	12	8	4	3
07 Oct 2023	3	8	3	17	12	8	4	3
08 Oct 2023	3	8	3	17	12	8	4	3
09 Oct 2023	3	8	3	17	12	8	4	3
10 Oct 2023	3	8	3	17	12	8	4	3
11 Oct 2023	3	7	5	17	12	8	4	2
12 Oct 2023	3	7	5	17	12	8	4	2
13 Oct 2023	3	10	5	16	14	8	5	3
14 Oct 2023	3	10	5	16	14	8	5	3
15 Oct 2023	3	10	5	16	14	8	5	3
16 Oct 2023	3	10	5	16	14	8	5	3
17 Oct 2023	3	10	5	16	14	8	5	3
18 Oct 2023	3	7	4	12	12	6	5	2
19 Oct 2023	3	7	4	12	12	6	5	2
20 Oct 2023	3	9	5	14	14	8	6	3
21 Oct 2023	3	9	5	14	14	8	6	3
22 Oct 2023	3	9	5	14	14	8	6	3
23 Oct 2023	3	9	5	14	14	8	6	3
24 Oct 2023	3	9	5	14	14	8	6	3
25 Oct 2023	3	6	5	10	10	9	6	3
26 Oct 2023	3	6	5	10	10	9	6	3
27 Oct 2023	3	3	4	6	6	6	5	3
28 Oct 2023	3	3	4	6	6	6	5	3
29 Oct 2023	3	3	4	6	6	6	5	3
30 Oct 2023	3	3	4	6	6	6	5	3
31 Oct 2023	3	3	4	6	6	6	5	3

* Geometric mean calculated using n<5
 ns = not sampled

Table 2.3

Summary of compliance with the Ocean Plan's 30-day Geometric Mean standard for *Enterococcus* at the PLOO 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 >35 CFU/100 mL exceed the standard.

Date	D4	D5	D7	D8-B	D9	D10	D11	D12
01 Oct 2023	5	6	4	15	8	9	4	7
02 Oct 2023	5	6	4	15	8	9	4	7
03 Oct 2023	5	6	4	15	8	9	4	7
04 Oct 2023	4	5	5	16	6	7	4	6
05 Oct 2023	4	5	5	16	6	7	4	6
06 Oct 2023	4	6	6	20	8	9	5	7
07 Oct 2023	4	6	6	20	8	9	5	7
08 Oct 2023	4	6	6	20	8	9	5	7
09 Oct 2023	4	6	6	20	8	9	5	7
10 Oct 2023	4	6	6	20	8	9	5	7
11 Oct 2023	4	5	8	17	6	8	6	6
12 Oct 2023	4	5	8	17	6	8	6	6
13 Oct 2023	5	6	10	19	5	8	8	3
14 Oct 2023	5	6	10	19	5	8	8	3
15 Oct 2023	5	6	10	19	5	8	8	3
16 Oct 2023	5	6	10	19	5	8	8	3
17 Oct 2023	5	6	10	19	5	8	8	3
18 Oct 2023	4	5	7	12	5	7	6	3
19 Oct 2023	4	5	7	12	5	7	6	3
20 Oct 2023	4	5	8	12	7	7	8	3
21 Oct 2023	4	5	8	12	7	7	8	3
22 Oct 2023	4	5	8	12	7	7	8	3
23 Oct 2023	4	5	8	12	7	7	8	3
24 Oct 2023	4	5	8	12	7	7	8	3
25 Oct 2023	3	4	8	10	7	7	6	5
26 Oct 2023	3	4	8	10	7	7	6	5
27 Oct 2023	2	2	8	7	3	4	4	4
28 Oct 2023	2	2	8	7	3	4	4	4
29 Oct 2023	2	2	8	7	3	4	4	4
30 Oct 2023	2	2	8	7	3	4	4	4
31 Oct 2023	2	2	8	7	3	4	4	4

* Geometric mean calculated using n<5
 ns = not sampled

Table 2.4

Summary of compliance at the PLOO shore stations with the Ocean Plan's Single Sample Maximum standard for total coliform bacteria, which states that total coliform density shall not exceed 10,000 CFU/100 mL.

Date	D4	D5	D7	D8-B	D9	D10	D11	D12
04 Oct 2023	IC	IC	IC	IC	IC	IC	IC	IC
11 Oct 2023	IC	IC	IC	IC	IC	IC	IC	IC
18 Oct 2023	IC	IC	IC	IC	IC	IC	IC	IC
25 Oct 2023	IC	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 2.5

Summary of compliance at the PLOO 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	D4	D5	D7	D8-B	D9	D10	D11	D12
04 Oct 2023	IC	IC	IC	IC	IC	IC	IC	IC
11 Oct 2023	IC	IC	IC	IC	IC	IC	IC	IC
18 Oct 2023	IC	IC	IC	IC	IC	IC	IC	IC
25 Oct 2023	IC	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 2.6

Summary of compliance at the PLOO shore stations with the Ocean Plan's Single Sample Maximum standard for *Enterococcus* bacteria, which states that *Enterococcus* density shall not exceed 104 CFU/100 mL.

Date	D4	D5	D7	D8-B	D9	D10	D11	D12
04 Oct 2023	IC	IC	IC	IC	IC	IC	IC	IC
11 Oct 2023	IC	IC	IC	IC	IC	IC	IC	IC
18 Oct 2023	IC	IC	IC	IC	IC	IC	IC	IC
25 Oct 2023	IC	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 2.7

Summary of compliance at the PLOO shore stations with the Ocean Plan's Single Sample Maximum standard for total coliform bacteria and the fecal/total coliform ratio (F:T), which states that total coliform density shall not exceed 1,000 CFU/100 mL when F:T > 0.1.

Date	D4	D5	D7	D8-B	D9	D10	D11	D12
04 Oct 2023	IC	IC	IC	IC	IC	IC	IC	IC
11 Oct 2023	IC	IC	IC	IC	IC	IC	IC	IC
18 Oct 2023	IC	IC	IC	IC	IC	IC	IC	IC
25 Oct 2023	IC	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 2.8

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

Station	Date	Time	Total	Fecal	Entero	F:T
D4	04 Oct 2023	937	<20	10e	<2	0.50
D4	11 Oct 2023	904	<20	<2	4e	0.10
D4	18 Oct 2023	922	<200	2e	<2	0.01
D4	25 Oct 2023	936	<20	2e	2e	0.10
D5	04 Oct 2023	924	<20	<2	2e	0.10
D5	11 Oct 2023	854	20e	6e	<2	0.30
D5	18 Oct 2023	904	<200	<2	<2	0.01
D5	25 Oct 2023	922	<20	2e	2e	0.10
D7	04 Oct 2023	900	<20	<2	12e	0.10
D7	11 Oct 2023	831	<20	20e	24e	1.00
D7	18 Oct 2023	841	<20	2e	<2	0.10
D7	25 Oct 2023	857	8e	4e	6e	0.50
D8-B	04 Oct 2023	845	20e	8e	20e	0.40
D8-B	11 Oct 2023	822	20e	<20	8e	1.00
D8-B	18 Oct 2023	828	<200	4e	2e	0.02
D8-B	25 Oct 2023	844	<20	2e	6e	0.10
D9	04 Oct 2023	836	160e	10e	2e	0.06
D9	11 Oct 2023	812	<20	12e	<2	0.60
D9	18 Oct 2023	819	40e	6e	6e	0.15
D9	25 Oct 2023	833	6e	<2	6e	0.33
D10	04 Oct 2023	826	8e	10e	2e	1.25
D10	11 Oct 2023	805	60e	6e	6e	0.10
D10	18 Oct 2023	808	40e	2e	4e	0.05
D10	25 Oct 2023	812	<20	12e	6e	0.60
D11	04 Oct 2023	815	32e	4e	4e	0.12
D11	11 Oct 2023	757	120e	6e	20e	0.05
D11	18 Oct 2023	759	6e	4e	<2	0.67
D11	25 Oct 2023	801	40e	6e	<2	0.15
D12	04 Oct 2023	754	<2	<2	<2	1.00
D12	11 Oct 2023	742	<20	<2	2e	0.10
D12	18 Oct 2023	743	<2	<2	<2	1.00
D12	25 Oct 2023	742	20e	6e	28e	0.30

ns = not sampled

ND = no data

Table 2.9

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

Station	Date	Parameter	Value
D4	04 Oct 2023	Arrive Time	937
D4	04 Oct 2023	Weather	Sunny
D4	04 Oct 2023	Wind Speed (kts)	0
D4	04 Oct 2023	Wind Dir	
D4	04 Oct 2023	Animal Life	
D4	04 Oct 2023	Floatables	None
D4	04 Oct 2023	Water Color	Green
D4	04 Oct 2023	Current Direction	S
D4	04 Oct 2023	Water Temp (C)	20
D4	04 Oct 2023	Wave Height Low (ft)	3
D4	04 Oct 2023	High Tide (ft)	3.29
D4	04 Oct 2023	High Tide Time	146
D4	04 Oct 2023	Low Tide (ft)	2.66
D4	04 Oct 2023	Low Tide Time	558
D4	04 Oct 2023	Comments	Water clear; Trash-1; Kelp;Seagrass;Algae
D4	11 Oct 2023	Arrive Time	904
D4	11 Oct 2023	Weather	Cloudy
D4	11 Oct 2023	Wind Speed (kts)	1.3
D4	11 Oct 2023	Wind Dir	W
D4	11 Oct 2023	Animal Life	
D4	11 Oct 2023	Floatables	None
D4	11 Oct 2023	Water Color	Green
D4	11 Oct 2023	Current Direction	S
D4	11 Oct 2023	Water Temp (C)	14
D4	11 Oct 2023	Wave Height Low (ft)	3
D4	11 Oct 2023	High Tide (ft)	4.79
D4	11 Oct 2023	High Tide Time	817
D4	11 Oct 2023	Low Tide (ft)	0.45
D4	11 Oct 2023	Low Tide Time	206
D4	11 Oct 2023	Comments	Water clear; Trash-1; Kelp;Seagrass;Algae
D4	18 Oct 2023	Arrive Time	922
D4	18 Oct 2023	Weather	Foggy
D4	18 Oct 2023	Wind Speed (kts)	0.7
D4	18 Oct 2023	Wind Dir	W
D4	18 Oct 2023	Animal Life	
D4	18 Oct 2023	Floatables	Foam; None
D4	18 Oct 2023	Water Color	Green
D4	18 Oct 2023	Current Direction	S
D4	18 Oct 2023	Water Temp (C)	16
D4	18 Oct 2023	Wave Height Low (ft)	4
D4	18 Oct 2023	High Tide (ft)	5.61
D4	18 Oct 2023	High Tide Time	1051
D4	18 Oct 2023	Low Tide (ft)	2.23
D4	18 Oct 2023	Low Tide Time	427
D4	18 Oct 2023	Comments	Water clear; Trash-1; Algae;Kelp
D4	25 Oct 2023	Arrive Time	936
D4	25 Oct 2023	Weather	Drizzle
D4	25 Oct 2023	Wind Speed (kts)	2
D4	25 Oct 2023	Wind Dir	NW
D4	25 Oct 2023	Animal Life	
D4	25 Oct 2023	Floatables	None
D4	25 Oct 2023	Water Color	Green
D4	25 Oct 2023	Current Direction	S

Station	Date	Parameter	Value
D4	25 Oct 2023	Water Temp (C)	15
D4	25 Oct 2023	Wave Height Low (ft)	4
D4	25 Oct 2023	High Tide (ft)	5.23
D4	25 Oct 2023	High Tide Time	725
D4	25 Oct 2023	Low Tide (ft)	-0.1
D4	25 Oct 2023	Low Tide Time	109
D4	25 Oct 2023	Comments	Water clear; Trash-1; Kelp;Seagrass;Algae
D5	04 Oct 2023	Arrive Time	924
D5	04 Oct 2023	Weather	Sunny
D5	04 Oct 2023	Wind Speed (kts)	2.3
D5	04 Oct 2023	Wind Dir	NW
D5	04 Oct 2023	Animal Life	
D5	04 Oct 2023	Floatables	None
D5	04 Oct 2023	Water Color	Green
D5	04 Oct 2023	Current Direction	S
D5	04 Oct 2023	Water Temp (C)	17
D5	04 Oct 2023	Wave Height Low (ft)	3
D5	04 Oct 2023	High Tide (ft)	3.29
D5	04 Oct 2023	High Tide Time	146
D5	04 Oct 2023	Low Tide (ft)	2.66
D5	04 Oct 2023	Low Tide Time	558
D5	04 Oct 2023	Comments	Water clear; Trash-1; Kelp;Seagrass;Algae
D5	11 Oct 2023	Arrive Time	854
D5	11 Oct 2023	Weather	Cloudy
D5	11 Oct 2023	Wind Speed (kts)	0.8
D5	11 Oct 2023	Wind Dir	SW
D5	11 Oct 2023	Animal Life	
D5	11 Oct 2023	Floatables	None
D5	11 Oct 2023	Water Color	Brown
D5	11 Oct 2023	Current Direction	S
D5	11 Oct 2023	Water Temp (C)	15
D5	11 Oct 2023	Wave Height Low (ft)	3
D5	11 Oct 2023	High Tide (ft)	4.79
D5	11 Oct 2023	High Tide Time	817
D5	11 Oct 2023	Low Tide (ft)	0.45
D5	11 Oct 2023	Low Tide Time	206
D5	11 Oct 2023	Comments	Water clear; Trash-1; Kelp;Seagrass;Algae; Sewage-like odor
D5	18 Oct 2023	Arrive Time	904
D5	18 Oct 2023	Weather	Foggy
D5	18 Oct 2023	Wind Speed (kts)	0.9
D5	18 Oct 2023	Wind Dir	NW
D5	18 Oct 2023	Animal Life	
D5	18 Oct 2023	Floatables	Foam
D5	18 Oct 2023	Water Color	Brown
D5	18 Oct 2023	Current Direction	S
D5	18 Oct 2023	Water Temp (C)	16
D5	18 Oct 2023	Wave Height Low (ft)	3
D5	18 Oct 2023	High Tide (ft)	5.61
D5	18 Oct 2023	High Tide Time	1051
D5	18 Oct 2023	Low Tide (ft)	2.23
D5	18 Oct 2023	Low Tide Time	427
D5	18 Oct 2023	Comments	Water turbid; Trash-1; Algae;Debris
D5	25 Oct 2023	Arrive Time	922
D5	25 Oct 2023	Weather	Drizzle
D5	25 Oct 2023	Wind Speed (kts)	3.7
D5	25 Oct 2023	Wind Dir	NW
D5	25 Oct 2023	Animal Life	

Station	Date	Parameter	Value
D5	25 Oct 2023	Floatables	None
D5	25 Oct 2023	Water Color	Green
D5	25 Oct 2023	Current Direction	S
D5	25 Oct 2023	Water Temp (C)	15
D5	25 Oct 2023	Wave Height Low (ft)	3
D5	25 Oct 2023	High Tide (ft)	5.23
D5	25 Oct 2023	High Tide Time	725
D5	25 Oct 2023	Low Tide (ft)	-0.1
D5	25 Oct 2023	Low Tide Time	109
D5	25 Oct 2023	Comments	Water clear; Trash-1; Kelp;Seagrass;Algae; Sewage-like odor
D7	04 Oct 2023	Arrive Time	900
D7	04 Oct 2023	Weather	Sunny
D7	04 Oct 2023	Wind Speed (kts)	0
D7	04 Oct 2023	Wind Dir	
D7	04 Oct 2023	Animal Life	
D7	04 Oct 2023	Floatables	None
D7	04 Oct 2023	Water Color	Green
D7	04 Oct 2023	Current Direction	S
D7	04 Oct 2023	Water Temp (C)	17
D7	04 Oct 2023	Wave Height Low (ft)	5
D7	04 Oct 2023	High Tide (ft)	3.29
D7	04 Oct 2023	High Tide Time	146
D7	04 Oct 2023	Low Tide (ft)	2.66
D7	04 Oct 2023	Low Tide Time	558
D7	04 Oct 2023	Comments	Water clear; Trash-3; Kelp;Seagrass;Algae;Debris
D7	11 Oct 2023	Arrive Time	831
D7	11 Oct 2023	Weather	Cloudy
D7	11 Oct 2023	Wind Speed (kts)	3.8
D7	11 Oct 2023	Wind Dir	SW
D7	11 Oct 2023	Animal Life	
D7	11 Oct 2023	Floatables	None
D7	11 Oct 2023	Water Color	Green
D7	11 Oct 2023	Current Direction	S
D7	11 Oct 2023	Water Temp (C)	14
D7	11 Oct 2023	Wave Height Low (ft)	4
D7	11 Oct 2023	High Tide (ft)	4.79
D7	11 Oct 2023	High Tide Time	817
D7	11 Oct 2023	Low Tide (ft)	0.45
D7	11 Oct 2023	Low Tide Time	206
D7	11 Oct 2023	Comments	Water clear; Trash-1; Kelp;Seagrass;Algae; Person/Walker/Jogger-1; Sewage-like odor
D7	18 Oct 2023	Arrive Time	841
D7	18 Oct 2023	Weather	Foggy
D7	18 Oct 2023	Wind Speed (kts)	1.3
D7	18 Oct 2023	Wind Dir	W
D7	18 Oct 2023	Animal Life	
D7	18 Oct 2023	Floatables	None
D7	18 Oct 2023	Water Color	Green
D7	18 Oct 2023	Current Direction	S
D7	18 Oct 2023	Water Temp (C)	15
D7	18 Oct 2023	Wave Height Low (ft)	8
D7	18 Oct 2023	High Tide (ft)	5.61
D7	18 Oct 2023	High Tide Time	1051
D7	18 Oct 2023	Low Tide (ft)	2.23
D7	18 Oct 2023	Low Tide Time	427
D7	18 Oct 2023	Comments	Water clear; Surfer/Paddle boarder-3; Trash-1; Algae; Person/Walker/Jogger-2

Station	Date	Parameter	Value
D7	25 Oct 2023	Arrive Time	857
D7	25 Oct 2023	Weather	Cloudy
D7	25 Oct 2023	Wind Speed (kts)	2.1
D7	25 Oct 2023	Wind Dir	NW
D7	25 Oct 2023	Animal Life	
D7	25 Oct 2023	Floatables	None
D7	25 Oct 2023	Water Color	Green
D7	25 Oct 2023	Current Direction	S
D7	25 Oct 2023	Water Temp (C)	16
D7	25 Oct 2023	Wave Height Low (ft)	6
D7	25 Oct 2023	High Tide (ft)	5.23
D7	25 Oct 2023	High Tide Time	725
D7	25 Oct 2023	Low Tide (ft)	-0.1
D7	25 Oct 2023	Low Tide Time	109
D7	25 Oct 2023	Comments	Water clear; Trash-2; Kelp;Seagrass;Algae; Person/Walker/Jogger-2
D8-B	04 Oct 2023	Arrive Time	845
D8-B	04 Oct 2023	Weather	Sunny
D8-B	04 Oct 2023	Wind Speed (kts)	0.3
D8-B	04 Oct 2023	Wind Dir	NE
D8-B	04 Oct 2023	Animal Life	
D8-B	04 Oct 2023	Floatables	None
D8-B	04 Oct 2023	Water Color	Green
D8-B	04 Oct 2023	Current Direction	S
D8-B	04 Oct 2023	Water Temp (C)	16
D8-B	04 Oct 2023	Wave Height Low (ft)	4
D8-B	04 Oct 2023	High Tide (ft)	3.29
D8-B	04 Oct 2023	High Tide Time	146
D8-B	04 Oct 2023	Low Tide (ft)	2.66
D8-B	04 Oct 2023	Low Tide Time	558
D8-B	04 Oct 2023	Comments	Water clear; Trash-3; Kelp;Seagrass;Algae;Debris
D8-B	11 Oct 2023	Arrive Time	822
D8-B	11 Oct 2023	Weather	Cloudy
D8-B	11 Oct 2023	Wind Speed (kts)	3.6
D8-B	11 Oct 2023	Wind Dir	W
D8-B	11 Oct 2023	Animal Life	Dog-1;
D8-B	11 Oct 2023	Floatables	None
D8-B	11 Oct 2023	Water Color	Green
D8-B	11 Oct 2023	Current Direction	S
D8-B	11 Oct 2023	Water Temp (C)	15
D8-B	11 Oct 2023	Wave Height Low (ft)	5
D8-B	11 Oct 2023	High Tide (ft)	4.79
D8-B	11 Oct 2023	High Tide Time	817
D8-B	11 Oct 2023	Low Tide (ft)	0.45
D8-B	11 Oct 2023	Low Tide Time	206
D8-B	11 Oct 2023	Comments	Water clear; Trash-1; Kelp;Seagrass;Algae; Person/Walker/Jogger-2
D8-B	18 Oct 2023	Arrive Time	828
D8-B	18 Oct 2023	Weather	Foggy
D8-B	18 Oct 2023	Wind Speed (kts)	2.4
D8-B	18 Oct 2023	Wind Dir	W
D8-B	18 Oct 2023	Animal Life	
D8-B	18 Oct 2023	Floatables	None
D8-B	18 Oct 2023	Water Color	Green
D8-B	18 Oct 2023	Current Direction	S
D8-B	18 Oct 2023	Water Temp (C)	15
D8-B	18 Oct 2023	Wave Height Low (ft)	7
D8-B	18 Oct 2023	High Tide (ft)	5.61

Station	Date	Parameter	Value
D8-B	18 Oct 2023	High Tide Time	1051
D8-B	18 Oct 2023	Low Tide (ft)	2.23
D8-B	18 Oct 2023	Low Tide Time	427
D8-B	18 Oct 2023	Comments	Water clear; Trash-1; Algae;Kelp
D8-B	25 Oct 2023	Arrive Time	844
D8-B	25 Oct 2023	Weather	Cloudy
D8-B	25 Oct 2023	Wind Speed (kts)	1.8
D8-B	25 Oct 2023	Wind Dir	NW
D8-B	25 Oct 2023	Animal Life	
D8-B	25 Oct 2023	Floatables	None
D8-B	25 Oct 2023	Water Color	Green
D8-B	25 Oct 2023	Current Direction	S
D8-B	25 Oct 2023	Water Temp (C)	15
D8-B	25 Oct 2023	Wave Height Low (ft)	4
D8-B	25 Oct 2023	High Tide (ft)	5.23
D8-B	25 Oct 2023	High Tide Time	725
D8-B	25 Oct 2023	Low Tide (ft)	-0.1
D8-B	25 Oct 2023	Low Tide Time	109
D8-B	25 Oct 2023	Comments	Water clear; Trash-3; Kelp;Seagrass;Algae;Debris
D9	04 Oct 2023	Arrive Time	836
D9	04 Oct 2023	Weather	Sunny
D9	04 Oct 2023	Wind Speed (kts)	0.6
D9	04 Oct 2023	Wind Dir	NE
D9	04 Oct 2023	Animal Life	
D9	04 Oct 2023	Floatables	None
D9	04 Oct 2023	Water Color	Green
D9	04 Oct 2023	Current Direction	S
D9	04 Oct 2023	Water Temp (C)	14
D9	04 Oct 2023	Wave Height Low (ft)	4
D9	04 Oct 2023	High Tide (ft)	3.29
D9	04 Oct 2023	High Tide Time	146
D9	04 Oct 2023	Low Tide (ft)	2.66
D9	04 Oct 2023	Low Tide Time	558
D9	04 Oct 2023	Comments	Water clear; Surfer/Paddle boarder-1; Trash-3; Kelp;Seagrass;Debris;Algae
D9	11 Oct 2023	Arrive Time	812
D9	11 Oct 2023	Weather	Cloudy
D9	11 Oct 2023	Wind Speed (kts)	0
D9	11 Oct 2023	Wind Dir	W
D9	11 Oct 2023	Animal Life	Dog-1;
D9	11 Oct 2023	Floatables	None
D9	11 Oct 2023	Water Color	Green
D9	11 Oct 2023	Current Direction	S
D9	11 Oct 2023	Water Temp (C)	14
D9	11 Oct 2023	Wave Height Low (ft)	3
D9	11 Oct 2023	High Tide (ft)	4.79
D9	11 Oct 2023	High Tide Time	817
D9	11 Oct 2023	Low Tide (ft)	0.45
D9	11 Oct 2023	Low Tide Time	206
D9	11 Oct 2023	Comments	Water clear; Trash-1; Kelp;Seagrass;Algae; Person/Walker/Jogger-3
D9	18 Oct 2023	Arrive Time	819
D9	18 Oct 2023	Weather	Foggy
D9	18 Oct 2023	Wind Speed (kts)	2.3
D9	18 Oct 2023	Wind Dir	W
D9	18 Oct 2023	Animal Life	
D9	18 Oct 2023	Floatables	Foam

Station	Date	Parameter	Value
D9	18 Oct 2023	Water Color	Green
D9	18 Oct 2023	Current Direction	S
D9	18 Oct 2023	Water Temp (C)	16
D9	18 Oct 2023	Wave Height Low (ft)	8
D9	18 Oct 2023	High Tide (ft)	5.61
D9	18 Oct 2023	High Tide Time	1051
D9	18 Oct 2023	Low Tide (ft)	2.23
D9	18 Oct 2023	Low Tide Time	427
D9	18 Oct 2023	Comments	Water clear; Trash-1; Algae;Debris
D9	25 Oct 2023	Arrive Time	833
D9	25 Oct 2023	Weather	Cloudy
D9	25 Oct 2023	Wind Speed (kts)	0
D9	25 Oct 2023	Wind Dir	NE
D9	25 Oct 2023	Animal Life	Dog-1;
D9	25 Oct 2023	Floatables	None
D9	25 Oct 2023	Water Color	Green
D9	25 Oct 2023	Current Direction	S
D9	25 Oct 2023	Water Temp (C)	16
D9	25 Oct 2023	Wave Height Low (ft)	6
D9	25 Oct 2023	High Tide (ft)	5.23
D9	25 Oct 2023	High Tide Time	725
D9	25 Oct 2023	Low Tide (ft)	-0.1
D9	25 Oct 2023	Low Tide Time	109
D9	25 Oct 2023	Comments	Water clear; Trash-4; Kelp;Seagrass;Algae;Debris; Person/Walker/Jogger-1
D10	04 Oct 2023	Arrive Time	826
D10	04 Oct 2023	Weather	Sunny
D10	04 Oct 2023	Wind Speed (kts)	1.6
D10	04 Oct 2023	Wind Dir	NE
D10	04 Oct 2023	Animal Life	
D10	04 Oct 2023	Floatables	None
D10	04 Oct 2023	Water Color	Green
D10	04 Oct 2023	Current Direction	S
D10	04 Oct 2023	Water Temp (C)	16
D10	04 Oct 2023	Wave Height Low (ft)	3
D10	04 Oct 2023	High Tide (ft)	3.29
D10	04 Oct 2023	High Tide Time	146
D10	04 Oct 2023	Low Tide (ft)	2.66
D10	04 Oct 2023	Low Tide Time	558
D10	04 Oct 2023	Comments	Water clear; Surfer/Paddle boarder-4; Trash-2; Kelp;Seagrass;Debris
D10	11 Oct 2023	Arrive Time	805
D10	11 Oct 2023	Weather	Cloudy
D10	11 Oct 2023	Wind Speed (kts)	0.7
D10	11 Oct 2023	Wind Dir	W
D10	11 Oct 2023	Animal Life	Dog-2;
D10	11 Oct 2023	Floatables	None
D10	11 Oct 2023	Water Color	Green
D10	11 Oct 2023	Current Direction	S
D10	11 Oct 2023	Water Temp (C)	14
D10	11 Oct 2023	Wave Height Low (ft)	3
D10	11 Oct 2023	High Tide (ft)	4.79
D10	11 Oct 2023	High Tide Time	817
D10	11 Oct 2023	Low Tide (ft)	0.45
D10	11 Oct 2023	Low Tide Time	206
D10	11 Oct 2023	Comments	Water clear; Trash-1; Kelp;Seagrass;Algae; Person/Walker/Jogger-2

Station	Date	Parameter	Value
D10	18 Oct 2023	Arrive Time	808
D10	18 Oct 2023	Weather	Foggy
D10	18 Oct 2023	Wind Speed (kts)	1.8
D10	18 Oct 2023	Wind Dir	W
D10	18 Oct 2023	Animal Life	
D10	18 Oct 2023	Floatables	None
D10	18 Oct 2023	Water Color	Green
D10	18 Oct 2023	Current Direction	S
D10	18 Oct 2023	Water Temp (C)	16
D10	18 Oct 2023	Wave Height Low (ft)	10
D10	18 Oct 2023	High Tide (ft)	5.61
D10	18 Oct 2023	High Tide Time	1051
D10	18 Oct 2023	Low Tide (ft)	2.23
D10	18 Oct 2023	Low Tide Time	427
D10	18 Oct 2023	Comments	Water clear; Surfer/Paddle boarder-10; Trash-1; Kelp;Seagrass;Debris; Person/Walker/Jogger-2
D10	25 Oct 2023	Arrive Time	812
D10	25 Oct 2023	Weather	Cloudy
D10	25 Oct 2023	Wind Speed (kts)	4.7
D10	25 Oct 2023	Wind Dir	NW
D10	25 Oct 2023	Animal Life	
D10	25 Oct 2023	Floatables	None
D10	25 Oct 2023	Water Color	Green
D10	25 Oct 2023	Current Direction	S
D10	25 Oct 2023	Water Temp (C)	15
D10	25 Oct 2023	Wave Height Low (ft)	5
D10	25 Oct 2023	High Tide (ft)	5.23
D10	25 Oct 2023	High Tide Time	725
D10	25 Oct 2023	Low Tide (ft)	-0.1
D10	25 Oct 2023	Low Tide Time	109
D10	25 Oct 2023	Comments	Water clear; Surfer/Paddle boarder-4; Trash-3; Kelp;Seagrass;Debris
D11	04 Oct 2023	Arrive Time	815
D11	04 Oct 2023	Weather	Sunny
D11	04 Oct 2023	Wind Speed (kts)	0.7
D11	04 Oct 2023	Wind Dir	NW
D11	04 Oct 2023	Animal Life	
D11	04 Oct 2023	Floatables	None
D11	04 Oct 2023	Water Color	Green
D11	04 Oct 2023	Current Direction	S
D11	04 Oct 2023	Water Temp (C)	16
D11	04 Oct 2023	Wave Height Low (ft)	3
D11	04 Oct 2023	High Tide (ft)	3.29
D11	04 Oct 2023	High Tide Time	146
D11	04 Oct 2023	Low Tide (ft)	2.66
D11	04 Oct 2023	Low Tide Time	558
D11	04 Oct 2023	Comments	Water clear; Surfer/Paddle boarder-10; Trash-3; Kelp;Seagrass;Algae;Debris
D11	11 Oct 2023	Arrive Time	757
D11	11 Oct 2023	Weather	Cloudy
D11	11 Oct 2023	Wind Speed (kts)	1.7
D11	11 Oct 2023	Wind Dir	W
D11	11 Oct 2023	Animal Life	Dog-2;
D11	11 Oct 2023	Floatables	None
D11	11 Oct 2023	Water Color	Green
D11	11 Oct 2023	Current Direction	S
D11	11 Oct 2023	Water Temp (C)	14
D11	11 Oct 2023	Wave Height Low (ft)	4

Station	Date	Parameter	Value
D11	11 Oct 2023	High Tide (ft)	4.79
D11	11 Oct 2023	High Tide Time	817
D11	11 Oct 2023	Low Tide (ft)	0.45
D11	11 Oct 2023	Low Tide Time	206
D11	11 Oct 2023	Comments	Water clear; Boogie boarder/Swimmer-3; Trash-1; Kelp;Seagrass;Algae
D11	18 Oct 2023	Arrive Time	759
D11	18 Oct 2023	Weather	Foggy
D11	18 Oct 2023	Wind Speed (kts)	0.9
D11	18 Oct 2023	Wind Dir	NW
D11	18 Oct 2023	Animal Life	
D11	18 Oct 2023	Floatables	None
D11	18 Oct 2023	Water Color	Green
D11	18 Oct 2023	Current Direction	S
D11	18 Oct 2023	Water Temp (C)	15
D11	18 Oct 2023	Wave Height Low (ft)	6
D11	18 Oct 2023	High Tide (ft)	5.61
D11	18 Oct 2023	High Tide Time	1051
D11	18 Oct 2023	Low Tide (ft)	2.23
D11	18 Oct 2023	Low Tide Time	427
D11	18 Oct 2023	Comments	Water clear; Surfer/Paddle boarder-15; Trash-2; Kelp;Seagrass;Debris;Algae
D11	25 Oct 2023	Arrive Time	801
D11	25 Oct 2023	Weather	Cloudy
D11	25 Oct 2023	Wind Speed (kts)	8.5
D11	25 Oct 2023	Wind Dir	NW
D11	25 Oct 2023	Animal Life	
D11	25 Oct 2023	Floatables	None
D11	25 Oct 2023	Water Color	Green
D11	25 Oct 2023	Current Direction	S
D11	25 Oct 2023	Water Temp (C)	15
D11	25 Oct 2023	Wave Height Low (ft)	4
D11	25 Oct 2023	High Tide (ft)	5.23
D11	25 Oct 2023	High Tide Time	725
D11	25 Oct 2023	Low Tide (ft)	-0.1
D11	25 Oct 2023	Low Tide Time	109
D11	25 Oct 2023	Comments	Water clear; Surfer/Paddle boarder-5; Trash-3; Kelp;Seagrass;Algae;Debris
D12	04 Oct 2023	Arrive Time	754
D12	04 Oct 2023	Weather	Sunny
D12	04 Oct 2023	Wind Speed (kts)	1.8
D12	04 Oct 2023	Wind Dir	NW
D12	04 Oct 2023	Animal Life	Dolphin-4;
D12	04 Oct 2023	Floatables	None
D12	04 Oct 2023	Water Color	Green
D12	04 Oct 2023	Current Direction	S
D12	04 Oct 2023	Water Temp (C)	14
D12	04 Oct 2023	Wave Height Low (ft)	3
D12	04 Oct 2023	High Tide (ft)	3.29
D12	04 Oct 2023	High Tide Time	146
D12	04 Oct 2023	Low Tide (ft)	2.66
D12	04 Oct 2023	Low Tide Time	558
D12	04 Oct 2023	Comments	Water clear; Trash-3; Kelp;Seagrass;Debris; Person/Walker/Jogger-3
D12	11 Oct 2023	Arrive Time	742
D12	11 Oct 2023	Weather	Cloudy
D12	11 Oct 2023	Wind Speed (kts)	2.3

Station	Date	Parameter	Value
D12	11 Oct 2023	Wind Dir	W
D12	11 Oct 2023	Animal Life	Bird-5;
D12	11 Oct 2023	Floatables	None
D12	11 Oct 2023	Water Color	Green
D12	11 Oct 2023	Current Direction	S
D12	11 Oct 2023	Water Temp (C)	14
D12	11 Oct 2023	Wave Height Low (ft)	3
D12	11 Oct 2023	High Tide (ft)	4.79
D12	11 Oct 2023	High Tide Time	817
D12	11 Oct 2023	Low Tide (ft)	0.45
D12	11 Oct 2023	Low Tide Time	206
D12	11 Oct 2023	Comments	Water clear; Trash-1; Kelp;Seagrass; Person/Walker/Jogger-1
D12	18 Oct 2023	Arrive Time	743
D12	18 Oct 2023	Weather	Foggy
D12	18 Oct 2023	Wind Speed (kts)	1.3
D12	18 Oct 2023	Wind Dir	NW
D12	18 Oct 2023	Animal Life	
D12	18 Oct 2023	Floatables	None
D12	18 Oct 2023	Water Color	Green
D12	18 Oct 2023	Current Direction	S
D12	18 Oct 2023	Water Temp (C)	15
D12	18 Oct 2023	Wave Height Low (ft)	4
D12	18 Oct 2023	High Tide (ft)	5.61
D12	18 Oct 2023	High Tide Time	1051
D12	18 Oct 2023	Low Tide (ft)	2.23
D12	18 Oct 2023	Low Tide Time	427
D12	18 Oct 2023	Comments	Water clear; Surfer/Paddle boarder-1; Trash-1; Kelp;Seagrass;Debris
D12	25 Oct 2023	Arrive Time	742
D12	25 Oct 2023	Weather	Cloudy
D12	25 Oct 2023	Wind Speed (kts)	4.8
D12	25 Oct 2023	Wind Dir	NW
D12	25 Oct 2023	Animal Life	
D12	25 Oct 2023	Floatables	None
D12	25 Oct 2023	Water Color	Green
D12	25 Oct 2023	Current Direction	S
D12	25 Oct 2023	Water Temp (C)	16
D12	25 Oct 2023	Wave Height Low (ft)	4
D12	25 Oct 2023	High Tide (ft)	5.23
D12	25 Oct 2023	High Tide Time	725
D12	25 Oct 2023	Low Tide (ft)	-0.1
D12	25 Oct 2023	Low Tide Time	109
D12	25 Oct 2023	Comments	Water clear; Surfer/Paddle boarder-2; Trash-3; Kelp;Seagrass;Debris

Kelp Stations

Table 3.1

Summary of compliance with the Ocean Plan's 30-day Geometric Mean standard for total coliform bacteria at the PLOO 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 >1,000 CFU/100 mL exceed the standard.

Date	A1	A6	A7	C4	C5	C6	C7	C8
01 Oct 2023	5	3	5	9	5	4	2	2
02 Oct 2023	4	4	4	7	5	5	3	2
03 Oct 2023	4	4	4	7	5	5	3	2
04 Oct 2023	4	4	4	7	5	5	3	2
05 Oct 2023	5	5	3	5	4	4	3	2
06 Oct 2023	5	5	3	5	4	4	3	2
07 Oct 2023	5	5	3	5	4	4	3	2
08 Oct 2023	5	5	3	5	4	4	3	2
09 Oct 2023	4	4	3	6	4	4	3	3
10 Oct 2023	4	4	3	6	4	4	3	3
11 Oct 2023	3	5	3	6	5	4	3	3
12 Oct 2023	3	5	3	6	5	4	3	3
13 Oct 2023	3	5	3	6	5	4	3	3
14 Oct 2023	3	5	3	6	5	4	3	3
15 Oct 2023	3	5	3	6	5	4	3	3
16 Oct 2023	3	6	5	5	5	5	8	5
17 Oct 2023	3	6	5	5	5	5	8	5
18 Oct 2023	2	6	5	3	4	7	11	6
19 Oct 2023	2	6	5	3	4	7	11	6
20 Oct 2023	2	6	5	3	4	7	11	6
21 Oct 2023	2	6	5	3	4	7	11	6
22 Oct 2023	2	6	5	3	4	7	11	6
23 Oct 2023	2	6	5	3	4	7	11	6
24 Oct 2023	2	5	4	4	6	8	8	5
25 Oct 2023	2	6	5	5	7	7	11	6
26 Oct 2023	2	6	5	5	7	7	11	6
27 Oct 2023	2	6	5	5	7	7	11	6
28 Oct 2023	2	6	5	5	7	7	11	6
29 Oct 2023	2	6	5	5	7	7	11	6
30 Oct 2023	3	5	5	4	6	6	9	8
31 Oct 2023	3	5	5	4	6	6	9	8

* Geometric mean calculated using n<5

Table 3.2

Summary of compliance with the Ocean Plan's 30-day Geometric Mean standard for fecal coliform bacteria at the PLOO 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	A1	A6	A7	C4	C5	C6	C7	C8
01 Oct 2023	2	2	2	2	2	2	2	2
02 Oct 2023	2	2	2	2	2	2	2	2
03 Oct 2023	2	2	2	2	2	2	2	2
04 Oct 2023	2	2	2	2	2	2	2	2
05 Oct 2023	2	3	2	2	2	2	2	3
06 Oct 2023	2	3	2	2	2	2	2	3
07 Oct 2023	2	3	2	2	2	2	2	3
08 Oct 2023	2	3	2	2	2	2	2	3
09 Oct 2023	2	2	2	2	2	2	2	2
10 Oct 2023	2	2	2	2	2	2	2	2
11 Oct 2023	2	3	2	2	2	2	2	3
12 Oct 2023	2	3	2	2	2	2	2	3
13 Oct 2023	2	3	2	2	2	2	2	3
14 Oct 2023	2	3	2	2	2	2	2	3
15 Oct 2023	2	3	2	2	2	2	2	3
16 Oct 2023	2	3	3	2	2	2	4	3
17 Oct 2023	2	3	3	2	2	2	4	3
18 Oct 2023	2	3	3	2	2	2	4	3
19 Oct 2023	2	3	3	2	2	2	4	3
20 Oct 2023	2	3	3	2	2	2	4	3
21 Oct 2023	2	3	3	2	2	2	4	3
22 Oct 2023	2	3	3	2	2	2	4	3
23 Oct 2023	2	3	3	2	2	2	4	3
24 Oct 2023	2	3	3	2	2	2	4	3
25 Oct 2023	2	3	3	2	2	2	4	3
26 Oct 2023	2	3	3	2	2	2	4	3
27 Oct 2023	2	3	3	2	2	2	4	3
28 Oct 2023	2	3	3	2	2	2	4	3
29 Oct 2023	2	3	3	2	2	2	4	3
30 Oct 2023	2	3	3	2	2	2	4	3
31 Oct 2023	2	3	3	2	2	2	4	3

* Geometric mean calculated using n<5

Table 3.3

Summary of compliance with the Ocean Plan's 30-day Geometric Mean standard for *Enterococcus* at the PLOO 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 >35 CFU/100 mL exceed the standard.

Date	A1	A6	A7	C4	C5	C6	C7	C8
01 Oct 2023	2	2	2	2	2	2	2	2
02 Oct 2023	2	2	2	2	2	2	2	2
03 Oct 2023	2	2	2	2	2	2	2	2
04 Oct 2023	2	2	2	2	2	2	2	2
05 Oct 2023	2	2	2	2	2	2	2	2
06 Oct 2023	2	2	2	2	2	2	2	2
07 Oct 2023	2	2	2	2	2	2	2	2
08 Oct 2023	2	2	2	2	2	2	2	2
09 Oct 2023	2	2	2	2	2	2	2	2
10 Oct 2023	2	2	2	2	2	2	2	2
11 Oct 2023	2	2	2	2	2	2	2	2
12 Oct 2023	2	2	2	2	2	2	2	2
13 Oct 2023	2	2	2	2	2	2	2	2
14 Oct 2023	2	2	2	2	2	2	2	2
15 Oct 2023	2	2	2	2	2	2	2	2
16 Oct 2023	2	2	2	2	2	2	2	2
17 Oct 2023	2	2	2	2	2	2	2	2
18 Oct 2023	2	2	2	2	2	2	2	2
19 Oct 2023	2	2	2	2	2	2	2	2
20 Oct 2023	2	2	2	2	2	2	2	2
21 Oct 2023	2	2	2	2	2	2	2	2
22 Oct 2023	2	2	2	2	2	2	2	2
23 Oct 2023	2	2	2	2	2	2	2	2
24 Oct 2023	2	2	2	2	2	2	2	2
25 Oct 2023	2	2	2	2	2	2	2	2
26 Oct 2023	2	2	2	2	2	2	2	2
27 Oct 2023	2	2	2	2	2	2	2	2
28 Oct 2023	2	2	2	2	2	2	2	2
29 Oct 2023	2	2	2	2	2	2	2	2
30 Oct 2023	2	2	2	2	2	2	2	2
31 Oct 2023	2	2	2	2	2	2	2	2

* Geometric mean calculated using n<5

Table 3.4

Summary of compliance at the PLOO kelp stations with the Ocean Plan's Single Sample Maximum standard for total coliform bacteria, which states that total coliform density shall not exceed 10,000 CFU/100 mL.

Date	A1	A6	A7	C4	C5	C6	C7	C8
02 Oct 2023	IC	IC	IC	IC	IC	IC	IC	IC
09 Oct 2023	IC	IC	IC	IC	IC	IC	IC	IC
16 Oct 2023	IC	IC	IC	IC	IC	IC	IC	IC
24 Oct 2023	IC	IC	IC	IC	IC	IC	IC	IC
30 Oct 2023	IC	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 3.5

Summary of compliance at the PLOO 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	A1	A6	A7	C4	C5	C6	C7	C8
02 Oct 2023	IC	IC	IC	IC	IC	IC	IC	IC
09 Oct 2023	IC	IC	IC	IC	IC	IC	IC	IC
16 Oct 2023	IC	IC	IC	IC	IC	IC	IC	IC
24 Oct 2023	IC	IC	IC	IC	IC	IC	IC	IC
30 Oct 2023	IC	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 3.6

Summary of compliance at the PLOO kelp stations with the Ocean Plan's Single Sample Maximum standard for *Enterococcus* bacteria, which states that *Enterococcus* density shall not exceed 104 CFU/100 mL.

Date	A1	A6	A7	C4	C5	C6	C7	C8
02 Oct 2023	IC	IC	IC	IC	IC	IC	IC	IC
09 Oct 2023	IC	IC	IC	IC	IC	IC	IC	IC
16 Oct 2023	IC	IC	IC	IC	IC	IC	IC	IC
24 Oct 2023	IC	IC	IC	IC	IC	IC	IC	IC
30 Oct 2023	IC	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 3.7

Summary of compliance at the PLOO kelp stations with the Ocean Plan's Single Sample Maximum standard for total coliform bacteria and the fecal/total coliform ratio (F:T), which states that total coliform density shall not exceed 1,000 CFU/100 mL when F:T > 0.1.

Date	A1	A6	A7	C4	C5	C6	C7	C8
02 Oct 2023	IC	IC	IC	IC	IC	IC	IC	IC
09 Oct 2023	IC	IC	IC	IC	IC	IC	IC	IC
16 Oct 2023	IC	IC	IC	IC	IC	IC	IC	IC
24 Oct 2023	IC	IC	IC	IC	IC	IC	IC	IC
30 Oct 2023	IC	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 3.8

Summary of water quality parameters at the PLOO kelp stations for each sample date. Densities of total coliform (Total), fecal coliform (Fecal) and *Enterococcus* (Entero) bacteria are reported as CFU/100 mL; the fecal:total coliform ratio (F:T) is unitless; 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	F:T	Temp	XMS	DO	Sal	pH
A1	02 Oct 2023	820	1	2e	<2	<2	1.00	18.8	82.42	7.7	33.28	8.1
A1	02 Oct 2023	820	12	<2	<2	<2	1.00	16.0	85.77	7.6	33.17	8.1
A1	02 Oct 2023	820	18	<2	<2	<2	1.00	14.8	86.76	7.6	33.14	8.0
A1	09 Oct 2023	808	1	<2	<2	<2	1.00	17.4	85.30	8.2	33.17	8.1
A1	09 Oct 2023	808	12	<2	<2	<2	1.00	16.1	86.22	8.2	33.13	8.1
A1	09 Oct 2023	808	18	<2	<2	<2	1.00	14.9	86.86	7.5	33.11	8.1
A1	16 Oct 2023	826	1	4e	4e	<2	1.00	18.1	79.87	8.5	33.18	8.1
A1	16 Oct 2023	826	12	2e	<2	<2	1.00	16.3	86.38	7.9	33.15	8.1
A1	16 Oct 2023	826	18	4e	2e	<2	0.50	14.6	85.81	7.5	33.10	8.0
A1	24 Oct 2023	801	1	<2	<2	<2	1.00	16.7	85.18	8.1	33.16	8.1
A1	24 Oct 2023	801	12	<2	<2	<2	1.00	15.2	85.37	7.5	33.14	8.1
A1	24 Oct 2023	801	18	<2	<2	<2	1.00	14.2	86.90	6.9	33.17	8.0
A1	30 Oct 2023	817	1	<2	<2	<2	1.00	17.9	88.90	8.0	33.24	8.2
A1	30 Oct 2023	817	12	8e	<2	<2	0.25	14.2	89.50	7.3	33.15	8.1
A1	30 Oct 2023	817	18	14e	<2	<2	0.14	13.7	89.54	6.7	33.22	8.0
A6	02 Oct 2023	845	1	<2	<2	<2	1.00	18.8	82.83	7.7	33.29	8.1
A6	02 Oct 2023	845	12	42	<2	<2	0.05	16.8	86.53	7.6	33.20	8.1
A6	02 Oct 2023	845	18	12e	14e	<2	1.17	14.0	88.02	7.5	33.12	8.0
A6	09 Oct 2023	836	1	<2	<2	<2	1.00	17.2	84.11	8.2	33.18	8.1
A6	09 Oct 2023	836	12	2e	2e	<2	1.00	15.9	85.86	7.7	33.16	8.1
A6	09 Oct 2023	836	18	2e	2e	<2	1.00	15.5	86.98	7.5	33.16	8.1
A6	16 Oct 2023	852	1	<2	<2	<2	1.00	18.3	85.13	9.1	33.19	8.2
A6	16 Oct 2023	852	12	10e	<2	<2	0.20	16.1	86.72	7.9	33.16	8.1
A6	16 Oct 2023	852	18	30e	10e	2e	0.33	14.9	88.90	7.8	33.13	8.1
A6	24 Oct 2023	837	1	<2	<2	<2	1.00	17.2	74.98	7.1	33.06	8.1
A6	24 Oct 2023	837	12	<2	<2	<2	1.00	14.9	85.60	7.0	33.20	8.1
A6	24 Oct 2023	837	18	<2	<2	<2	1.00	14.5	87.15	7.0	33.19	8.0
A6	30 Oct 2023	903	1	<2	<2	<2	1.00	17.8	87.27	8.1	33.21	8.2
A6	30 Oct 2023	903	12	6e	2e	<2	0.33	14.1	89.04	7.5	33.14	8.1
A6	30 Oct 2023	903	18	2e	2e	<2	1.00	13.8	90.13	7.0	33.18	8.0
A7	02 Oct 2023	834	1	<2	<2	<2	1.00	18.7	85.60	8.0	33.28	8.2
A7	02 Oct 2023	834	12	<2	2e	<2	1.00	16.9	85.60	7.5	33.21	8.1
A7	02 Oct 2023	834	18	4e	<2	<2	0.50	13.6	88.56	7.6	33.09	8.0
A7	09 Oct 2023	823	1	<2	2e	<2	1.00	17.3	84.58	8.4	33.17	8.1
A7	09 Oct 2023	823	12	<2	<2	<2	1.00	16.1	84.92	7.8	33.14	8.1
A7	09 Oct 2023	823	18	6e	<2	<2	0.33	15.2	87.64	7.4	33.15	8.1
A7	16 Oct 2023	839	1	4e	<2	<2	0.50	17.6	85.13	8.3	33.18	8.1
A7	16 Oct 2023	839	12	6e	<2	<2	0.33	16.0	86.71	7.9	33.15	8.1
A7	16 Oct 2023	839	18	92	32e	<2	0.35	13.7	88.83	7.2	33.15	8.0

Station	Date	Time	Depth	Total	Fecal	Entero	F:T	Temp	XMS	DO	Sal	pH
A7	24 Oct 2023	813	1	2e	<2	<2	1.00	16.7	80.65	6.2	33.07	8.1
A7	24 Oct 2023	813	12	<2	<2	<2	1.00	15.3	82.30	7.2	33.20	8.1
A7	24 Oct 2023	813	18	<2	<2	<2	1.00	14.2	87.14	6.9	33.28	8.0
A7	30 Oct 2023	851	1	<2	<2	<2	1.00	17.9	87.87	8.0	33.23	8.2
A7	30 Oct 2023	851	12	10e	<2	<2	0.20	14.1	88.87	7.3	33.16	8.1
A7	30 Oct 2023	851	18	8e	<2	<2	0.25	13.8	89.67	7.0	33.18	8.0
C4	02 Oct 2023	959	1	<2	<2	<2	1.00	18.8	78.14	7.2	33.28	8.1
C4	02 Oct 2023	959	3	<2	<2	<2	1.00	18.8	78.00	7.2	33.28	8.1
C4	02 Oct 2023	959	9	<2	<2	<2	1.00	15.9	71.53	6.6	33.17	8.0
C4	09 Oct 2023	943	1	<20	<2	<2	0.10	17.6	80.11	8.3	33.18	8.1
C4	09 Oct 2023	943	3	<20	<2	<2	0.10	17.5	79.43	8.3	33.18	8.1
C4	09 Oct 2023	943	9	<2	<2	<2	1.00	16.4	85.55	8.1	33.14	8.1
C4	16 Oct 2023	1001	1	<2	<2	2e	1.00	18.2	75.93	7.9	33.18	8.1
C4	16 Oct 2023	1001	3	<2	<2	<2	1.00	17.7	74.41	7.5	33.17	8.1
C4	16 Oct 2023	1001	9	<2	<2	<2	1.00	16.2	72.51	6.8	33.16	8.0
C4	24 Oct 2023	941	1	<2	<2	<2	1.00	16.3	79.27	6.7	33.11	8.1
C4	24 Oct 2023	941	3	<2	<2	<2	1.00	16.3	78.60	6.7	33.16	8.1
C4	24 Oct 2023	941	9	<20	<2	<2	0.10	14.7	81.31	6.9	33.87	8.0
C4	30 Oct 2023	1008	1	2e	<2	<2	1.00	16.4	84.68	8.1	33.17	8.1
C4	30 Oct 2023	1008	3	<2	2e	<2	1.00	16.1	84.63	8.0	33.15	8.1
C4	30 Oct 2023	1008	9	2e	<2	<2	1.00	14.8	86.57	6.9	33.18	8.0
C5	02 Oct 2023	947	1	<2	<2	<2	1.00	18.9	78.86	7.4	33.28	8.1
C5	02 Oct 2023	947	3	2e	<2	<2	1.00	18.2	79.15	7.1	33.27	8.1
C5	02 Oct 2023	947	9	14e	<2	<2	0.14	14.7	81.09	7.5	33.12	8.0
C5	09 Oct 2023	932	1	2e	<2	<2	1.00	18.1	76.47	7.6	33.20	8.1
C5	09 Oct 2023	932	3	<2	<2	<2	1.00	17.3	74.08	8.1	33.18	8.1
C5	09 Oct 2023	932	9	6e	<2	<2	0.33	15.6	85.80	6.7	33.14	8.0
C5	16 Oct 2023	949	1	<2	<2	<2	1.00	18.0	69.97	7.8	33.18	8.1
C5	16 Oct 2023	949	3	4e	<2	<2	0.50	17.8	69.35	7.6	33.18	8.1
C5	16 Oct 2023	949	9	16e	<2	<2	0.12	14.8	83.28	7.7	33.11	8.0
C5	24 Oct 2023	931	1	<20	<2	<2	0.10	16.5	59.56	5.8	33.00	8.0
C5	24 Oct 2023	931	3	<20	2e	<2	0.10	16.4	63.27	5.8	33.16	8.0
C5	24 Oct 2023	931	9	<20	<2	<2	0.10	14.3	74.48	6.4	33.35	8.0
C5	30 Oct 2023	959	1	<2	<2	<2	1.00	17.7	80.40	7.7	33.23	8.1
C5	30 Oct 2023	959	3	<2	<2	<2	1.00	17.7	82.29	7.6	33.23	8.1
C5	30 Oct 2023	959	9	<2	<2	<2	1.00	15.1	85.15	6.7	33.17	8.0
C6	02 Oct 2023	939	1	2e	<2	<2	1.00	18.9	74.05	7.0	33.29	8.1
C6	02 Oct 2023	939	3	12e	<2	<2	0.17	17.5	75.15	7.2	33.25	8.1
C6	02 Oct 2023	939	9	14e	2e	<2	0.14	14.9	85.15	7.5	33.13	8.0
C6	09 Oct 2023	920	1	<2	<2	<2	1.00	17.5	80.07	8.0	33.19	8.1
C6	09 Oct 2023	920	3	<2	<2	<2	1.00	17.3	79.67	7.8	33.16	8.1
C6	09 Oct 2023	920	9	2e	<2	<2	1.00	15.7	84.90	7.3	33.14	8.1
C6	16 Oct 2023	938	1	<2	<2	<2	1.00	18.5	70.02	7.4	33.18	8.0
C6	16 Oct 2023	938	3	<2	2e	<2	1.00	18.4	68.57	7.5	33.18	8.1
C6	16 Oct 2023	938	9	30e	8e	<2	0.27	15.3	81.24	7.5	33.13	8.1

Station	Date	Time	Depth	Total	Fecal	Entero	F:T	Temp	XMS	DO	Sal	pH
C6	24 Oct 2023	922	1	<20	<2	<2	0.10	16.7	69.78	5.9	33.14	8.0
C6	24 Oct 2023	922	3	<20	<2	<2	0.10	16.7	69.39	6.0	33.18	8.0
C6	24 Oct 2023	922	9	<2	<2	<2	1.00	14.7	77.30	6.6	33.31	8.0
C6	30 Oct 2023	946	1	<2	<2	<2	1.00	17.6	83.20	7.6	33.23	8.1
C6	30 Oct 2023	946	3	<2	2e	<2	1.00	17.1	83.47	7.4	33.16	8.1
C6	30 Oct 2023	946	9	2e	<2	<2	1.00	15.0	88.64	7.2	33.13	8.1
C7	02 Oct 2023	911	1	<2	<2	<2	1.00	18.8	84.06	8.0	33.28	8.2
C7	02 Oct 2023	911	12	20e	6e	<2	0.30	14.7	87.67	7.5	33.14	8.0
C7	02 Oct 2023	911	18	30e	6e	2e	0.20	13.9	87.55	7.4	33.13	8.0
C7	09 Oct 2023	851	1	<2	<2	<2	1.00	17.5	82.80	8.0	33.18	8.1
C7	09 Oct 2023	851	12	2e	<2	<2	1.00	15.9	86.84	7.6	33.15	8.1
C7	09 Oct 2023	851	18	<2	<2	2e	1.00	14.3	90.02	7.1	33.15	8.0
C7	16 Oct 2023	906	1	2e	<2	<2	1.00	18.5	78.78	8.9	33.18	8.2
C7	16 Oct 2023	906	12	8e	8e	<2	1.00	15.7	84.01	7.1	33.17	8.0
C7	16 Oct 2023	906	18	600e	54	4e	0.09	14.2	88.24	6.6	33.22	8.0
C7	24 Oct 2023	850	1	<2	<2	<2	1.00	17.2	76.80	7.2	33.12	8.1
C7	24 Oct 2023	850	12	<2	<2	<2	1.00	14.9	86.72	7.2	33.38	8.1
C7	24 Oct 2023	850	18	2e	<2	<2	1.00	14.2	87.25	6.9	33.27	8.0
C7	30 Oct 2023	917	1	<2	2e	<2	1.00	17.7	85.16	8.1	33.22	8.2
C7	30 Oct 2023	917	12	<2	<2	<2	1.00	14.6	89.21	8.0	33.09	8.1
C7	30 Oct 2023	917	18	12e	<4	<4	0.33	13.9	89.14	6.8	33.19	8.0
C8	02 Oct 2023	921	1	2e	<2	<2	1.00	19.1	84.81	8.0	33.29	8.2
C8	02 Oct 2023	921	12	4e	<2	<2	0.50	15.2	86.71	7.4	33.15	8.1
C8	02 Oct 2023	921	18	8e	14e	<2	1.75	13.9	88.56	7.6	33.11	8.0
C8	09 Oct 2023	902	1	<2	2e	<2	1.00	17.2	82.56	8.1	33.18	8.1
C8	09 Oct 2023	902	12	<2	<2	<2	1.00	14.6	88.98	7.4	33.14	8.1
C8	09 Oct 2023	902	18	18e	2e	<2	0.11	14.3	90.13	6.9	33.17	8.0
C8	16 Oct 2023	917	1	<2	<2	<2	1.00	18.5	81.68	9.3	33.18	8.2
C8	16 Oct 2023	917	12	14e	6e	<2	0.43	15.2	85.99	6.8	33.17	8.0
C8	16 Oct 2023	917	18	34e	8e	2e	0.24	14.6	84.95	6.7	33.20	8.0
C8	24 Oct 2023	901	1	<2	<2	<2	1.00	17.4	78.42	6.8	33.02	8.1
C8	24 Oct 2023	901	12	<2	<2	<2	1.00	14.9	88.10	7.5	33.37	8.1
C8	24 Oct 2023	901	18	2e	<2	<2	1.00	14.4	85.78	7.1	33.22	8.0
C8	30 Oct 2023	927	1	<2	<2	<2	1.00	18.0	75.06	8.1	33.23	8.2
C8	30 Oct 2023	927	12	6e	<2	<2	0.33	14.4	88.92	7.9	33.10	8.1
C8	30 Oct 2023	927	18	58	6e	<2	0.10	13.8	88.13	6.6	33.20	8.0

ns = not sampled

ND = no data

Comments

Station	Date	Depth	Parameter	Comments
C7	30 Oct 2023	18		C7-18m sample accidentally knocked over resulting in highest concentration volume of 25 mL.

Table 3.9

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

Station	Date	Parameter	Value
A1	02 Oct 2023	Depth (m)	18
A1	02 Oct 2023	Arrive Time	820
A1	02 Oct 2023	Depart Time	828
A1	02 Oct 2023	Air Temp (C)	16.1
A1	02 Oct 2023	Weather	Partly Cloudy
A1	02 Oct 2023	Visibility (mi)	7
A1	02 Oct 2023	Wind Speed (kts)	5.1
A1	02 Oct 2023	Wind Dir	N
A1	02 Oct 2023	Water Color	Green
A1	02 Oct 2023	Wave Ht Low (ft)	3
A1	02 Oct 2023	Wave Period (sec)	12
A1	02 Oct 2023	Sea State	Light Chop
A1	02 Oct 2023	High Tide (ft)	6.02
A1	02 Oct 2023	High Tide Time	1112
A1	02 Oct 2023	Low Tide (ft)	0.07
A1	02 Oct 2023	Low Tide Time	1812
A1	02 Oct 2023	Comments	Kelp; Kelp Debris
A1	09 Oct 2023	Depth (m)	18
A1	09 Oct 2023	Arrive Time	808
A1	09 Oct 2023	Depart Time	815
A1	09 Oct 2023	Air Temp (C)	17.9
A1	09 Oct 2023	Weather	Overcast
A1	09 Oct 2023	Visibility (mi)	3
A1	09 Oct 2023	Wind Speed (kts)	9.3
A1	09 Oct 2023	Wind Dir	NW
A1	09 Oct 2023	Water Color	Green
A1	09 Oct 2023	Wave Ht Low (ft)	3
A1	09 Oct 2023	Wave Period (sec)	12
A1	09 Oct 2023	Sea State	Light Chop
A1	09 Oct 2023	High Tide (ft)	4.84
A1	09 Oct 2023	High Tide Time	1848
A1	09 Oct 2023	Low Tide (ft)	0.38
A1	09 Oct 2023	Low Tide Time	106
A1	09 Oct 2023	Comments	none
A1	16 Oct 2023	Depth (m)	18
A1	16 Oct 2023	Arrive Time	826
A1	16 Oct 2023	Depart Time	832
A1	16 Oct 2023	Air Temp (C)	16.8
A1	16 Oct 2023	Weather	Fog
A1	16 Oct 2023	Visibility (mi)	2
A1	16 Oct 2023	Wind Speed (kts)	2.6
A1	16 Oct 2023	Wind Dir	W
A1	16 Oct 2023	Water Color	Greenish-Blue
A1	16 Oct 2023	Wave Ht Low (ft)	4
A1	16 Oct 2023	Wave Period (sec)	14
A1	16 Oct 2023	Sea State	Light Chop
A1	16 Oct 2023	High Tide (ft)	5.77
A1	16 Oct 2023	High Tide Time	1006
A1	16 Oct 2023	Low Tide (ft)	0.14
A1	16 Oct 2023	Low Tide Time	1654
A1	16 Oct 2023	Comments	none
A1	24 Oct 2023	Depth (m)	20
A1	24 Oct 2023	Arrive Time	801

Station	Date	Parameter	Value
A1	24 Oct 2023	Depart Time	808
A1	24 Oct 2023	Air Temp (C)	16.1
A1	24 Oct 2023	Weather	Clear
A1	24 Oct 2023	Visibility (mi)	8
A1	24 Oct 2023	Wind Speed (kts)	8.8
A1	24 Oct 2023	Wind Dir	E
A1	24 Oct 2023	Water Color	Blueish-Green
A1	24 Oct 2023	Wave Ht Low (ft)	5
A1	24 Oct 2023	Wave Period (sec)	8
A1	24 Oct 2023	Sea State	Heavy Chop
A1	24 Oct 2023	High Tide (ft)	5.18
A1	24 Oct 2023	High Tide Time	1818
A1	24 Oct 2023	Low Tide (ft)	-0.14
A1	24 Oct 2023	Low Tide Time	24
A1	24 Oct 2023	Comments	Dragged a bunch of bull kelp up with the CTD; Kelp; Kelp Debris
A1	30 Oct 2023	Depth (m)	19
A1	30 Oct 2023	Arrive Time	817
A1	30 Oct 2023	Depart Time	843
A1	30 Oct 2023	Air Temp (C)	16
A1	30 Oct 2023	Weather	Haze
A1	30 Oct 2023	Visibility (mi)	16
A1	30 Oct 2023	Wind Speed (kts)	6.4
A1	30 Oct 2023	Wind Dir	E
A1	30 Oct 2023	Water Color	Greenish-Blue
A1	30 Oct 2023	Wave Ht Low (ft)	3
A1	30 Oct 2023	Wave Period (sec)	13
A1	30 Oct 2023	Sea State	Light Chop
A1	30 Oct 2023	High Tide (ft)	6.44
A1	30 Oct 2023	High Tide Time	1006
A1	30 Oct 2023	Low Tide (ft)	-0.69
A1	30 Oct 2023	Low Tide Time	1712
A1	30 Oct 2023	Comments	none
A6	02 Oct 2023	Depth (m)	18
A6	02 Oct 2023	Arrive Time	845
A6	02 Oct 2023	Depart Time	903
A6	02 Oct 2023	Air Temp (C)	17.2
A6	02 Oct 2023	Weather	Partly Cloudy
A6	02 Oct 2023	Visibility (mi)	7
A6	02 Oct 2023	Wind Speed (kts)	7
A6	02 Oct 2023	Wind Dir	E
A6	02 Oct 2023	Water Color	Green
A6	02 Oct 2023	Wave Ht Low (ft)	3
A6	02 Oct 2023	Wave Period (sec)	12
A6	02 Oct 2023	Sea State	Light Chop
A6	02 Oct 2023	High Tide (ft)	6.02
A6	02 Oct 2023	High Tide Time	1112
A6	02 Oct 2023	Low Tide (ft)	0.07
A6	02 Oct 2023	Low Tide Time	1812
A6	02 Oct 2023	Comments	multiple casts required. Data and btl 1 and 3 collected on second attempt. btl 2 collected in separate cast from niskin 2. see A6_2.bl; Kelp; Kelp Debris; Lobster Floats
A6	09 Oct 2023	Depth (m)	20
A6	09 Oct 2023	Arrive Time	836
A6	09 Oct 2023	Depart Time	839
A6	09 Oct 2023	Air Temp (C)	17.9
A6	09 Oct 2023	Weather	Overcast
A6	09 Oct 2023	Visibility (mi)	3

Station	Date	Parameter	Value
A6	09 Oct 2023	Wind Speed (kts)	6
A6	09 Oct 2023	Wind Dir	N
A6	09 Oct 2023	Water Color	Green
A6	09 Oct 2023	Wave Ht Low (ft)	3
A6	09 Oct 2023	Wave Period (sec)	12
A6	09 Oct 2023	Sea State	Light Chop
A6	09 Oct 2023	High Tide (ft)	4.84
A6	09 Oct 2023	High Tide Time	1848
A6	09 Oct 2023	Low Tide (ft)	0.38
A6	09 Oct 2023	Low Tide Time	106
A6	09 Oct 2023	Comments	none
A6	16 Oct 2023	Depth (m)	21
A6	16 Oct 2023	Arrive Time	852
A6	16 Oct 2023	Depart Time	856
A6	16 Oct 2023	Air Temp (C)	16.8
A6	16 Oct 2023	Weather	Fog
A6	16 Oct 2023	Visibility (mi)	2
A6	16 Oct 2023	Wind Speed (kts)	1.3
A6	16 Oct 2023	Wind Dir	W
A6	16 Oct 2023	Water Color	Greenish-Blue
A6	16 Oct 2023	Wave Ht Low (ft)	4
A6	16 Oct 2023	Wave Period (sec)	14
A6	16 Oct 2023	Sea State	Light Chop
A6	16 Oct 2023	High Tide (ft)	5.77
A6	16 Oct 2023	High Tide Time	1006
A6	16 Oct 2023	Low Tide (ft)	0.14
A6	16 Oct 2023	Low Tide Time	1654
A6	16 Oct 2023	Comments	none
A6	24 Oct 2023	Depth (m)	19
A6	24 Oct 2023	Arrive Time	837
A6	24 Oct 2023	Depart Time	849
A6	24 Oct 2023	Air Temp (C)	16.6
A6	24 Oct 2023	Weather	Clear
A6	24 Oct 2023	Visibility (mi)	8
A6	24 Oct 2023	Wind Speed (kts)	8.7
A6	24 Oct 2023	Wind Dir	E
A6	24 Oct 2023	Water Color	Blueish-Green
A6	24 Oct 2023	Wave Ht Low (ft)	5
A6	24 Oct 2023	Wave Period (sec)	8
A6	24 Oct 2023	Sea State	Heavy Chop
A6	24 Oct 2023	High Tide (ft)	5.18
A6	24 Oct 2023	High Tide Time	1818
A6	24 Oct 2023	Low Tide (ft)	-0.14
A6	24 Oct 2023	Low Tide Time	24
A6	24 Oct 2023	Comments	Kelp; Kelp Debris
A6	30 Oct 2023	Depth (m)	18
A6	30 Oct 2023	Arrive Time	903
A6	30 Oct 2023	Depart Time	905
A6	30 Oct 2023	Air Temp (C)	18.1
A6	30 Oct 2023	Weather	Haze
A6	30 Oct 2023	Visibility (mi)	16
A6	30 Oct 2023	Wind Speed (kts)	0.5
A6	30 Oct 2023	Wind Dir	N
A6	30 Oct 2023	Water Color	Greenish-Blue
A6	30 Oct 2023	Wave Ht Low (ft)	3
A6	30 Oct 2023	Wave Period (sec)	13
A6	30 Oct 2023	Sea State	Light Chop
A6	30 Oct 2023	High Tide (ft)	6.44

Station	Date	Parameter	Value
A6	30 Oct 2023	High Tide Time	1006
A6	30 Oct 2023	Low Tide (ft)	-0.69
A6	30 Oct 2023	Low Tide Time	1712
A6	30 Oct 2023	Comments	none
A7	02 Oct 2023	Depth (m)	18
A7	02 Oct 2023	Arrive Time	834
A7	02 Oct 2023	Depart Time	838
A7	02 Oct 2023	Air Temp (C)	16.7
A7	02 Oct 2023	Weather	Partly Cloudy
A7	02 Oct 2023	Visibility (mi)	7
A7	02 Oct 2023	Wind Speed (kts)	6.9
A7	02 Oct 2023	Wind Dir	NE
A7	02 Oct 2023	Water Color	Green
A7	02 Oct 2023	Wave Ht Low (ft)	3
A7	02 Oct 2023	Wave Period (sec)	12
A7	02 Oct 2023	Sea State	Light Chop
A7	02 Oct 2023	High Tide (ft)	6.02
A7	02 Oct 2023	High Tide Time	1112
A7	02 Oct 2023	Low Tide (ft)	0.07
A7	02 Oct 2023	Low Tide Time	1812
A7	02 Oct 2023	Comments	Kelp Debris
A7	09 Oct 2023	Depth (m)	19
A7	09 Oct 2023	Arrive Time	823
A7	09 Oct 2023	Depart Time	828
A7	09 Oct 2023	Air Temp (C)	17.9
A7	09 Oct 2023	Weather	Overcast
A7	09 Oct 2023	Visibility (mi)	3
A7	09 Oct 2023	Wind Speed (kts)	2.5
A7	09 Oct 2023	Wind Dir	N
A7	09 Oct 2023	Water Color	Green
A7	09 Oct 2023	Wave Ht Low (ft)	3
A7	09 Oct 2023	Wave Period (sec)	12
A7	09 Oct 2023	Sea State	Light Chop
A7	09 Oct 2023	High Tide (ft)	4.84
A7	09 Oct 2023	High Tide Time	1848
A7	09 Oct 2023	Low Tide (ft)	0.38
A7	09 Oct 2023	Low Tide Time	106
A7	09 Oct 2023	Comments	none
A7	16 Oct 2023	Depth (m)	18
A7	16 Oct 2023	Arrive Time	839
A7	16 Oct 2023	Depart Time	845
A7	16 Oct 2023	Air Temp (C)	16.9
A7	16 Oct 2023	Weather	Fog
A7	16 Oct 2023	Visibility (mi)	2
A7	16 Oct 2023	Wind Speed (kts)	2.3
A7	16 Oct 2023	Wind Dir	SW
A7	16 Oct 2023	Water Color	Greenish-Blue
A7	16 Oct 2023	Wave Ht Low (ft)	4
A7	16 Oct 2023	Wave Period (sec)	14
A7	16 Oct 2023	Sea State	Light Chop
A7	16 Oct 2023	High Tide (ft)	5.77
A7	16 Oct 2023	High Tide Time	1006
A7	16 Oct 2023	Low Tide (ft)	0.14
A7	16 Oct 2023	Low Tide Time	1654
A7	16 Oct 2023	Comments	none
A7	24 Oct 2023	Depth (m)	20
A7	24 Oct 2023	Arrive Time	813

Station	Date	Parameter	Value
A7	24 Oct 2023	Depart Time	827
A7	24 Oct 2023	Air Temp (C)	16.4
A7	24 Oct 2023	Weather	Clear
A7	24 Oct 2023	Visibility (mi)	8
A7	24 Oct 2023	Wind Speed (kts)	9.5
A7	24 Oct 2023	Wind Dir	E
A7	24 Oct 2023	Water Color	Blueish-Green
A7	24 Oct 2023	Wave Ht Low (ft)	5
A7	24 Oct 2023	Wave Period (sec)	8
A7	24 Oct 2023	Sea State	Heavy Chop
A7	24 Oct 2023	High Tide (ft)	5.18
A7	24 Oct 2023	High Tide Time	1818
A7	24 Oct 2023	Low Tide (ft)	-0.14
A7	24 Oct 2023	Low Tide Time	24
A7	24 Oct 2023	Comments	On 1st cast Wetstar CDOM off charts; but not on upcast. Re-cast for better confidence in data but pattern persists.
A7	30 Oct 2023	Depth (m)	20
A7	30 Oct 2023	Arrive Time	851
A7	30 Oct 2023	Depart Time	854
A7	30 Oct 2023	Air Temp (C)	18.6
A7	30 Oct 2023	Weather	Haze
A7	30 Oct 2023	Visibility (mi)	16
A7	30 Oct 2023	Wind Speed (kts)	1.5
A7	30 Oct 2023	Wind Dir	N
A7	30 Oct 2023	Water Color	Greenish-Blue
A7	30 Oct 2023	Wave Ht Low (ft)	3
A7	30 Oct 2023	Wave Period (sec)	13
A7	30 Oct 2023	Sea State	Light Chop
A7	30 Oct 2023	High Tide (ft)	6.44
A7	30 Oct 2023	High Tide Time	1006
A7	30 Oct 2023	Low Tide (ft)	-0.69
A7	30 Oct 2023	Low Tide Time	1712
A7	30 Oct 2023	Comments	none
C4	02 Oct 2023	Depth (m)	11
C4	02 Oct 2023	Arrive Time	959
C4	02 Oct 2023	Depart Time	1005
C4	02 Oct 2023	Air Temp (C)	17.5
C4	02 Oct 2023	Weather	Partly Cloudy
C4	02 Oct 2023	Visibility (mi)	7
C4	02 Oct 2023	Wind Speed (kts)	3.9
C4	02 Oct 2023	Wind Dir	E
C4	02 Oct 2023	Water Color	Green
C4	02 Oct 2023	Wave Ht Low (ft)	3
C4	02 Oct 2023	Wave Period (sec)	12
C4	02 Oct 2023	Sea State	Light Chop
C4	02 Oct 2023	High Tide (ft)	6.02
C4	02 Oct 2023	High Tide Time	1112
C4	02 Oct 2023	Low Tide (ft)	0.07
C4	02 Oct 2023	Low Tide Time	1812
C4	02 Oct 2023	Comments	niskin 4 used for deep sample.
C4	09 Oct 2023	Depth (m)	11
C4	09 Oct 2023	Arrive Time	943
C4	09 Oct 2023	Depart Time	1000
C4	09 Oct 2023	Air Temp (C)	18
C4	09 Oct 2023	Weather	Overcast
C4	09 Oct 2023	Visibility (mi)	3
C4	09 Oct 2023	Wind Speed (kts)	6
C4	09 Oct 2023	Wind Dir	NW

Station	Date	Parameter	Value
C4	09 Oct 2023	Water Color	Brown
C4	09 Oct 2023	Wave Ht Low (ft)	3
C4	09 Oct 2023	Wave Period (sec)	12
C4	09 Oct 2023	Sea State	Light Chop
C4	09 Oct 2023	High Tide (ft)	4.84
C4	09 Oct 2023	High Tide Time	1848
C4	09 Oct 2023	Low Tide (ft)	0.38
C4	09 Oct 2023	Low Tide Time	106
C4	09 Oct 2023	Comments	none
C4	16 Oct 2023	Depth (m)	11
C4	16 Oct 2023	Arrive Time	1001
C4	16 Oct 2023	Depart Time	1004
C4	16 Oct 2023	Air Temp (C)	16.5
C4	16 Oct 2023	Weather	Fog
C4	16 Oct 2023	Visibility (mi)	3
C4	16 Oct 2023	Wind Speed (kts)	5.3
C4	16 Oct 2023	Wind Dir	N
C4	16 Oct 2023	Water Color	Greenish-Blue
C4	16 Oct 2023	Wave Ht Low (ft)	4
C4	16 Oct 2023	Wave Period (sec)	14
C4	16 Oct 2023	Sea State	Light Chop
C4	16 Oct 2023	High Tide (ft)	5.77
C4	16 Oct 2023	High Tide Time	1006
C4	16 Oct 2023	Low Tide (ft)	0.14
C4	16 Oct 2023	Low Tide Time	1654
C4	16 Oct 2023	Comments	none
C4	24 Oct 2023	Depth (m)	11
C4	24 Oct 2023	Arrive Time	941
C4	24 Oct 2023	Depart Time	947
C4	24 Oct 2023	Air Temp (C)	16.6
C4	24 Oct 2023	Weather	Clear
C4	24 Oct 2023	Visibility (mi)	8
C4	24 Oct 2023	Wind Speed (kts)	5.9
C4	24 Oct 2023	Wind Dir	SE
C4	24 Oct 2023	Water Color	Green
C4	24 Oct 2023	Wave Ht Low (ft)	5
C4	24 Oct 2023	Wave Period (sec)	8
C4	24 Oct 2023	Sea State	Heavy Chop
C4	24 Oct 2023	High Tide (ft)	5.18
C4	24 Oct 2023	High Tide Time	1818
C4	24 Oct 2023	Low Tide (ft)	-0.14
C4	24 Oct 2023	Low Tide Time	24
C4	24 Oct 2023	Comments	Kelp Debris
C4	30 Oct 2023	Depth (m)	13
C4	30 Oct 2023	Arrive Time	1008
C4	30 Oct 2023	Depart Time	1053
C4	30 Oct 2023	Air Temp (C)	17.9
C4	30 Oct 2023	Weather	Haze
C4	30 Oct 2023	Visibility (mi)	16
C4	30 Oct 2023	Wind Speed (kts)	2.7
C4	30 Oct 2023	Wind Dir	E
C4	30 Oct 2023	Water Color	Green
C4	30 Oct 2023	Wave Ht Low (ft)	2
C4	30 Oct 2023	Wave Period (sec)	15
C4	30 Oct 2023	Sea State	Calm
C4	30 Oct 2023	High Tide (ft)	6.44
C4	30 Oct 2023	High Tide Time	1006
C4	30 Oct 2023	Low Tide (ft)	-0.69

Station	Date	Parameter	Value
C4	30 Oct 2023	Low Tide Time	1712
C4	30 Oct 2023	Comments	none
C5	02 Oct 2023	Depth (m)	9
C5	02 Oct 2023	Arrive Time	947
C5	02 Oct 2023	Depart Time	954
C5	02 Oct 2023	Air Temp (C)	18.3
C5	02 Oct 2023	Weather	Partly Cloudy
C5	02 Oct 2023	Visibility (mi)	7
C5	02 Oct 2023	Wind Speed (kts)	8.4
C5	02 Oct 2023	Wind Dir	SE
C5	02 Oct 2023	Water Color	Green
C5	02 Oct 2023	Wave Ht Low (ft)	3
C5	02 Oct 2023	Wave Period (sec)	12
C5	02 Oct 2023	Sea State	Light Chop
C5	02 Oct 2023	High Tide (ft)	6.02
C5	02 Oct 2023	High Tide Time	1112
C5	02 Oct 2023	Low Tide (ft)	0.07
C5	02 Oct 2023	Low Tide Time	1812
C5	02 Oct 2023	Comments	Kelp Debris; Lobster Floats
C5	09 Oct 2023	Depth (m)	12
C5	09 Oct 2023	Arrive Time	932
C5	09 Oct 2023	Depart Time	942
C5	09 Oct 2023	Air Temp (C)	18
C5	09 Oct 2023	Weather	Overcast
C5	09 Oct 2023	Visibility (mi)	3
C5	09 Oct 2023	Wind Speed (kts)	6
C5	09 Oct 2023	Wind Dir	N
C5	09 Oct 2023	Water Color	Green
C5	09 Oct 2023	Wave Ht Low (ft)	3
C5	09 Oct 2023	Wave Period (sec)	12
C5	09 Oct 2023	Sea State	Light Chop
C5	09 Oct 2023	High Tide (ft)	4.84
C5	09 Oct 2023	High Tide Time	1848
C5	09 Oct 2023	Low Tide (ft)	0.38
C5	09 Oct 2023	Low Tide Time	106
C5	09 Oct 2023	Comments	none
C5	16 Oct 2023	Depth (m)	12
C5	16 Oct 2023	Arrive Time	949
C5	16 Oct 2023	Depart Time	953
C5	16 Oct 2023	Air Temp (C)	16.6
C5	16 Oct 2023	Weather	Fog
C5	16 Oct 2023	Visibility (mi)	3
C5	16 Oct 2023	Wind Speed (kts)	0
C5	16 Oct 2023	Wind Dir	S
C5	16 Oct 2023	Water Color	Greenish-Blue
C5	16 Oct 2023	Wave Ht Low (ft)	4
C5	16 Oct 2023	Wave Period (sec)	14
C5	16 Oct 2023	Sea State	Light Chop
C5	16 Oct 2023	High Tide (ft)	5.77
C5	16 Oct 2023	High Tide Time	1006
C5	16 Oct 2023	Low Tide (ft)	0.14
C5	16 Oct 2023	Low Tide Time	1654
C5	16 Oct 2023	Comments	none
C5	24 Oct 2023	Depth (m)	9
C5	24 Oct 2023	Arrive Time	931
C5	24 Oct 2023	Depart Time	937
C5	24 Oct 2023	Air Temp (C)	17.1

Station	Date	Parameter	Value
C5	24 Oct 2023	Weather	Clear
C5	24 Oct 2023	Visibility (mi)	8
C5	24 Oct 2023	Wind Speed (kts)	11.5
C5	24 Oct 2023	Wind Dir	SE
C5	24 Oct 2023	Water Color	Green
C5	24 Oct 2023	Wave Ht Low (ft)	5
C5	24 Oct 2023	Wave Period (sec)	8
C5	24 Oct 2023	Sea State	Heavy Chop
C5	24 Oct 2023	High Tide (ft)	5.18
C5	24 Oct 2023	High Tide Time	1818
C5	24 Oct 2023	Low Tide (ft)	-0.14
C5	24 Oct 2023	Low Tide Time	24
C5	24 Oct 2023	Comments	Kelp; Kelp Debris
C5	30 Oct 2023	Depth (m)	10
C5	30 Oct 2023	Arrive Time	959
C5	30 Oct 2023	Depart Time	1002
C5	30 Oct 2023	Air Temp (C)	18.3
C5	30 Oct 2023	Weather	Haze
C5	30 Oct 2023	Visibility (mi)	16
C5	30 Oct 2023	Wind Speed (kts)	2.3
C5	30 Oct 2023	Wind Dir	SW
C5	30 Oct 2023	Water Color	Green
C5	30 Oct 2023	Wave Ht Low (ft)	2
C5	30 Oct 2023	Wave Period (sec)	15
C5	30 Oct 2023	Sea State	Calm
C5	30 Oct 2023	High Tide (ft)	6.44
C5	30 Oct 2023	High Tide Time	1006
C5	30 Oct 2023	Low Tide (ft)	-0.69
C5	30 Oct 2023	Low Tide Time	1712
C5	30 Oct 2023	Comments	none
C6	02 Oct 2023	Depth (m)	9
C6	02 Oct 2023	Arrive Time	939
C6	02 Oct 2023	Depart Time	944
C6	02 Oct 2023	Air Temp (C)	18.5
C6	02 Oct 2023	Weather	Partly Cloudy
C6	02 Oct 2023	Visibility (mi)	7
C6	02 Oct 2023	Wind Speed (kts)	0
C6	02 Oct 2023	Wind Dir	NE
C6	02 Oct 2023	Water Color	Green
C6	02 Oct 2023	Wave Ht Low (ft)	3
C6	02 Oct 2023	Wave Period (sec)	12
C6	02 Oct 2023	Sea State	Light Chop
C6	02 Oct 2023	High Tide (ft)	6.02
C6	02 Oct 2023	High Tide Time	1112
C6	02 Oct 2023	Low Tide (ft)	0.07
C6	02 Oct 2023	Low Tide Time	1812
C6	02 Oct 2023	Comments	Kelp; Kelp Debris; Lobster Floats
C6	09 Oct 2023	Depth (m)	10
C6	09 Oct 2023	Arrive Time	920
C6	09 Oct 2023	Depart Time	932
C6	09 Oct 2023	Air Temp (C)	18
C6	09 Oct 2023	Weather	Overcast
C6	09 Oct 2023	Visibility (mi)	3
C6	09 Oct 2023	Wind Speed (kts)	9.9
C6	09 Oct 2023	Wind Dir	W
C6	09 Oct 2023	Water Color	Green
C6	09 Oct 2023	Wave Ht Low (ft)	3
C6	09 Oct 2023	Wave Period (sec)	12

Station	Date	Parameter	Value
C6	09 Oct 2023	Sea State	Light Chop
C6	09 Oct 2023	High Tide (ft)	4.84
C6	09 Oct 2023	High Tide Time	1848
C6	09 Oct 2023	Low Tide (ft)	0.38
C6	09 Oct 2023	Low Tide Time	106
C6	09 Oct 2023	Comments	none
C6	16 Oct 2023	Depth (m)	10
C6	16 Oct 2023	Arrive Time	938
C6	16 Oct 2023	Depart Time	942
C6	16 Oct 2023	Air Temp (C)	16.6
C6	16 Oct 2023	Weather	Fog
C6	16 Oct 2023	Visibility (mi)	3
C6	16 Oct 2023	Wind Speed (kts)	1
C6	16 Oct 2023	Wind Dir	N
C6	16 Oct 2023	Water Color	Greenish-Blue
C6	16 Oct 2023	Wave Ht Low (ft)	4
C6	16 Oct 2023	Wave Period (sec)	14
C6	16 Oct 2023	Sea State	Light Chop
C6	16 Oct 2023	High Tide (ft)	5.77
C6	16 Oct 2023	High Tide Time	1006
C6	16 Oct 2023	Low Tide (ft)	0.14
C6	16 Oct 2023	Low Tide Time	1654
C6	16 Oct 2023	Comments	none
C6	24 Oct 2023	Depth (m)	9
C6	24 Oct 2023	Arrive Time	922
C6	24 Oct 2023	Depart Time	926
C6	24 Oct 2023	Air Temp (C)	17.3
C6	24 Oct 2023	Weather	Clear
C6	24 Oct 2023	Visibility (mi)	8
C6	24 Oct 2023	Wind Speed (kts)	6.6
C6	24 Oct 2023	Wind Dir	E
C6	24 Oct 2023	Water Color	Green
C6	24 Oct 2023	Wave Ht Low (ft)	5
C6	24 Oct 2023	Wave Period (sec)	8
C6	24 Oct 2023	Sea State	Heavy Chop
C6	24 Oct 2023	High Tide (ft)	5.18
C6	24 Oct 2023	High Tide Time	1818
C6	24 Oct 2023	Low Tide (ft)	-0.14
C6	24 Oct 2023	Low Tide Time	24
C6	24 Oct 2023	Comments	CDOM signal messy but consistent with what's observed at other stations.
C6	30 Oct 2023	Depth (m)	10
C6	30 Oct 2023	Arrive Time	946
C6	30 Oct 2023	Depart Time	948
C6	30 Oct 2023	Air Temp (C)	18.3
C6	30 Oct 2023	Weather	Haze
C6	30 Oct 2023	Visibility (mi)	16
C6	30 Oct 2023	Wind Speed (kts)	3.1
C6	30 Oct 2023	Wind Dir	SW
C6	30 Oct 2023	Water Color	Greenish-Blue
C6	30 Oct 2023	Wave Ht Low (ft)	3
C6	30 Oct 2023	Wave Period (sec)	13
C6	30 Oct 2023	Sea State	Light Chop
C6	30 Oct 2023	High Tide (ft)	6.44
C6	30 Oct 2023	High Tide Time	1006
C6	30 Oct 2023	Low Tide (ft)	-0.69
C6	30 Oct 2023	Low Tide Time	1712
C6	30 Oct 2023	Comments	none

Station	Date	Parameter	Value
C7	02 Oct 2023	Depth (m)	18
C7	02 Oct 2023	Arrive Time	911
C7	02 Oct 2023	Depart Time	916
C7	02 Oct 2023	Air Temp (C)	18
C7	02 Oct 2023	Weather	Partly Cloudy
C7	02 Oct 2023	Visibility (mi)	7
C7	02 Oct 2023	Wind Speed (kts)	4.2
C7	02 Oct 2023	Wind Dir	NE
C7	02 Oct 2023	Water Color	Green
C7	02 Oct 2023	Wave Ht Low (ft)	3
C7	02 Oct 2023	Wave Period (sec)	12
C7	02 Oct 2023	Sea State	Light Chop
C7	02 Oct 2023	High Tide (ft)	6.02
C7	02 Oct 2023	High Tide Time	1112
C7	02 Oct 2023	Low Tide (ft)	0.07
C7	02 Oct 2023	Low Tide Time	1812
C7	02 Oct 2023	Comments	Kelp Debris; Lobster Floats
C7	09 Oct 2023	Depth (m)	19
C7	09 Oct 2023	Arrive Time	851
C7	09 Oct 2023	Depart Time	854
C7	09 Oct 2023	Air Temp (C)	17.8
C7	09 Oct 2023	Weather	Overcast
C7	09 Oct 2023	Visibility (mi)	3
C7	09 Oct 2023	Wind Speed (kts)	5.1
C7	09 Oct 2023	Wind Dir	N
C7	09 Oct 2023	Water Color	Green
C7	09 Oct 2023	Wave Ht Low (ft)	3
C7	09 Oct 2023	Wave Period (sec)	12
C7	09 Oct 2023	Sea State	Light Chop
C7	09 Oct 2023	High Tide (ft)	4.84
C7	09 Oct 2023	High Tide Time	1848
C7	09 Oct 2023	Low Tide (ft)	0.38
C7	09 Oct 2023	Low Tide Time	106
C7	09 Oct 2023	Comments	none
C7	16 Oct 2023	Depth (m)	20
C7	16 Oct 2023	Arrive Time	906
C7	16 Oct 2023	Depart Time	910
C7	16 Oct 2023	Air Temp (C)	16.6
C7	16 Oct 2023	Weather	Fog
C7	16 Oct 2023	Visibility (mi)	2
C7	16 Oct 2023	Wind Speed (kts)	0.1
C7	16 Oct 2023	Wind Dir	SW
C7	16 Oct 2023	Water Color	Greenish-Blue
C7	16 Oct 2023	Wave Ht Low (ft)	4
C7	16 Oct 2023	Wave Period (sec)	14
C7	16 Oct 2023	Sea State	Light Chop
C7	16 Oct 2023	High Tide (ft)	5.77
C7	16 Oct 2023	High Tide Time	1006
C7	16 Oct 2023	Low Tide (ft)	0.14
C7	16 Oct 2023	Low Tide Time	1654
C7	16 Oct 2023	Comments	none
C7	24 Oct 2023	Depth (m)	18
C7	24 Oct 2023	Arrive Time	850
C7	24 Oct 2023	Depart Time	856
C7	24 Oct 2023	Air Temp (C)	17.1
C7	24 Oct 2023	Weather	Clear
C7	24 Oct 2023	Visibility (mi)	8

Station	Date	Parameter	Value
C7	24 Oct 2023	Wind Speed (kts)	8.6
C7	24 Oct 2023	Wind Dir	E
C7	24 Oct 2023	Water Color	Blueish-Green
C7	24 Oct 2023	Wave Ht Low (ft)	5
C7	24 Oct 2023	Wave Period (sec)	8
C7	24 Oct 2023	Sea State	Heavy Chop
C7	24 Oct 2023	High Tide (ft)	5.18
C7	24 Oct 2023	High Tide Time	1818
C7	24 Oct 2023	Low Tide (ft)	-0.14
C7	24 Oct 2023	Low Tide Time	24
C7	24 Oct 2023	Comments	Kelp; Kelp Debris
C7	30 Oct 2023	Depth (m)	18
C7	30 Oct 2023	Arrive Time	917
C7	30 Oct 2023	Depart Time	919
C7	30 Oct 2023	Air Temp (C)	17.3
C7	30 Oct 2023	Weather	Haze
C7	30 Oct 2023	Visibility (mi)	16
C7	30 Oct 2023	Wind Speed (kts)	2.6
C7	30 Oct 2023	Wind Dir	NE
C7	30 Oct 2023	Water Color	Greenish-Blue
C7	30 Oct 2023	Wave Ht Low (ft)	3
C7	30 Oct 2023	Wave Period (sec)	13
C7	30 Oct 2023	Sea State	Light Chop
C7	30 Oct 2023	High Tide (ft)	6.44
C7	30 Oct 2023	High Tide Time	1006
C7	30 Oct 2023	Low Tide (ft)	-0.69
C7	30 Oct 2023	Low Tide Time	1712
C7	30 Oct 2023	Comments	none
C8	02 Oct 2023	Depth (m)	19
C8	02 Oct 2023	Arrive Time	921
C8	02 Oct 2023	Depart Time	937
C8	02 Oct 2023	Air Temp (C)	18
C8	02 Oct 2023	Weather	Partly Cloudy
C8	02 Oct 2023	Visibility (mi)	7
C8	02 Oct 2023	Wind Speed (kts)	0
C8	02 Oct 2023	Wind Dir	NW
C8	02 Oct 2023	Water Color	Green
C8	02 Oct 2023	Wave Ht Low (ft)	3
C8	02 Oct 2023	Wave Period (sec)	12
C8	02 Oct 2023	Sea State	Light Chop
C8	02 Oct 2023	High Tide (ft)	6.02
C8	02 Oct 2023	High Tide Time	1112
C8	02 Oct 2023	Low Tide (ft)	0.07
C8	02 Oct 2023	Low Tide Time	1812
C8	02 Oct 2023	Comments	Kelp Debris; Lobster Floats
C8	09 Oct 2023	Depth (m)	20
C8	09 Oct 2023	Arrive Time	902
C8	09 Oct 2023	Depart Time	905
C8	09 Oct 2023	Air Temp (C)	17.8
C8	09 Oct 2023	Weather	Overcast
C8	09 Oct 2023	Visibility (mi)	3
C8	09 Oct 2023	Wind Speed (kts)	4.2
C8	09 Oct 2023	Wind Dir	N
C8	09 Oct 2023	Water Color	Green
C8	09 Oct 2023	Wave Ht Low (ft)	3
C8	09 Oct 2023	Wave Period (sec)	12
C8	09 Oct 2023	Sea State	Light Chop
C8	09 Oct 2023	High Tide (ft)	4.84

Station	Date	Parameter	Value
C8	09 Oct 2023	High Tide Time	1848
C8	09 Oct 2023	Low Tide (ft)	0.38
C8	09 Oct 2023	Low Tide Time	106
C8	09 Oct 2023	Comments	none
C8	16 Oct 2023	Depth (m)	20
C8	16 Oct 2023	Arrive Time	917
C8	16 Oct 2023	Depart Time	923
C8	16 Oct 2023	Air Temp (C)	16.5
C8	16 Oct 2023	Weather	Fog
C8	16 Oct 2023	Visibility (mi)	2
C8	16 Oct 2023	Wind Speed (kts)	7.7
C8	16 Oct 2023	Wind Dir	NW
C8	16 Oct 2023	Water Color	Greenish-Blue
C8	16 Oct 2023	Wave Ht Low (ft)	4
C8	16 Oct 2023	Wave Period (sec)	14
C8	16 Oct 2023	Sea State	Light Chop
C8	16 Oct 2023	High Tide (ft)	5.77
C8	16 Oct 2023	High Tide Time	1006
C8	16 Oct 2023	Low Tide (ft)	0.14
C8	16 Oct 2023	Low Tide Time	1654
C8	16 Oct 2023	Comments	none
C8	24 Oct 2023	Depth (m)	19
C8	24 Oct 2023	Arrive Time	901
C8	24 Oct 2023	Depart Time	905
C8	24 Oct 2023	Air Temp (C)	17.5
C8	24 Oct 2023	Weather	Clear
C8	24 Oct 2023	Visibility (mi)	8
C8	24 Oct 2023	Wind Speed (kts)	7.4
C8	24 Oct 2023	Wind Dir	E
C8	24 Oct 2023	Water Color	Green
C8	24 Oct 2023	Wave Ht Low (ft)	5
C8	24 Oct 2023	Wave Period (sec)	8
C8	24 Oct 2023	Sea State	Heavy Chop
C8	24 Oct 2023	High Tide (ft)	5.18
C8	24 Oct 2023	High Tide Time	1818
C8	24 Oct 2023	Low Tide (ft)	-0.14
C8	24 Oct 2023	Low Tide Time	24
C8	24 Oct 2023	Comments	High salinity signal at this site and C7.
C8	30 Oct 2023	Depth (m)	20
C8	30 Oct 2023	Arrive Time	927
C8	30 Oct 2023	Depart Time	930
C8	30 Oct 2023	Air Temp (C)	17.3
C8	30 Oct 2023	Weather	Haze
C8	30 Oct 2023	Visibility (mi)	16
C8	30 Oct 2023	Wind Speed (kts)	2.2
C8	30 Oct 2023	Wind Dir	NE
C8	30 Oct 2023	Water Color	Greenish-Blue
C8	30 Oct 2023	Wave Ht Low (ft)	3
C8	30 Oct 2023	Wave Period (sec)	13
C8	30 Oct 2023	Sea State	Light Chop
C8	30 Oct 2023	High Tide (ft)	6.44
C8	30 Oct 2023	High Tide Time	1006
C8	30 Oct 2023	Low Tide (ft)	-0.69
C8	30 Oct 2023	Low Tide Time	1712
C8	30 Oct 2023	Comments	none

Table 3.10

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

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
A1	02 Oct 2023	1	18.75	82.42	7.7	33.28	8.1	23.8	1.22
A1	02 Oct 2023	2	18.66	82.40	7.7	33.28	8.1	23.8	1.32
A1	02 Oct 2023	3	18.28	82.76	7.7	33.26	8.1	23.9	1.64
A1	02 Oct 2023	4	18.48	83.10	7.6	33.26	8.1	23.8	1.76
A1	02 Oct 2023	5	17.31	83.54	7.5	33.26	8.1	24.1	1.77
A1	02 Oct 2023	6	17.03	84.48	7.5	33.21	8.1	24.1	1.77
A1	02 Oct 2023	7	16.84	84.94	7.6	33.20	8.1	24.2	1.70
A1	02 Oct 2023	8	16.69	85.09	7.5	33.20	8.1	24.2	1.73
A1	02 Oct 2023	9	16.41	85.30	7.6	33.18	8.1	24.3	1.59
A1	02 Oct 2023	10	16.31	85.50	7.6	33.18	8.1	24.3	1.52
A1	02 Oct 2023	11	16.14	85.66	7.6	33.17	8.1	24.3	1.47
A1	02 Oct 2023	12	16.02	85.77	7.6	33.17	8.1	24.3	1.48
A1	02 Oct 2023	13	15.82	85.89	7.6	33.16	8.1	24.4	1.40
A1	02 Oct 2023	14	15.57	86.25	7.6	33.16	8.1	24.4	1.41
A1	02 Oct 2023	15	15.51	86.48	7.5	33.15	8.1	24.4	1.33
A1	02 Oct 2023	16	15.25	86.51	7.6	33.15	8.1	24.5	1.31
A1	02 Oct 2023	17	15.13	86.65	7.6	33.14	8.1	24.5	1.25
A1	02 Oct 2023	18	14.83	86.76	7.6	33.14	8.0	24.6	1.16
A1	02 Oct 2023	19	14.53	86.25	7.5	33.12	8.0	24.6	1.09
A1	02 Oct 2023	20	14.20	86.48	7.6	33.11	8.0	24.7	1.07
A1	09 Oct 2023	1	17.36	85.30	8.2	33.17	8.1	24.0	1.46
A1	09 Oct 2023	2	17.29	85.15	8.2	33.17	8.1	24.0	1.50
A1	09 Oct 2023	3	17.24	85.22	8.2	33.17	8.1	24.1	1.49
A1	09 Oct 2023	4	17.18	85.39	8.3	33.17	8.1	24.1	1.58
A1	09 Oct 2023	5	17.15	85.11	8.3	33.17	8.1	24.1	1.67
A1	09 Oct 2023	6	17.10	84.88	8.3	33.17	8.1	24.1	1.77
A1	09 Oct 2023	7	17.08	84.58	8.3	33.17	8.1	24.1	1.88
A1	09 Oct 2023	8	17.02	84.52	8.2	33.16	8.1	24.1	1.91
A1	09 Oct 2023	9	16.84	84.34	8.2	33.16	8.1	24.1	1.92
A1	09 Oct 2023	10	16.55	84.74	8.2	33.14	8.1	24.2	1.74
A1	09 Oct 2023	11	16.32	85.70	8.1	33.14	8.1	24.2	1.56
A1	09 Oct 2023	12	16.14	86.22	8.2	33.13	8.1	24.3	1.47
A1	09 Oct 2023	13	15.97	86.63	8.1	33.12	8.1	24.3	1.36
A1	09 Oct 2023	14	15.56	86.83	8.1	33.11	8.1	24.4	1.48
A1	09 Oct 2023	15	15.48	86.63	8.0	33.10	8.1	24.4	1.52
A1	09 Oct 2023	16	15.07	86.58	7.8	33.10	8.1	24.5	1.39
A1	09 Oct 2023	17	15.07	86.65	7.7	33.10	8.1	24.5	1.36
A1	09 Oct 2023	18	14.89	86.86	7.5	33.11	8.1	24.5	0.98
A1	09 Oct 2023	19	14.89	86.87	7.5	33.12	8.0	24.5	0.86
A1	16 Oct 2023	1	18.13	79.87	8.5	33.18	8.1	23.8	1.41
A1	16 Oct 2023	2	18.09	71.44	8.5	33.18	8.1	23.9	1.45
A1	16 Oct 2023	3	18.00	78.28	8.5	33.18	8.1	23.9	1.72
A1	16 Oct 2023	4	17.75	83.40	8.3	33.17	8.1	23.9	2.07
A1	16 Oct 2023	5	17.34	83.66	8.2	33.16	8.1	24.0	2.03
A1	16 Oct 2023	6	16.96	84.82	8.1	33.17	8.1	24.1	1.84
A1	16 Oct 2023	7	16.86	85.63	8.1	33.16	8.1	24.1	1.60
A1	16 Oct 2023	8	16.60	85.87	8.0	33.16	8.1	24.2	1.51
A1	16 Oct 2023	9	16.60	86.44	8.0	33.15	8.1	24.2	1.42
A1	16 Oct 2023	10	16.54	86.40	8.0	33.15	8.1	24.2	1.44
A1	16 Oct 2023	11	16.51	86.47	8.0	33.15	8.1	24.2	1.38
A1	16 Oct 2023	12	16.31	86.38	7.9	33.15	8.1	24.3	1.39
A1	16 Oct 2023	13	16.28	84.16	7.9	33.16	8.1	24.3	1.30
A1	16 Oct 2023	14	16.27	82.71	7.7	33.15	8.1	24.3	1.32

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
A1	16 Oct 2023	15	15.63	83.19	7.6	33.13	8.1	24.4	1.34
A1	16 Oct 2023	16	15.22	86.33	7.7	33.13	8.0	24.5	1.16
A1	16 Oct 2023	17	15.40	86.10	7.6	33.10	8.0	24.4	1.14
A1	16 Oct 2023	18	14.63	85.81	7.5	33.10	8.0	24.6	1.19
A1	16 Oct 2023	19	13.65	83.01	7.1	33.16	8.0	24.8	1.03
A1	24 Oct 2023	1	16.66	85.18	8.1	33.16	8.1	24.2	1.32
A1	24 Oct 2023	2	16.66	85.10	8.0	33.16	8.1	24.2	1.39
A1	24 Oct 2023	3	16.61	85.19	8.0	33.16	8.1	24.2	1.38
A1	24 Oct 2023	4	16.54	85.61	8.0	33.16	8.1	24.2	1.46
A1	24 Oct 2023	5	16.53	85.57	8.0	33.15	8.1	24.2	1.46
A1	24 Oct 2023	6	16.43	85.61	8.0	33.16	8.1	24.2	1.54
A1	24 Oct 2023	7	16.42	85.65	7.9	33.15	8.1	24.2	1.57
A1	24 Oct 2023	8	16.15	85.64	7.9	33.15	8.1	24.3	1.68
A1	24 Oct 2023	9	15.96	85.63	7.8	33.14	8.1	24.3	1.80
A1	24 Oct 2023	10	15.63	85.66	7.6	33.14	8.1	24.4	1.91
A1	24 Oct 2023	11	15.34	85.67	7.6	33.14	8.1	24.5	1.75
A1	24 Oct 2023	12	15.16	85.37	7.5	33.14	8.1	24.5	1.70
A1	24 Oct 2023	13	14.99	85.83	7.4	33.14	8.1	24.5	1.59
A1	24 Oct 2023	14	14.97	86.48	7.4	33.14	8.0	24.5	1.55
A1	24 Oct 2023	15	14.84	86.64	7.3	33.14	8.0	24.6	1.46
A1	24 Oct 2023	16	14.74	86.82	7.2	33.14	8.0	24.6	1.43
A1	24 Oct 2023	17	14.40	86.89	7.0	33.15	8.0	24.7	1.27
A1	24 Oct 2023	18	14.19	86.90	6.9	33.17	8.0	24.7	1.07
A1	24 Oct 2023	19	14.10	86.47	6.7	33.17	8.0	24.8	0.95
A1	24 Oct 2023	20	13.87	85.38	6.6	33.20	8.0	24.8	0.78
A1	30 Oct 2023	1	17.90	88.90	8.0	33.24	8.2	23.9	0.69
A1	30 Oct 2023	2	17.94	88.82	7.9	33.24	8.2	23.9	0.66
A1	30 Oct 2023	3	17.77	88.83	7.9	33.23	8.2	24.0	0.73
A1	30 Oct 2023	4	17.57	88.79	7.8	33.19	8.2	24.0	0.78
A1	30 Oct 2023	5	16.09	88.91	7.8	33.13	8.1	24.3	0.73
A1	30 Oct 2023	6	15.31	89.33	8.0	33.12	8.1	24.5	0.75
A1	30 Oct 2023	7	14.95	89.63	8.0	33.10	8.1	24.5	0.81
A1	30 Oct 2023	8	14.80	89.67	8.0	33.10	8.1	24.5	0.91
A1	30 Oct 2023	9	14.60	89.61	7.9	33.10	8.1	24.6	0.98
A1	30 Oct 2023	10	14.46	89.64	7.8	33.12	8.1	24.6	1.09
A1	30 Oct 2023	11	14.29	89.54	7.5	33.14	8.1	24.7	1.12
A1	30 Oct 2023	12	14.17	89.50	7.3	33.15	8.1	24.7	1.12
A1	30 Oct 2023	13	14.04	89.36	7.2	33.17	8.0	24.8	1.09
A1	30 Oct 2023	14	13.96	89.37	7.1	33.18	8.0	24.8	1.02
A1	30 Oct 2023	15	13.90	89.46	7.0	33.19	8.0	24.8	0.96
A1	30 Oct 2023	16	13.84	89.48	6.9	33.19	8.0	24.8	0.91
A1	30 Oct 2023	17	13.77	89.59	6.8	33.20	8.0	24.8	0.88
A1	30 Oct 2023	18	13.69	89.54	6.7	33.22	8.0	24.9	0.81
A1	30 Oct 2023	19	13.69	89.48	6.7	33.22	8.0	24.9	0.78
A6	02 Oct 2023	1	18.75	82.83	7.7	33.29	8.1	23.8	0.87
A6	02 Oct 2023	2	18.73	83.08	7.7	33.28	8.1	23.8	0.95
A6	02 Oct 2023	3	18.57	83.36	7.7	33.28	8.1	23.8	1.05
A6	02 Oct 2023	4	18.31	83.48	7.7	33.27	8.1	23.9	1.20
A6	02 Oct 2023	5	18.04	83.97	7.6	33.26	8.1	23.9	1.25
A6	02 Oct 2023	6	17.45	84.77	7.5	33.24	8.1	24.1	1.17
A6	02 Oct 2023	7	17.09	85.59	7.5	33.22	8.1	24.1	1.15
A6	02 Oct 2023	8	16.88	86.13	7.6	33.21	8.1	24.2	1.02
A6	02 Oct 2023	9	16.85	86.35	7.6	33.20	8.1	24.2	1.00
A6	02 Oct 2023	10	16.90	86.43	7.6	33.20	8.1	24.2	0.96
A6	02 Oct 2023	11	16.85	86.43	7.6	33.20	8.1	24.2	0.97
A6	02 Oct 2023	12	16.78	86.53	7.6	33.20	8.1	24.2	0.97
A6	02 Oct 2023	13	16.86	86.73	7.6	33.20	8.1	24.2	0.95
A6	02 Oct 2023	14	16.87	86.74	7.6	33.21	8.1	24.2	0.94

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
A6	02 Oct 2023	15	16.52	86.86	7.4	33.22	8.1	24.3	0.91
A6	02 Oct 2023	16	15.53	87.08	7.4	33.20	8.1	24.5	0.83
A6	02 Oct 2023	17	14.64	87.35	7.4	33.16	8.1	24.6	0.79
A6	02 Oct 2023	18	13.97	88.02	7.5	33.12	8.0	24.7	0.74
A6	09 Oct 2023	1	17.18	84.11	8.2	33.18	8.1	24.1	2.28
A6	09 Oct 2023	2	17.15	83.94	8.2	33.18	8.1	24.1	2.41
A6	09 Oct 2023	3	16.95	84.03	8.2	33.17	8.1	24.1	2.08
A6	09 Oct 2023	4	16.88	84.72	8.2	33.17	8.1	24.1	1.72
A6	09 Oct 2023	5	16.70	85.71	8.1	33.17	8.1	24.2	1.67
A6	09 Oct 2023	6	16.36	85.82	8.0	33.16	8.1	24.3	1.85
A6	09 Oct 2023	7	16.16	85.48	7.9	33.16	8.1	24.3	2.14
A6	09 Oct 2023	8	16.12	85.28	7.8	33.16	8.1	24.3	2.26
A6	09 Oct 2023	9	16.04	85.47	7.8	33.16	8.1	24.3	2.11
A6	09 Oct 2023	10	16.01	85.57	7.8	33.16	8.1	24.3	1.99
A6	09 Oct 2023	11	15.93	85.73	7.8	33.16	8.1	24.3	1.99
A6	09 Oct 2023	12	15.90	85.86	7.7	33.16	8.1	24.4	1.98
A6	09 Oct 2023	13	15.81	85.88	7.7	33.16	8.1	24.4	1.97
A6	09 Oct 2023	14	15.78	86.08	7.6	33.16	8.1	24.4	1.87
A6	09 Oct 2023	15	15.63	86.42	7.6	33.16	8.1	24.4	1.87
A6	09 Oct 2023	16	15.62	86.72	7.6	33.16	8.1	24.4	1.74
A6	09 Oct 2023	17	15.58	86.85	7.6	33.16	8.1	24.4	1.73
A6	09 Oct 2023	18	15.49	86.98	7.5	33.16	8.1	24.4	1.60
A6	09 Oct 2023	19	15.43	87.35	7.5	33.16	8.1	24.5	1.47
A6	16 Oct 2023	1	18.34	85.13	9.1	33.19	8.2	23.8	1.25
A6	16 Oct 2023	2	18.35	84.81	9.0	33.19	8.2	23.8	1.24
A6	16 Oct 2023	3	18.26	84.77	9.0	33.18	8.2	23.8	1.39
A6	16 Oct 2023	4	18.06	84.73	8.8	33.17	8.2	23.9	1.66
A6	16 Oct 2023	5	17.63	84.46	8.4	33.16	8.2	24.0	1.86
A6	16 Oct 2023	6	17.20	83.72	8.2	33.18	8.1	24.1	2.03
A6	16 Oct 2023	7	16.98	83.35	8.1	33.17	8.1	24.1	2.22
A6	16 Oct 2023	8	16.78	83.59	8.0	33.17	8.1	24.2	2.33
A6	16 Oct 2023	9	16.70	84.17	8.1	33.16	8.1	24.2	2.20
A6	16 Oct 2023	10	16.60	84.98	8.0	33.16	8.1	24.2	2.07
A6	16 Oct 2023	11	16.38	85.71	7.9	33.15	8.1	24.2	1.76
A6	16 Oct 2023	12	16.11	86.72	7.9	33.16	8.1	24.3	1.60
A6	16 Oct 2023	13	15.81	87.07	7.8	33.11	8.1	24.3	1.65
A6	16 Oct 2023	14	15.32	88.06	7.7	33.14	8.1	24.5	1.44
A6	16 Oct 2023	15	15.15	88.52	7.8	33.13	8.1	24.5	1.41
A6	16 Oct 2023	16	15.07	88.80	7.8	33.13	8.1	24.5	1.34
A6	16 Oct 2023	17	15.04	88.93	7.8	33.12	8.1	24.5	1.34
A6	16 Oct 2023	18	14.87	88.90	7.8	33.13	8.1	24.6	1.35
A6	16 Oct 2023	19	14.67	89.01	7.6	33.14	8.0	24.6	1.18
A6	16 Oct 2023	20	14.61	88.82	7.5	33.14	8.0	24.6	1.11
A6	24 Oct 2023	1	17.18	74.98	7.1	33.06	8.1	24.0	0.77
A6	24 Oct 2023	2	17.18	74.90	6.9	33.13	8.1	24.0	0.77
A6	24 Oct 2023	3	16.80	74.84	6.9	33.40	8.1	24.3	0.77
A6	24 Oct 2023	4	16.36	76.20	7.1	33.44	8.1	24.5	0.77
A6	24 Oct 2023	5	15.98	79.37	6.9	33.51	8.1	24.6	0.81
A6	24 Oct 2023	6	15.71	81.39	6.8	33.65	8.1	24.8	0.83
A6	24 Oct 2023	7	15.46	82.72	7.1	33.73	8.1	24.9	0.77
A6	24 Oct 2023	8	15.13	83.93	7.5	33.49	8.1	24.8	0.97
A6	24 Oct 2023	9	15.07	84.73	7.2	33.58	8.1	24.9	1.15
A6	24 Oct 2023	10	15.15	85.31	7.4	33.37	8.1	24.7	0.90
A6	24 Oct 2023	11	14.95	85.25	7.3	33.24	8.1	24.6	1.12
A6	24 Oct 2023	12	14.91	85.60	7.0	33.20	8.1	24.6	0.95
A6	24 Oct 2023	13	14.87	85.65	7.1	33.24	8.1	24.6	0.93
A6	24 Oct 2023	14	14.76	85.76	7.2	33.24	8.1	24.7	1.02
A6	24 Oct 2023	15	14.67	86.13	7.1	33.20	8.1	24.7	1.02

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
A6	24 Oct 2023	16	14.59	86.47	7.1	33.23	8.0	24.7	1.79
A6	24 Oct 2023	17	14.54	86.92	7.1	33.21	8.0	24.7	1.30
A6	24 Oct 2023	18	14.46	87.15	7.0	33.19	8.0	24.7	1.59
A6	24 Oct 2023	19	14.44	87.07	6.9	33.18	8.0	24.7	2.13
A6	24 Oct 2023	20	14.39	86.86	6.9	33.21	8.0	24.7	1.89
A6	30 Oct 2023	1	17.77	87.27	8.1	33.21	8.2	24.0	0.84
A6	30 Oct 2023	2	17.69	87.27	8.0	33.20	8.2	24.0	0.86
A6	30 Oct 2023	3	16.84	87.42	8.0	33.17	8.2	24.2	0.77
A6	30 Oct 2023	4	16.20	88.08	8.0	33.14	8.1	24.3	0.69
A6	30 Oct 2023	5	15.62	88.76	8.1	33.12	8.1	24.4	0.67
A6	30 Oct 2023	6	15.27	89.57	8.2	33.11	8.1	24.5	0.72
A6	30 Oct 2023	7	15.11	89.73	8.1	33.10	8.1	24.5	0.89
A6	30 Oct 2023	8	14.85	89.41	8.1	33.10	8.1	24.5	1.00
A6	30 Oct 2023	9	14.67	89.32	8.0	33.10	8.1	24.6	1.06
A6	30 Oct 2023	10	14.34	89.28	7.8	33.12	8.1	24.7	1.15
A6	30 Oct 2023	11	14.19	89.00	7.6	33.14	8.1	24.7	1.19
A6	30 Oct 2023	12	14.14	89.04	7.5	33.14	8.1	24.7	1.16
A6	30 Oct 2023	13	13.99	89.38	7.3	33.16	8.1	24.8	1.12
A6	30 Oct 2023	14	13.91	89.51	7.2	33.17	8.0	24.8	1.06
A6	30 Oct 2023	15	13.85	89.74	7.1	33.17	8.0	24.8	0.98
A6	30 Oct 2023	16	13.81	89.95	7.1	33.18	8.0	24.8	0.96
A6	30 Oct 2023	17	13.79	90.04	7.0	33.18	8.0	24.8	0.95
A6	30 Oct 2023	18	13.78	90.13	7.0	33.18	8.0	24.8	0.98
A7	02 Oct 2023	1	18.74	85.60	8.0	33.28	8.2	23.8	1.10
A7	02 Oct 2023	2	18.70	85.51	8.0	33.28	8.2	23.8	1.13
A7	02 Oct 2023	3	18.64	85.16	7.9	33.28	8.2	23.8	1.31
A7	02 Oct 2023	4	18.63	84.75	7.9	33.27	8.2	23.8	1.50
A7	02 Oct 2023	5	18.64	84.64	7.9	33.27	8.2	23.8	1.55
A7	02 Oct 2023	6	18.63	84.80	7.9	33.27	8.2	23.8	1.55
A7	02 Oct 2023	7	18.53	84.41	7.9	33.27	8.2	23.8	1.77
A7	02 Oct 2023	8	18.42	83.84	7.9	33.27	8.2	23.8	1.81
A7	02 Oct 2023	9	18.29	84.22	7.8	33.26	8.1	23.9	1.76
A7	02 Oct 2023	10	18.06	84.46	7.7	33.26	8.1	23.9	1.61
A7	02 Oct 2023	11	17.50	84.96	7.6	33.25	8.1	24.1	1.56
A7	02 Oct 2023	12	16.91	85.60	7.5	33.21	8.1	24.2	1.46
A7	02 Oct 2023	13	15.99	86.18	7.5	33.20	8.1	24.4	1.28
A7	02 Oct 2023	14	15.49	86.55	7.5	33.17	8.1	24.5	1.16
A7	02 Oct 2023	15	14.72	87.16	7.5	33.14	8.1	24.6	1.08
A7	02 Oct 2023	16	13.85	87.65	7.6	33.09	8.1	24.7	0.87
A7	02 Oct 2023	17	13.67	88.45	7.6	33.09	8.0	24.8	0.82
A7	02 Oct 2023	18	13.57	88.56	7.6	33.09	8.0	24.8	0.70
A7	09 Oct 2023	1	17.34	84.58	8.4	33.17	8.1	24.0	1.65
A7	09 Oct 2023	2	17.26	84.50	8.3	33.17	8.1	24.1	1.64
A7	09 Oct 2023	3	17.14	84.55	8.3	33.17	8.1	24.1	1.64
A7	09 Oct 2023	4	17.00	84.97	8.2	33.17	8.1	24.1	1.61
A7	09 Oct 2023	5	16.95	85.23	8.2	33.17	8.1	24.1	1.72
A7	09 Oct 2023	6	16.86	85.31	8.1	33.16	8.1	24.1	1.71
A7	09 Oct 2023	7	16.79	85.35	8.1	33.16	8.1	24.2	1.77
A7	09 Oct 2023	8	16.71	85.45	8.0	33.16	8.1	24.2	1.78
A7	09 Oct 2023	9	16.44	85.45	8.0	33.16	8.1	24.2	1.93
A7	09 Oct 2023	10	16.34	85.17	7.9	33.15	8.1	24.2	2.03
A7	09 Oct 2023	11	16.14	84.99	7.9	33.15	8.1	24.3	2.20
A7	09 Oct 2023	12	16.12	84.92	7.8	33.14	8.1	24.3	2.19
A7	09 Oct 2023	13	16.02	84.94	7.7	33.14	8.1	24.3	2.02
A7	09 Oct 2023	14	15.99	85.28	7.8	33.14	8.1	24.3	1.95
A7	09 Oct 2023	15	15.88	85.76	7.6	33.13	8.1	24.3	1.79
A7	09 Oct 2023	16	15.35	86.70	7.4	33.14	8.1	24.5	1.66
A7	09 Oct 2023	17	15.25	87.18	7.4	33.15	8.1	24.5	1.40

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
A7	09 Oct 2023	18	15.16	87.64	7.4	33.15	8.1	24.5	1.26
A7	16 Oct 2023	1	17.62	85.13	8.3	33.18	8.1	24.0	1.45
A7	16 Oct 2023	2	17.56	85.19	8.2	33.18	8.1	24.0	1.47
A7	16 Oct 2023	3	17.03	85.16	8.1	33.19	8.1	24.1	1.57
A7	16 Oct 2023	4	16.72	85.07	8.0	33.17	8.1	24.2	1.59
A7	16 Oct 2023	5	16.64	85.29	8.0	33.17	8.1	24.2	1.66
A7	16 Oct 2023	6	16.69	85.57	8.1	33.16	8.1	24.2	1.81
A7	16 Oct 2023	7	16.66	85.65	8.1	33.16	8.1	24.2	1.70
A7	16 Oct 2023	8	16.64	85.70	8.1	33.16	8.1	24.2	1.79
A7	16 Oct 2023	9	16.47	85.91	8.0	33.16	8.1	24.2	1.78
A7	16 Oct 2023	10	16.14	86.20	7.9	33.16	8.1	24.3	1.65
A7	16 Oct 2023	11	16.06	86.64	7.9	33.16	8.1	24.3	1.51
A7	16 Oct 2023	12	16.02	86.71	7.9	33.15	8.1	24.3	1.37
A7	16 Oct 2023	13	15.96	86.78	7.9	33.15	8.1	24.3	1.39
A7	16 Oct 2023	14	15.85	86.85	7.8	33.14	8.1	24.4	1.25
A7	16 Oct 2023	15	15.30	87.14	7.8	33.11	8.1	24.4	1.16
A7	16 Oct 2023	16	14.73	88.25	7.7	33.11	8.1	24.6	1.17
A7	16 Oct 2023	17	14.18	89.08	7.4	33.13	8.0	24.7	1.02
A7	16 Oct 2023	18	13.72	88.83	7.2	33.15	8.0	24.8	0.85
A7	16 Oct 2023	19	13.95	88.27	7.4	33.14	8.0	24.8	0.79
A7	24 Oct 2023	1	16.73	80.65	6.2	33.07	8.1	24.1	0.73
A7	24 Oct 2023	2	16.69	80.56	6.2	33.12	8.1	24.1	0.75
A7	24 Oct 2023	3	16.65	80.56	6.5	33.16	8.1	24.2	0.73
A7	24 Oct 2023	4	16.67	80.44	6.8	33.14	8.1	24.2	0.80
A7	24 Oct 2023	5	16.62	80.61	6.9	33.20	8.1	24.2	0.97
A7	24 Oct 2023	6	16.47	80.08	7.2	33.24	8.1	24.3	1.97
A7	24 Oct 2023	7	16.37	79.25	7.4	33.20	8.1	24.3	0.95
A7	24 Oct 2023	8	16.30	78.91	7.3	33.18	8.1	24.3	0.89
A7	24 Oct 2023	9	15.98	78.82	7.1	33.21	8.1	24.4	1.45
A7	24 Oct 2023	10	15.84	80.28	7.2	33.19	8.1	24.4	2.56
A7	24 Oct 2023	11	15.76	80.28	7.3	33.19	8.1	24.4	2.26
A7	24 Oct 2023	12	15.34	82.30	7.2	33.20	8.1	24.5	1.27
A7	24 Oct 2023	13	15.05	83.12	7.3	33.19	8.1	24.6	2.65
A7	24 Oct 2023	14	14.87	84.46	7.1	33.19	8.0	24.6	2.73
A7	24 Oct 2023	15	14.69	86.12	7.0	33.17	8.0	24.6	2.44
A7	24 Oct 2023	16	14.60	86.74	6.8	33.18	8.0	24.7	2.13
A7	24 Oct 2023	17	14.42	87.00	6.9	33.26	8.0	24.8	1.86
A7	24 Oct 2023	18	14.16	87.14	6.9	33.28	8.0	24.8	1.56
A7	24 Oct 2023	19	14.02	87.03	6.7	33.24	8.0	24.8	1.40
A7	24 Oct 2023	20	13.98	86.79	6.6	33.23	8.0	24.8	1.32
A7	30 Oct 2023	1	17.87	87.87	8.0	33.23	8.2	23.9	0.75
A7	30 Oct 2023	2	17.72	87.83	7.9	33.21	8.2	24.0	0.81
A7	30 Oct 2023	3	16.60	87.82	7.9	33.15	8.1	24.2	0.80
A7	30 Oct 2023	4	15.86	88.25	8.0	33.14	8.1	24.3	0.77
A7	30 Oct 2023	5	15.83	88.56	8.0	33.13	8.1	24.3	0.79
A7	30 Oct 2023	6	15.76	88.42	7.9	33.13	8.1	24.4	0.88
A7	30 Oct 2023	7	15.46	88.24	8.0	33.11	8.1	24.4	0.87
A7	30 Oct 2023	8	15.04	86.64	8.1	33.10	8.1	24.5	0.87
A7	30 Oct 2023	9	14.77	88.91	8.1	33.09	8.1	24.6	1.00
A7	30 Oct 2023	10	14.43	88.98	7.9	33.11	8.1	24.6	1.18
A7	30 Oct 2023	11	14.32	88.90	7.7	33.13	8.1	24.7	1.27
A7	30 Oct 2023	12	14.08	88.87	7.3	33.16	8.1	24.8	1.12
A7	30 Oct 2023	13	13.96	89.00	7.2	33.17	8.0	24.8	1.10
A7	30 Oct 2023	14	13.95	89.12	7.2	33.17	8.0	24.8	1.04
A7	30 Oct 2023	15	13.94	89.40	7.2	33.17	8.0	24.8	1.04
A7	30 Oct 2023	16	13.89	89.45	7.1	33.18	8.0	24.8	1.05
A7	30 Oct 2023	17	13.85	89.47	7.1	33.18	8.0	24.8	1.02
A7	30 Oct 2023	18	13.80	89.67	7.0	33.18	8.0	24.8	0.96

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
A7	30 Oct 2023	19	13.75	89.88	7.0	33.19	8.0	24.8	0.91
C4	02 Oct 2023	1	18.83	78.14	7.2	33.28	8.1	23.8	0.70
C4	02 Oct 2023	2	18.86	78.00	7.2	33.28	8.1	23.7	0.68
C4	02 Oct 2023	3	18.81	78.00	7.2	33.28	8.1	23.8	0.72
C4	02 Oct 2023	4	18.54	78.29	7.1	33.27	8.1	23.8	0.80
C4	02 Oct 2023	5	17.97	79.40	7.0	33.26	8.1	23.9	0.75
C4	02 Oct 2023	6	17.61	81.24	7.0	33.23	8.1	24.0	0.72
C4	02 Oct 2023	7	17.12	81.67	6.6	33.23	8.1	24.1	0.59
C4	02 Oct 2023	8	16.08	79.56	6.6	33.20	8.0	24.3	0.46
C4	02 Oct 2023	9	15.87	71.53	6.6	33.17	8.0	24.4	0.41
C4	02 Oct 2023	10	15.79	62.69	6.6	33.17	8.0	24.4	0.45
C4	02 Oct 2023	11	15.72	54.23	6.7	33.17	8.0	24.4	0.47
C4	09 Oct 2023	1	17.62	80.11	8.3	33.18	8.1	24.0	2.12
C4	09 Oct 2023	2	17.60	79.95	8.3	33.18	8.1	24.0	2.83
C4	09 Oct 2023	3	17.51	79.43	8.3	33.18	8.1	24.0	4.43
C4	09 Oct 2023	4	17.42	77.21	8.2	33.17	8.1	24.0	5.45
C4	09 Oct 2023	5	17.14	75.76	8.1	33.16	8.1	24.1	4.86
C4	09 Oct 2023	6	16.92	77.41	8.1	33.16	8.1	24.1	3.45
C4	09 Oct 2023	7	16.74	81.86	8.2	33.15	8.1	24.2	2.06
C4	09 Oct 2023	8	16.56	85.40	8.2	33.14	8.1	24.2	1.39
C4	09 Oct 2023	9	16.38	85.55	8.1	33.14	8.1	24.2	1.29
C4	09 Oct 2023	10	16.04	85.71	7.7	33.12	8.1	24.3	1.00
C4	09 Oct 2023	11	15.53	82.56	7.5	33.11	8.1	24.4	0.57
C4	16 Oct 2023	1	18.18	75.93	7.9	33.18	8.1	23.8	1.58
C4	16 Oct 2023	2	17.96	75.55	7.7	33.17	8.1	23.9	1.84
C4	16 Oct 2023	3	17.73	74.41	7.5	33.17	8.1	23.9	2.12
C4	16 Oct 2023	4	17.55	74.03	7.4	33.17	8.1	24.0	2.06
C4	16 Oct 2023	5	17.23	74.95	7.3	33.15	8.1	24.0	1.68
C4	16 Oct 2023	6	16.56	76.41	7.2	33.16	8.1	24.2	1.33
C4	16 Oct 2023	7	16.39	77.97	7.1	33.16	8.0	24.2	1.12
C4	16 Oct 2023	8	16.32	78.67	6.9	33.15	8.0	24.3	0.89
C4	16 Oct 2023	9	16.20	72.51	6.8	33.16	8.0	24.3	0.69
C4	16 Oct 2023	10	16.12	61.12	6.8	33.16	8.0	24.3	0.57
C4	16 Oct 2023	11	16.02	63.02	6.8	33.16	8.0	24.3	0.50
C4	16 Oct 2023	12	16.09	63.97	6.6	33.16	8.0	24.3	1.26
C4	16 Oct 2023	13	16.14	34.44	6.5	33.09	8.0	24.2	5.17
C4	24 Oct 2023	1	16.31	79.27	6.7	33.11	8.1	24.2	0.75
C4	24 Oct 2023	2	16.30	78.96	6.6	33.13	8.1	24.2	0.76
C4	24 Oct 2023	3	16.27	78.60	6.7	33.16	8.1	24.3	0.76
C4	24 Oct 2023	4	16.24	78.74	6.5	33.16	8.1	24.3	0.74
C4	24 Oct 2023	5	16.01	78.39	6.8	33.27	8.1	24.4	0.74
C4	24 Oct 2023	6	15.28	78.33	7.1	33.57	8.1	24.8	0.73
C4	24 Oct 2023	7	15.16	77.98	6.9	33.77	8.0	25.0	0.73
C4	24 Oct 2023	8	15.11	81.40	6.6	33.75	8.0	25.0	0.84
C4	24 Oct 2023	9	14.74	81.31	6.9	33.87	8.0	25.2	0.83
C4	24 Oct 2023	10	14.61	75.73	7.2	33.41	8.0	24.8	0.84
C4	30 Oct 2023	1	16.36	84.68	8.1	33.17	8.1	24.3	1.29
C4	30 Oct 2023	2	16.39	84.75	8.1	33.17	8.1	24.2	1.30
C4	30 Oct 2023	3	16.12	84.63	8.0	33.15	8.1	24.3	1.39
C4	30 Oct 2023	4	15.66	84.43	7.9	33.14	8.1	24.4	1.33
C4	30 Oct 2023	5	15.40	85.16	7.7	33.15	8.1	24.5	1.20
C4	30 Oct 2023	6	15.17	86.23	7.5	33.16	8.1	24.5	1.05
C4	30 Oct 2023	7	15.04	87.00	7.3	33.17	8.1	24.6	0.91
C4	30 Oct 2023	8	14.96	87.10	7.1	33.17	8.1	24.6	0.87
C4	30 Oct 2023	9	14.85	86.57	6.9	33.18	8.0	24.6	0.81
C4	30 Oct 2023	10	14.78	85.88	6.8	33.18	8.0	24.6	0.71

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
C4	30 Oct 2023	11	14.67	85.00	6.7	33.19	8.0	24.6	0.60
C4	30 Oct 2023	12	14.66	83.55	6.7	33.19	8.0	24.6	0.50
C5	02 Oct 2023	1	18.86	78.86	7.4	33.28	8.1	23.7	0.55
C5	02 Oct 2023	2	18.70	78.92	7.3	33.28	8.1	23.8	0.65
C5	02 Oct 2023	3	18.23	79.15	7.1	33.27	8.1	23.9	0.67
C5	02 Oct 2023	4	17.06	79.66	6.7	33.24	8.1	24.1	0.53
C5	02 Oct 2023	5	15.28	80.72	6.9	33.17	8.0	24.5	0.46
C5	02 Oct 2023	6	15.15	81.69	7.1	33.14	8.0	24.5	0.46
C5	02 Oct 2023	7	14.91	82.14	7.3	33.13	8.0	24.5	0.55
C5	02 Oct 2023	8	14.76	82.36	7.4	33.12	8.0	24.6	0.62
C5	02 Oct 2023	9	14.74	81.09	7.5	33.12	8.0	24.6	0.67
C5	02 Oct 2023	10	14.73	78.17	7.5	33.12	8.0	24.6	0.65
C5	09 Oct 2023	1	18.15	76.47	7.6	33.20	8.1	23.9	1.81
C5	09 Oct 2023	2	17.85	76.27	7.7	33.18	8.1	23.9	3.84
C5	09 Oct 2023	3	17.34	74.08	8.1	33.18	8.1	24.0	8.00
C5	09 Oct 2023	4	17.20	72.88	8.1	33.16	8.1	24.1	10.03
C5	09 Oct 2023	5	16.64	72.94	7.6	33.16	8.1	24.2	6.94
C5	09 Oct 2023	6	16.33	79.87	7.1	33.15	8.1	24.2	3.65
C5	09 Oct 2023	7	15.96	82.76	6.8	33.15	8.0	24.3	2.04
C5	09 Oct 2023	8	15.68	84.61	6.7	33.15	8.0	24.4	1.23
C5	09 Oct 2023	9	15.59	85.80	6.7	33.14	8.0	24.4	0.87
C5	09 Oct 2023	10	15.22	86.32	6.7	33.14	8.0	24.5	0.90
C5	09 Oct 2023	11	15.22	85.94	6.8	33.14	8.0	24.5	0.66
C5	16 Oct 2023	1	17.98	69.97	7.8	33.18	8.1	23.9	0.81
C5	16 Oct 2023	2	17.97	69.67	7.7	33.17	8.1	23.9	0.92
C5	16 Oct 2023	3	17.84	69.35	7.6	33.18	8.1	23.9	1.04
C5	16 Oct 2023	4	16.98	69.50	7.1	33.13	8.1	24.1	0.84
C5	16 Oct 2023	5	15.67	72.91	7.1	33.16	8.0	24.4	0.71
C5	16 Oct 2023	6	15.45	76.16	7.3	33.15	8.0	24.4	0.76
C5	16 Oct 2023	7	15.16	77.45	7.5	33.11	8.0	24.5	0.80
C5	16 Oct 2023	8	14.93	80.41	7.6	33.12	8.0	24.5	0.87
C5	16 Oct 2023	9	14.85	83.28	7.7	33.11	8.0	24.5	0.86
C5	16 Oct 2023	10	14.79	83.77	7.7	33.11	8.1	24.6	0.84
C5	16 Oct 2023	11	14.76	82.85	7.7	33.11	8.1	24.6	0.81
C5	24 Oct 2023	1	16.52	59.56	5.8	33.00	8.0	24.1	0.75
C5	24 Oct 2023	2	16.52	59.32	5.5	33.08	8.0	24.1	0.74
C5	24 Oct 2023	3	16.39	63.27	5.8	33.16	8.0	24.2	0.66
C5	24 Oct 2023	4	15.27	73.12	6.1	33.70	8.0	24.9	0.68
C5	24 Oct 2023	5	14.86	73.81	6.0	33.58	8.0	24.9	0.65
C5	24 Oct 2023	6	14.74	73.04	5.7	33.63	8.0	25.0	0.64
C5	24 Oct 2023	7	14.67	74.12	5.9	33.71	8.0	25.1	0.71
C5	24 Oct 2023	8	14.49	70.11	6.2	33.36	8.0	24.8	0.67
C5	24 Oct 2023	9	14.33	74.48	6.4	33.35	8.0	24.8	0.69
C5	24 Oct 2023	10	14.26	59.60	6.5	33.29	8.0	24.8	0.64
C5	24 Oct 2023	11	14.27	8.51	6.5	33.22	8.0	24.8	0.62
C5	30 Oct 2023	1	17.73	80.40	7.7	33.23	8.1	24.0	0.53
C5	30 Oct 2023	2	17.72	77.49	7.7	33.23	8.1	24.0	0.53
C5	30 Oct 2023	3	17.69	82.29	7.6	33.23	8.1	24.0	0.59
C5	30 Oct 2023	4	17.53	83.70	7.4	33.22	8.1	24.0	0.76
C5	30 Oct 2023	5	16.79	84.28	7.2	33.20	8.1	24.2	0.87
C5	30 Oct 2023	6	16.01	84.55	7.2	33.19	8.1	24.4	1.04
C5	30 Oct 2023	7	15.45	84.50	6.9	33.16	8.1	24.5	0.98
C5	30 Oct 2023	8	15.16	85.47	6.7	33.17	8.0	24.5	0.63
C5	30 Oct 2023	9	15.11	85.15	6.7	33.17	8.0	24.5	0.46
C5	30 Oct 2023	10	15.07	82.96	6.8	33.17	8.0	24.5	0.46

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
C6	02 Oct 2023	1	18.89	74.05	7.0	33.29	8.1	23.7	0.55
C6	02 Oct 2023	2	18.64	74.00	7.0	33.29	8.1	23.8	0.65
C6	02 Oct 2023	3	17.48	75.15	7.2	33.25	8.1	24.1	0.82
C6	02 Oct 2023	4	16.77	81.15	7.2	33.21	8.1	24.2	0.71
C6	02 Oct 2023	5	16.36	83.76	7.2	33.19	8.1	24.3	0.59
C6	02 Oct 2023	6	15.53	84.74	7.2	33.18	8.1	24.5	0.56
C6	02 Oct 2023	7	15.14	84.66	7.3	33.15	8.1	24.5	0.61
C6	02 Oct 2023	8	14.90	84.97	7.4	33.14	8.0	24.6	0.58
C6	02 Oct 2023	9	14.87	85.15	7.5	33.13	8.0	24.6	0.60
C6	09 Oct 2023	1	17.52	80.07	8.0	33.19	8.1	24.0	1.73
C6	09 Oct 2023	2	17.50	80.18	8.0	33.19	8.1	24.0	2.10
C6	09 Oct 2023	3	17.26	79.67	7.8	33.16	8.1	24.0	3.52
C6	09 Oct 2023	4	16.59	77.04	7.8	33.17	8.1	24.2	5.01
C6	09 Oct 2023	5	16.48	79.12	7.9	33.16	8.1	24.2	4.62
C6	09 Oct 2023	6	16.44	79.87	7.7	33.15	8.1	24.2	4.16
C6	09 Oct 2023	7	16.14	82.69	7.7	33.16	8.1	24.3	3.16
C6	09 Oct 2023	8	16.13	84.42	7.5	33.15	8.1	24.3	2.80
C6	09 Oct 2023	9	15.73	84.90	7.3	33.14	8.1	24.4	2.21
C6	09 Oct 2023	10	15.39	85.14	7.3	33.16	8.1	24.5	1.59
C6	16 Oct 2023	1	18.49	70.02	7.4	33.18	8.0	23.8	0.76
C6	16 Oct 2023	2	18.44	69.78	7.4	33.17	8.0	23.8	0.87
C6	16 Oct 2023	3	18.35	68.57	7.5	33.18	8.1	23.8	0.92
C6	16 Oct 2023	4	18.22	70.08	7.3	33.16	8.1	23.8	0.92
C6	16 Oct 2023	5	17.46	71.37	7.1	33.11	8.1	24.0	0.82
C6	16 Oct 2023	6	16.11	76.91	7.0	33.16	8.1	24.3	0.76
C6	16 Oct 2023	7	15.69	80.18	7.2	33.15	8.0	24.4	0.78
C6	16 Oct 2023	8	15.41	79.48	7.4	33.14	8.0	24.5	0.83
C6	16 Oct 2023	9	15.27	81.24	7.5	33.13	8.1	24.5	0.84
C6	16 Oct 2023	10	15.13	81.57	7.6	33.13	8.1	24.5	0.84
C6	24 Oct 2023	1	16.73	69.78	5.9	33.14	8.0	24.2	0.76
C6	24 Oct 2023	2	16.73	68.62	5.9	33.16	8.0	24.2	0.76
C6	24 Oct 2023	3	16.69	69.39	6.0	33.18	8.0	24.2	0.76
C6	24 Oct 2023	4	15.87	71.40	5.9	33.83	8.0	24.9	0.76
C6	24 Oct 2023	5	15.40	77.49	5.9	33.96	8.1	25.1	0.76
C6	24 Oct 2023	6	15.12	81.19	5.8	33.62	8.1	24.9	0.81
C6	24 Oct 2023	7	15.02	83.10	5.7	33.98	8.0	25.2	0.77
C6	24 Oct 2023	8	14.85	80.35	6.3	33.86	8.0	25.1	0.73
C6	24 Oct 2023	9	14.73	77.30	6.6	33.31	8.0	24.7	0.70
C6	30 Oct 2023	1	17.65	83.20	7.6	33.23	8.1	24.0	0.74
C6	30 Oct 2023	2	17.66	83.13	7.5	33.23	8.1	24.0	0.78
C6	30 Oct 2023	3	17.13	83.47	7.4	33.16	8.1	24.1	0.94
C6	30 Oct 2023	4	15.58	84.22	7.8	33.12	8.1	24.4	0.89
C6	30 Oct 2023	5	15.40	86.36	7.8	33.10	8.1	24.4	0.74
C6	30 Oct 2023	6	15.25	88.01	7.7	33.11	8.1	24.5	0.68
C6	30 Oct 2023	7	15.18	89.15	7.5	33.12	8.1	24.5	0.64
C6	30 Oct 2023	8	15.08	88.93	7.3	33.13	8.1	24.5	0.60
C6	30 Oct 2023	9	14.97	88.64	7.2	33.13	8.1	24.5	0.55
C6	30 Oct 2023	10	14.90	88.41	7.2	33.14	8.0	24.6	0.51
C7	02 Oct 2023	1	18.76	84.06	8.0	33.28	8.2	23.8	1.02
C7	02 Oct 2023	2	18.71	84.09	8.0	33.28	8.2	23.8	1.31
C7	02 Oct 2023	3	18.63	83.57	8.1	33.27	8.2	23.8	2.60
C7	02 Oct 2023	4	18.20	81.39	7.9	33.26	8.2	23.9	4.07
C7	02 Oct 2023	5	17.46	79.61	7.8	33.24	8.1	24.1	2.97
C7	02 Oct 2023	6	16.80	82.24	7.6	33.21	8.1	24.2	2.03
C7	02 Oct 2023	7	16.06	84.83	7.5	33.19	8.1	24.3	1.52
C7	02 Oct 2023	8	15.28	86.22	7.5	33.16	8.1	24.5	1.24

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
C7	02 Oct 2023	9	15.00	86.74	7.4	33.15	8.1	24.5	1.07
C7	02 Oct 2023	10	14.80	87.27	7.4	33.14	8.0	24.6	0.94
C7	02 Oct 2023	11	14.75	87.62	7.4	33.14	8.0	24.6	0.88
C7	02 Oct 2023	12	14.69	87.67	7.5	33.14	8.0	24.6	0.81
C7	02 Oct 2023	13	14.68	87.66	7.5	33.14	8.0	24.6	0.82
C7	02 Oct 2023	14	14.64	87.11	7.4	33.15	8.0	24.6	0.81
C7	02 Oct 2023	15	14.63	84.93	7.4	33.15	8.0	24.6	0.81
C7	02 Oct 2023	16	14.52	87.51	7.4	33.15	8.0	24.6	0.87
C7	02 Oct 2023	17	14.48	87.68	7.3	33.15	8.0	24.7	0.90
C7	02 Oct 2023	18	13.86	87.55	7.4	33.13	8.0	24.8	0.71
C7	02 Oct 2023	19	13.85	87.65	7.5	33.14	8.0	24.8	0.63
C7	09 Oct 2023	1	17.52	82.80	8.0	33.18	8.1	24.0	2.53
C7	09 Oct 2023	2	17.18	81.88	7.8	33.15	8.1	24.1	2.92
C7	09 Oct 2023	3	16.50	82.01	7.8	33.16	8.1	24.2	3.60
C7	09 Oct 2023	4	16.54	82.26	7.8	33.16	8.1	24.2	3.67
C7	09 Oct 2023	5	16.22	82.55	7.8	33.14	8.1	24.3	3.31
C7	09 Oct 2023	6	16.00	83.89	7.8	33.15	8.1	24.3	2.61
C7	09 Oct 2023	7	15.98	85.69	7.9	33.15	8.1	24.3	2.28
C7	09 Oct 2023	8	15.99	85.90	7.8	33.14	8.1	24.3	2.15
C7	09 Oct 2023	9	15.92	86.15	7.8	33.15	8.1	24.3	1.98
C7	09 Oct 2023	10	15.93	86.72	7.8	33.15	8.1	24.3	1.95
C7	09 Oct 2023	11	15.92	86.82	7.8	33.15	8.1	24.3	1.85
C7	09 Oct 2023	12	15.90	86.84	7.6	33.15	8.1	24.3	1.83
C7	09 Oct 2023	13	15.73	87.12	7.6	33.14	8.1	24.4	1.74
C7	09 Oct 2023	14	15.58	87.39	7.4	33.14	8.1	24.4	1.63
C7	09 Oct 2023	15	14.87	88.06	7.3	33.13	8.1	24.6	1.36
C7	09 Oct 2023	16	14.66	89.31	7.3	33.13	8.1	24.6	1.18
C7	09 Oct 2023	17	14.45	89.57	7.2	33.14	8.1	24.7	1.03
C7	09 Oct 2023	18	14.34	90.02	7.1	33.15	8.0	24.7	0.84
C7	09 Oct 2023	19	14.32	90.43	7.1	33.16	8.0	24.7	0.81
C7	16 Oct 2023	1	18.49	78.78	8.9	33.18	8.2	23.8	2.08
C7	16 Oct 2023	2	18.38	78.61	9.0	33.18	8.2	23.8	2.47
C7	16 Oct 2023	3	18.27	79.08	8.9	33.18	8.2	23.8	2.95
C7	16 Oct 2023	4	18.12	79.90	8.7	33.16	8.2	23.8	2.74
C7	16 Oct 2023	5	17.50	81.11	8.2	33.14	8.2	24.0	2.70
C7	16 Oct 2023	6	16.82	82.95	7.5	33.16	8.1	24.1	2.70
C7	16 Oct 2023	7	16.38	83.45	7.2	33.15	8.1	24.2	2.58
C7	16 Oct 2023	8	15.98	83.22	7.2	33.17	8.0	24.3	2.37
C7	16 Oct 2023	9	15.96	83.51	7.2	33.16	8.0	24.3	2.21
C7	16 Oct 2023	10	15.90	83.84	7.2	33.16	8.0	24.4	2.25
C7	16 Oct 2023	11	15.75	83.93	7.2	33.17	8.0	24.4	2.09
C7	16 Oct 2023	12	15.68	84.01	7.1	33.17	8.0	24.4	1.98
C7	16 Oct 2023	13	15.60	84.06	7.1	33.15	8.0	24.4	1.68
C7	16 Oct 2023	14	15.32	84.74	7.1	33.17	8.0	24.5	1.50
C7	16 Oct 2023	15	14.98	86.28	7.0	33.16	8.0	24.6	1.26
C7	16 Oct 2023	16	14.46	87.25	6.8	33.19	8.0	24.7	0.87
C7	16 Oct 2023	17	14.23	88.42	6.7	33.22	8.0	24.8	0.65
C7	16 Oct 2023	18	14.20	88.24	6.6	33.22	8.0	24.8	0.48
C7	24 Oct 2023	1	17.20	76.80	7.2	33.12	8.1	24.0	0.78
C7	24 Oct 2023	2	17.21	76.62	7.2	33.15	8.1	24.0	0.78
C7	24 Oct 2023	3	17.12	76.43	7.0	33.22	8.1	24.1	0.78
C7	24 Oct 2023	4	16.39	76.36	7.2	33.67	8.1	24.6	0.78
C7	24 Oct 2023	5	15.61	79.93	7.2	33.96	8.1	25.0	0.77
C7	24 Oct 2023	6	15.29	85.27	7.3	33.92	8.1	25.1	0.73
C7	24 Oct 2023	7	15.19	86.18	7.4	33.63	8.1	24.9	0.71
C7	24 Oct 2023	8	15.13	86.28	7.4	33.56	8.1	24.8	0.73
C7	24 Oct 2023	9	15.08	86.43	7.3	33.47	8.1	24.8	0.72
C7	24 Oct 2023	10	15.04	86.48	7.0	33.71	8.1	25.0	0.74

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
C7	24 Oct 2023	11	15.01	86.59	7.1	33.52	8.1	24.8	0.81
C7	24 Oct 2023	12	14.92	86.72	7.2	33.38	8.1	24.7	0.87
C7	24 Oct 2023	13	14.80	86.88	7.2	33.34	8.1	24.7	0.78
C7	24 Oct 2023	14	14.67	87.46	7.2	33.28	8.0	24.7	0.86
C7	24 Oct 2023	15	14.62	87.76	7.0	33.24	8.0	24.7	1.07
C7	24 Oct 2023	16	14.55	87.88	6.9	33.24	8.0	24.7	0.73
C7	24 Oct 2023	17	14.39	88.05	7.0	33.26	8.0	24.8	0.74
C7	24 Oct 2023	18	14.23	87.25	6.9	33.27	8.0	24.8	0.78
C7	30 Oct 2023	1	17.73	85.16	8.1	33.22	8.2	24.0	1.07
C7	30 Oct 2023	2	17.71	84.86	8.0	33.22	8.2	24.0	1.21
C7	30 Oct 2023	3	17.06	84.53	7.8	33.18	8.2	24.1	1.59
C7	30 Oct 2023	4	16.27	83.99	7.7	33.16	8.1	24.3	1.60
C7	30 Oct 2023	5	15.77	84.76	7.9	33.13	8.1	24.4	1.39
C7	30 Oct 2023	6	15.70	86.75	8.1	33.11	8.1	24.4	1.24
C7	30 Oct 2023	7	15.54	88.05	8.2	33.10	8.1	24.4	1.02
C7	30 Oct 2023	8	15.33	89.07	8.2	33.09	8.1	24.4	0.99
C7	30 Oct 2023	9	15.09	89.37	8.2	33.09	8.1	24.5	1.03
C7	30 Oct 2023	10	14.82	89.47	8.1	33.09	8.1	24.5	1.16
C7	30 Oct 2023	11	14.67	89.34	8.1	33.09	8.1	24.6	1.31
C7	30 Oct 2023	12	14.56	89.21	8.0	33.09	8.1	24.6	1.39
C7	30 Oct 2023	13	14.33	89.07	7.9	33.11	8.1	24.7	1.55
C7	30 Oct 2023	14	14.22	88.99	7.7	33.12	8.1	24.7	1.64
C7	30 Oct 2023	15	14.15	88.87	7.4	33.14	8.1	24.7	1.35
C7	30 Oct 2023	16	14.08	89.11	7.2	33.15	8.1	24.7	1.13
C7	30 Oct 2023	17	14.02	89.39	7.0	33.17	8.0	24.8	0.94
C7	30 Oct 2023	18	13.95	89.14	6.8	33.19	8.0	24.8	0.75
C8	02 Oct 2023	1	19.08	84.81	8.0	33.29	8.2	23.7	0.75
C8	02 Oct 2023	2	19.06	84.80	8.0	33.29	8.2	23.7	0.80
C8	02 Oct 2023	3	19.05	84.87	8.0	33.29	8.2	23.7	0.91
C8	02 Oct 2023	4	19.03	84.89	8.0	33.29	8.2	23.7	1.00
C8	02 Oct 2023	5	18.95	84.83	8.0	33.29	8.2	23.7	1.15
C8	02 Oct 2023	6	18.61	84.80	8.0	33.28	8.2	23.8	1.40
C8	02 Oct 2023	7	18.07	84.87	7.8	33.25	8.2	23.9	1.89
C8	02 Oct 2023	8	17.35	84.65	7.6	33.23	8.1	24.1	2.25
C8	02 Oct 2023	9	16.51	84.60	7.5	33.20	8.1	24.2	2.71
C8	02 Oct 2023	10	15.90	84.33	7.5	33.18	8.1	24.4	2.18
C8	02 Oct 2023	11	15.50	86.08	7.4	33.16	8.1	24.4	1.42
C8	02 Oct 2023	12	15.20	86.71	7.4	33.15	8.1	24.5	1.19
C8	02 Oct 2023	13	14.50	87.55	7.4	33.14	8.0	24.6	0.89
C8	02 Oct 2023	14	14.02	88.14	7.5	33.11	8.0	24.7	0.78
C8	02 Oct 2023	15	13.94	88.63	7.6	33.10	8.0	24.7	0.73
C8	02 Oct 2023	16	13.91	88.78	7.6	33.10	8.0	24.7	0.72
C8	02 Oct 2023	17	13.91	88.47	7.6	33.11	8.0	24.7	0.72
C8	02 Oct 2023	18	13.91	88.56	7.6	33.11	8.0	24.7	0.78
C8	02 Oct 2023	19	13.91	88.41	7.6	33.11	8.0	24.7	0.73
C8	02 Oct 2023	20	13.92	88.47	7.5	33.11	8.0	24.7	0.68
C8	09 Oct 2023	1	17.17	82.56	8.1	33.18	8.1	24.1	2.67
C8	09 Oct 2023	2	17.03	82.82	8.1	33.17	8.1	24.1	3.02
C8	09 Oct 2023	3	16.49	82.37	8.0	33.16	8.1	24.2	3.76
C8	09 Oct 2023	4	16.13	82.73	7.9	33.16	8.1	24.3	3.52
C8	09 Oct 2023	5	16.07	84.89	8.0	33.15	8.1	24.3	2.70
C8	09 Oct 2023	6	15.98	86.02	8.0	33.15	8.1	24.3	2.23
C8	09 Oct 2023	7	15.85	86.82	7.8	33.14	8.1	24.4	2.10
C8	09 Oct 2023	8	15.57	87.28	7.6	33.14	8.1	24.4	2.11
C8	09 Oct 2023	9	15.29	87.80	7.5	33.13	8.1	24.5	2.07
C8	09 Oct 2023	10	15.03	88.24	7.5	33.12	8.1	24.5	1.82
C8	09 Oct 2023	11	14.68	88.58	7.4	33.13	8.1	24.6	1.58
C8	09 Oct 2023	12	14.59	88.98	7.4	33.14	8.1	24.6	1.51

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
C8	09 Oct 2023	13	14.69	89.03	7.4	33.13	8.1	24.6	1.39
C8	09 Oct 2023	14	14.53	89.25	7.3	33.14	8.1	24.6	1.36
C8	09 Oct 2023	15	14.46	89.86	7.3	33.15	8.0	24.7	1.16
C8	09 Oct 2023	16	14.40	89.58	7.2	33.15	8.0	24.7	1.05
C8	09 Oct 2023	17	14.32	89.97	7.1	33.17	8.0	24.7	0.85
C8	09 Oct 2023	18	14.26	90.13	6.9	33.17	8.0	24.7	0.77
C8	09 Oct 2023	19	14.16	89.50	6.9	33.19	8.0	24.8	0.82
C8	16 Oct 2023	1	18.52	81.68	9.3	33.18	8.2	23.7	1.70
C8	16 Oct 2023	2	18.44	81.44	9.2	33.17	8.2	23.8	2.57
C8	16 Oct 2023	3	18.22	81.16	9.1	33.17	8.2	23.8	4.73
C8	16 Oct 2023	4	17.98	78.50	8.9	33.17	8.2	23.9	5.44
C8	16 Oct 2023	5	17.83	75.92	8.7	33.17	8.2	23.9	4.75
C8	16 Oct 2023	6	17.68	76.91	8.4	33.15	8.2	23.9	3.76
C8	16 Oct 2023	7	17.12	78.95	8.0	33.15	8.1	24.1	2.79
C8	16 Oct 2023	8	16.67	82.17	7.6	33.16	8.1	24.2	2.07
C8	16 Oct 2023	9	16.34	84.30	7.2	33.16	8.1	24.3	1.71
C8	16 Oct 2023	10	15.81	84.88	7.0	33.16	8.0	24.4	1.48
C8	16 Oct 2023	11	15.50	85.88	6.9	33.17	8.0	24.4	1.37
C8	16 Oct 2023	12	15.21	85.99	6.8	33.17	8.0	24.5	1.28
C8	16 Oct 2023	13	14.97	86.11	6.8	33.18	8.0	24.6	1.04
C8	16 Oct 2023	14	14.69	86.14	6.8	33.19	8.0	24.6	0.83
C8	16 Oct 2023	15	14.65	85.84	6.8	33.19	8.0	24.7	0.75
C8	16 Oct 2023	16	14.64	85.12	6.8	33.19	8.0	24.7	0.67
C8	16 Oct 2023	17	14.64	84.79	6.8	33.20	8.0	24.7	0.63
C8	16 Oct 2023	18	14.63	84.95	6.7	33.20	8.0	24.7	0.70
C8	16 Oct 2023	19	14.61	85.10	6.7	33.20	8.0	24.7	0.65
C8	16 Oct 2023	20	14.59	85.39	6.7	33.21	8.0	24.7	0.64
C8	24 Oct 2023	1	17.45	78.42	6.8	33.02	8.1	23.9	0.76
C8	24 Oct 2023	2	17.45	78.85	7.0	33.10	8.1	23.9	0.77
C8	24 Oct 2023	3	17.45	78.84	6.9	33.11	8.1	24.0	0.76
C8	24 Oct 2023	4	17.22	78.68	7.1	33.29	8.1	24.2	0.77
C8	24 Oct 2023	5	16.51	78.44	7.0	33.67	8.1	24.6	0.71
C8	24 Oct 2023	6	16.23	79.84	7.1	33.81	8.1	24.8	0.72
C8	24 Oct 2023	7	15.74	82.43	7.5	33.58	8.1	24.7	0.72
C8	24 Oct 2023	8	15.53	84.91	7.3	33.55	8.1	24.7	0.71
C8	24 Oct 2023	9	15.57	85.78	7.1	33.78	8.1	24.9	0.82
C8	24 Oct 2023	10	15.32	86.38	7.0	33.63	8.1	24.9	0.85
C8	24 Oct 2023	11	15.06	87.27	7.2	33.66	8.1	24.9	0.80
C8	24 Oct 2023	12	14.93	88.10	7.5	33.37	8.1	24.7	0.84
C8	24 Oct 2023	13	14.83	88.38	7.4	33.24	8.1	24.7	0.78
C8	24 Oct 2023	14	14.82	88.50	7.3	33.21	8.1	24.6	0.84
C8	24 Oct 2023	15	14.77	88.27	7.3	33.25	8.1	24.7	0.95
C8	24 Oct 2023	16	14.64	87.74	7.1	33.24	8.1	24.7	1.19
C8	24 Oct 2023	17	14.58	87.23	7.2	33.25	8.0	24.7	0.89
C8	24 Oct 2023	18	14.42	85.78	7.1	33.22	8.0	24.7	0.86
C8	24 Oct 2023	19	14.30	83.87	6.9	33.22	8.0	24.7	0.82
C8	30 Oct 2023	1	17.99	75.06	8.1	33.23	8.2	23.9	2.19
C8	30 Oct 2023	2	18.00	75.08	8.0	33.22	8.2	23.9	2.60
C8	30 Oct 2023	3	16.99	73.35	7.9	33.19	8.1	24.1	4.98
C8	30 Oct 2023	4	16.70	74.52	7.7	33.18	8.1	24.2	3.39
C8	30 Oct 2023	5	16.40	78.48	7.6	33.17	8.1	24.2	2.23
C8	30 Oct 2023	6	16.06	81.04	7.7	33.15	8.1	24.3	1.77
C8	30 Oct 2023	7	15.78	84.53	7.8	33.13	8.1	24.4	1.43
C8	30 Oct 2023	8	15.33	86.58	7.9	33.11	8.1	24.4	1.28
C8	30 Oct 2023	9	15.04	87.79	8.0	33.10	8.1	24.5	1.24
C8	30 Oct 2023	10	14.66	88.57	8.0	33.09	8.1	24.6	1.35
C8	30 Oct 2023	11	14.46	88.86	8.0	33.10	8.1	24.6	1.48
C8	30 Oct 2023	12	14.42	88.92	7.9	33.10	8.1	24.6	1.54

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
C8	30 Oct 2023	13	14.39	88.96	7.6	33.12	8.1	24.7	1.47
C8	30 Oct 2023	14	14.21	88.96	7.3	33.15	8.1	24.7	1.29
C8	30 Oct 2023	15	14.12	88.98	7.1	33.16	8.0	24.7	1.18
C8	30 Oct 2023	16	14.02	88.85	6.9	33.17	8.0	24.8	1.07
C8	30 Oct 2023	17	13.87	88.64	6.7	33.19	8.0	24.8	0.95
C8	30 Oct 2023	18	13.78	88.13	6.6	33.20	8.0	24.8	0.83
C8	30 Oct 2023	19	13.74	87.86	6.6	33.20	8.0	24.9	0.81
C8	30 Oct 2023	20	13.74	87.69	6.5	33.21	8.0	24.9	0.77

NA = not available

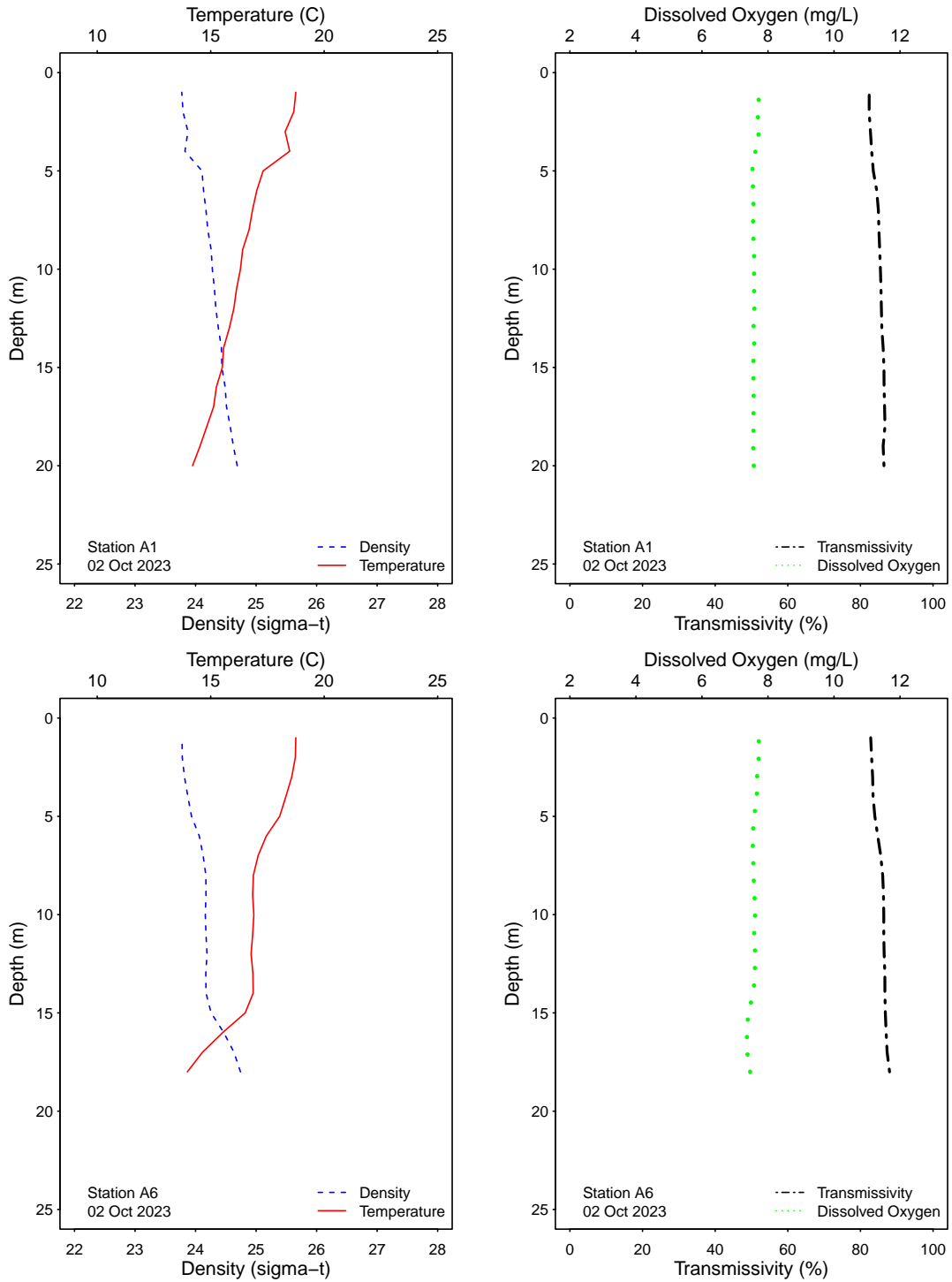


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

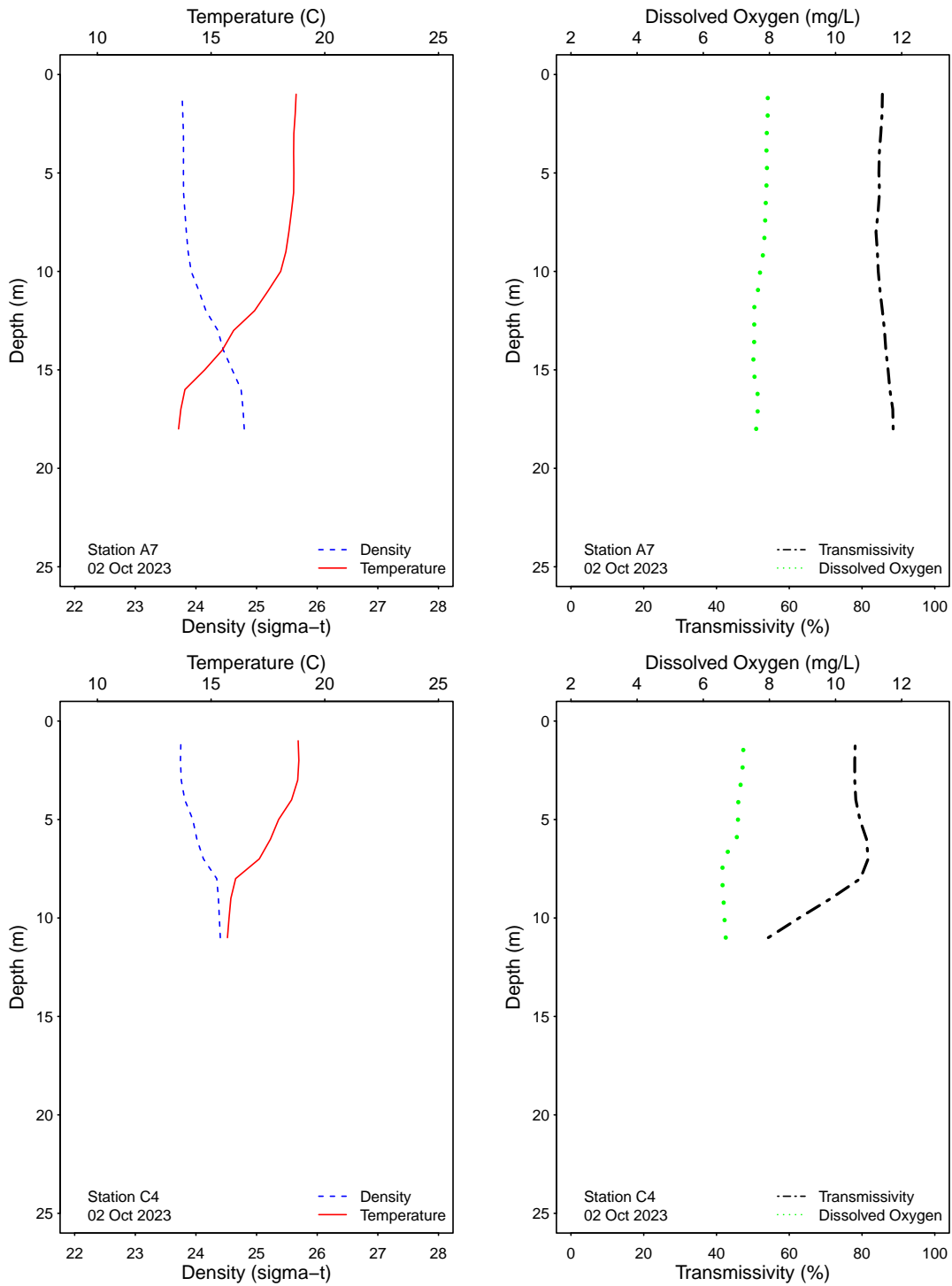


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

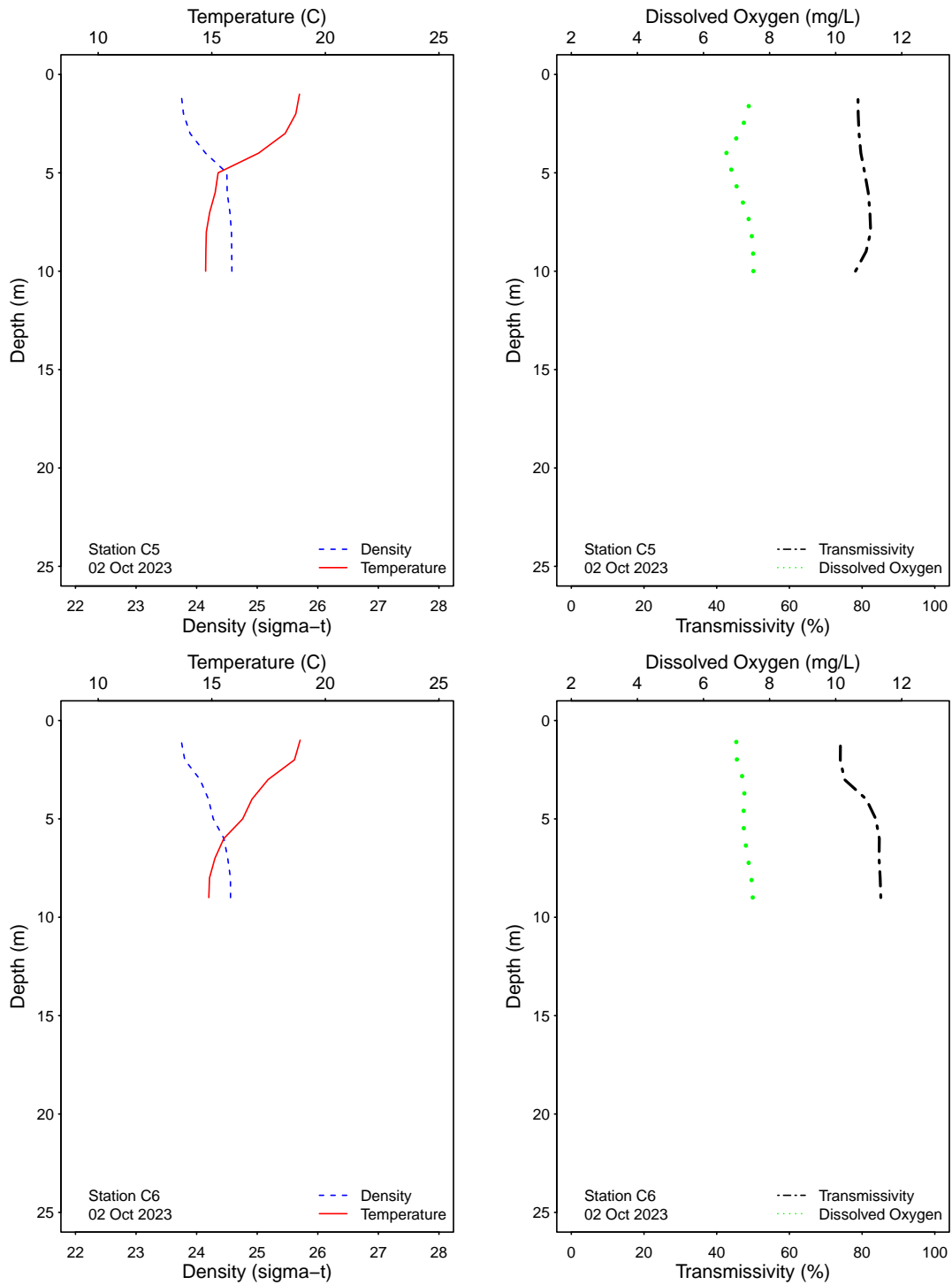


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

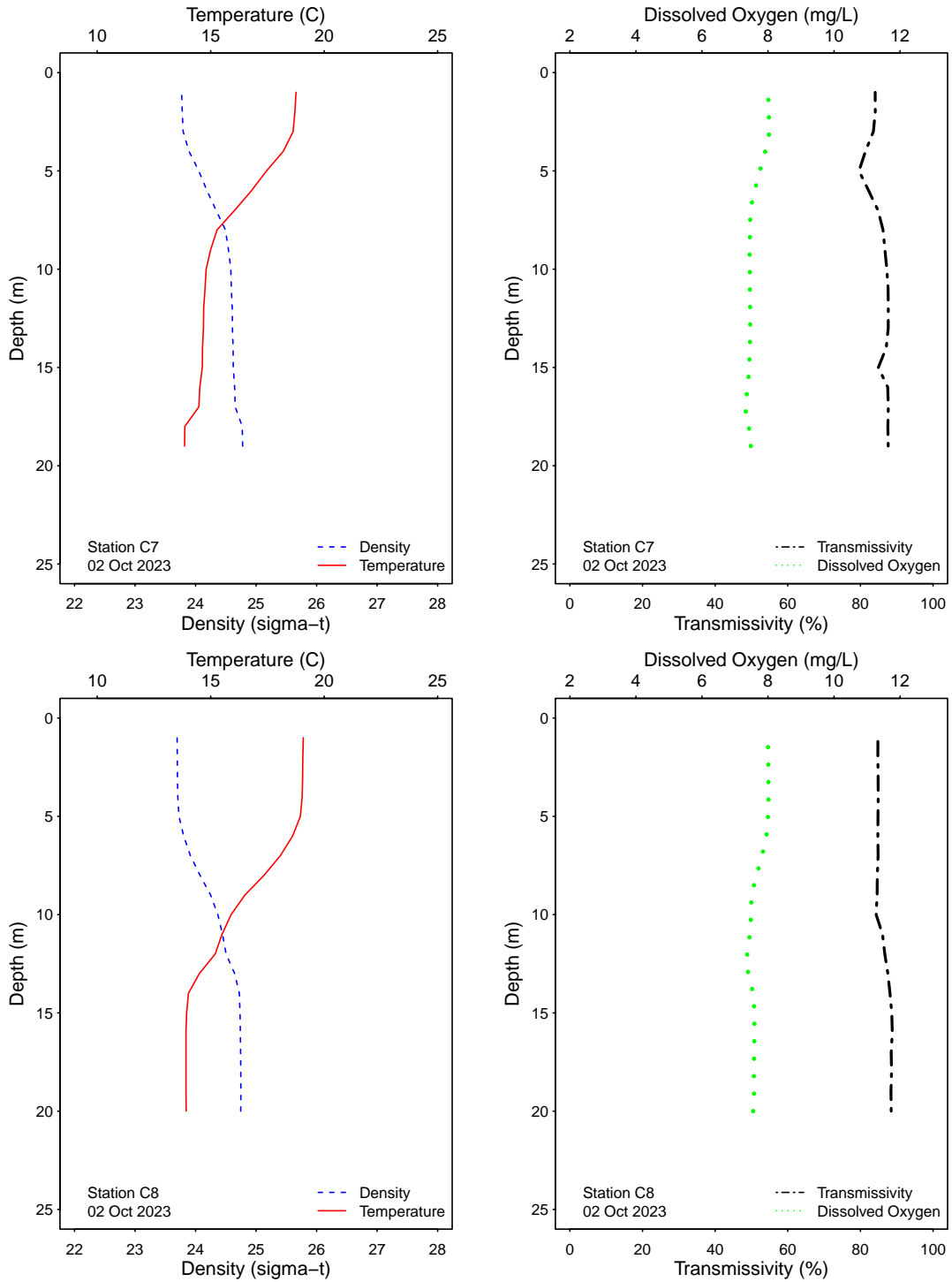


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

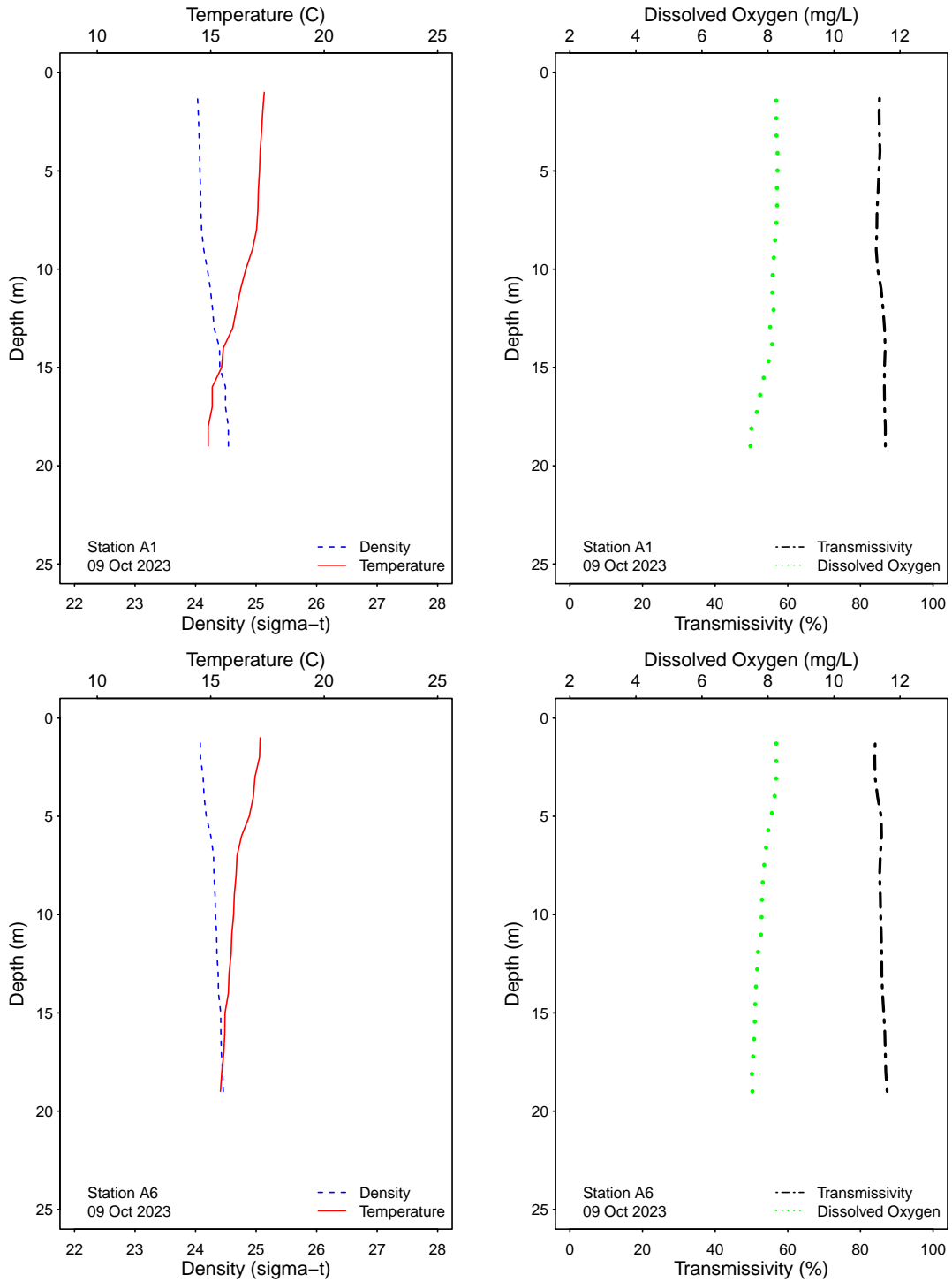


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

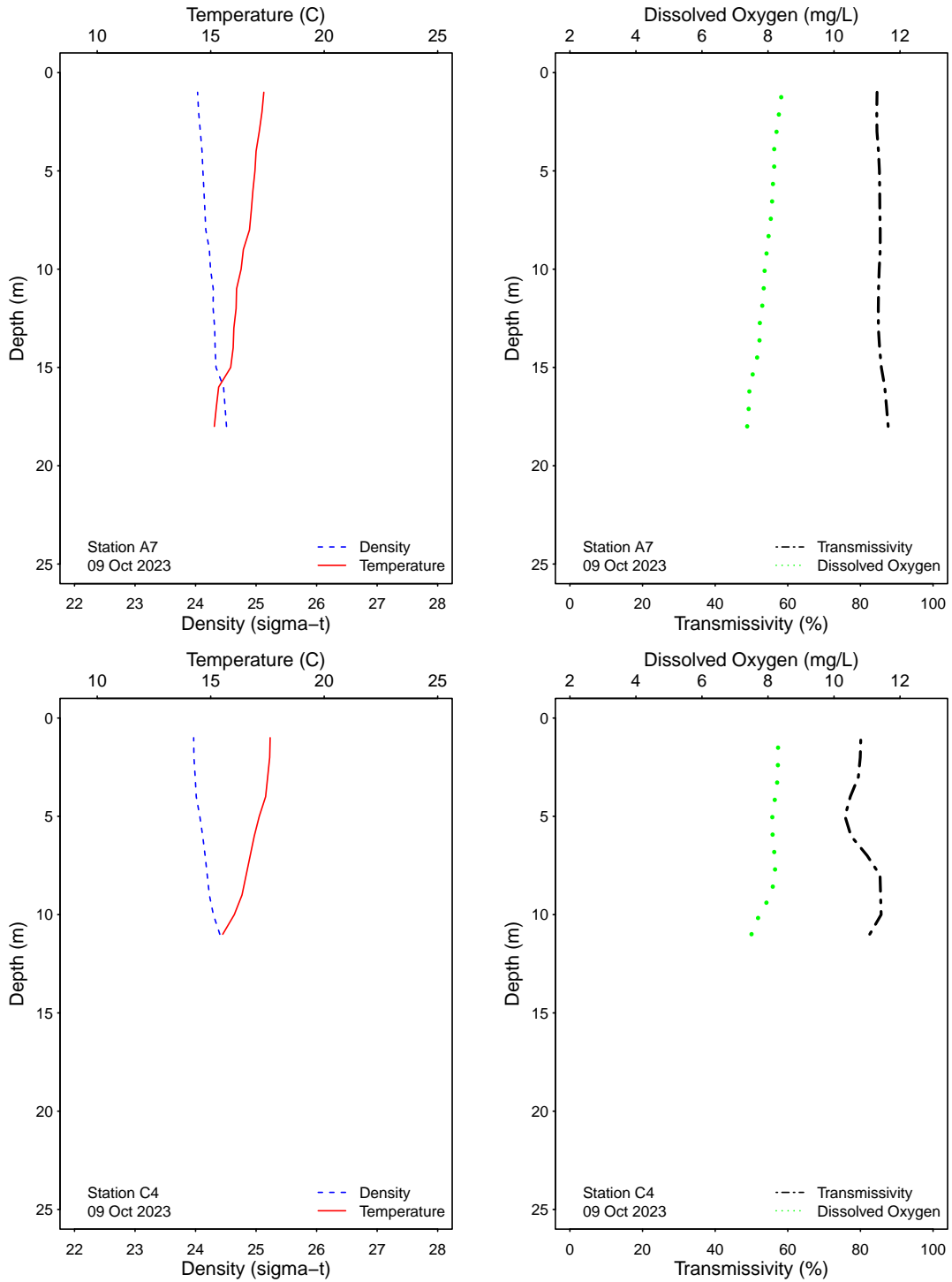


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

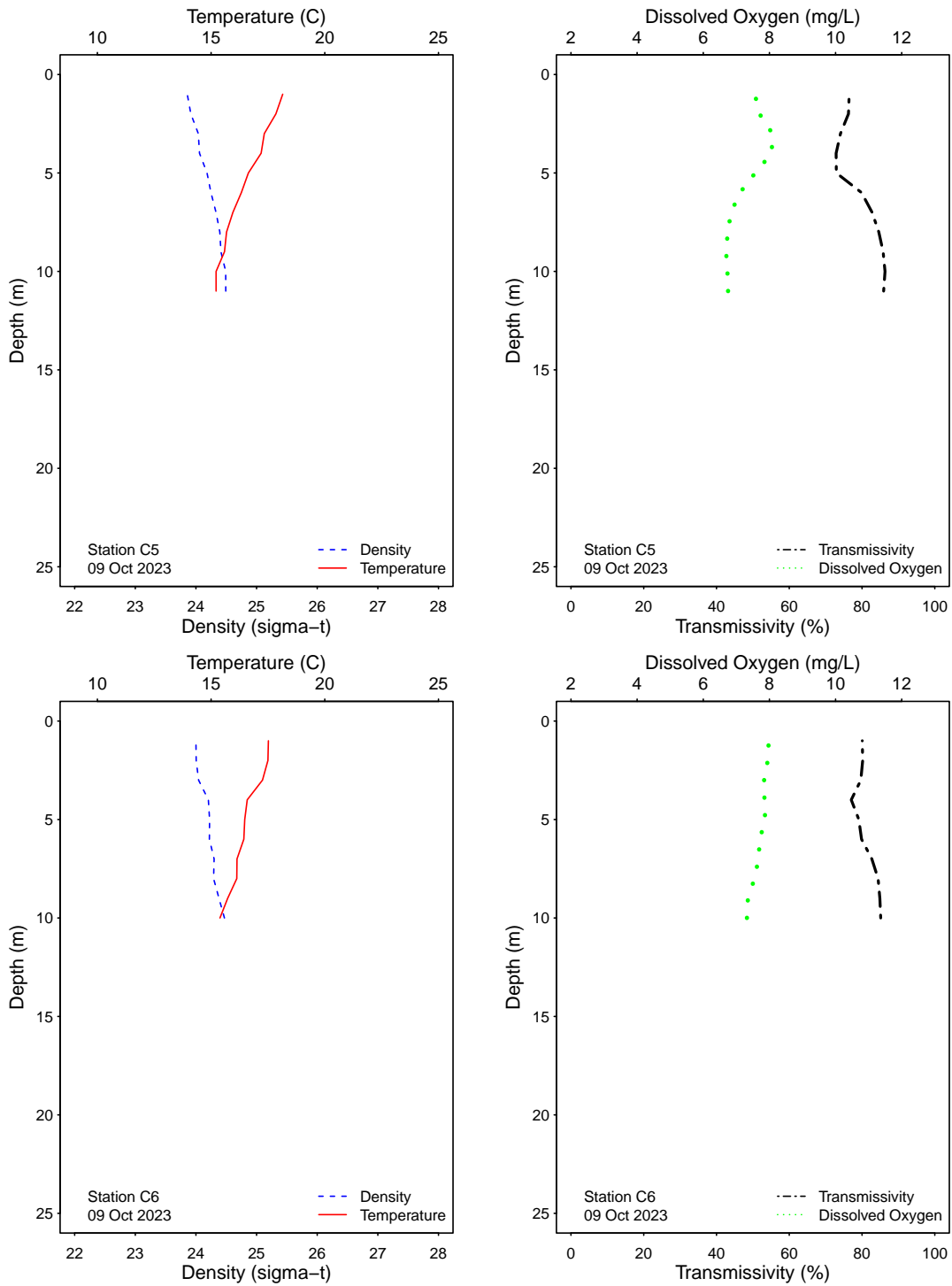


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

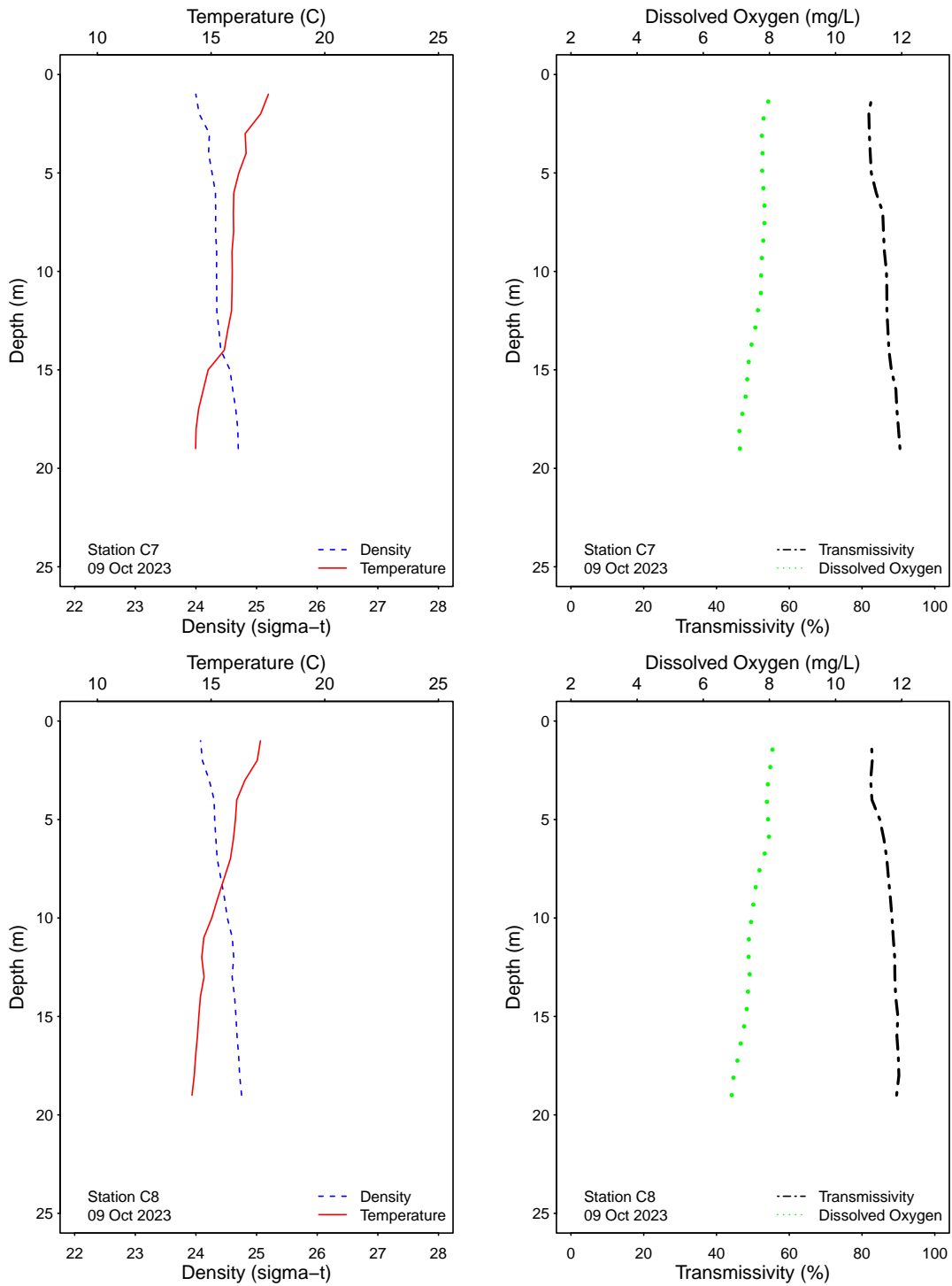


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

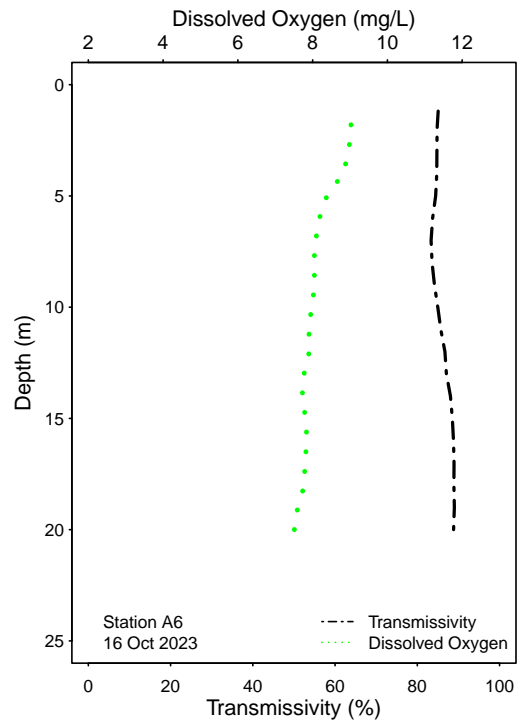
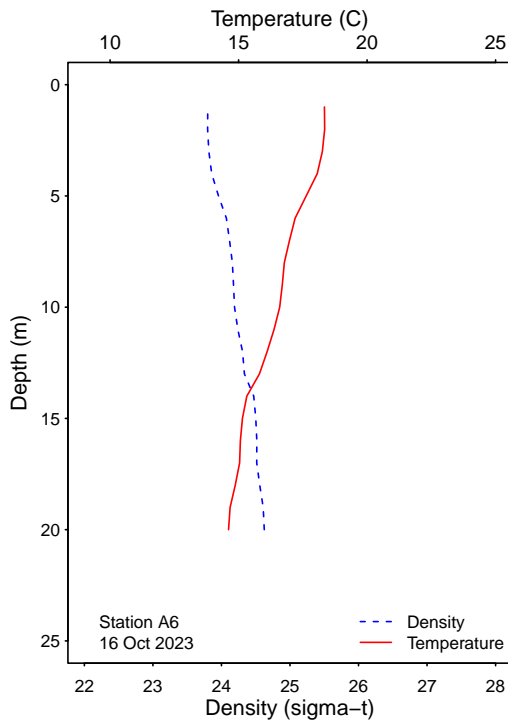
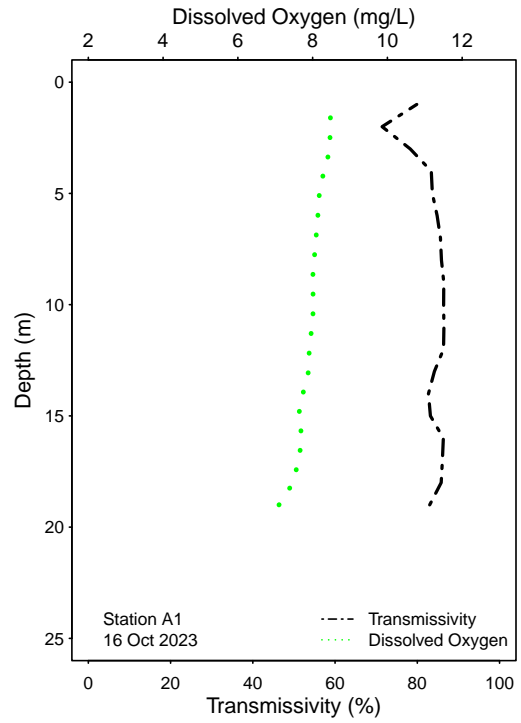
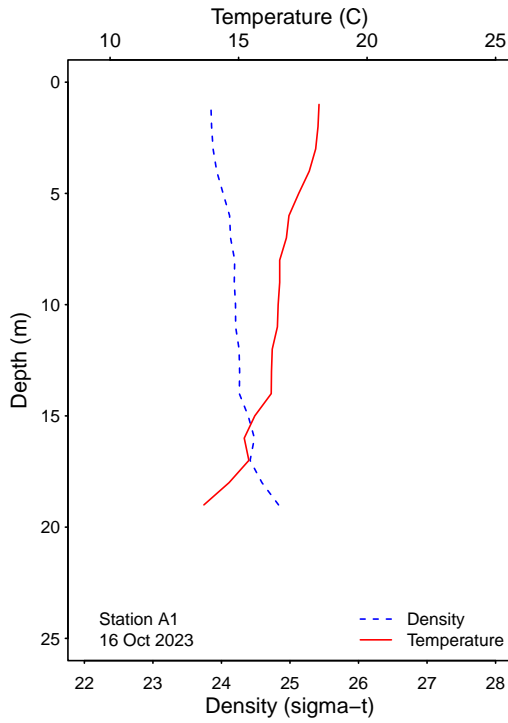


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

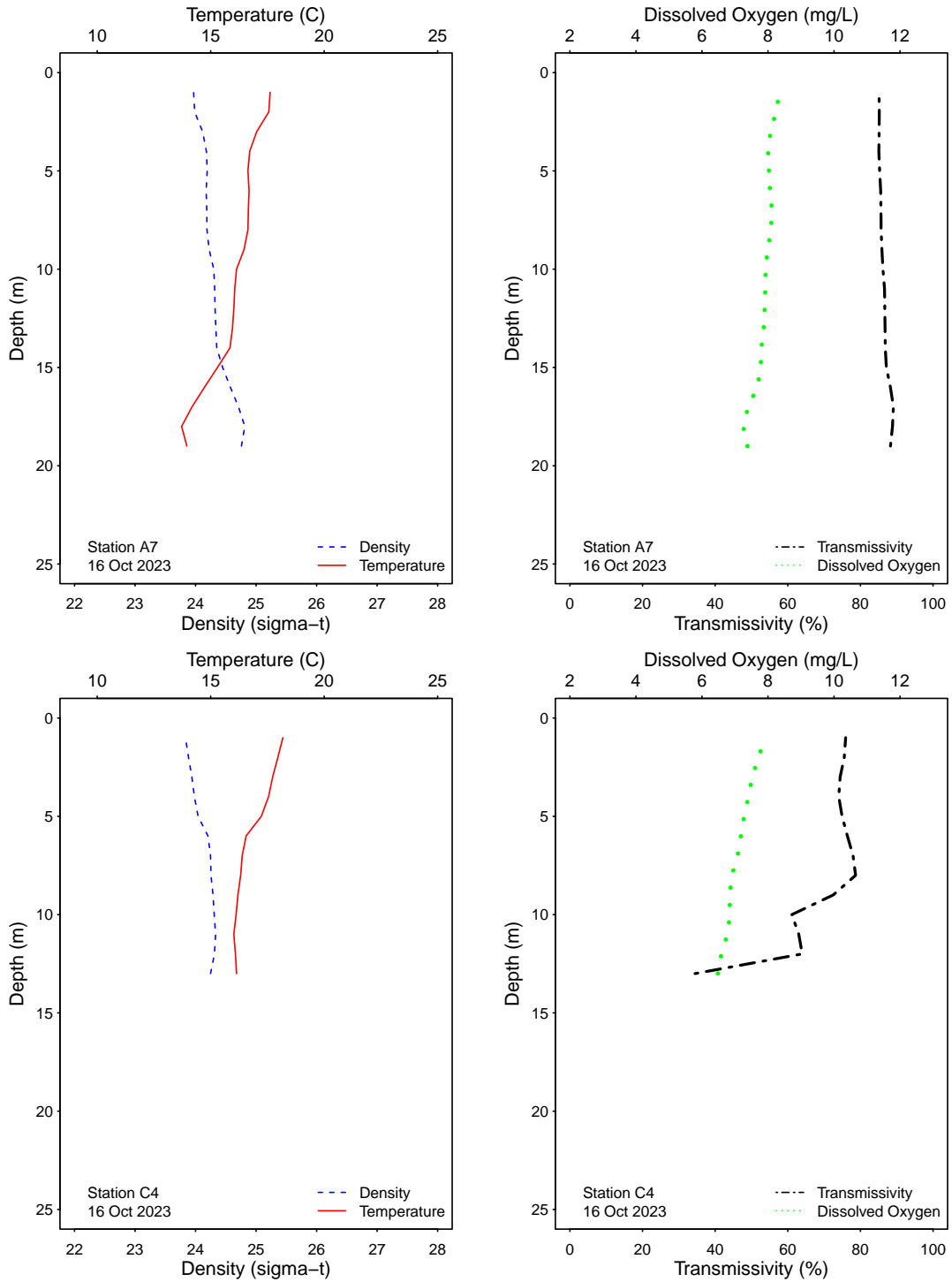


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

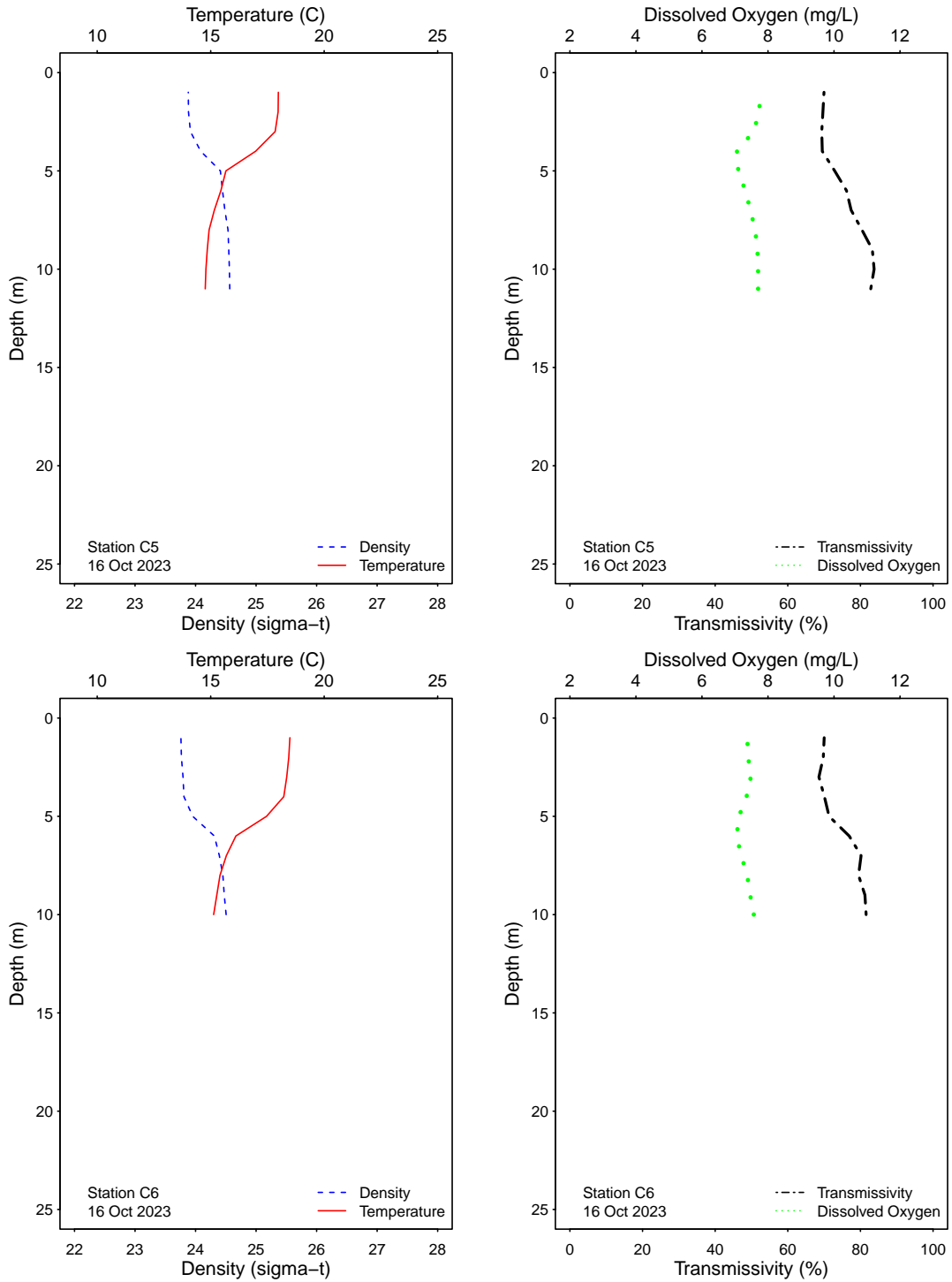


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

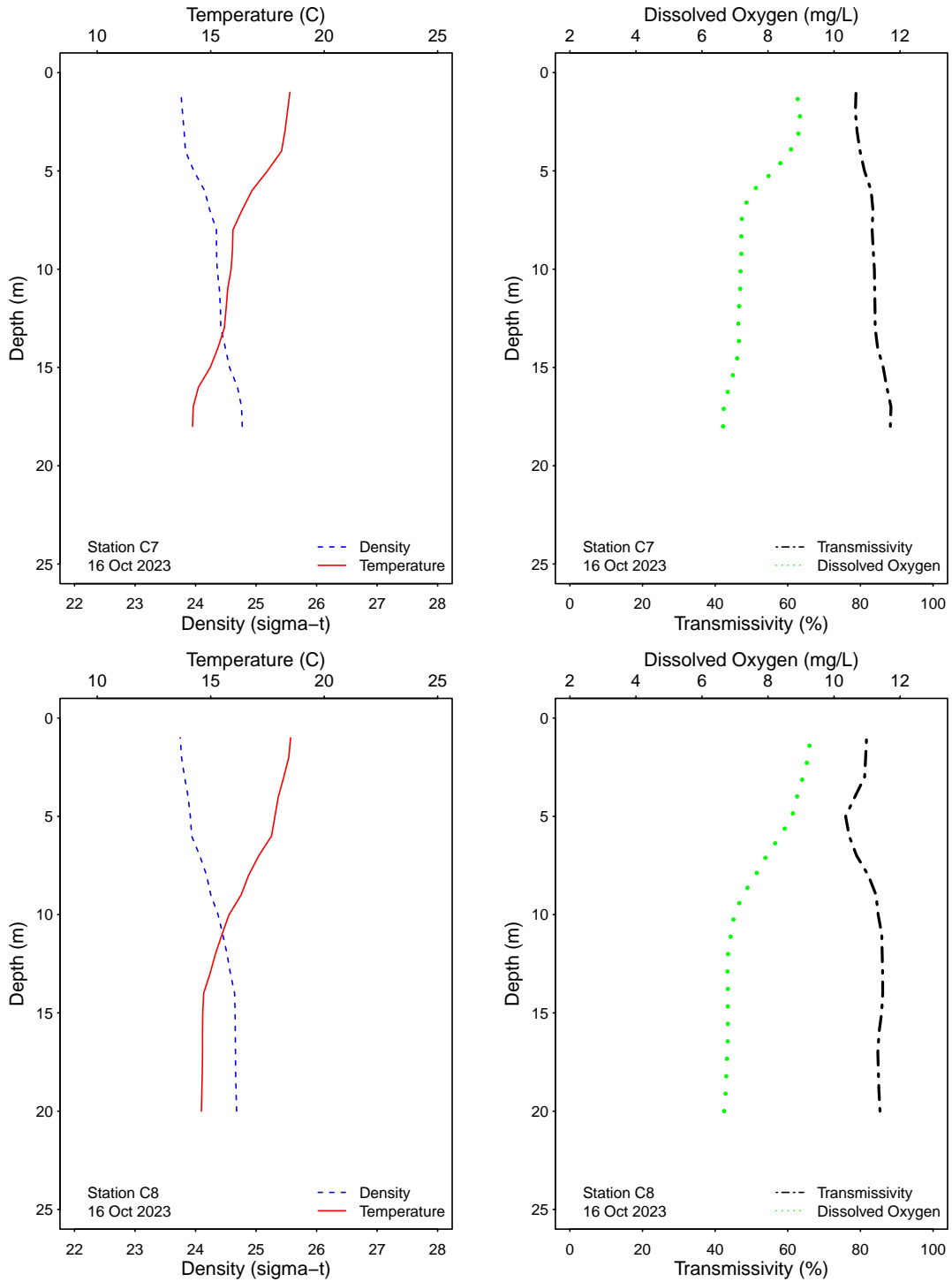


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

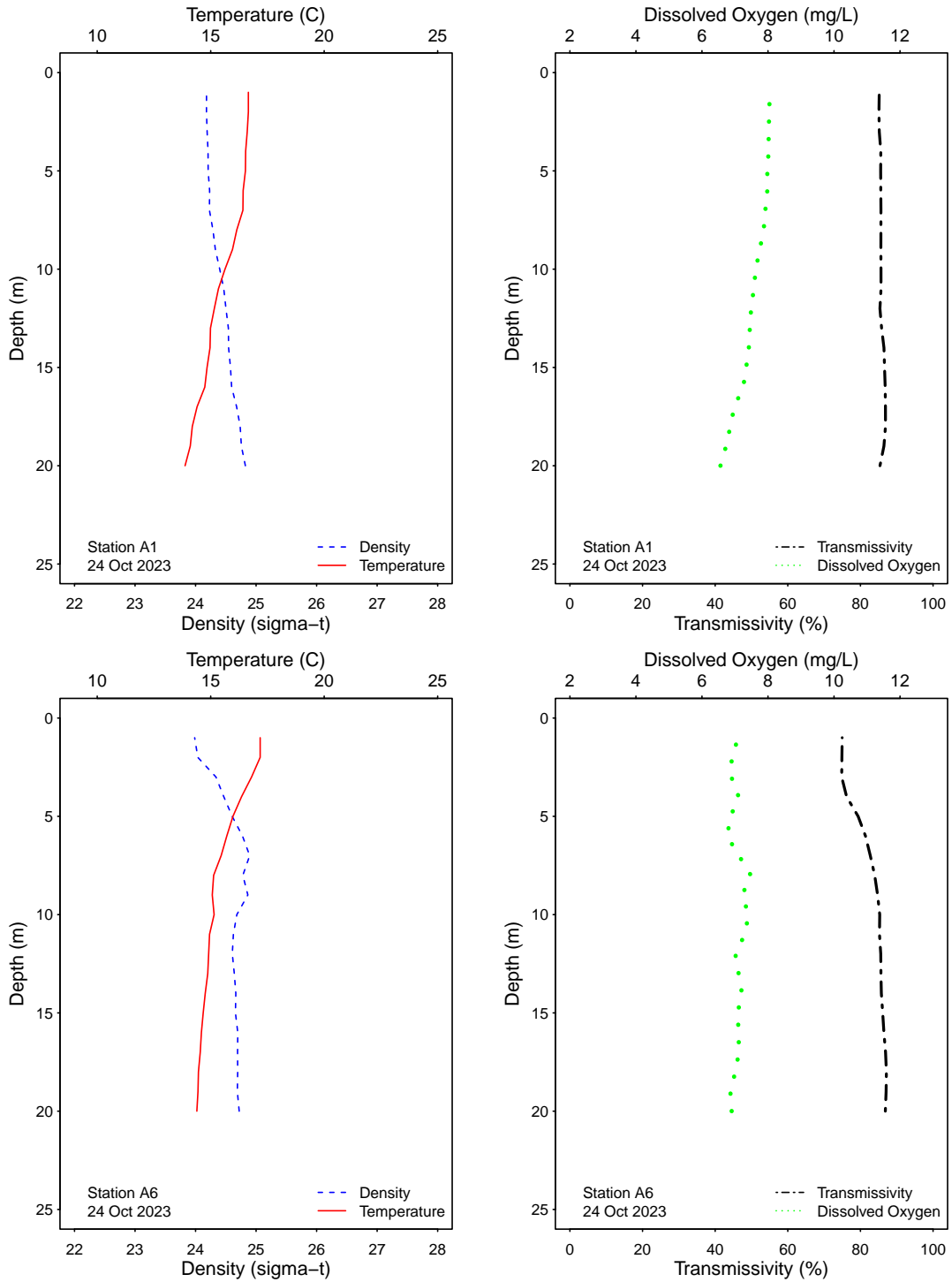


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

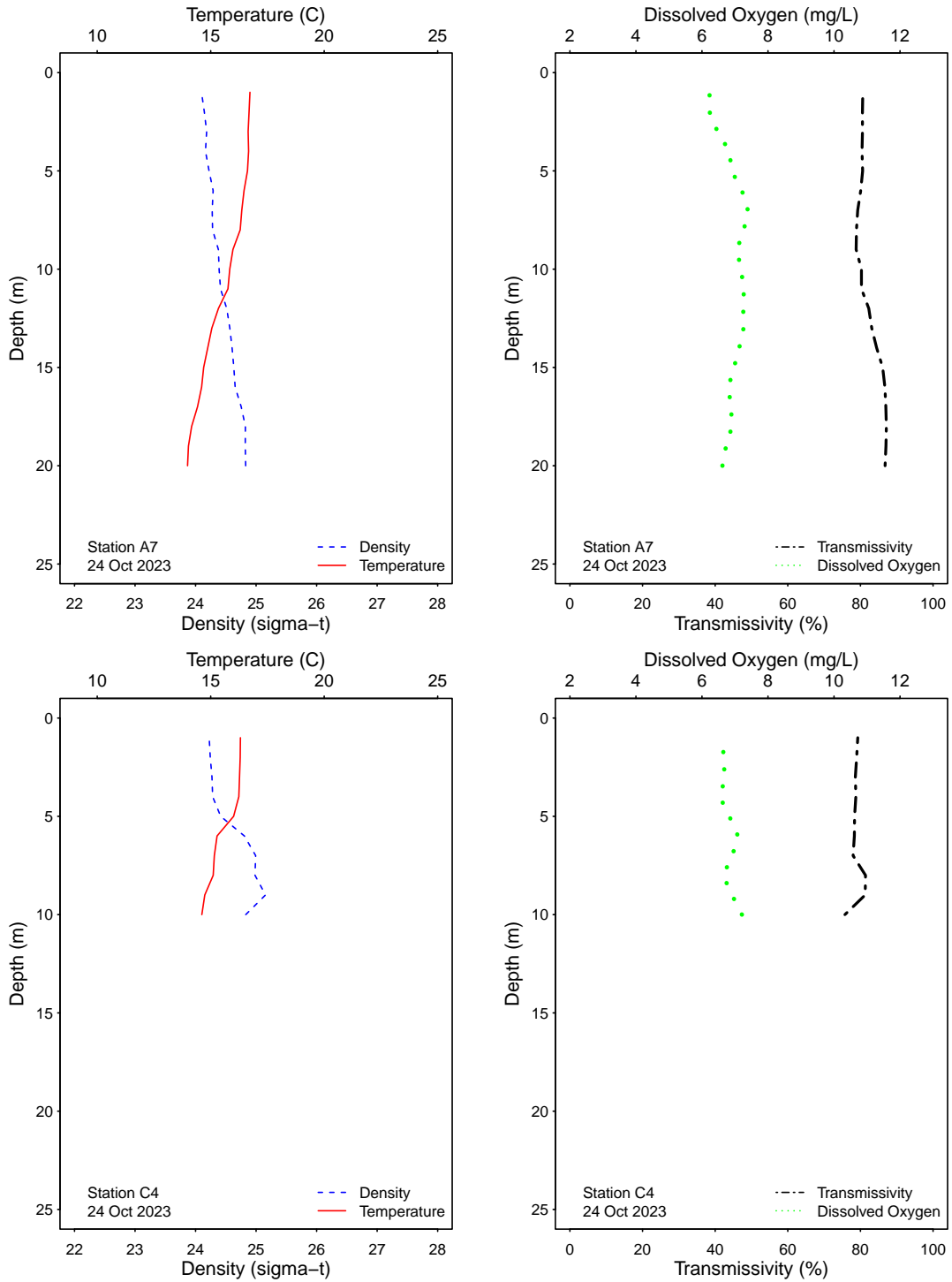


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

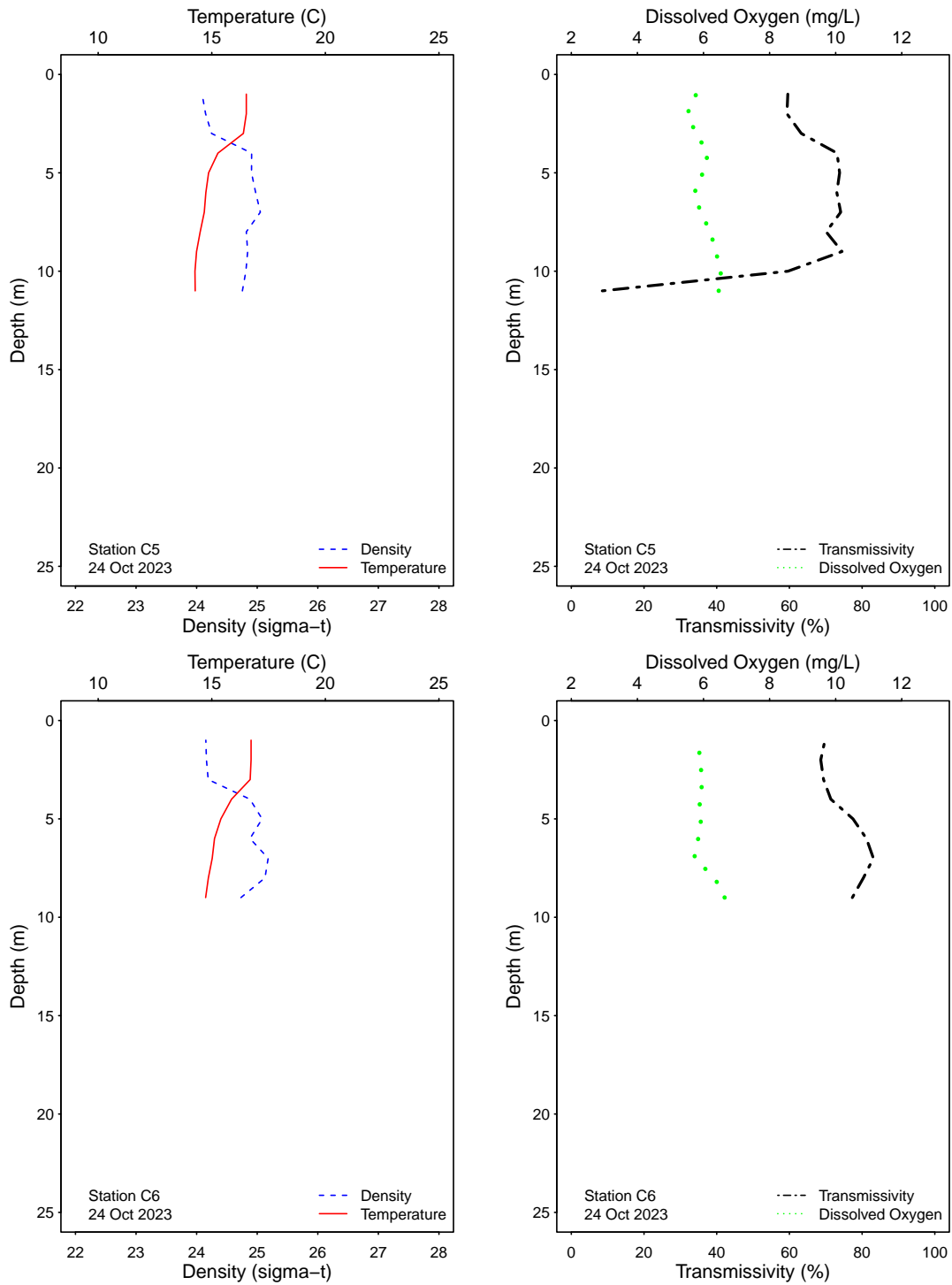


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

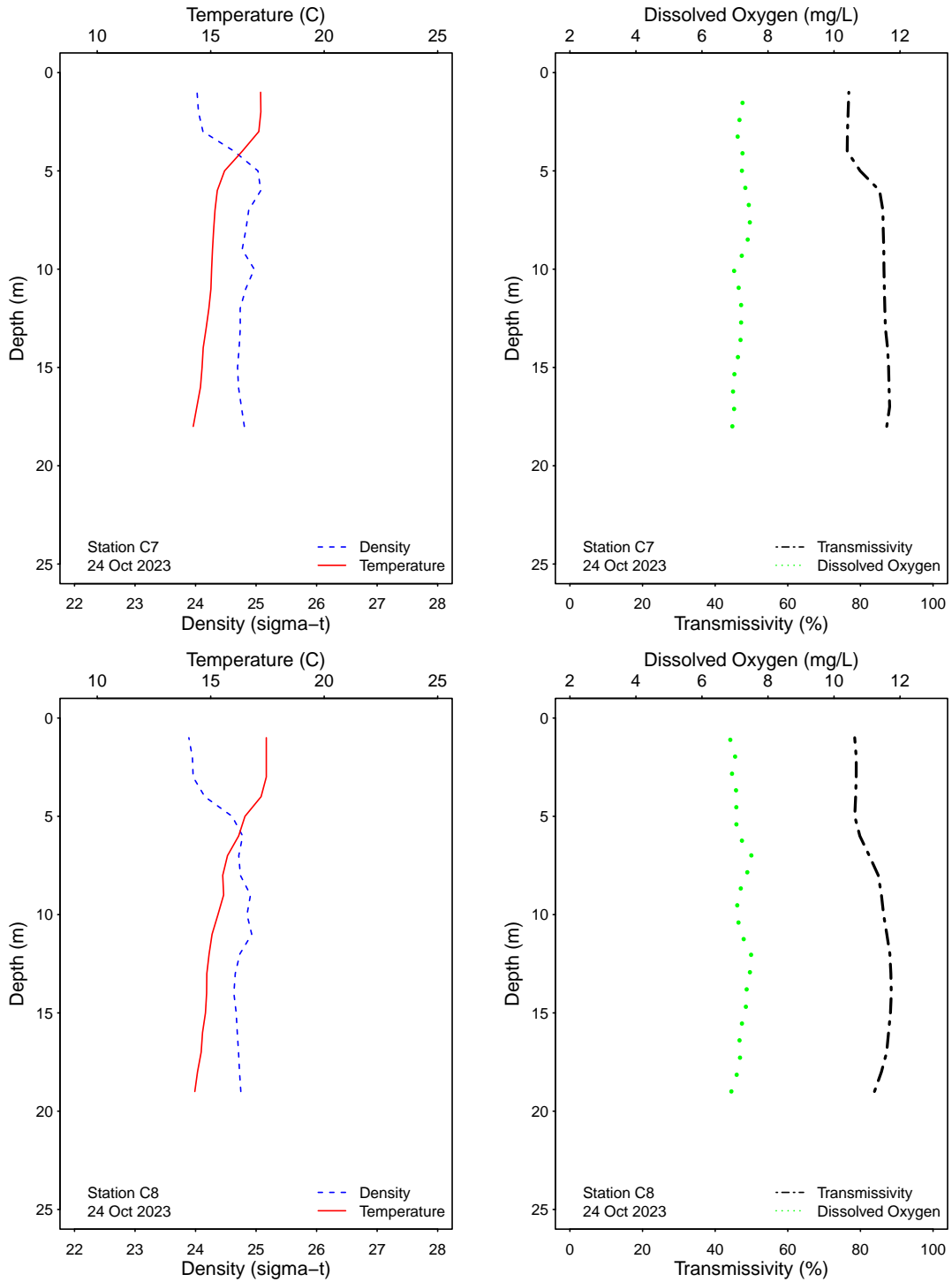


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

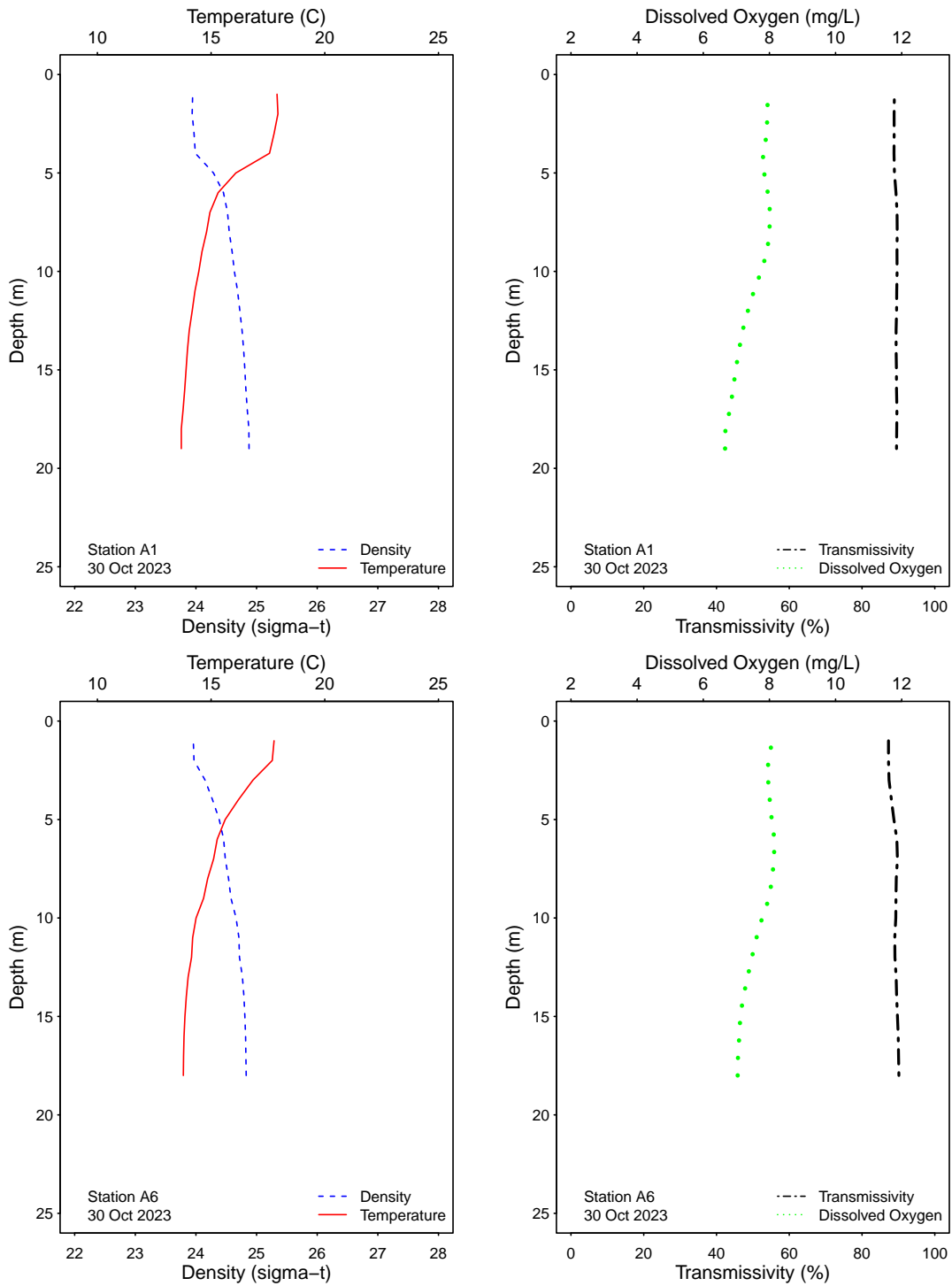


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

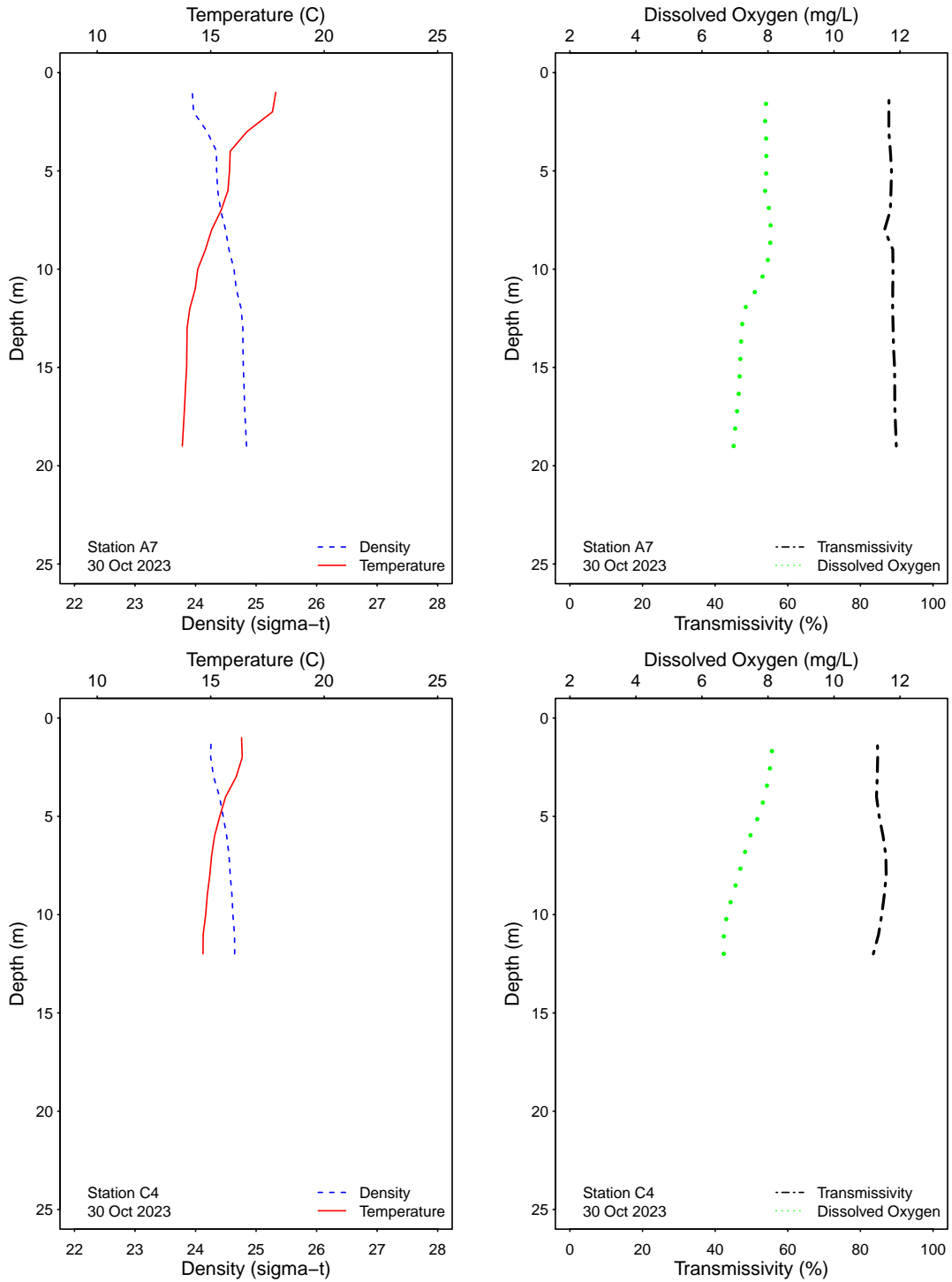


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

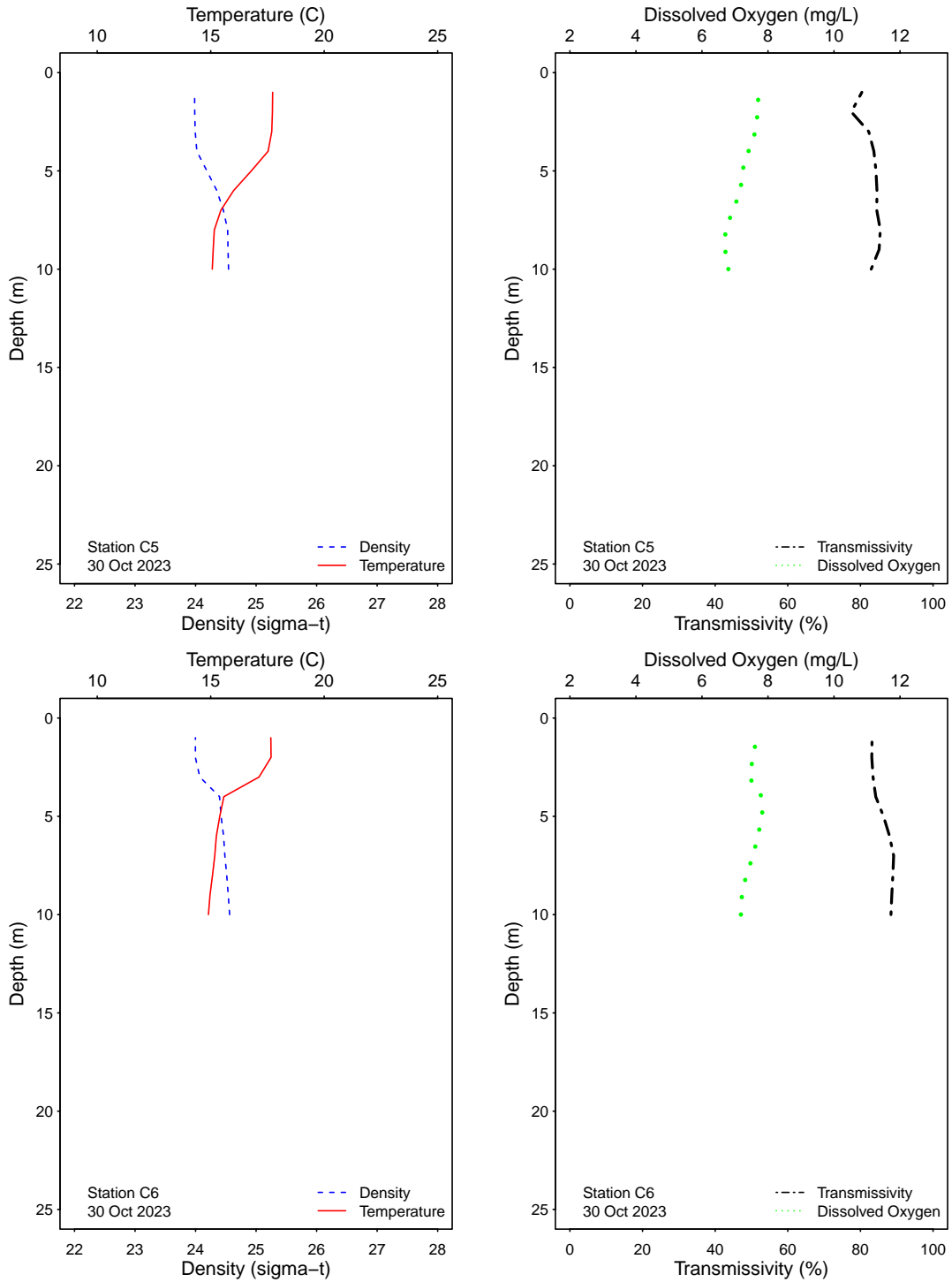


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

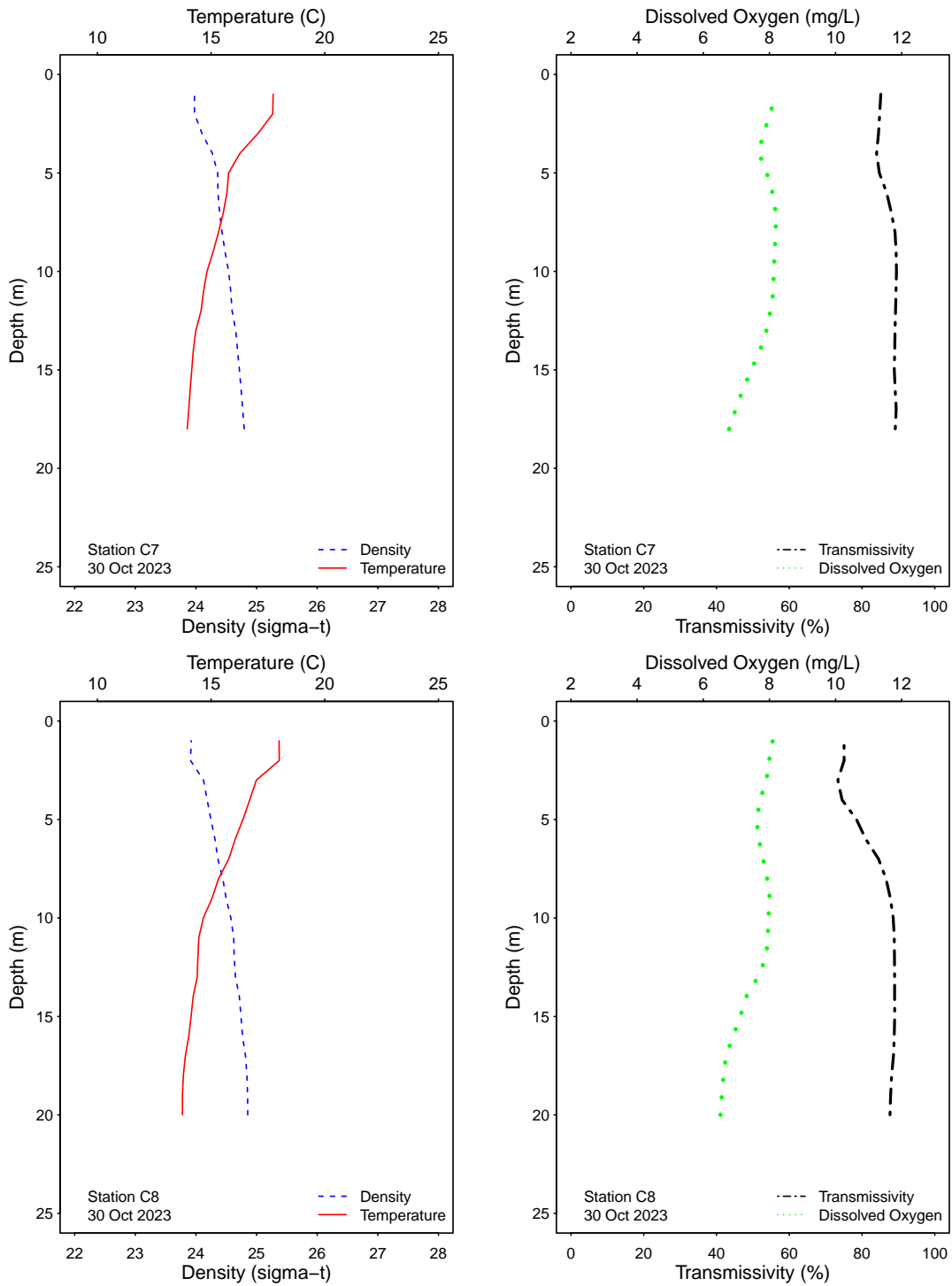


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

APPENDIX A

Quality Assurance

Table A.1

Summary of bacteriological quality assurance field and lab duplicate sample analyses at selected PLOO 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
A7	02 Oct 2023	18	CRE	LAB DUPLICATE	<2	2e	<2
A7	09 Oct 2023	18	JF	LAB DUPLICATE	4e	2e	<2
A7	16 Oct 2023	18	WT	LAB DUPLICATE	60e	16e	<2
A7	24 Oct 2023	18	JF	LAB DUPLICATE	4e	<2	<2
A7	30 Oct 2023	18	CRE	LAB DUPLICATE	12e	<2	<2
C7	02 Oct 2023	18	CRE	LAB DUPLICATE	14e	6e	<2
C7	09 Oct 2023	18	JF	LAB DUPLICATE	4e	2e	<2
C7	16 Oct 2023	18	WT	LAB DUPLICATE	160e	72	10e
C7	24 Oct 2023	18	JF	LAB DUPLICATE	2e	<2	<2
C7	30 Oct 2023	18	CRE	LAB DUPLICATE	20e	4e	<4
C8	02 Oct 2023	12	CRE	LAB DUPLICATE	4e	<2	4e
C8	09 Oct 2023	12	JF	LAB DUPLICATE	2e	<2	<2
C8	16 Oct 2023	12	WT	LAB DUPLICATE	6e	14e	<2
C8	24 Oct 2023	12	JF	LAB DUPLICATE	2e	<2	<2
C8	30 Oct 2023	12	CRE	LAB DUPLICATE	2e	<2	<2
D12	04 Oct 2023		KA	FIELD DUPLICATE	2e	<2	<2
D12	04 Oct 2023		KA	LAB DUPLICATE	6e	<2	<2
D12	11 Oct 2023		JF	FIELD DUPLICATE	<20	<2	8e
D12	11 Oct 2023		JF	LAB DUPLICATE	20e	<2	4e
D12	18 Oct 2023		KA	FIELD DUPLICATE	2e	<2	<2
D12	18 Oct 2023		KA	LAB DUPLICATE	4e	<2	<2
D12	25 Oct 2023		CRE	FIELD DUPLICATE	2e	2e	24e
D12	25 Oct 2023		CRE	LAB DUPLICATE	<20	6e	28e

ns = not sampled

ND = no data

APPENDIX B

New 2019 Ocean Plan Water Quality Objectives

Shore Stations

Table B.1

Summary of compliance with the Ocean Plan's 6-week Geometric Mean standard for *Enterococcus* at the PLOO 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	D4	D5	D7	D8-B	D9	D10	D11	D12
01 Oct 2023	4	4	6	14	7	10	9	6
02 Oct 2023	4	4	6	14	7	10	9	6
03 Oct 2023	4	4	6	14	7	10	9	6
04 Oct 2023	4	4	7	18	7	10	6	6
05 Oct 2023	4	4	7	18	7	10	6	6
06 Oct 2023	4	4	7	18	7	10	6	6
07 Oct 2023	4	4	7	18	7	10	6	6
08 Oct 2023	4	4	7	18	7	10	6	6
09 Oct 2023	4	4	7	18	7	10	6	6
10 Oct 2023	4	4	7	18	7	10	6	6
11 Oct 2023	4	4	6	14	5	6	5	5
12 Oct 2023	4	4	6	14	5	6	5	5
13 Oct 2023	4	4	6	14	5	6	5	5
14 Oct 2023	4	4	6	14	5	6	5	5
15 Oct 2023	4	4	6	14	5	6	5	5
16 Oct 2023	4	4	6	14	5	6	5	5
17 Oct 2023	4	4	6	14	5	6	5	5
18 Oct 2023	3	4	6	12	6	7	5	5
19 Oct 2023	3	4	6	12	6	7	5	5
20 Oct 2023	3	4	6	12	6	7	5	5
21 Oct 2023	3	4	6	12	6	7	5	5
22 Oct 2023	3	4	6	12	6	7	5	5
23 Oct 2023	3	4	6	12	6	7	5	5
24 Oct 2023	3	4	6	12	6	7	5	5
25 Oct 2023	3	4	7	11	5	7	5	4
26 Oct 2023	3	4	7	11	5	7	5	4
27 Oct 2023	3	4	7	11	5	7	5	4
28 Oct 2023	3	4	7	11	5	7	5	4
29 Oct 2023	3	4	7	11	5	7	5	4
30 Oct 2023	3	4	7	11	5	7	5	4
31 Oct 2023	3	4	7	11	5	7	5	4

* Geometric mean calculated using n<5
ns = not sampled

Table B.2

Summary of compliance at the PLOO 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	D4	D5	D7	D8-B	D9	D10	D11	D12
October	IC	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table B.3

Summary of compliance with the Ocean Plan's 30-day Median standard for total coliform bacteria at the PLOO 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	D4	D5	D7	D8-B	D9	D10	D11	D12
01 Oct 2023	20	120	30	130	130	70	30	20
02 Oct 2023	20	120	30	130	130	70	30	20
03 Oct 2023	20	120	30	130	130	70	30	20
04 Oct 2023	20	40	20	60	160	60	32	20
05 Oct 2023	20	40	20	60	160	60	32	20
06 Oct 2023	20	30	20	50	110	40	26	20
07 Oct 2023	20	30	20	50	110	40	26	20
08 Oct 2023	20	30	20	50	110	40	26	20
09 Oct 2023	20	30	20	50	110	40	26	20
10 Oct 2023	20	30	20	50	110	40	26	20
11 Oct 2023	20	20	20	40	60	60	32	20
12 Oct 2023	20	20	20	40	60	60	32	20
13 Oct 2023	20	30	20	40	100	40	26	20
14 Oct 2023	20	30	20	40	100	40	26	20
15 Oct 2023	20	30	20	40	100	40	26	20
16 Oct 2023	20	30	20	40	100	40	26	20
17 Oct 2023	20	30	20	40	100	40	26	20
18 Oct 2023	20	40	20	60	40	40	20	20
19 Oct 2023	20	40	20	60	40	40	20	20
20 Oct 2023	40	110	20	110	100	50	26	11
21 Oct 2023	40	110	20	110	100	50	26	11
22 Oct 2023	40	110	20	110	100	50	26	11
23 Oct 2023	40	110	20	110	100	50	26	11
24 Oct 2023	40	110	20	110	100	50	26	11
25 Oct 2023	20	20	20	20	40	40	32	20
26 Oct 2023	20	20	20	20	40	40	32	20
27 Oct 2023	20	20	20	20	30	30	36	11
28 Oct 2023	20	20	20	20	30	30	36	11
29 Oct 2023	20	20	20	20	30	30	36	11
30 Oct 2023	20	20	20	20	30	30	36	11
31 Oct 2023	20	20	20	20	30	30	36	11

* Median calculated using n<5

Table B.4

Summary of compliance at the PLOO 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 station, per month.

Date	D4	D5	D7	D8-B	D9	D10	D11	D12
October	IC	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Kelp Stations

Table B.5

Summary of compliance with the Ocean Plan's 6-week Geometric Mean standard for *Enterococcus* at the PLOO 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	A1	A6	A7	C4	C5	C6	C7	C8
01 Oct 2023	3	2	3	3	3	2	3	3
02 Oct 2023	3	2	3	3	2	2	2	3
03 Oct 2023	3	2	3	3	2	2	2	3
04 Oct 2023	2	2	2	2	2	2	2	2
05 Oct 2023	2	2	2	2	2	2	2	2
06 Oct 2023	2	2	2	2	2	2	2	2
07 Oct 2023	2	2	2	2	2	2	2	2
08 Oct 2023	2	2	2	2	2	2	2	2
09 Oct 2023	2	2	2	2	2	2	2	2
10 Oct 2023	2	2	2	2	2	2	2	2
11 Oct 2023	2	2	2	2	2	2	2	2
12 Oct 2023	2	2	2	2	2	2	2	2
13 Oct 2023	2	2	2	2	2	2	2	2
14 Oct 2023	2	2	2	2	2	2	2	2
15 Oct 2023	2	2	2	2	2	2	2	2
16 Oct 2023	2	2	2	2	2	2	2	2
17 Oct 2023	2	2	2	2	2	2	2	2
18 Oct 2023	2	2	2	2	2	2	2	2
19 Oct 2023	2	2	2	2	2	2	2	2
20 Oct 2023	2	2	2	2	2	2	2	2
21 Oct 2023	2	2	2	2	2	2	2	2
22 Oct 2023	2	2	2	2	2	2	2	2
23 Oct 2023	2	2	2	2	2	2	2	2
24 Oct 2023	2	2	2	2	2	2	2	2
25 Oct 2023	2	2	2	2	2	2	2	2
26 Oct 2023	2	2	2	2	2	2	2	2
27 Oct 2023	2	2	2	2	2	2	2	2
28 Oct 2023	2	2	2	2	2	2	2	2
29 Oct 2023	2	2	2	2	2	2	2	2
30 Oct 2023	2	2	2	2	2	2	2	2
31 Oct 2023	2	2	2	2	2	2	2	2

* Geometric mean calculated using n<5

Table B.6

Summary of compliance at the PLOO 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	A1	A6	A7	C4	C5	C6	C7	C8
October	IC	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

