

POINT LOMA OCEAN OUTFALL MONTHLY RECEIVING WATERS MONITORING REPORT

POINT LOMA WASTEWATER TREATMENT PLANT

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

MARCH 2023

Environmental Monitoring and Technical Services
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April 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 March 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 March 1, 8, 15, 22, and 29.
- During March, six of the eight shore stations were out of compliance with the various 2015 California Ocean Plan (Ocean Plan) water contact standards on one or more days as follows:
 - o The single sample maximum (SSM) for fecal coliform was exceeded at station D11.
 - o The 30-day running geometric mean standard for *Enterococcus* was exceeded at stations D10 and D11.
 - o The SSM for *Enterococcus* was exceeded at stations D7, D8-B, D9, D10, D11, and D12.
 - o The SSM for fecal:total coliform ratio was exceeded at station D11.
- Nothing of sewage origin was observed at PLOO shore stations in March.
- 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>).

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

Kelp Bed Stations

- The eight kelp bed water quality stations (A1, A6, A7, C4, C5, C6, C7, C8) were sampled on March 7, 14, 24, and 28.
- During March, each of the kelp stations was in compliance with the various 2015 California Ocean Plan (Ocean Plan) water contact standards.
- Water column temperatures ranged from 10.66 to 14.46°C. The difference between surface and bottom waters ranged from 0.26 to 2.56°C.
- Chlorophyll *a* concentrations ranged from 0.31 to 5.08 µg/L.
- Nothing of sewage origin was observed at PLOO kelp stations in March.

Offshore Stations

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



TABLES AND FIGURES

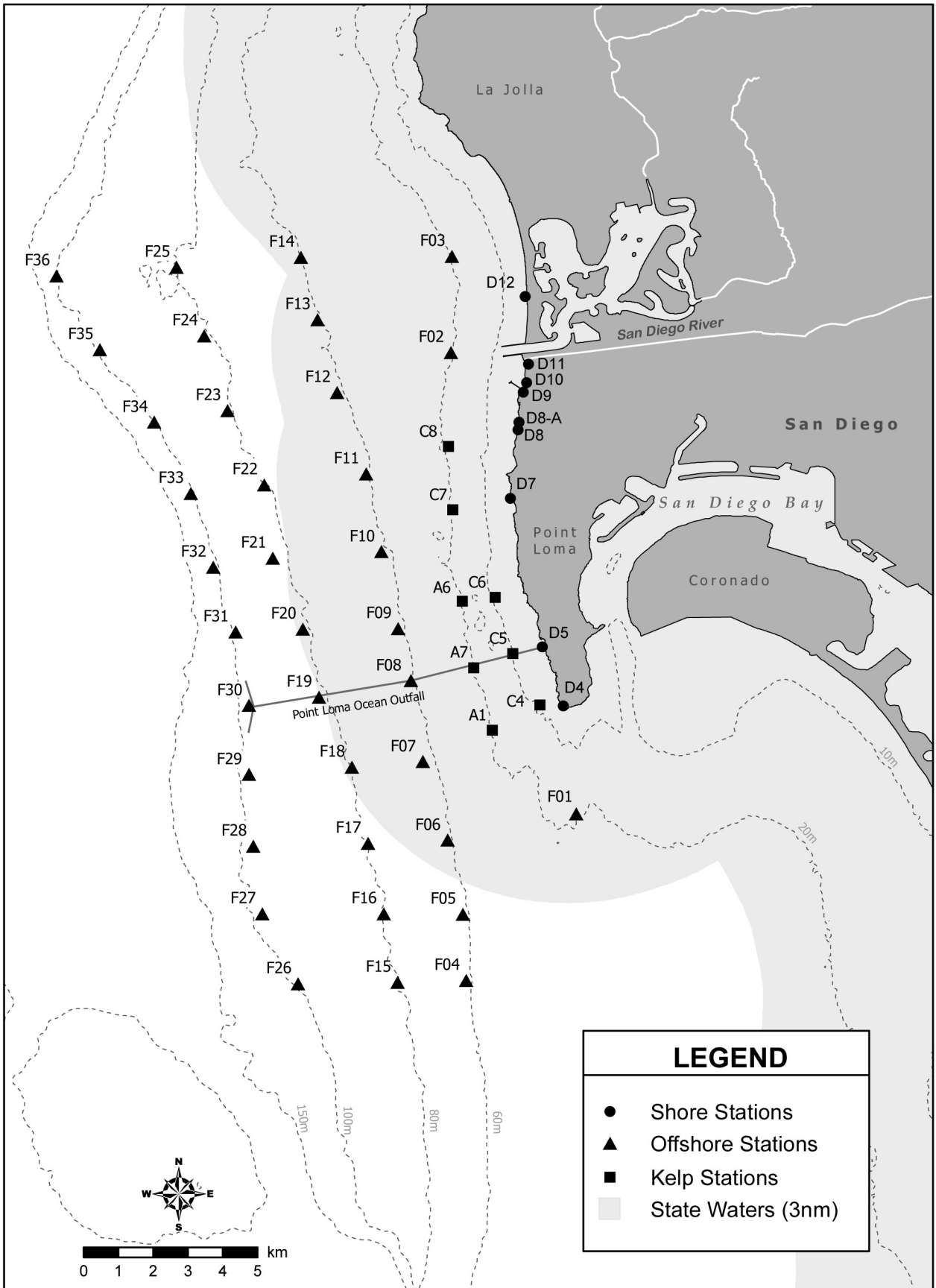


Figure 1.1 Station Map

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 Mar 2023	18	25	9	33	24	56	44	20
02 Mar 2023	18	25	9	33	24	56	44	20
03 Mar 2023	30	11	13	66	24	71	45	31
04 Mar 2023	30	11	13	66	24	71	45	31
05 Mar 2023	30	11	13	66	24	71	45	31
06 Mar 2023	30	11	13	66	24	71	45	31
07 Mar 2023	30	11	13	66	24	71	45	31
08 Mar 2023	18	8	14	52	23	63	38	28
09 Mar 2023	18	8	14	52	23	63	38	28
10 Mar 2023	17	11	24	89	20	71	68	26
11 Mar 2023	17	11	24	89	20	71	68	26
12 Mar 2023	17	11	24	89	20	71	68	26
13 Mar 2023	17	11	24	89	20	71	68	26
14 Mar 2023	17	11	24	89	20	71	68	26
15 Mar 2023	18	19	42	126	28	73	118	25
16 Mar 2023	18	19	42	126	28	73	248	25
17 Mar 2023	17	19	51	168	17	60	217	18
18 Mar 2023	17	19	51	168	17	60	217	18
19 Mar 2023	17	19	51	168	17	60	217	18
20 Mar 2023	17	19	51	168	17	60	217	18
21 Mar 2023	17	19	51	168	17	60	217	18
22 Mar 2023	19	19	58	145	30	123	371	51
23 Mar 2023	19	19	58	145	30	123	371	51
24 Mar 2023	18	19	76	168	58	194	538	71
25 Mar 2023	18	19	76	168	58	194	538	71
26 Mar 2023	18	19	76	168	58	194	538	71
27 Mar 2023	18	19	76	168	58	194	538	71
28 Mar 2023	18	19	76	168	58	194	538	71
29 Mar 2023	12	12	37	69	30	107	336	35
30 Mar 2023	12	12	37	69	30	107	336	35
31 Mar 2023	7	11	36	36	33	92	448	40

* 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 Mar 2023	8	9	3	5	8	10	8	3
02 Mar 2023	8	9	3	5	8	10	8	3
03 Mar 2023	11	4	3	6	9	11	9	3
04 Mar 2023	11	4	3	6	9	11	9	3
05 Mar 2023	11	4	3	6	9	11	9	3
06 Mar 2023	11	4	3	6	9	11	9	3
07 Mar 2023	11	4	3	6	9	11	9	3
08 Mar 2023	8	3	3	5	7	8	7	3
09 Mar 2023	8	3	3	5	7	8	7	3
10 Mar 2023	11	3	4	6	4	8	9	2
11 Mar 2023	11	3	4	6	4	8	9	2
12 Mar 2023	11	3	4	6	4	8	9	2
13 Mar 2023	11	3	4	6	4	8	9	2
14 Mar 2023	11	3	4	6	4	8	9	2
15 Mar 2023	8	5	5	12	6	9	16	2
16 Mar 2023	8	5	5	12	6	9	32	2
17 Mar 2023	6	6	5	10	4	8	36	2
18 Mar 2023	6	6	5	10	4	8	36	2
19 Mar 2023	6	6	5	10	4	8	36	2
20 Mar 2023	6	6	5	10	4	8	36	2
21 Mar 2023	6	6	5	10	4	8	36	2
22 Mar 2023	6	7	9	12	8	13	46	5
23 Mar 2023	6	7	9	12	8	13	46	5
24 Mar 2023	5	6	11	11	11	21	61	6
25 Mar 2023	5	6	11	11	11	21	61	6
26 Mar 2023	5	6	11	11	11	21	61	6
27 Mar 2023	5	6	11	11	11	21	61	6
28 Mar 2023	5	6	11	11	11	21	61	6
29 Mar 2023	4	5	8	8	8	13	46	5
30 Mar 2023	4	5	8	8	8	13	46	5
31 Mar 2023	3	6	11	11	9	10	53	6

* 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 Mar 2023	2	9	6	9	10	9	8	3
02 Mar 2023	2	9	6	9	10	9	8	3
03 Mar 2023	2	4	7	14	14	12	11	3
04 Mar 2023	2	5	7	14	14	12	11	3
05 Mar 2023	2	5	7	14	14	12	11	3
06 Mar 2023	2	5	7	14	14	12	11	3
07 Mar 2023	2	5	7	14	14	12	11	3
08 Mar 2023	2	4	6	9	10	8	9	2
09 Mar 2023	2	4	6	9	10	8	9	2
10 Mar 2023	2	5	7	14	6	9	14	3
11 Mar 2023	2	5	7	14	6	9	14	3
12 Mar 2023	2	5	7	14	6	9	14	3
13 Mar 2023	2	5	7	14	6	9	14	3
14 Mar 2023	2	5	7	14	6	9	14	3
15 Mar 2023	2	6	14	25	11	30	26	2
16 Mar 2023	2	6	10	17	13	47	58	2
17 Mar 2023	2	8	12	16	11	35	47	2
18 Mar 2023	2	8	12	16	11	35	47	2
19 Mar 2023	2	8	12	16	11	35	47	2
20 Mar 2023	2	8	12	16	11	35	47	2
21 Mar 2023	2	8	12	16	11	35	47	2
22 Mar 2023	3	9	13	16	15	47	87	7
23 Mar 2023	3	9	13	16	15	47	87	7
24 Mar 2023	3	6	9	14	23	59	140	10
25 Mar 2023	3	6	9	14	23	59	140	10
26 Mar 2023	3	6	9	14	23	59	119	10
27 Mar 2023	3	6	9	14	23	59	119	10
28 Mar 2023	3	6	9	14	23	59	119	10
29 Mar 2023	3	5	7	10	15	39	99	8
30 Mar 2023	3	5	7	10	15	39	99	8
31 Mar 2023	3	5	8	8	15	46	116	10

* 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
01 Mar 2023	IC	IC	IC	IC	IC	IC	IC	IC
08 Mar 2023	IC	IC	IC	IC	IC	IC	IC	IC
15 Mar 2023	IC	IC	IC	IC	IC	IC	IC	IC
16 Mar 2023	ns	ns	ns	ns	ns	ns	IC	ns
17 Mar 2023	ns	ns	ns	ns	ns	ns	IC	ns
22 Mar 2023	IC	IC	IC	IC	IC	IC	IC	IC
29 Mar 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
01 Mar 2023	IC	IC	IC	IC	IC	IC	IC	IC
08 Mar 2023	IC	IC	IC	IC	IC	IC	IC	IC
15 Mar 2023	IC	IC	IC	IC	IC	IC	IC	IC
16 Mar 2023	ns	ns	ns	ns	ns	ns	E	ns
17 Mar 2023	ns	ns	ns	ns	ns	ns	IC	ns
22 Mar 2023	IC	IC	IC	IC	IC	IC	IC	IC
29 Mar 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
01 Mar 2023	IC	IC	IC	IC	IC	IC	IC	IC
08 Mar 2023	IC	IC	IC	IC	IC	IC	IC	IC
15 Mar 2023	IC	IC	E	E	E	E	E	IC
16 Mar 2023	ns	ns	IC	IC	IC	E	E	ns
17 Mar 2023	ns	ns	ns	ns	ns	IC	IC	ns
22 Mar 2023	IC	IC	IC	IC	IC	E	E	E
24 Mar 2023	ns	ns	ns	ns	ns	IC	E	IC
26 Mar 2023	ns	ns	ns	ns	ns	ns	IC	ns
29 Mar 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
01 Mar 2023	IC	IC	IC	IC	IC	IC	IC	IC
08 Mar 2023	IC	IC	IC	IC	IC	IC	IC	IC
15 Mar 2023	IC	IC	IC	IC	IC	IC	E	IC
16 Mar 2023	ns	ns	ns	ns	ns	ns	E	ns
17 Mar 2023	ns	ns	ns	ns	ns	ns	IC	ns
22 Mar 2023	IC	IC	IC	IC	IC	IC	IC	IC
29 Mar 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	01 Mar 2023	900	80e	20e	<2	0.250
D4	08 Mar 2023	927	2e	2e	<2	1.000
D4	15 Mar 2023	951	<20	<2	<2	0.100
D4	22 Mar 2023	916	32e	8e	8e	0.250
D4	29 Mar 2023	920	<2	<2	<2	1.000
D5	01 Mar 2023	849	20e	<2	6e	0.100
D5	08 Mar 2023	915	<2	<2	<2	1.000
D5	15 Mar 2023	935	160e	20e	12e	0.125
D5	22 Mar 2023	905	20e	<20	10e	1.000
D5	29 Mar 2023	909	<2	<2	<2	1.000
D7	01 Mar 2023	824	40e	<2	4e	0.050
D7	08 Mar 2023	856	<20	4e	<2	0.200
D7	15 Mar 2023	859	420	20e	180e	0.048
D7	16 Mar 2023	1302	ns	ns	<2	ns
D7	22 Mar 2023	840	100e	80e	22e	0.800
D7	29 Mar 2023	846	2e	<2	<2	1.000
D8-B	01 Mar 2023	814	1000e	2e	34e	0.002
D8-B	08 Mar 2023	839	20e	<2	2e	0.100
D8-B	15 Mar 2023	842	500	160e	280e	0.320
D8-B	16 Mar 2023	1248	ns	ns	2e	ns
D8-B	22 Mar 2023	830	80e	<20	14e	0.250
D8-B	29 Mar 2023	834	<2	<2	<2	1.000
D9	01 Mar 2023	807	<20	4e	14e	0.200
D9	08 Mar 2023	830	20e	<2	<2	0.100
D9	15 Mar 2023	832	100e	20e	120e	0.200
D9	16 Mar 2023	1238	ns	ns	24e	ns
D9	22 Mar 2023	823	280e	80e	74	0.286
D9	29 Mar 2023	825	2e	<2	<2	1.000
D10	01 Mar 2023	759	200e	40e	12e	0.200
D10	08 Mar 2023	822	40e	2e	2e	0.050
D10	15 Mar 2023	817	80e	<20	3800e	0.250
D10	16 Mar 2023	1229	ns	ns	440	ns
D10	17 Mar 2023	831	ns	ns	4e	ns
D10	22 Mar 2023	816	2200e	120e	280e	0.055
D10	24 Mar 2023	830	ns	ns	56	ns
D10	29 Mar 2023	816	10e	<2	<2	0.200
D11	01 Mar 2023	753	60e	<20	28e	0.333
D11	08 Mar 2023	814	<20	<2	6e	0.100
D11	15 Mar 2023	807	1100	140e	320e	0.127
D11	16 Mar 2023	1219	>=10000	1200e	3200e	0.120
D11	17 Mar 2023	822	<200	40e	6e	0.200
D11	22 Mar 2023	810	>=9200	>=200	3600e	0.022
D11	24 Mar 2023	823	ns	ns	280e	ns
D11	26 Mar 2023	856	ns	ns	38e	ns
D11	29 Mar 2023	807	<20	8e	24e	0.400
D12	01 Mar 2023	740	20e	<2	<2	0.100
D12	08 Mar 2023	800	<20	2e	<2	0.100

Station	Date	Time	Total	Fecal	Entero	F:T
D12	15 Mar 2023	750	20e	2e	2e	0.100
D12	22 Mar 2023	755	3200e	<200	980	0.062
D12	24 Mar 2023	809	ns	ns	12e	ns
D12	29 Mar 2023	752	2e	<2	<2	1.000

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	01 Mar 2023	Arrive Time	900
D4	01 Mar 2023	Weather	Drizzle
D4	01 Mar 2023	Wind Speed (kts)	4.3
D4	01 Mar 2023	Wind Dir	W
D4	01 Mar 2023	Animal Life	
D4	01 Mar 2023	Floatables	None
D4	01 Mar 2023	Water Color	Green
D4	01 Mar 2023	Current Direction	S
D4	01 Mar 2023	Water Temp (C)	8
D4	01 Mar 2023	Wave Height Low (ft)	3
D4	01 Mar 2023	High Tide (ft)	4.35
D4	01 Mar 2023	High Tide Time	451
D4	01 Mar 2023	Low Tide (ft)	-0.03
D4	01 Mar 2023	Low Tide Time	1246
D4	01 Mar 2023	Comments	Water clear; Trash-1; Algae
D4	08 Mar 2023	Arrive Time	927
D4	08 Mar 2023	Weather	Cloudy
D4	08 Mar 2023	Wind Speed (kts)	0.7
D4	08 Mar 2023	Wind Dir	W
D4	08 Mar 2023	Animal Life	
D4	08 Mar 2023	Floatables	None
D4	08 Mar 2023	Water Color	Green
D4	08 Mar 2023	Current Direction	S
D4	08 Mar 2023	Water Temp (C)	10
D4	08 Mar 2023	Wave Height Low (ft)	3
D4	08 Mar 2023	High Tide (ft)	4.94
D4	08 Mar 2023	High Tide Time	909
D4	08 Mar 2023	Low Tide (ft)	0.74
D4	08 Mar 2023	Low Tide Time	317
D4	08 Mar 2023	Comments	Water clear; Trash-1; Kelp;Algae
D4	15 Mar 2023	Arrive Time	951
D4	15 Mar 2023	Weather	Drizzle
D4	15 Mar 2023	Wind Speed (kts)	8.1
D4	15 Mar 2023	Wind Dir	SW
D4	15 Mar 2023	Animal Life	
D4	15 Mar 2023	Floatables	None
D4	15 Mar 2023	Water Color	Green
D4	15 Mar 2023	Current Direction	S
D4	15 Mar 2023	Water Temp (C)	11
D4	15 Mar 2023	Wave Height Low (ft)	2
D4	15 Mar 2023	High Tide (ft)	4.47
D4	15 Mar 2023	High Tide Time	307
D4	15 Mar 2023	Low Tide (ft)	0.07
D4	15 Mar 2023	Low Tide Time	1152
D4	15 Mar 2023	Comments	Water clear; Trash-1; Kelp;Seagrass;Algae
D4	22 Mar 2023	Arrive Time	916
D4	22 Mar 2023	Weather	Partly cloudy
D4	22 Mar 2023	Wind Speed (kts)	3.9
D4	22 Mar 2023	Wind Dir	W
D4	22 Mar 2023	Animal Life	
D4	22 Mar 2023	Floatables	None
D4	22 Mar 2023	Water Color	Green
D4	22 Mar 2023	Current Direction	S

Station	Date	Parameter	Value
D4	22 Mar 2023	Water Temp (C)	10
D4	22 Mar 2023	Wave Height Low (ft)	4
D4	22 Mar 2023	High Tide (ft)	5.25
D4	22 Mar 2023	High Tide Time	1012
D4	22 Mar 2023	Low Tide (ft)	-0.23
D4	22 Mar 2023	Low Tide Time	415
D4	22 Mar 2023	Comments	Water clear; Trash-1; Seagrass;Kelp;Algae
D4	29 Mar 2023	Arrive Time	920
D4	29 Mar 2023	Weather	Cloudy
D4	29 Mar 2023	Wind Speed (kts)	9.2
D4	29 Mar 2023	Wind Dir	SW
D4	29 Mar 2023	Animal Life	
D4	29 Mar 2023	Floatables	None
D4	29 Mar 2023	Water Color	Green
D4	29 Mar 2023	Current Direction	S
D4	29 Mar 2023	Water Temp (C)	12
D4	29 Mar 2023	Wave Height Low (ft)	1
D4	29 Mar 2023	High Tide (ft)	3.82
D4	29 Mar 2023	High Tide Time	336
D4	29 Mar 2023	Low Tide (ft)	0.44
D4	29 Mar 2023	Low Tide Time	1215
D4	29 Mar 2023	Comments	Water clear; Trash-1; Kelp;Seagrass;Algae
D5	01 Mar 2023	Arrive Time	849
D5	01 Mar 2023	Weather	Drizzle
D5	01 Mar 2023	Wind Speed (kts)	5.4
D5	01 Mar 2023	Wind Dir	W
D5	01 Mar 2023	Animal Life	
D5	01 Mar 2023	Floatables	None
D5	01 Mar 2023	Water Color	Green
D5	01 Mar 2023	Current Direction	S
D5	01 Mar 2023	Water Temp (C)	9
D5	01 Mar 2023	Wave Height Low (ft)	4
D5	01 Mar 2023	High Tide (ft)	4.35
D5	01 Mar 2023	High Tide Time	451
D5	01 Mar 2023	Low Tide (ft)	-0.03
D5	01 Mar 2023	Low Tide Time	1246
D5	01 Mar 2023	Comments	Water clear; Trash-1; Algae
D5	08 Mar 2023	Arrive Time	915
D5	08 Mar 2023	Weather	Cloudy
D5	08 Mar 2023	Wind Speed (kts)	1.4
D5	08 Mar 2023	Wind Dir	W
D5	08 Mar 2023	Animal Life	
D5	08 Mar 2023	Floatables	None
D5	08 Mar 2023	Water Color	Green
D5	08 Mar 2023	Current Direction	S
D5	08 Mar 2023	Water Temp (C)	11
D5	08 Mar 2023	Wave Height Low (ft)	3
D5	08 Mar 2023	High Tide (ft)	4.94
D5	08 Mar 2023	High Tide Time	909
D5	08 Mar 2023	Low Tide (ft)	0.74
D5	08 Mar 2023	Low Tide Time	317
D5	08 Mar 2023	Comments	Water clear; Trash-1; Algae;Kelp
D5	15 Mar 2023	Arrive Time	935
D5	15 Mar 2023	Weather	Drizzle
D5	15 Mar 2023	Wind Speed (kts)	3.7
D5	15 Mar 2023	Wind Dir	SE
D5	15 Mar 2023	Animal Life	

Station	Date	Parameter	Value
D5	15 Mar 2023	Floatables	None
D5	15 Mar 2023	Water Color	Green
D5	15 Mar 2023	Current Direction	S
D5	15 Mar 2023	Water Temp (C)	11
D5	15 Mar 2023	Wave Height Low (ft)	3
D5	15 Mar 2023	High Tide (ft)	4.47
D5	15 Mar 2023	High Tide Time	307
D5	15 Mar 2023	Low Tide (ft)	0.07
D5	15 Mar 2023	Low Tide Time	1152
D5	15 Mar 2023	Comments	Water clear; Trash-1; Kelp;Seagrass;Algae
D5	22 Mar 2023	Arrive Time	905
D5	22 Mar 2023	Weather	Partly cloudy
D5	22 Mar 2023	Wind Speed (kts)	1.8
D5	22 Mar 2023	Wind Dir	W
D5	22 Mar 2023	Animal Life	
D5	22 Mar 2023	Floatables	None
D5	22 Mar 2023	Water Color	Green
D5	22 Mar 2023	Current Direction	S
D5	22 Mar 2023	Water Temp (C)	12
D5	22 Mar 2023	Wave Height Low (ft)	4
D5	22 Mar 2023	High Tide (ft)	5.25
D5	22 Mar 2023	High Tide Time	1012
D5	22 Mar 2023	Low Tide (ft)	-0.23
D5	22 Mar 2023	Low Tide Time	415
D5	22 Mar 2023	Comments	Water clear; Trash-2; Kelp;Seagrass;Algae;Debris
D5	29 Mar 2023	Arrive Time	909
D5	29 Mar 2023	Weather	Cloudy
D5	29 Mar 2023	Wind Speed (kts)	2.4
D5	29 Mar 2023	Wind Dir	SE
D5	29 Mar 2023	Animal Life	Bird-5;
D5	29 Mar 2023	Floatables	None
D5	29 Mar 2023	Water Color	Green
D5	29 Mar 2023	Current Direction	S
D5	29 Mar 2023	Water Temp (C)	12
D5	29 Mar 2023	Wave Height Low (ft)	2
D5	29 Mar 2023	High Tide (ft)	3.82
D5	29 Mar 2023	High Tide Time	336
D5	29 Mar 2023	Low Tide (ft)	0.44
D5	29 Mar 2023	Low Tide Time	1215
D5	29 Mar 2023	Comments	Water clear; Trash-1; Seagrass;Kelp;Algae
D7	01 Mar 2023	Arrive Time	824
D7	01 Mar 2023	Weather	Partly cloudy
D7	01 Mar 2023	Wind Speed (kts)	9.1
D7	01 Mar 2023	Wind Dir	NW
D7	01 Mar 2023	Animal Life	
D7	01 Mar 2023	Floatables	Plastic bottle
D7	01 Mar 2023	Water Color	Green
D7	01 Mar 2023	Current Direction	S
D7	01 Mar 2023	Water Temp (C)	9
D7	01 Mar 2023	Wave Height Low (ft)	4
D7	01 Mar 2023	High Tide (ft)	4.35
D7	01 Mar 2023	High Tide Time	451
D7	01 Mar 2023	Low Tide (ft)	-0.03
D7	01 Mar 2023	Low Tide Time	1246
D7	01 Mar 2023	Comments	Water clear; Trash-2; Seagrass;Kelp;Debris
D7	08 Mar 2023	Arrive Time	856
D7	08 Mar 2023	Weather	Partly cloudy

Station	Date	Parameter	Value
D7	08 Mar 2023	Wind Speed (kts)	0.8
D7	08 Mar 2023	Wind Dir	SW
D7	08 Mar 2023	Animal Life	
D7	08 Mar 2023	Floatables	None
D7	08 Mar 2023	Water Color	Green
D7	08 Mar 2023	Current Direction	S
D7	08 Mar 2023	Water Temp (C)	9
D7	08 Mar 2023	Wave Height Low (ft)	3
D7	08 Mar 2023	High Tide (ft)	4.94
D7	08 Mar 2023	High Tide Time	909
D7	08 Mar 2023	Low Tide (ft)	0.74
D7	08 Mar 2023	Low Tide Time	317
D7	08 Mar 2023	Comments	Water clear; Trash-1; Algae;Seagrass; Person/Walker/Jogger-1
D7	15 Mar 2023	Arrive Time	859
D7	15 Mar 2023	Weather	Drizzle
D7	15 Mar 2023	Wind Speed (kts)	3.8
D7	15 Mar 2023	Wind Dir	SW
D7	15 Mar 2023	Animal Life	
D7	15 Mar 2023	Floatables	None
D7	15 Mar 2023	Water Color	Green
D7	15 Mar 2023	Current Direction	S
D7	15 Mar 2023	Water Temp (C)	10
D7	15 Mar 2023	Wave Height Low (ft)	3
D7	15 Mar 2023	High Tide (ft)	4.47
D7	15 Mar 2023	High Tide Time	307
D7	15 Mar 2023	Low Tide (ft)	0.07
D7	15 Mar 2023	Low Tide Time	1152
D7	15 Mar 2023	Comments	Water clear; Trash-1; Algae;Seagrass
D7	16 Mar 2023	Arrive Time	1302
D7	16 Mar 2023	Weather	Sunny
D7	16 Mar 2023	Wind Speed (kts)	1.4
D7	16 Mar 2023	Wind Dir	SW
D7	16 Mar 2023	Animal Life	
D7	16 Mar 2023	Floatables	None
D7	16 Mar 2023	Water Color	Green
D7	16 Mar 2023	Current Direction	S
D7	16 Mar 2023	Water Temp (C)	12
D7	16 Mar 2023	Wave Height Low (ft)	3
D7	16 Mar 2023	High Tide (ft)	4.7
D7	16 Mar 2023	High Tide Time	453
D7	16 Mar 2023	Low Tide (ft)	-0.47
D7	16 Mar 2023	Low Tide Time	1252
D7	16 Mar 2023	Comments	Water clear; Trash-1; Algae;Seagrass; Person/Walker/Jogger-10; Went beyond the sampling spot due to the low tide
D7	22 Mar 2023	Arrive Time	843
D7	22 Mar 2023	Weather	Partly cloudy
D7	22 Mar 2023	Wind Speed (kts)	2.4
D7	22 Mar 2023	Wind Dir	S
D7	22 Mar 2023	Animal Life	
D7	22 Mar 2023	Floatables	None
D7	22 Mar 2023	Water Color	Green
D7	22 Mar 2023	Current Direction	S
D7	22 Mar 2023	Water Temp (C)	11
D7	22 Mar 2023	Wave Height Low (ft)	4
D7	22 Mar 2023	High Tide (ft)	5.25
D7	22 Mar 2023	High Tide Time	1012

Station	Date	Parameter	Value
D7	22 Mar 2023	Low Tide (ft)	-0.23
D7	22 Mar 2023	Low Tide Time	415
D7	22 Mar 2023	Comments	Water clear; Trash-1; Seagrass;Debris;Algae;Kelp; Station was inaccessible due to unsafe conditions on previous day
D7	29 Mar 2023	Arrive Time	846
D7	29 Mar 2023	Weather	Cloudy
D7	29 Mar 2023	Wind Speed (kts)	5.6
D7	29 Mar 2023	Wind Dir	S
D7	29 Mar 2023	Animal Life	
D7	29 Mar 2023	Floatables	None
D7	29 Mar 2023	Water Color	Green
D7	29 Mar 2023	Current Direction	S
D7	29 Mar 2023	Water Temp (C)	12
D7	29 Mar 2023	Wave Height Low (ft)	1
D7	29 Mar 2023	High Tide (ft)	3.82
D7	29 Mar 2023	High Tide Time	336
D7	29 Mar 2023	Low Tide (ft)	0.44
D7	29 Mar 2023	Low Tide Time	1215
D7	29 Mar 2023	Comments	Water clear; Trash-1; Seagrass;Algae
D8-B	01 Mar 2023	Arrive Time	814
D8-B	01 Mar 2023	Weather	Partly cloudy
D8-B	01 Mar 2023	Wind Speed (kts)	14.4
D8-B	01 Mar 2023	Wind Dir	W
D8-B	01 Mar 2023	Animal Life	
D8-B	01 Mar 2023	Floatables	None
D8-B	01 Mar 2023	Water Color	Green
D8-B	01 Mar 2023	Current Direction	S
D8-B	01 Mar 2023	Water Temp (C)	7
D8-B	01 Mar 2023	Wave Height Low (ft)	5
D8-B	01 Mar 2023	High Tide (ft)	4.35
D8-B	01 Mar 2023	High Tide Time	451
D8-B	01 Mar 2023	Low Tide (ft)	-0.03
D8-B	01 Mar 2023	Low Tide Time	1246
D8-B	01 Mar 2023	Comments	Water clear; Trash-1; Kelp;Algae
D8-B	08 Mar 2023	Arrive Time	839
D8-B	08 Mar 2023	Weather	Partly cloudy
D8-B	08 Mar 2023	Wind Speed (kts)	2.3
D8-B	08 Mar 2023	Wind Dir	E
D8-B	08 Mar 2023	Animal Life	
D8-B	08 Mar 2023	Floatables	None
D8-B	08 Mar 2023	Water Color	Green
D8-B	08 Mar 2023	Current Direction	S
D8-B	08 Mar 2023	Water Temp (C)	9
D8-B	08 Mar 2023	Wave Height Low (ft)	3
D8-B	08 Mar 2023	High Tide (ft)	4.94
D8-B	08 Mar 2023	High Tide Time	909
D8-B	08 Mar 2023	Low Tide (ft)	0.74
D8-B	08 Mar 2023	Low Tide Time	317
D8-B	08 Mar 2023	Comments	Water clear; Trash-2; Algae
D8-B	15 Mar 2023	Arrive Time	842
D8-B	15 Mar 2023	Weather	Drizzle
D8-B	15 Mar 2023	Wind Speed (kts)	0.7
D8-B	15 Mar 2023	Wind Dir	W
D8-B	15 Mar 2023	Animal Life	
D8-B	15 Mar 2023	Floatables	None
D8-B	15 Mar 2023	Water Color	Green
D8-B	15 Mar 2023	Current Direction	S

Station	Date	Parameter	Value
D8-B	15 Mar 2023	Water Temp (C)	10
D8-B	15 Mar 2023	Wave Height Low (ft)	3
D8-B	15 Mar 2023	High Tide (ft)	4.47
D8-B	15 Mar 2023	High Tide Time	307
D8-B	15 Mar 2023	Low Tide (ft)	0.07
D8-B	15 Mar 2023	Low Tide Time	1152
D8-B	15 Mar 2023	Comments	Water clear; Trash-1; Seagrass;Algae
D8-B	16 Mar 2023	Arrive Time	1248
D8-B	16 Mar 2023	Weather	Sunny
D8-B	16 Mar 2023	Wind Speed (kts)	3.6
D8-B	16 Mar 2023	Wind Dir	W
D8-B	16 Mar 2023	Animal Life	
D8-B	16 Mar 2023	Floatables	None
D8-B	16 Mar 2023	Water Color	Green
D8-B	16 Mar 2023	Current Direction	S
D8-B	16 Mar 2023	Water Temp (C)	11
D8-B	16 Mar 2023	Wave Height Low (ft)	3
D8-B	16 Mar 2023	High Tide (ft)	4.7
D8-B	16 Mar 2023	High Tide Time	453
D8-B	16 Mar 2023	Low Tide (ft)	-0.47
D8-B	16 Mar 2023	Low Tide Time	1252
D8-B	16 Mar 2023	Comments	Water turbid; Trash-1; Kelp;Algae;Debris
D8-B	22 Mar 2023	Arrive Time	830
D8-B	22 Mar 2023	Weather	Partly cloudy
D8-B	22 Mar 2023	Wind Speed (kts)	7.2
D8-B	22 Mar 2023	Wind Dir	W
D8-B	22 Mar 2023	Animal Life	
D8-B	22 Mar 2023	Floatables	None
D8-B	22 Mar 2023	Water Color	Green
D8-B	22 Mar 2023	Current Direction	S
D8-B	22 Mar 2023	Water Temp (C)	11
D8-B	22 Mar 2023	Wave Height Low (ft)	4
D8-B	22 Mar 2023	High Tide (ft)	5.25
D8-B	22 Mar 2023	High Tide Time	1012
D8-B	22 Mar 2023	Low Tide (ft)	-0.23
D8-B	22 Mar 2023	Low Tide Time	415
D8-B	22 Mar 2023	Comments	Water clear; Trash-2; Seagrass;Kelp;Algae;Debris; Station was inaccessible due to unsafe conditions on previous day
D8-B	29 Mar 2023	Arrive Time	834
D8-B	29 Mar 2023	Weather	Drizzle
D8-B	29 Mar 2023	Wind Speed (kts)	0
D8-B	29 Mar 2023	Wind Dir	
D8-B	29 Mar 2023	Animal Life	
D8-B	29 Mar 2023	Floatables	None
D8-B	29 Mar 2023	Water Color	Green
D8-B	29 Mar 2023	Current Direction	S
D8-B	29 Mar 2023	Water Temp (C)	11
D8-B	29 Mar 2023	Wave Height Low (ft)	2
D8-B	29 Mar 2023	High Tide (ft)	3.82
D8-B	29 Mar 2023	High Tide Time	336
D8-B	29 Mar 2023	Low Tide (ft)	0.44
D8-B	29 Mar 2023	Low Tide Time	1215
D8-B	29 Mar 2023	Comments	Water clear; Trash-2; Seagrass;Algae
D9	01 Mar 2023	Arrive Time	807
D9	01 Mar 2023	Weather	Cloudy
D9	01 Mar 2023	Wind Speed (kts)	12.8
D9	01 Mar 2023	Wind Dir	NW

Station	Date	Parameter	Value
D9	01 Mar 2023	Animal Life	Dog-2;
D9	01 Mar 2023	Floatables	None
D9	01 Mar 2023	Water Color	Green
D9	01 Mar 2023	Current Direction	S
D9	01 Mar 2023	Water Temp (C)	7
D9	01 Mar 2023	Wave Height Low (ft)	5
D9	01 Mar 2023	High Tide (ft)	4.35
D9	01 Mar 2023	High Tide Time	451
D9	01 Mar 2023	Low Tide (ft)	-0.03
D9	01 Mar 2023	Low Tide Time	1246
D9	01 Mar 2023	Comments	Water clear; Trash-1; Algae; Person/Walker/Jogger-1
D9	08 Mar 2023	Arrive Time	830
D9	08 Mar 2023	Weather	Partly cloudy
D9	08 Mar 2023	Wind Speed (kts)	1.4
D9	08 Mar 2023	Wind Dir	SW
D9	08 Mar 2023	Animal Life	
D9	08 Mar 2023	Floatables	None
D9	08 Mar 2023	Water Color	Green
D9	08 Mar 2023	Current Direction	S
D9	08 Mar 2023	Water Temp (C)	9
D9	08 Mar 2023	Wave Height Low (ft)	4
D9	08 Mar 2023	High Tide (ft)	4.94
D9	08 Mar 2023	High Tide Time	909
D9	08 Mar 2023	Low Tide (ft)	0.74
D9	08 Mar 2023	Low Tide Time	317
D9	08 Mar 2023	Comments	Water clear; Trash-1; Algae
D9	15 Mar 2023	Arrive Time	832
D9	15 Mar 2023	Weather	Drizzle
D9	15 Mar 2023	Wind Speed (kts)	5.5
D9	15 Mar 2023	Wind Dir	SW
D9	15 Mar 2023	Animal Life	Bird-2;
D9	15 Mar 2023	Floatables	None
D9	15 Mar 2023	Water Color	Green
D9	15 Mar 2023	Current Direction	S
D9	15 Mar 2023	Water Temp (C)	10
D9	15 Mar 2023	Wave Height Low (ft)	4
D9	15 Mar 2023	High Tide (ft)	4.47
D9	15 Mar 2023	High Tide Time	307
D9	15 Mar 2023	Low Tide (ft)	0.07
D9	15 Mar 2023	Low Tide Time	1152
D9	15 Mar 2023	Comments	Water clear; Trash-1; Kelp;Algae;Seagrass
D9	16 Mar 2023	Arrive Time	1238
D9	16 Mar 2023	Weather	Sunny
D9	16 Mar 2023	Wind Speed (kts)	6.7
D9	16 Mar 2023	Wind Dir	SW
D9	16 Mar 2023	Animal Life	
D9	16 Mar 2023	Floatables	Foam
D9	16 Mar 2023	Water Color	Brown
D9	16 Mar 2023	Current Direction	S
D9	16 Mar 2023	Water Temp (C)	10
D9	16 Mar 2023	Wave Height Low (ft)	4
D9	16 Mar 2023	High Tide (ft)	4.7
D9	16 Mar 2023	High Tide Time	453
D9	16 Mar 2023	Low Tide (ft)	-0.47
D9	16 Mar 2023	Low Tide Time	1252
D9	16 Mar 2023	Comments	Water turbid; Trash-1; Algae; Person/Walker/Jogger-2
D9	22 Mar 2023	Arrive Time	823

Station	Date	Parameter	Value
D9	22 Mar 2023	Weather	Partly cloudy
D9	22 Mar 2023	Wind Speed (kts)	4.9
D9	22 Mar 2023	Wind Dir	SW
D9	22 Mar 2023	Animal Life	
D9	22 Mar 2023	Floatables	None
D9	22 Mar 2023	Water Color	Green
D9	22 Mar 2023	Current Direction	S
D9	22 Mar 2023	Water Temp (C)	10
D9	22 Mar 2023	Wave Height Low (ft)	4
D9	22 Mar 2023	High Tide (ft)	5.25
D9	22 Mar 2023	High Tide Time	1012
D9	22 Mar 2023	Low Tide (ft)	-0.23
D9	22 Mar 2023	Low Tide Time	415
D9	22 Mar 2023	Comments	Water clear; Trash-1; Algae
D9	29 Mar 2023	Arrive Time	825
D9	29 Mar 2023	Weather	Cloudy
D9	29 Mar 2023	Wind Speed (kts)	1.1
D9	29 Mar 2023	Wind Dir	SW
D9	29 Mar 2023	Animal Life	Dog-1;
D9	29 Mar 2023	Floatables	None
D9	29 Mar 2023	Water Color	Green
D9	29 Mar 2023	Current Direction	S
D9	29 Mar 2023	Water Temp (C)	10
D9	29 Mar 2023	Wave Height Low (ft)	2
D9	29 Mar 2023	High Tide (ft)	3.82
D9	29 Mar 2023	High Tide Time	336
D9	29 Mar 2023	Low Tide (ft)	0.44
D9	29 Mar 2023	Low Tide Time	1215
D9	29 Mar 2023	Comments	Water clear; Trash-2; Algae; Person/Walker/Jogger-2
D10	01 Mar 2023	Arrive Time	759
D10	01 Mar 2023	Weather	Drizzle
D10	01 Mar 2023	Wind Speed (kts)	11.5
D10	01 Mar 2023	Wind Dir	W
D10	01 Mar 2023	Animal Life	Bird-2;
D10	01 Mar 2023	Floatables	None
D10	01 Mar 2023	Water Color	Green
D10	01 Mar 2023	Current Direction	S
D10	01 Mar 2023	Water Temp (C)	8
D10	01 Mar 2023	Wave Height Low (ft)	5
D10	01 Mar 2023	High Tide (ft)	4.35
D10	01 Mar 2023	High Tide Time	451
D10	01 Mar 2023	Low Tide (ft)	-0.03
D10	01 Mar 2023	Low Tide Time	1246
D10	01 Mar 2023	Comments	Water clear; Trash-2; Kelp; Seagrass; Algae; Debris
D10	08 Mar 2023	Arrive Time	822
D10	08 Mar 2023	Weather	Partly cloudy
D10	08 Mar 2023	Wind Speed (kts)	1.1
D10	08 Mar 2023	Wind Dir	S
D10	08 Mar 2023	Animal Life	Bird-3;
D10	08 Mar 2023	Floatables	None
D10	08 Mar 2023	Water Color	Green
D10	08 Mar 2023	Current Direction	S
D10	08 Mar 2023	Water Temp (C)	9
D10	08 Mar 2023	Wave Height Low (ft)	6
D10	08 Mar 2023	High Tide (ft)	4.94
D10	08 Mar 2023	High Tide Time	909
D10	08 Mar 2023	Low Tide (ft)	0.74
D10	08 Mar 2023	Low Tide Time	317

Station	Date	Parameter	Value
D10	08 Mar 2023	Comments	Water clear; Surfer/Paddle boarder-8; Trash-2; Kelp;Seagrass; Person/Walker/Jogger-2
D10	15 Mar 2023	Arrive Time	817
D10	15 Mar 2023	Weather	Drizzle
D10	15 Mar 2023	Wind Speed (kts)	3.8
D10	15 Mar 2023	Wind Dir	SW
D10	15 Mar 2023	Animal Life	
D10	15 Mar 2023	Floatables	None
D10	15 Mar 2023	Water Color	Green
D10	15 Mar 2023	Current Direction	S
D10	15 Mar 2023	Water Temp (C)	10
D10	15 Mar 2023	Wave Height Low (ft)	5
D10	15 Mar 2023	High Tide (ft)	4.47
D10	15 Mar 2023	High Tide Time	307
D10	15 Mar 2023	Low Tide (ft)	0.07
D10	15 Mar 2023	Low Tide Time	1152
D10	15 Mar 2023	Comments	Water clear; Trash-1; Seagrass;Kelp;Debris
D10	16 Mar 2023	Arrive Time	1229
D10	16 Mar 2023	Weather	Sunny
D10	16 Mar 2023	Wind Speed (kts)	7.4
D10	16 Mar 2023	Wind Dir	SW
D10	16 Mar 2023	Animal Life	
D10	16 Mar 2023	Floatables	Foam
D10	16 Mar 2023	Water Color	Brown
D10	16 Mar 2023	Current Direction	S
D10	16 Mar 2023	Water Temp (C)	13
D10	16 Mar 2023	Wave Height Low (ft)	4
D10	16 Mar 2023	High Tide (ft)	4.7
D10	16 Mar 2023	High Tide Time	453
D10	16 Mar 2023	Low Tide (ft)	-0.47
D10	16 Mar 2023	Low Tide Time	1252
D10	16 Mar 2023	Comments	Water turbid; Surfer/Paddle boarder-1; Trash-2; Kelp;Seagrass;Debris; Person/Walker/Jogger-2; -2
D10	17 Mar 2023	Arrive Time	831
D10	17 Mar 2023	Weather	Partly cloudy
D10	17 Mar 2023	Wind Speed (kts)	2.3
D10	17 Mar 2023	Wind Dir	W
D10	17 Mar 2023	Animal Life	
D10	17 Mar 2023	Floatables	None
D10	17 Mar 2023	Water Color	Green
D10	17 Mar 2023	Current Direction	S
D10	17 Mar 2023	Water Temp (C)	9
D10	17 Mar 2023	Wave Height Low (ft)	4
D10	17 Mar 2023	High Tide (ft)	5.15
D10	17 Mar 2023	High Tide Time	608
D10	17 Mar 2023	Low Tide (ft)	2.41
D10	17 Mar 2023	Low Tide Time	8
D10	17 Mar 2023	Comments	Water clear; Surfer/Paddle boarder-1; Trash-1; Kelp;Seagrass;Debris; Person/Walker/Jogger-2
D10	22 Mar 2023	Arrive Time	816
D10	22 Mar 2023	Weather	Partly cloudy
D10	22 Mar 2023	Wind Speed (kts)	7
D10	22 Mar 2023	Wind Dir	SW
D10	22 Mar 2023	Animal Life	
D10	22 Mar 2023	Floatables	Foam
D10	22 Mar 2023	Water Color	Green
D10	22 Mar 2023	Current Direction	S

Station	Date	Parameter	Value
D10	22 Mar 2023	Water Temp (C)	10
D10	22 Mar 2023	Wave Height Low (ft)	6
D10	22 Mar 2023	High Tide (ft)	5.25
D10	22 Mar 2023	High Tide Time	1012
D10	22 Mar 2023	Low Tide (ft)	-0.23
D10	22 Mar 2023	Low Tide Time	415
D10	22 Mar 2023	Comments	Water clear; Trash-2; Kelp;Seagrass;Debris
D10	24 Mar 2023	Arrive Time	830
D10	24 Mar 2023	Weather	Partly cloudy
D10	24 Mar 2023	Wind Speed (kts)	1.9
D10	24 Mar 2023	Wind Dir	S
D10	24 Mar 2023	Animal Life	
D10	24 Mar 2023	Floatables	Foam
D10	24 Mar 2023	Water Color	Green
D10	24 Mar 2023	Current Direction	S
D10	24 Mar 2023	Water Temp (C)	11
D10	24 Mar 2023	Wave Height Low (ft)	4
D10	24 Mar 2023	High Tide (ft)	3.95
D10	24 Mar 2023	High Tide Time	1145
D10	24 Mar 2023	Low Tide (ft)	-0.23
D10	24 Mar 2023	Low Tide Time	547
D10	24 Mar 2023	Comments	Water turbid; Trash-2; Kelp;Seagrass;Debris
D10	29 Mar 2023	Arrive Time	816
D10	29 Mar 2023	Weather	Cloudy
D10	29 Mar 2023	Wind Speed (kts)	4
D10	29 Mar 2023	Wind Dir	S
D10	29 Mar 2023	Animal Life	
D10	29 Mar 2023	Floatables	None
D10	29 Mar 2023	Water Color	Green
D10	29 Mar 2023	Current Direction	S
D10	29 Mar 2023	Water Temp (C)	10
D10	29 Mar 2023	Wave Height Low (ft)	4
D10	29 Mar 2023	High Tide (ft)	3.82
D10	29 Mar 2023	High Tide Time	336
D10	29 Mar 2023	Low Tide (ft)	0.44
D10	29 Mar 2023	Low Tide Time	1215
D10	29 Mar 2023	Comments	Water clear; Surfer/Paddle boarder-6; Trash-1; Kelp;Seagrass;Debris; Person/Walker/Jogger-3
D11	01 Mar 2023	Arrive Time	753
D11	01 Mar 2023	Weather	Drizzle
D11	01 Mar 2023	Wind Speed (kts)	18.1
D11	01 Mar 2023	Wind Dir	W
D11	01 Mar 2023	Animal Life	Bird-3; Dog-1;
D11	01 Mar 2023	Floatables	None
D11	01 Mar 2023	Water Color	Green
D11	01 Mar 2023	Current Direction	S
D11	01 Mar 2023	Water Temp (C)	6
D11	01 Mar 2023	Wave Height Low (ft)	4
D11	01 Mar 2023	High Tide (ft)	4.35
D11	01 Mar 2023	High Tide Time	451
D11	01 Mar 2023	Low Tide (ft)	-0.03
D11	01 Mar 2023	Low Tide Time	1246
D11	01 Mar 2023	Comments	Water clear; Trash-2; Kelp;Seagrass;Debris;Algae
D11	08 Mar 2023	Arrive Time	814
D11	08 Mar 2023	Weather	Partly cloudy
D11	08 Mar 2023	Wind Speed (kts)	1.5
D11	08 Mar 2023	Wind Dir	S

Station	Date	Parameter	Value
D11	08 Mar 2023	Animal Life	
D11	08 Mar 2023	Floatables	None
D11	08 Mar 2023	Water Color	Green
D11	08 Mar 2023	Current Direction	S
D11	08 Mar 2023	Water Temp (C)	9
D11	08 Mar 2023	Wave Height Low (ft)	5
D11	08 Mar 2023	High Tide (ft)	4.94
D11	08 Mar 2023	High Tide Time	909
D11	08 Mar 2023	Low Tide (ft)	0.74
D11	08 Mar 2023	Low Tide Time	317
D11	08 Mar 2023	Comments	Water clear; Surfer/Paddle boarder-6; Trash-1; Sea-grass;Algae;Debris; Person/Walker/Jogger-5; Station was unaccessible due to unsafe conditions on previous day
D11	15 Mar 2023	Arrive Time	807
D11	15 Mar 2023	Weather	Moderate rain
D11	15 Mar 2023	Wind Speed (kts)	9.1
D11	15 Mar 2023	Wind Dir	SW
D11	15 Mar 2023	Animal Life	
D11	15 Mar 2023	Floatables	None
D11	15 Mar 2023	Water Color	Green
D11	15 Mar 2023	Current Direction	S
D11	15 Mar 2023	Water Temp (C)	10
D11	15 Mar 2023	Wave Height Low (ft)	5
D11	15 Mar 2023	High Tide (ft)	4.47
D11	15 Mar 2023	High Tide Time	307
D11	15 Mar 2023	Low Tide (ft)	0.07
D11	15 Mar 2023	Low Tide Time	1152
D11	15 Mar 2023	Comments	Water clear; Trash-1; Kelp;Seagrass;Algae;Debris
D11	16 Mar 2023	Arrive Time	1219
D11	16 Mar 2023	Weather	Sunny
D11	16 Mar 2023	Wind Speed (kts)	6.1
D11	16 Mar 2023	Wind Dir	SW
D11	16 Mar 2023	Animal Life	
D11	16 Mar 2023	Floatables	Foam
D11	16 Mar 2023	Water Color	Brown
D11	16 Mar 2023	Current Direction	S
D11	16 Mar 2023	Water Temp (C)	12
D11	16 Mar 2023	Wave Height Low (ft)	3
D11	16 Mar 2023	High Tide (ft)	4.7
D11	16 Mar 2023	High Tide Time	453
D11	16 Mar 2023	Low Tide (ft)	-0.47
D11	16 Mar 2023	Low Tide Time	1252
D11	16 Mar 2023	Comments	Water turbid; Trash-1; Algae;Debris;Seagrass; Person/Walker/Jogger-5
D11	17 Mar 2023	Arrive Time	822
D11	17 Mar 2023	Weather	Partly cloudy
D11	17 Mar 2023	Wind Speed (kts)	1.3
D11	17 Mar 2023	Wind Dir	W
D11	17 Mar 2023	Animal Life	Dog-1;
D11	17 Mar 2023	Floatables	None
D11	17 Mar 2023	Water Color	Green
D11	17 Mar 2023	Current Direction	S
D11	17 Mar 2023	Water Temp (C)	10
D11	17 Mar 2023	Wave Height Low (ft)	4
D11	17 Mar 2023	High Tide (ft)	5.15
D11	17 Mar 2023	High Tide Time	608
D11	17 Mar 2023	Low Tide (ft)	2.41
D11	17 Mar 2023	Low Tide Time	8

Station	Date	Parameter	Value
D11	17 Mar 2023	Comments	Water clear; Surfer/Paddle boarder-1; Trash-1; Kelp;Seagrass;Algae; Person/Walker/Jogger-2
D11	22 Mar 2023	Arrive Time	810
D11	22 Mar 2023	Weather	Partly cloudy
D11	22 Mar 2023	Wind Speed (kts)	9
D11	22 Mar 2023	Wind Dir	W
D11	22 Mar 2023	Animal Life	Dog-1;
D11	22 Mar 2023	Floatables	Foam
D11	22 Mar 2023	Water Color	Brown
D11	22 Mar 2023	Current Direction	S
D11	22 Mar 2023	Water Temp (C)	9
D11	22 Mar 2023	Wave Height Low (ft)	6
D11	22 Mar 2023	High Tide (ft)	5.25
D11	22 Mar 2023	High Tide Time	1012
D11	22 Mar 2023	Low Tide (ft)	-0.23
D11	22 Mar 2023	Low Tide Time	415
D11	22 Mar 2023	Comments	Water turbid; Trash-2; Kelp;Seagrass;Algae;Debris; Person/Walker/Jogger-1
D11	24 Mar 2023	Arrive Time	823
D11	24 Mar 2023	Weather	Partly cloudy
D11	24 Mar 2023	Wind Speed (kts)	2.5
D11	24 Mar 2023	Wind Dir	E
D11	24 Mar 2023	Animal Life	
D11	24 Mar 2023	Floatables	Foam
D11	24 Mar 2023	Water Color	Brown
D11	24 Mar 2023	Current Direction	S
D11	24 Mar 2023	Water Temp (C)	11
D11	24 Mar 2023	Wave Height Low (ft)	3
D11	24 Mar 2023	High Tide (ft)	3.95
D11	24 Mar 2023	High Tide Time	1145
D11	24 Mar 2023	Low Tide (ft)	-0.23
D11	24 Mar 2023	Low Tide Time	547
D11	24 Mar 2023	Comments	Water turbid; Trash-1; Kelp;Seagrass;Debris; Person/Walker/Jogger-1
D11	26 Mar 2023	Arrive Time	856
D11	26 Mar 2023	Weather	Sunny
D11	26 Mar 2023	Wind Speed (kts)	3.3
D11	26 Mar 2023	Wind Dir	W
D11	26 Mar 2023	Animal Life	
D11	26 Mar 2023	Floatables	None
D11	26 Mar 2023	Water Color	Green
D11	26 Mar 2023	Current Direction	S
D11	26 Mar 2023	Water Temp (C)	8
D11	26 Mar 2023	Wave Height Low (ft)	4
D11	26 Mar 2023	High Tide (ft)	4.93
D11	26 Mar 2023	High Tide Time	13
D11	26 Mar 2023	Low Tide (ft)	0.34
D11	26 Mar 2023	Low Tide Time	736
D11	26 Mar 2023	Comments	Water clear; Surfer/Paddle boarder-3; Trash-1; Kelp;Seagrass;Algae;Debris; Person/Walker/Jogger-1
D11	29 Mar 2023	Arrive Time	807
D11	29 Mar 2023	Weather	Cloudy
D11	29 Mar 2023	Wind Speed (kts)	3.4
D11	29 Mar 2023	Wind Dir	S
D11	29 Mar 2023	Animal Life	
D11	29 Mar 2023	Floatables	None
D11	29 Mar 2023	Water Color	Grey

Station	Date	Parameter	Value
D11	29 Mar 2023	Current Direction	S
D11	29 Mar 2023	Water Temp (C)	10
D11	29 Mar 2023	Wave Height Low (ft)	4
D11	29 Mar 2023	High Tide (ft)	3.82
D11	29 Mar 2023	High Tide Time	336
D11	29 Mar 2023	Low Tide (ft)	0.44
D11	29 Mar 2023	Low Tide Time	1215
D11	29 Mar 2023	Comments	Water clear; Surfer/Paddle boarder-4; Trash-2; Kelp;Seagrass;Algae;Debris; Person/Walker/Jogger-1
D12	01 Mar 2023	Arrive Time	740
D12	01 Mar 2023	Weather	Moderate rain
D12	01 Mar 2023	Wind Speed (kts)	11.3
D12	01 Mar 2023	Wind Dir	W
D12	01 Mar 2023	Animal Life	Dog-2;
D12	01 Mar 2023	Floatables	None
D12	01 Mar 2023	Water Color	Green
D12	01 Mar 2023	Current Direction	S
D12	01 Mar 2023	Water Temp (C)	9
D12	01 Mar 2023	Wave Height Low (ft)	4
D12	01 Mar 2023	High Tide (ft)	4.35
D12	01 Mar 2023	High Tide Time	451
D12	01 Mar 2023	Low Tide (ft)	-0.03
D12	01 Mar 2023	Low Tide Time	1246
D12	01 Mar 2023	Comments	Water clear; Trash-2; Kelp;Seagrass;Debris; Person/Walker/Jogger-2
D12	08 Mar 2023	Arrive Time	800
D12	08 Mar 2023	Weather	Partly cloudy
D12	08 Mar 2023	Wind Speed (kts)	0
D12	08 Mar 2023	Wind Dir	
D12	08 Mar 2023	Animal Life	Bird-1;
D12	08 Mar 2023	Floatables	None
D12	08 Mar 2023	Water Color	Green
D12	08 Mar 2023	Current Direction	S
D12	08 Mar 2023	Water Temp (C)	7
D12	08 Mar 2023	Wave Height Low (ft)	4
D12	08 Mar 2023	High Tide (ft)	4.94
D12	08 Mar 2023	High Tide Time	909
D12	08 Mar 2023	Low Tide (ft)	0.74
D12	08 Mar 2023	Low Tide Time	317
D12	08 Mar 2023	Comments	Water clear; Surfer/Paddle boarder-2; Trash-1; Seagrass;Kelp;Debris; Person/Walker/Jogger-4; Station was un-accessible due to unsafe conditions on previous day
D12	15 Mar 2023	Arrive Time	750
D12	15 Mar 2023	Weather	Drizzle
D12	15 Mar 2023	Wind Speed (kts)	7
D12	15 Mar 2023	Wind Dir	SW
D12	15 Mar 2023	Animal Life	
D12	15 Mar 2023	Floatables	None
D12	15 Mar 2023	Water Color	Green
D12	15 Mar 2023	Current Direction	S
D12	15 Mar 2023	Water Temp (C)	9
D12	15 Mar 2023	Wave Height Low (ft)	5
D12	15 Mar 2023	High Tide (ft)	4.47
D12	15 Mar 2023	High Tide Time	307
D12	15 Mar 2023	Low Tide (ft)	0.07
D12	15 Mar 2023	Low Tide Time	1152
D12	15 Mar 2023	Comments	Water clear; Trash-1; Kelp;Seagrass;Debris

Station	Date	Parameter	Value
D12	22 Mar 2023	Arrive Time	755
D12	22 Mar 2023	Weather	Partly cloudy
D12	22 Mar 2023	Wind Speed (kts)	5.6
D12	22 Mar 2023	Wind Dir	W
D12	22 Mar 2023	Animal Life	Bird-2;
D12	22 Mar 2023	Floatables	Foam
D12	22 Mar 2023	Water Color	Green
D12	22 Mar 2023	Current Direction	S
D12	22 Mar 2023	Water Temp (C)	9
D12	22 Mar 2023	Wave Height Low (ft)	5
D12	22 Mar 2023	High Tide (ft)	5.25
D12	22 Mar 2023	High Tide Time	1012
D12	22 Mar 2023	Low Tide (ft)	-0.23
D12	22 Mar 2023	Low Tide Time	415
D12	22 Mar 2023	Comments	Water clear; Trash-2; Kelp;Seagrass;Debris; Person/Walker/Jogger-2
D12	24 Mar 2023	Arrive Time	809
D12	24 Mar 2023	Weather	Partly cloudy
D12	24 Mar 2023	Wind Speed (kts)	0
D12	24 Mar 2023	Wind Dir	
D12	24 Mar 2023	Animal Life	
D12	24 Mar 2023	Floatables	Foam
D12	24 Mar 2023	Water Color	Green
D12	24 Mar 2023	Current Direction	S
D12	24 Mar 2023	Water Temp (C)	10
D12	24 Mar 2023	Wave Height Low (ft)	3
D12	24 Mar 2023	High Tide (ft)	3.95
D12	24 Mar 2023	High Tide Time	1145
D12	24 Mar 2023	Low Tide (ft)	-0.23
D12	24 Mar 2023	Low Tide Time	547
D12	24 Mar 2023	Comments	Water clear; Trash-2; Kelp;Debris;Seagrass; Person/Walker/Jogger-4
D12	29 Mar 2023	Arrive Time	752
D12	29 Mar 2023	Weather	Cloudy
D12	29 Mar 2023	Wind Speed (kts)	2.3
D12	29 Mar 2023	Wind Dir	S
D12	29 Mar 2023	Animal Life	
D12	29 Mar 2023	Floatables	None
D12	29 Mar 2023	Water Color	Green
D12	29 Mar 2023	Current Direction	S
D12	29 Mar 2023	Water Temp (C)	10
D12	29 Mar 2023	Wave Height Low (ft)	3
D12	29 Mar 2023	High Tide (ft)	3.82
D12	29 Mar 2023	High Tide Time	336
D12	29 Mar 2023	Low Tide (ft)	0.44
D12	29 Mar 2023	Low Tide Time	1215
D12	29 Mar 2023	Comments	Water clear; Fisherpersion-1; Trash-2; Kelp;Seagrass; Person/Walker/Jogger-1

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 Mar 2023	8	7	7	4	2	2	8	8
02 Mar 2023	9	8	10	4	2	3	11	9
03 Mar 2023	9	8	10	4	2	3	11	9
04 Mar 2023	9	8	10	4	2	3	11	9
05 Mar 2023	9	8	10	4	2	3	11	9
06 Mar 2023	9	8	10	4	2	3	11	9
07 Mar 2023	16	9	13	5	3	4	12	10
08 Mar 2023	16	9	13	5	3	4	12	10
09 Mar 2023	16	9	13	5	3	4	12	10
10 Mar 2023	16	9	13	5	3	4	12	10
11 Mar 2023	16	9	13	5	3	4	12	10
12 Mar 2023	16	8	13	6	3	3	11	8
13 Mar 2023	16	8	13	6	3	3	11	8
14 Mar 2023	24	14	20	6	3	3	16	11
15 Mar 2023	31	19	34	8	4	4	24	18
16 Mar 2023	31	19	34	8	4	4	24	18
17 Mar 2023	31	19	34	8	4	4	24	18
18 Mar 2023	31	19	34	8	4	4	24	18
19 Mar 2023	31	19	34	8	4	4	24	18
20 Mar 2023	31	19	34	8	4	4	24	18
21 Mar 2023	31	19	34	8	4	4	24	18
22 Mar 2023	31	19	34	8	4	4	24	18
23 Mar 2023	78*	19*	79*	12*	4*	5*	22*	11*
24 Mar 2023	84	23	81	9	6	7	26	15
25 Mar 2023	84	23	81	9	6	7	26	15
26 Mar 2023	84	23	81	9	6	7	26	15
27 Mar 2023	84	23	81	9	6	7	26	15
28 Mar 2023	92	22	62	6	5	6	21	11
29 Mar 2023	117	33	57	4	6	7	24	16
30 Mar 2023	117	33	57	4	6	7	24	16
31 Mar 2023	117	33	57	4	6	7	24	16

* 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 Mar 2023	2	2	3	2	2	2	3	3
02 Mar 2023	2	2	3	2	2	2	3	3
03 Mar 2023	2	2	3	2	2	2	3	3
04 Mar 2023	2	2	3	2	2	2	3	3
05 Mar 2023	2	2	3	2	2	2	3	3
06 Mar 2023	2	2	3	2	2	2	3	3
07 Mar 2023	4	3	4	2	2	2	3	3
08 Mar 2023	4	3	4	2	2	2	3	3
09 Mar 2023	4	3	4	2	2	2	3	3
10 Mar 2023	4	3	4	2	2	2	3	3
11 Mar 2023	4	3	4	2	2	2	3	3
12 Mar 2023	4	3	4	2	2	2	3	3
13 Mar 2023	4	3	4	2	2	2	3	3
14 Mar 2023	5	3	5	2	2	2	3	3
15 Mar 2023	6	4	7	2	2	2	3	4
16 Mar 2023	6	4	7	2	2	2	3	4
17 Mar 2023	6	4	7	2	2	2	3	4
18 Mar 2023	6	4	7	2	2	2	3	4
19 Mar 2023	6	4	7	2	2	2	3	4
20 Mar 2023	6	4	7	2	2	2	3	4
21 Mar 2023	6	4	7	2	2	2	3	4
22 Mar 2023	6	4	7	2	2	2	3	4
23 Mar 2023	8*	4*	10*	2*	2*	3*	4*	3*
24 Mar 2023	8	5	9	2	2	2	3	3
25 Mar 2023	8	5	9	2	2	2	3	3
26 Mar 2023	8	5	9	2	2	2	3	3
27 Mar 2023	8	5	9	2	2	2	3	3
28 Mar 2023	9	4	7	2	2	2	3	3
29 Mar 2023	13	5	6	2	2	2	3	3
30 Mar 2023	13	5	6	2	2	2	3	3
31 Mar 2023	13	5	6	2	2	2	3	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 Mar 2023	2	2	2	2	2	2	2	2
02 Mar 2023	2	2	2	2	2	2	2	2
03 Mar 2023	2	2	2	2	2	2	2	2
04 Mar 2023	2	2	2	2	2	2	2	2
05 Mar 2023	2	2	2	2	2	2	2	2
06 Mar 2023	2	2	2	2	2	2	2	2
07 Mar 2023	3	2	2	2	2	2	2	2
08 Mar 2023	3	2	2	2	2	2	2	2
09 Mar 2023	3	2	2	2	2	2	2	2
10 Mar 2023	3	2	2	2	2	2	2	2
11 Mar 2023	3	2	2	2	2	2	2	2
12 Mar 2023	3	2	2	2	2	2	2	2
13 Mar 2023	3	2	2	2	2	2	2	2
14 Mar 2023	3	3	3	2	2	2	2	2
15 Mar 2023	3	3	3	2	2	2	2	2
16 Mar 2023	3	3	3	2	2	2	2	2
17 Mar 2023	3	3	3	2	2	2	2	2
18 Mar 2023	3	3	3	2	2	2	2	2
19 Mar 2023	3	3	3	2	2	2	2	2
20 Mar 2023	3	3	3	2	2	2	2	2
21 Mar 2023	3	3	3	2	2	2	2	2
22 Mar 2023	3	3	3	2	2	2	2	2
23 Mar 2023	4*	3*	3*	2*	2*	2*	2*	2*
24 Mar 2023	3	3	3	2	2	2	2	2
25 Mar 2023	3	3	3	2	2	2	2	2
26 Mar 2023	3	3	3	2	2	2	2	2
27 Mar 2023	3	3	3	2	2	2	2	2
28 Mar 2023	3	3	3	2	2	2	2	2
29 Mar 2023	4	3	3	2	2	2	2	2
30 Mar 2023	4	3	3	2	2	2	2	2
31 Mar 2023	4	3	3	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
07 Mar 2023	IC	IC	IC	IC	IC	IC	IC	IC
14 Mar 2023	IC	IC	IC	IC	IC	IC	IC	IC
24 Mar 2023	IC	IC	IC	IC	IC	IC	IC	IC
28 Mar 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
07 Mar 2023	IC	IC	IC	IC	IC	IC	IC	IC
14 Mar 2023	IC	IC	IC	IC	IC	IC	IC	IC
24 Mar 2023	IC	IC	IC	IC	IC	IC	IC	IC
28 Mar 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
07 Mar 2023	IC	IC	IC	IC	IC	IC	IC	IC
14 Mar 2023	IC	IC	IC	IC	IC	IC	IC	IC
24 Mar 2023	IC	IC	IC	IC	IC	IC	IC	IC
28 Mar 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
07 Mar 2023	IC	IC	IC	IC	IC	IC	IC	IC
14 Mar 2023	IC	IC	IC	IC	IC	IC	IC	IC
24 Mar 2023	IC	IC	IC	IC	IC	IC	IC	IC
28 Mar 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	07 Mar 2023	744	1	2e	<2	<2	1.00	12.9	83.90	7.3	33.36	8.0
A1	07 Mar 2023	744	12	120	16e	16e	0.13	11.4	89.79	4.2	33.66	7.8
A1	07 Mar 2023	744	18	280e	64	18e	0.23	11.2	84.33	3.8	33.73	7.8
A1	14 Mar 2023	743	1	<2	<2	<2	1.00	13.3	81.55	7.9	33.38	8.0
A1	14 Mar 2023	743	12	72	14e	<2	0.19	11.2	87.25	3.8	33.77	7.7
A1	14 Mar 2023	743	18	240e	16e	4e	0.07	10.9	86.24	3.5	33.82	7.7
A1	24 Mar 2023	828	1	26e	4e	<2	0.15	14.0	80.94	8.2	33.22	8.0
A1	24 Mar 2023	828	12	80e	4e	<2	0.05	12.8	86.85	6.5	33.45	7.8
A1	24 Mar 2023	828	18	<200	12e	<2	0.06	12.4	78.74	5.9	33.54	7.8
A1	28 Mar 2023	759	1	<2	<2	<2	1.00	13.8	83.64	7.7	33.24	8.0
A1	28 Mar 2023	759	12	76	10e	<2	0.13	11.8	91.21	4.6	33.62	7.8
A1	28 Mar 2023	759	18	320e	28e	8e	0.09	11.3	90.65	3.8	33.74	7.7
A6	07 Mar 2023	812	1	2e	<2	<2	1.00	12.9	81.66	7.4	33.30	8.0
A6	07 Mar 2023	812	12	12e	<2	2e	0.17	12.0	87.02	5.2	33.55	7.9
A6	07 Mar 2023	812	18	42	6e	<2	0.14	11.6	87.49	4.6	33.62	7.8
A6	14 Mar 2023	809	1	<2	<2	<2	1.00	13.0	79.43	7.7	33.36	8.0
A6	14 Mar 2023	809	12	130	14e	16e	0.11	11.1	88.06	3.6	33.79	7.7
A6	14 Mar 2023	809	18	150	14e	4e	0.09	10.7	87.73	3.1	33.90	7.7
A6	24 Mar 2023	854	1	<20	<2	<2	0.10	14.2	71.52	8.2	33.01	8.0
A6	24 Mar 2023	854	12	30e	6e	<2	0.20	12.8	85.06	6.3	33.47	7.9
A6	24 Mar 2023	854	18	80e	8e	4e	0.10	12.1	84.92	5.2	33.58	7.8
A6	28 Mar 2023	830	1	<2	<2	<2	1.00	13.7	86.28	7.5	33.31	8.0
A6	28 Mar 2023	830	12	10e	<2	<2	0.20	12.0	91.49	5.0	33.59	7.8
A6	28 Mar 2023	830	18	34e	4e	<2	0.12	11.8	91.59	4.4	33.65	7.8
A7	07 Mar 2023	755	1	<2	<2	<2	1.00	12.9	78.09	7.4	33.34	8.0
A7	07 Mar 2023	755	12	30e	2e	4e	0.07	11.5	89.74	4.5	33.64	7.8
A7	07 Mar 2023	755	18	110	18e	6e	0.16	11.3	88.17	4.0	33.69	7.8
A7	14 Mar 2023	758	1	2e	<2	<2	1.00	13.3	79.35	8.0	33.33	8.0
A7	14 Mar 2023	758	12	44	4e	2e	0.09	11.1	86.95	3.7	33.78	7.7
A7	14 Mar 2023	758	18	320e	26e	6e	0.08	10.7	85.07	3.1	33.88	7.7
A7	24 Mar 2023	840	1	10e	<2	<2	0.20	14.0	80.20	8.3	33.25	8.0
A7	24 Mar 2023	840	12	56	4e	<2	0.07	12.6	86.60	6.2	33.48	7.9
A7	24 Mar 2023	840	18	200e	10e	2e	0.05	12.0	63.80	5.0	33.61	7.7
A7	28 Mar 2023	812	1	<2	<2	<2	1.00	13.5	87.25	7.2	33.35	8.0
A7	28 Mar 2023	812	12	2e	<2	<2	1.00	11.8	91.79	4.8	33.62	7.8
A7	28 Mar 2023	812	18	60	4e	<2	0.07	11.7	91.43	4.4	33.66	7.8
C4	07 Mar 2023	923	1	2e	<2	<2	1.00	13.4	75.25	7.6	33.35	8.1
C4	07 Mar 2023	923	3	6e	2e	<2	0.33	12.7	79.05	6.4	33.45	8.0
C4	07 Mar 2023	923	9	24e	2e	<2	0.08	11.6	86.36	4.5	33.62	7.8

Station	Date	Time	Depth	Total	Fecal	Entero	F:T	Temp	XMS	DO	Sal	pH
C4	14 Mar 2023	914	1	<2	<2	<2	1.00	13.7	77.02	8.2	33.40	8.0
C4	14 Mar 2023	914	3	<2	<2	<2	1.00	13.4	77.25	8.0	33.40	8.0
C4	14 Mar 2023	914	9	12e	4e	<2	0.33	12.1	73.50	5.1	33.62	7.8
C4	24 Mar 2023	1008	1	6e	2e	<2	0.33	14.3	67.74	8.1	33.20	8.0
C4	24 Mar 2023	1008	3	<2	<2	<2	1.00	14.3	68.18	8.1	33.20	8.0
C4	24 Mar 2023	1008	9	2e	<2	<2	1.00	13.8	74.11	7.1	33.30	8.0
C4	28 Mar 2023	940	1	<2	<2	<2	1.00	14.5	85.20	8.1	33.20	8.1
C4	28 Mar 2023	940	3	2e	<2	<2	1.00	14.0	84.50	8.0	33.26	8.1
C4	28 Mar 2023	940	9	2e	<2	<2	1.00	12.9	87.93	6.3	33.47	8.0
C5	07 Mar 2023	913	1	<2	<2	<2	1.00	13.2	73.91	7.3	33.36	8.0
C5	07 Mar 2023	913	3	2e	<2	<2	1.00	12.8	75.21	6.4	33.43	8.0
C5	07 Mar 2023	913	9	8e	<2	<2	0.25	11.7	83.51	4.6	33.61	7.8
C5	14 Mar 2023	903	1	<2	<2	<2	1.00	13.4	77.52	7.7	33.42	8.0
C5	14 Mar 2023	903	3	4e	<2	<2	0.50	13.2	77.17	7.3	33.44	8.0
C5	14 Mar 2023	903	9	14e	<2	<2	0.14	11.7	79.06	4.4	33.66	7.8
C5	24 Mar 2023	957	1	<20	<2	<2	0.10	14.3	67.04	8.1	33.18	8.0
C5	24 Mar 2023	957	3	<20	<2	<2	0.10	14.3	75.44	7.9	33.19	8.0
C5	24 Mar 2023	957	9	4e	<2	<2	0.50	14.0	78.17	7.7	33.27	8.0
C5	28 Mar 2023	928	1	<2	<2	<2	1.00	13.5	86.64	6.9	33.36	8.0
C5	28 Mar 2023	928	3	<2	<2	<2	1.00	12.9	86.18	6.0	33.48	8.0
C5	28 Mar 2023	928	9	4e	2e	<2	0.50	12.2	91.95	5.0	33.59	7.8
C6	07 Mar 2023	855	1	<2	<2	<2	1.00	13.4	73.45	8.0	33.27	8.1
C6	07 Mar 2023	855	3	2e	<2	<2	1.00	12.8	76.56	6.2	33.42	8.0
C6	07 Mar 2023	855	9	40	8e	<2	0.20	11.7	81.64	4.6	33.61	7.8
C6	14 Mar 2023	853	1	6e	<2	<2	0.33	13.0	76.90	6.9	33.42	7.9
C6	14 Mar 2023	853	3	2e	<2	<2	1.00	12.8	76.71	6.4	33.45	7.9
C6	14 Mar 2023	853	9	<2	<2	<2	1.00	11.8	81.61	4.2	33.64	7.8
C6	24 Mar 2023	949	1	40e	<2	<2	0.05	14.1	76.05	7.9	33.17	8.0
C6	24 Mar 2023	949	3	<20	2e	<2	0.10	14.2	73.52	7.9	33.13	8.0
C6	24 Mar 2023	949	9	<20	<2	<2	0.10	14.0	81.59	7.6	33.28	8.0
C6	28 Mar 2023	916	1	<2	<2	<2	1.00	13.6	84.78	7.1	33.30	8.0
C6	28 Mar 2023	916	3	<2	<2	<2	1.00	13.3	84.51	6.5	33.36	8.0
C6	28 Mar 2023	916	9	2e	<2	<2	1.00	12.1	91.57	5.0	33.59	7.8
C7	07 Mar 2023	824	1	6e	<2	<2	0.33	13.2	74.71	8.0	33.15	8.1
C7	07 Mar 2023	824	12	4e	<2	<2	0.50	12.7	83.15	6.6	33.41	8.0
C7	07 Mar 2023	824	18	38e	<2	<2	0.05	11.6	87.12	4.6	33.62	7.8
C7	14 Mar 2023	823	1	<2	<2	2e	1.00	13.1	76.57	7.5	33.32	8.0
C7	14 Mar 2023	823	12	92	4e	2e	0.04	10.9	87.66	3.4	33.84	7.7
C7	14 Mar 2023	823	18	100e	10e	6e	0.10	10.7	87.63	3.2	33.87	7.7
C7	24 Mar 2023	914	1	30e	<2	<2	0.07	14.1	71.87	8.1	33.16	8.0
C7	24 Mar 2023	914	12	18e	2e	<2	0.11	12.8	86.32	6.2	33.48	7.9
C7	24 Mar 2023	914	18	80e	2e	<2	0.02	11.7	80.13	4.5	33.65	7.7
C7	28 Mar 2023	844	1	<2	<2	<2	1.00	13.7	85.24	7.3	33.32	8.0
C7	28 Mar 2023	844	12	4e	<2	<2	0.50	11.6	92.28	4.5	33.65	7.8
C7	28 Mar 2023	844	18	18e	4e	<2	0.22	11.4	91.79	4.1	33.70	7.8

Station	Date	Time	Depth	Total	Fecal	Enterococci	F:T	Temp	XMS	DO	Sal	pH
C8	07 Mar 2023	838	1	4e	<2	2e	0.50	13.3	77.06	8.4	33.05	8.1
C8	07 Mar 2023	838	12	<2	2e	<2	1.00	12.7	85.47	6.8	33.42	8.0
C8	07 Mar 2023	838	18	42	2e	<2	0.05	11.6	80.50	4.3	33.64	7.8
C8	14 Mar 2023	833	1	6e	2e	<2	0.33	13.2	78.64	8.2	33.29	8.0
C8	14 Mar 2023	833	12	56	14e	<2	0.25	11.1	86.35	3.6	33.78	7.7
C8	14 Mar 2023	833	18	80e	4e	2e	0.05	11.0	85.09	3.4	33.81	7.7
C8	24 Mar 2023	925	1	80e	4e	<2	0.05	14.3	67.10	8.3	32.94	8.0
C8	24 Mar 2023	925	12	10e	<2	<2	0.20	12.9	85.25	6.3	33.45	7.9
C8	24 Mar 2023	925	18	20e	2e	<2	0.10	11.8	80.72	4.5	33.64	7.7
C8	28 Mar 2023	855	1	<2	<2	<2	1.00	13.9	85.83	7.9	33.29	8.1
C8	28 Mar 2023	855	12	4e	<2	<2	0.50	11.6	92.45	4.3	33.67	7.8
C8	28 Mar 2023	855	18	2e	2e	<2	1.00	11.5	92.57	4.1	33.70	7.8

ns = not sampled

ND = no data

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	07 Mar 2023	Depth (m)	19
A1	07 Mar 2023	Arrive Time	744
A1	07 Mar 2023	Depart Time	748
A1	07 Mar 2023	Air Temp (C)	11.6
A1	07 Mar 2023	Weather	Partly Cloudy
A1	07 Mar 2023	Visibility (mi)	10
A1	07 Mar 2023	Wind Speed (kts)	1.8
A1	07 Mar 2023	Wind Dir	E
A1	07 Mar 2023	Water Color	Blueish-Green
A1	07 Mar 2023	Wave Ht Low (ft)	4
A1	07 Mar 2023	Wave Period (sec)	12
A1	07 Mar 2023	Sea State	Confused Swell
A1	07 Mar 2023	High Tide (ft)	5.24
A1	07 Mar 2023	High Tide Time	842
A1	07 Mar 2023	Low Tide (ft)	-0.33
A1	07 Mar 2023	Low Tide Time	1512
A1	07 Mar 2023	Comments	none
A1	14 Mar 2023	Depth (m)	18
A1	14 Mar 2023	Arrive Time	743
A1	14 Mar 2023	Depart Time	752
A1	14 Mar 2023	Air Temp (C)	13
A1	14 Mar 2023	Weather	Haze
A1	14 Mar 2023	Visibility (mi)	9
A1	14 Mar 2023	Wind Speed (kts)	5.9
A1	14 Mar 2023	Wind Dir	SE
A1	14 Mar 2023	Water Color	Greenish-Blue
A1	14 Mar 2023	Wave Ht Low (ft)	5
A1	14 Mar 2023	Wave Period (sec)	12
A1	14 Mar 2023	Sea State	Calm
A1	14 Mar 2023	High Tide (ft)	4.64
A1	14 Mar 2023	High Tide Time	130
A1	14 Mar 2023	Low Tide (ft)	0.45
A1	14 Mar 2023	Low Tide Time	1012
A1	14 Mar 2023	Comments	Low tide; need to pull depth out of CNV
A1	24 Mar 2023	Depth (m)	19
A1	24 Mar 2023	Arrive Time	828
A1	24 Mar 2023	Depart Time	833
A1	24 Mar 2023	Air Temp (C)	12.7
A1	24 Mar 2023	Weather	Partly Cloudy
A1	24 Mar 2023	Visibility (mi)	10
A1	24 Mar 2023	Wind Speed (kts)	6.1
A1	24 Mar 2023	Wind Dir	E
A1	24 Mar 2023	Water Color	Blueish-Green
A1	24 Mar 2023	Wave Ht Low (ft)	7.9
A1	24 Mar 2023	Wave Period (sec)	9
A1	24 Mar 2023	Sea State	Rough
A1	24 Mar 2023	High Tide (ft)	5.27
A1	24 Mar 2023	High Tide Time	2342
A1	24 Mar 2023	Low Tide (ft)	-0.28
A1	24 Mar 2023	Low Tide Time	536
A1	24 Mar 2023	Comments	Large swell; Kelp Debris
A1	28 Mar 2023	Depth (m)	18
A1	28 Mar 2023	Arrive Time	759

Station	Date	Parameter	Value
A1	28 Mar 2023	Depart Time	805
A1	28 Mar 2023	Air Temp (C)	13.8
A1	28 Mar 2023	Weather	Clear
A1	28 Mar 2023	Visibility (mi)	12
A1	28 Mar 2023	Wind Speed (kts)	4.7
A1	28 Mar 2023	Wind Dir	E
A1	28 Mar 2023	Water Color	Green
A1	28 Mar 2023	Wave Ht Low (ft)	3
A1	28 Mar 2023	Wave Period (sec)	9
A1	28 Mar 2023	Sea State	Light Chop
A1	28 Mar 2023	High Tide (ft)	4.13
A1	28 Mar 2023	High Tide Time	136
A1	28 Mar 2023	Low Tide (ft)	0.49
A1	28 Mar 2023	Low Tide Time	1042
A1	28 Mar 2023	Comments	none
A6	07 Mar 2023	Depth (m)	19
A6	07 Mar 2023	Arrive Time	812
A6	07 Mar 2023	Depart Time	820
A6	07 Mar 2023	Air Temp (C)	11.7
A6	07 Mar 2023	Weather	Partly Cloudy
A6	07 Mar 2023	Visibility (mi)	10
A6	07 Mar 2023	Wind Speed (kts)	5.3
A6	07 Mar 2023	Wind Dir	NW
A6	07 Mar 2023	Water Color	Blueish-Green
A6	07 Mar 2023	Wave Ht Low (ft)	4
A6	07 Mar 2023	Wave Period (sec)	12
A6	07 Mar 2023	Sea State	Confused Swell
A6	07 Mar 2023	High Tide (ft)	5.24
A6	07 Mar 2023	High Tide Time	842
A6	07 Mar 2023	Low Tide (ft)	-0.33
A6	07 Mar 2023	Low Tide Time	1512
A6	07 Mar 2023	Comments	none
A6	14 Mar 2023	Depth (m)	16
A6	14 Mar 2023	Arrive Time	809
A6	14 Mar 2023	Depart Time	813
A6	14 Mar 2023	Air Temp (C)	13.6
A6	14 Mar 2023	Weather	Haze
A6	14 Mar 2023	Visibility (mi)	9
A6	14 Mar 2023	Wind Speed (kts)	0.9
A6	14 Mar 2023	Wind Dir	SW
A6	14 Mar 2023	Water Color	Greenish-Blue
A6	14 Mar 2023	Wave Ht Low (ft)	5
A6	14 Mar 2023	Wave Period (sec)	12
A6	14 Mar 2023	Sea State	Calm
A6	14 Mar 2023	High Tide (ft)	4.64
A6	14 Mar 2023	High Tide Time	130
A6	14 Mar 2023	Low Tide (ft)	0.45
A6	14 Mar 2023	Low Tide Time	1012
A6	14 Mar 2023	Comments	none
A6	24 Mar 2023	Depth (m)	21
A6	24 Mar 2023	Arrive Time	854
A6	24 Mar 2023	Depart Time	905
A6	24 Mar 2023	Air Temp (C)	12.7
A6	24 Mar 2023	Weather	Partly Cloudy
A6	24 Mar 2023	Visibility (mi)	10
A6	24 Mar 2023	Wind Speed (kts)	1.5
A6	24 Mar 2023	Wind Dir	S
A6	24 Mar 2023	Water Color	Blueish-Green

Station	Date	Parameter	Value
A6	24 Mar 2023	Wave Ht Low (ft)	7.9
A6	24 Mar 2023	Wave Period (sec)	9
A6	24 Mar 2023	Sea State	Rough
A6	24 Mar 2023	High Tide (ft)	5.27
A6	24 Mar 2023	High Tide Time	2342
A6	24 Mar 2023	Low Tide (ft)	-0.28
A6	24 Mar 2023	Low Tide Time	536
A6	24 Mar 2023	Comments	First cast too shallow; use 2nd cast
A6	28 Mar 2023	Depth (m)	20
A6	28 Mar 2023	Arrive Time	830
A6	28 Mar 2023	Depart Time	834
A6	28 Mar 2023	Air Temp (C)	14
A6	28 Mar 2023	Weather	Clear
A6	28 Mar 2023	Visibility (mi)	12
A6	28 Mar 2023	Wind Speed (kts)	3.5
A6	28 Mar 2023	Wind Dir	SE
A6	28 Mar 2023	Water Color	Green
A6	28 Mar 2023	Wave Ht Low (ft)	3
A6	28 Mar 2023	Wave Period (sec)	9
A6	28 Mar 2023	Sea State	Light Chop
A6	28 Mar 2023	High Tide (ft)	4.13
A6	28 Mar 2023	High Tide Time	136
A6	28 Mar 2023	Low Tide (ft)	0.49
A6	28 Mar 2023	Low Tide Time	1042
A6	28 Mar 2023	Comments	none
A7	07 Mar 2023	Depth (m)	19
A7	07 Mar 2023	Arrive Time	755
A7	07 Mar 2023	Depart Time	805
A7	07 Mar 2023	Air Temp (C)	11.8
A7	07 Mar 2023	Weather	Partly Cloudy
A7	07 Mar 2023	Visibility (mi)	10
A7	07 Mar 2023	Wind Speed (kts)	2
A7	07 Mar 2023	Wind Dir	W
A7	07 Mar 2023	Water Color	Blueish-Green
A7	07 Mar 2023	Wave Ht Low (ft)	4
A7	07 Mar 2023	Wave Period (sec)	12
A7	07 Mar 2023	Sea State	Confused Swell
A7	07 Mar 2023	High Tide (ft)	5.24
A7	07 Mar 2023	High Tide Time	842
A7	07 Mar 2023	Low Tide (ft)	-0.33
A7	07 Mar 2023	Low Tide Time	1512
A7	07 Mar 2023	Comments	none
A7	14 Mar 2023	Depth (m)	16
A7	14 Mar 2023	Arrive Time	758
A7	14 Mar 2023	Depart Time	801
A7	14 Mar 2023	Air Temp (C)	13.1
A7	14 Mar 2023	Weather	Haze
A7	14 Mar 2023	Visibility (mi)	9
A7	14 Mar 2023	Wind Speed (kts)	3.9
A7	14 Mar 2023	Wind Dir	NE
A7	14 Mar 2023	Water Color	Greenish-Blue
A7	14 Mar 2023	Wave Ht Low (ft)	5
A7	14 Mar 2023	Wave Period (sec)	12
A7	14 Mar 2023	Sea State	Calm
A7	14 Mar 2023	High Tide (ft)	4.64
A7	14 Mar 2023	High Tide Time	130
A7	14 Mar 2023	Low Tide (ft)	0.45
A7	14 Mar 2023	Low Tide Time	1012

Station	Date	Parameter	Value
A7	14 Mar 2023	Comments	none
A7	24 Mar 2023	Depth (m)	18
A7	24 Mar 2023	Arrive Time	840
A7	24 Mar 2023	Depart Time	848
A7	24 Mar 2023	Air Temp (C)	12.5
A7	24 Mar 2023	Weather	Partly Cloudy
A7	24 Mar 2023	Visibility (mi)	10
A7	24 Mar 2023	Wind Speed (kts)	7.1
A7	24 Mar 2023	Wind Dir	E
A7	24 Mar 2023	Water Color	Blueish-Green
A7	24 Mar 2023	Wave Ht Low (ft)	7.9
A7	24 Mar 2023	Wave Period (sec)	9
A7	24 Mar 2023	Sea State	Rough
A7	24 Mar 2023	High Tide (ft)	5.27
A7	24 Mar 2023	High Tide Time	2342
A7	24 Mar 2023	Low Tide (ft)	-0.28
A7	24 Mar 2023	Low Tide Time	536
A7	24 Mar 2023	Comments	none
A7	28 Mar 2023	Depth (m)	18
A7	28 Mar 2023	Arrive Time	812
A7	28 Mar 2023	Depart Time	822
A7	28 Mar 2023	Air Temp (C)	13.9
A7	28 Mar 2023	Weather	Clear
A7	28 Mar 2023	Visibility (mi)	12
A7	28 Mar 2023	Wind Speed (kts)	3
A7	28 Mar 2023	Wind Dir	NE
A7	28 Mar 2023	Water Color	Green
A7	28 Mar 2023	Wave Ht Low (ft)	3
A7	28 Mar 2023	Wave Period (sec)	9
A7	28 Mar 2023	Sea State	Light Chop
A7	28 Mar 2023	High Tide (ft)	4.13
A7	28 Mar 2023	High Tide Time	136
A7	28 Mar 2023	Low Tide (ft)	0.49
A7	28 Mar 2023	Low Tide Time	1042
A7	28 Mar 2023	Comments	none
C4	07 Mar 2023	Depth (m)	10
C4	07 Mar 2023	Arrive Time	923
C4	07 Mar 2023	Depart Time	927
C4	07 Mar 2023	Air Temp (C)	12.4
C4	07 Mar 2023	Weather	Partly Cloudy
C4	07 Mar 2023	Visibility (mi)	10
C4	07 Mar 2023	Wind Speed (kts)	5.6
C4	07 Mar 2023	Wind Dir	S
C4	07 Mar 2023	Water Color	Blueish-Green
C4	07 Mar 2023	Wave Ht Low (ft)	4
C4	07 Mar 2023	Wave Period (sec)	12
C4	07 Mar 2023	Sea State	Confused Swell
C4	07 Mar 2023	High Tide (ft)	5.24
C4	07 Mar 2023	High Tide Time	842
C4	07 Mar 2023	Low Tide (ft)	-0.33
C4	07 Mar 2023	Low Tide Time	1512
C4	07 Mar 2023	Comments	none
C4	14 Mar 2023	Depth (m)	10
C4	14 Mar 2023	Arrive Time	914
C4	14 Mar 2023	Depart Time	917
C4	14 Mar 2023	Air Temp (C)	13.4
C4	14 Mar 2023	Weather	Haze

Station	Date	Parameter	Value
C4	14 Mar 2023	Visibility (mi)	9
C4	14 Mar 2023	Wind Speed (kts)	1.2
C4	14 Mar 2023	Wind Dir	N
C4	14 Mar 2023	Water Color	Green
C4	14 Mar 2023	Wave Ht Low (ft)	5
C4	14 Mar 2023	Wave Period (sec)	12
C4	14 Mar 2023	Sea State	Calm
C4	14 Mar 2023	High Tide (ft)	4.64
C4	14 Mar 2023	High Tide Time	130
C4	14 Mar 2023	Low Tide (ft)	0.45
C4	14 Mar 2023	Low Tide Time	1012
C4	14 Mar 2023	Comments	none
C4	24 Mar 2023	Depth (m)	12
C4	24 Mar 2023	Arrive Time	1008
C4	24 Mar 2023	Depart Time	1016
C4	24 Mar 2023	Air Temp (C)	13
C4	24 Mar 2023	Weather	Partly Cloudy
C4	24 Mar 2023	Visibility (mi)	10
C4	24 Mar 2023	Wind Speed (kts)	3.6
C4	24 Mar 2023	Wind Dir	S
C4	24 Mar 2023	Water Color	Blueish-Green
C4	24 Mar 2023	Wave Ht Low (ft)	7.9
C4	24 Mar 2023	Wave Period (sec)	9
C4	24 Mar 2023	Sea State	Rough
C4	24 Mar 2023	High Tide (ft)	5.27
C4	24 Mar 2023	High Tide Time	2342
C4	24 Mar 2023	Low Tide (ft)	-0.28
C4	24 Mar 2023	Low Tide Time	536
C4	24 Mar 2023	Comments	none
C4	28 Mar 2023	Depth (m)	10
C4	28 Mar 2023	Arrive Time	940
C4	28 Mar 2023	Depart Time	944
C4	28 Mar 2023	Air Temp (C)	14
C4	28 Mar 2023	Weather	Clear
C4	28 Mar 2023	Visibility (mi)	12
C4	28 Mar 2023	Wind Speed (kts)	5.1
C4	28 Mar 2023	Wind Dir	SE
C4	28 Mar 2023	Water Color	Green
C4	28 Mar 2023	Wave Ht Low (ft)	3
C4	28 Mar 2023	Wave Period (sec)	9
C4	28 Mar 2023	Sea State	Light Chop
C4	28 Mar 2023	High Tide (ft)	4.13
C4	28 Mar 2023	High Tide Time	136
C4	28 Mar 2023	Low Tide (ft)	0.49
C4	28 Mar 2023	Low Tide Time	1042
C4	28 Mar 2023	Comments	none
C5	07 Mar 2023	Depth (m)	9
C5	07 Mar 2023	Arrive Time	913
C5	07 Mar 2023	Depart Time	917
C5	07 Mar 2023	Air Temp (C)	12.4
C5	07 Mar 2023	Weather	Partly Cloudy
C5	07 Mar 2023	Visibility (mi)	10
C5	07 Mar 2023	Wind Speed (kts)	6.9
C5	07 Mar 2023	Wind Dir	NW
C5	07 Mar 2023	Water Color	Blueish-Green
C5	07 Mar 2023	Wave Ht Low (ft)	4
C5	07 Mar 2023	Wave Period (sec)	12
C5	07 Mar 2023	Sea State	Confused Swell

Station	Date	Parameter	Value
C5	07 Mar 2023	High Tide (ft)	5.24
C5	07 Mar 2023	High Tide Time	842
C5	07 Mar 2023	Low Tide (ft)	-0.33
C5	07 Mar 2023	Low Tide Time	1512
C5	07 Mar 2023	Comments	none
C5	14 Mar 2023	Depth (m)	10
C5	14 Mar 2023	Arrive Time	903
C5	14 Mar 2023	Depart Time	906
C5	14 Mar 2023	Air Temp (C)	13.7
C5	14 Mar 2023	Weather	Haze
C5	14 Mar 2023	Visibility (mi)	9
C5	14 Mar 2023	Wind Speed (kts)	2.3
C5	14 Mar 2023	Wind Dir	S
C5	14 Mar 2023	Water Color	Green
C5	14 Mar 2023	Wave Ht Low (ft)	5
C5	14 Mar 2023	Wave Period (sec)	12
C5	14 Mar 2023	Sea State	Calm
C5	14 Mar 2023	High Tide (ft)	4.64
C5	14 Mar 2023	High Tide Time	130
C5	14 Mar 2023	Low Tide (ft)	0.45
C5	14 Mar 2023	Low Tide Time	1012
C5	14 Mar 2023	Comments	none
C5	24 Mar 2023	Depth (m)	12
C5	24 Mar 2023	Arrive Time	957
C5	24 Mar 2023	Depart Time	1002
C5	24 Mar 2023	Air Temp (C)	12.8
C5	24 Mar 2023	Weather	Partly Cloudy
C5	24 Mar 2023	Visibility (mi)	10
C5	24 Mar 2023	Wind Speed (kts)	3.8
C5	24 Mar 2023	Wind Dir	S
C5	24 Mar 2023	Water Color	Blueish-Green
C5	24 Mar 2023	Wave Ht Low (ft)	7.9
C5	24 Mar 2023	Wave Period (sec)	9
C5	24 Mar 2023	Sea State	Rough
C5	24 Mar 2023	High Tide (ft)	5.27
C5	24 Mar 2023	High Tide Time	2342
C5	24 Mar 2023	Low Tide (ft)	-0.28
C5	24 Mar 2023	Low Tide Time	536
C5	24 Mar 2023	Comments	none
C5	28 Mar 2023	Depth (m)	10
C5	28 Mar 2023	Arrive Time	928
C5	28 Mar 2023	Depart Time	933
C5	28 Mar 2023	Air Temp (C)	14.1
C5	28 Mar 2023	Weather	Clear
C5	28 Mar 2023	Visibility (mi)	12
C5	28 Mar 2023	Wind Speed (kts)	8.4
C5	28 Mar 2023	Wind Dir	SE
C5	28 Mar 2023	Water Color	Green
C5	28 Mar 2023	Wave Ht Low (ft)	3
C5	28 Mar 2023	Wave Period (sec)	9
C5	28 Mar 2023	Sea State	Light Chop
C5	28 Mar 2023	High Tide (ft)	4.13
C5	28 Mar 2023	High Tide Time	136
C5	28 Mar 2023	Low Tide (ft)	0.49
C5	28 Mar 2023	Low Tide Time	1042
C5	28 Mar 2023	Comments	none
C6	07 Mar 2023	Depth (m)	9

Station	Date	Parameter	Value
C6	07 Mar 2023	Arrive Time	855
C6	07 Mar 2023	Depart Time	859
C6	07 Mar 2023	Air Temp (C)	12
C6	07 Mar 2023	Weather	Partly Cloudy
C6	07 Mar 2023	Visibility (mi)	10
C6	07 Mar 2023	Wind Speed (kts)	3
C6	07 Mar 2023	Wind Dir	NW
C6	07 Mar 2023	Water Color	Blueish-Green
C6	07 Mar 2023	Wave Ht Low (ft)	4
C6	07 Mar 2023	Wave Period (sec)	12
C6	07 Mar 2023	Sea State	Confused Swell
C6	07 Mar 2023	High Tide (ft)	5.24
C6	07 Mar 2023	High Tide Time	842
C6	07 Mar 2023	Low Tide (ft)	-0.33
C6	07 Mar 2023	Low Tide Time	1512
C6	07 Mar 2023	Comments	none
C6	14 Mar 2023	Depth (m)	
C6	14 Mar 2023	Arrive Time	853
C6	14 Mar 2023	Depart Time	856
C6	14 Mar 2023	Air Temp (C)	14.3
C6	14 Mar 2023	Weather	Haze
C6	14 Mar 2023	Visibility (mi)	9
C6	14 Mar 2023	Wind Speed (kts)	2
C6	14 Mar 2023	Wind Dir	W
C6	14 Mar 2023	Water Color	Green
C6	14 Mar 2023	Wave Ht Low (ft)	5
C6	14 Mar 2023	Wave Period (sec)	12
C6	14 Mar 2023	Sea State	Calm
C6	14 Mar 2023	High Tide (ft)	4.64
C6	14 Mar 2023	High Tide Time	130
C6	14 Mar 2023	Low Tide (ft)	0.45
C6	14 Mar 2023	Low Tide Time	1012
C6	14 Mar 2023	Comments	none
C6	24 Mar 2023	Depth (m)	10
C6	24 Mar 2023	Arrive Time	949
C6	24 Mar 2023	Depart Time	950
C6	24 Mar 2023	Air Temp (C)	13.3
C6	24 Mar 2023	Weather	Partly Cloudy
C6	24 Mar 2023	Visibility (mi)	10
C6	24 Mar 2023	Wind Speed (kts)	3.6
C6	24 Mar 2023	Wind Dir	SE
C6	24 Mar 2023	Water Color	Blueish-Green
C6	24 Mar 2023	Wave Ht Low (ft)	7.9
C6	24 Mar 2023	Wave Period (sec)	9
C6	24 Mar 2023	Sea State	Rough
C6	24 Mar 2023	High Tide (ft)	5.27
C6	24 Mar 2023	High Tide Time	2342
C6	24 Mar 2023	Low Tide (ft)	-0.28
C6	24 Mar 2023	Low Tide Time	536
C6	24 Mar 2023	Comments	none
C6	28 Mar 2023	Depth (m)	9
C6	28 Mar 2023	Arrive Time	916
C6	28 Mar 2023	Depart Time	921
C6	28 Mar 2023	Air Temp (C)	14.4
C6	28 Mar 2023	Weather	Clear
C6	28 Mar 2023	Visibility (mi)	12
C6	28 Mar 2023	Wind Speed (kts)	5.6
C6	28 Mar 2023	Wind Dir	S

Station	Date	Parameter	Value
C6	28 Mar 2023	Water Color	Green
C6	28 Mar 2023	Wave Ht Low (ft)	3
C6	28 Mar 2023	Wave Period (sec)	9
C6	28 Mar 2023	Sea State	Light Chop
C6	28 Mar 2023	High Tide (ft)	4.13
C6	28 Mar 2023	High Tide Time	136
C6	28 Mar 2023	Low Tide (ft)	0.49
C6	28 Mar 2023	Low Tide Time	1042
C6	28 Mar 2023	Comments	none
C7	07 Mar 2023	Depth (m)	19
C7	07 Mar 2023	Arrive Time	824
C7	07 Mar 2023	Depart Time	838
C7	07 Mar 2023	Air Temp (C)	11.7
C7	07 Mar 2023	Weather	Partly Cloudy
C7	07 Mar 2023	Visibility (mi)	10
C7	07 Mar 2023	Wind Speed (kts)	4.2
C7	07 Mar 2023	Wind Dir	N
C7	07 Mar 2023	Water Color	Blueish-Green
C7	07 Mar 2023	Wave Ht Low (ft)	4
C7	07 Mar 2023	Wave Period (sec)	12
C7	07 Mar 2023	Sea State	Confused Swell
C7	07 Mar 2023	High Tide (ft)	5.24
C7	07 Mar 2023	High Tide Time	842
C7	07 Mar 2023	Low Tide (ft)	-0.33
C7	07 Mar 2023	Low Tide Time	1512
C7	07 Mar 2023	Comments	none
C7	14 Mar 2023	Depth (m)	17
C7	14 Mar 2023	Arrive Time	823
C7	14 Mar 2023	Depart Time	827
C7	14 Mar 2023	Air Temp (C)	13.6
C7	14 Mar 2023	Weather	Haze
C7	14 Mar 2023	Visibility (mi)	9
C7	14 Mar 2023	Wind Speed (kts)	1.3
C7	14 Mar 2023	Wind Dir	S
C7	14 Mar 2023	Water Color	Greenish-Blue
C7	14 Mar 2023	Wave Ht Low (ft)	5
C7	14 Mar 2023	Wave Period (sec)	12
C7	14 Mar 2023	Sea State	Calm
C7	14 Mar 2023	High Tide (ft)	4.64
C7	14 Mar 2023	High Tide Time	130
C7	14 Mar 2023	Low Tide (ft)	0.45
C7	14 Mar 2023	Low Tide Time	1012
C7	14 Mar 2023	Comments	Need to pull 18m out of CNV
C7	24 Mar 2023	Depth (m)	18
C7	24 Mar 2023	Arrive Time	914
C7	24 Mar 2023	Depart Time	919
C7	24 Mar 2023	Air Temp (C)	12.9
C7	24 Mar 2023	Weather	Partly Cloudy
C7	24 Mar 2023	Visibility (mi)	10
C7	24 Mar 2023	Wind Speed (kts)	2.2
C7	24 Mar 2023	Wind Dir	S
C7	24 Mar 2023	Water Color	Blueish-Green
C7	24 Mar 2023	Wave Ht Low (ft)	7.9
C7	24 Mar 2023	Wave Period (sec)	9
C7	24 Mar 2023	Sea State	Rough
C7	24 Mar 2023	High Tide (ft)	5.27
C7	24 Mar 2023	High Tide Time	2342
C7	24 Mar 2023	Low Tide (ft)	-0.28

Station	Date	Parameter	Value
C7	24 Mar 2023	Low Tide Time	536
C7	24 Mar 2023	Comments	none
C7	28 Mar 2023	Depth (m)	18
C7	28 Mar 2023	Arrive Time	844
C7	28 Mar 2023	Depart Time	854
C7	28 Mar 2023	Air Temp (C)	14.3
C7	28 Mar 2023	Weather	Clear
C7	28 Mar 2023	Visibility (mi)	12
C7	28 Mar 2023	Wind Speed (kts)	2.6
C7	28 Mar 2023	Wind Dir	S
C7	28 Mar 2023	Water Color	Green
C7	28 Mar 2023	Wave Ht Low (ft)	3
C7	28 Mar 2023	Wave Period (sec)	9
C7	28 Mar 2023	Sea State	Light Chop
C7	28 Mar 2023	High Tide (ft)	4.13
C7	28 Mar 2023	High Tide Time	136
C7	28 Mar 2023	Low Tide (ft)	0.49
C7	28 Mar 2023	Low Tide Time	1042
C7	28 Mar 2023	Comments	none
C8	07 Mar 2023	Depth (m)	18
C8	07 Mar 2023	Arrive Time	838
C8	07 Mar 2023	Depart Time	843
C8	07 Mar 2023	Air Temp (C)	11.7
C8	07 Mar 2023	Weather	Partly Cloudy
C8	07 Mar 2023	Visibility (mi)	10
C8	07 Mar 2023	Wind Speed (kts)	10.5
C8	07 Mar 2023	Wind Dir	N
C8	07 Mar 2023	Water Color	Blueish-Green
C8	07 Mar 2023	Wave Ht Low (ft)	4
C8	07 Mar 2023	Wave Period (sec)	12
C8	07 Mar 2023	Sea State	Confused Swell
C8	07 Mar 2023	High Tide (ft)	5.24
C8	07 Mar 2023	High Tide Time	842
C8	07 Mar 2023	Low Tide (ft)	-0.33
C8	07 Mar 2023	Low Tide Time	1512
C8	07 Mar 2023	Comments	none
C8	14 Mar 2023	Depth (m)	18
C8	14 Mar 2023	Arrive Time	833
C8	14 Mar 2023	Depart Time	837
C8	14 Mar 2023	Air Temp (C)	13.5
C8	14 Mar 2023	Weather	Haze
C8	14 Mar 2023	Visibility (mi)	9
C8	14 Mar 2023	Wind Speed (kts)	4.1
C8	14 Mar 2023	Wind Dir	NW
C8	14 Mar 2023	Water Color	Greenish-Blue
C8	14 Mar 2023	Wave Ht Low (ft)	5
C8	14 Mar 2023	Wave Period (sec)	12
C8	14 Mar 2023	Sea State	Calm
C8	14 Mar 2023	High Tide (ft)	4.64
C8	14 Mar 2023	High Tide Time	130
C8	14 Mar 2023	Low Tide (ft)	0.45
C8	14 Mar 2023	Low Tide Time	1012
C8	14 Mar 2023	Comments	none
C8	24 Mar 2023	Depth (m)	19
C8	24 Mar 2023	Arrive Time	925
C8	24 Mar 2023	Depart Time	930
C8	24 Mar 2023	Air Temp (C)	13

Station	Date	Parameter	Value
C8	24 Mar 2023	Weather	Partly Cloudy
C8	24 Mar 2023	Visibility (mi)	10
C8	24 Mar 2023	Wind Speed (kts)	2.8
C8	24 Mar 2023	Wind Dir	S
C8	24 Mar 2023	Water Color	Blueish-Green
C8	24 Mar 2023	Wave Ht Low (ft)	7.9
C8	24 Mar 2023	Wave Period (sec)	9
C8	24 Mar 2023	Sea State	Rough
C8	24 Mar 2023	High Tide (ft)	5.27
C8	24 Mar 2023	High Tide Time	2342
C8	24 Mar 2023	Low Tide (ft)	-0.28
C8	24 Mar 2023	Low Tide Time	536
C8	24 Mar 2023	Comments	none
C8	28 Mar 2023	Depth (m)	19
C8	28 Mar 2023	Arrive Time	855
C8	28 Mar 2023	Depart Time	910
C8	28 Mar 2023	Air Temp (C)	14.2
C8	28 Mar 2023	Weather	Clear
C8	28 Mar 2023	Visibility (mi)	12
C8	28 Mar 2023	Wind Speed (kts)	1.8
C8	28 Mar 2023	Wind Dir	N
C8	28 Mar 2023	Water Color	Green
C8	28 Mar 2023	Wave Ht Low (ft)	3
C8	28 Mar 2023	Wave Period (sec)	9
C8	28 Mar 2023	Sea State	Light Chop
C8	28 Mar 2023	High Tide (ft)	4.13
C8	28 Mar 2023	High Tide Time	136
C8	28 Mar 2023	Low Tide (ft)	0.49
C8	28 Mar 2023	Low Tide Time	1042
C8	28 Mar 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	07 Mar 2023	1	12.94	83.90	7.3	33.36	8.0	25.1	1.56
A1	07 Mar 2023	2	12.95	83.88	7.3	33.36	8.0	25.1	1.64
A1	07 Mar 2023	3	12.92	83.87	7.3	33.37	8.0	25.1	1.78
A1	07 Mar 2023	4	12.91	84.04	7.2	33.37	8.0	25.1	1.92
A1	07 Mar 2023	5	12.79	84.24	6.9	33.40	8.0	25.2	2.09
A1	07 Mar 2023	6	12.67	84.46	6.7	33.42	8.0	25.2	2.06
A1	07 Mar 2023	7	12.51	85.30	6.3	33.46	8.0	25.3	2.05
A1	07 Mar 2023	8	12.14	87.21	5.6	33.54	7.9	25.4	1.42
A1	07 Mar 2023	9	12.00	88.56	5.3	33.55	7.9	25.5	1.10
A1	07 Mar 2023	10	11.71	90.44	4.9	33.62	7.9	25.6	0.98
A1	07 Mar 2023	11	11.50	90.42	4.4	33.65	7.8	25.6	0.90
A1	07 Mar 2023	12	11.43	89.79	4.2	33.66	7.8	25.7	0.55
A1	07 Mar 2023	13	11.37	88.57	4.1	33.68	7.8	25.7	0.41
A1	07 Mar 2023	14	11.22	87.41	3.9	33.71	7.8	25.7	0.36
A1	07 Mar 2023	15	11.19	85.73	3.8	33.72	7.8	25.7	0.35
A1	07 Mar 2023	16	11.21	85.26	3.8	33.72	7.8	25.7	0.34
A1	07 Mar 2023	17	11.15	84.81	3.8	33.73	7.8	25.8	0.31
A1	07 Mar 2023	18	11.15	84.33	3.8	33.73	7.8	25.8	0.34
A1	07 Mar 2023	19	11.15	84.08	3.8	33.73	7.8	25.8	0.31
A1	14 Mar 2023	1	13.29	81.55	7.9	33.38	8.0	25.1	3.11
A1	14 Mar 2023	2	13.22	80.67	7.8	33.41	8.0	25.1	3.46
A1	14 Mar 2023	3	13.02	81.00	7.5	33.44	8.0	25.2	3.99
A1	14 Mar 2023	4	12.85	81.17	7.1	33.46	8.0	25.2	3.61
A1	14 Mar 2023	5	12.57	81.60	6.6	33.51	7.9	25.3	3.31
A1	14 Mar 2023	6	12.41	82.40	6.1	33.53	7.9	25.4	3.01
A1	14 Mar 2023	7	12.13	83.57	5.6	33.58	7.9	25.5	2.78
A1	14 Mar 2023	8	11.88	84.75	5.1	33.62	7.8	25.5	2.53
A1	14 Mar 2023	9	11.76	85.75	4.8	33.64	7.8	25.6	2.10
A1	14 Mar 2023	10	11.60	86.39	4.5	33.67	7.8	25.6	1.88
A1	14 Mar 2023	11	11.34	87.05	4.1	33.73	7.8	25.7	1.71
A1	14 Mar 2023	12	11.17	87.25	3.8	33.77	7.7	25.8	1.25
A1	14 Mar 2023	13	11.03	87.39	3.6	33.80	7.7	25.8	0.96
A1	14 Mar 2023	14	11.01	86.97	3.5	33.80	7.7	25.8	0.86
A1	14 Mar 2023	15	10.99	86.86	3.5	33.80	7.7	25.8	0.88
A1	14 Mar 2023	16	10.96	86.69	3.5	33.81	7.7	25.9	0.79
A1	14 Mar 2023	17	10.95	86.24	3.5	33.82	7.7	25.9	0.73
A1	24 Mar 2023	1	13.99	80.94	8.2	33.22	8.0	24.8	1.31
A1	24 Mar 2023	2	13.84	80.08	8.1	33.27	8.0	24.9	1.50
A1	24 Mar 2023	3	13.84	82.63	8.0	33.27	8.0	24.9	1.53
A1	24 Mar 2023	4	13.71	87.38	7.8	33.30	8.0	24.9	1.26
A1	24 Mar 2023	5	13.47	89.03	7.5	33.35	7.9	25.0	1.11
A1	24 Mar 2023	6	13.24	88.83	7.1	33.38	7.9	25.1	0.92
A1	24 Mar 2023	7	13.17	88.50	6.8	33.39	7.9	25.1	0.98
A1	24 Mar 2023	8	12.98	87.99	6.7	33.43	7.9	25.2	0.89
A1	24 Mar 2023	9	12.81	87.78	6.5	33.46	7.8	25.2	0.85
A1	24 Mar 2023	10	12.80	87.59	6.5	33.45	7.8	25.2	0.75
A1	24 Mar 2023	11	12.80	86.83	6.5	33.45	7.8	25.2	0.74
A1	24 Mar 2023	12	12.79	86.85	6.5	33.45	7.8	25.2	0.80
A1	24 Mar 2023	13	12.78	86.57	6.5	33.46	7.8	25.2	0.93
A1	24 Mar 2023	14	12.77	85.86	6.4	33.46	7.8	25.2	0.93
A1	24 Mar 2023	15	12.76	85.40	6.3	33.47	7.8	25.3	0.93
A1	24 Mar 2023	16	12.74	84.56	6.3	33.47	7.8	25.3	0.90
A1	24 Mar 2023	17	12.67	82.28	6.1	33.49	7.8	25.3	0.86

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (µg/L)
A1	24 Mar 2023	18	12.43	78.74	5.9	33.54	7.8	25.4	0.87
A1	28 Mar 2023	1	13.81	83.64	7.7	33.24	8.0	24.9	2.27
A1	28 Mar 2023	2	13.82	83.27	7.7	33.24	8.0	24.9	2.29
A1	28 Mar 2023	3	13.73	83.04	7.6	33.26	8.0	24.9	2.60
A1	28 Mar 2023	4	13.43	83.67	7.0	33.33	8.0	25.0	2.63
A1	28 Mar 2023	5	13.09	84.43	6.5	33.41	8.0	25.1	2.37
A1	28 Mar 2023	6	12.99	86.42	6.2	33.43	7.9	25.2	1.96
A1	28 Mar 2023	7	12.59	87.92	5.8	33.51	7.9	25.3	1.42
A1	28 Mar 2023	8	12.35	89.42	5.4	33.54	7.9	25.4	1.07
A1	28 Mar 2023	9	12.11	90.51	5.1	33.58	7.8	25.5	0.84
A1	28 Mar 2023	10	11.89	91.15	4.8	33.62	7.8	25.5	0.78
A1	28 Mar 2023	11	11.83	91.15	4.7	33.62	7.8	25.6	0.83
A1	28 Mar 2023	12	11.82	91.21	4.6	33.62	7.8	25.6	0.74
A1	28 Mar 2023	13	11.68	91.03	4.5	33.66	7.8	25.6	0.65
A1	28 Mar 2023	14	11.53	91.16	4.3	33.69	7.8	25.7	0.62
A1	28 Mar 2023	15	11.44	90.94	4.1	33.70	7.7	25.7	0.54
A1	28 Mar 2023	16	11.42	90.78	4.0	33.70	7.7	25.7	0.53
A1	28 Mar 2023	17	11.32	90.60	3.9	33.73	7.7	25.7	0.53
A1	28 Mar 2023	18	11.27	90.65	3.8	33.74	7.7	25.7	0.52
A6	07 Mar 2023	1	12.94	81.66	7.4	33.30	8.0	25.1	1.13
A6	07 Mar 2023	2	12.87	82.43	7.2	33.33	8.0	25.1	1.47
A6	07 Mar 2023	3	12.83	82.65	7.1	33.34	8.0	25.1	1.81
A6	07 Mar 2023	4	12.82	82.96	7.1	33.34	8.0	25.1	1.94
A6	07 Mar 2023	5	12.79	83.20	6.9	33.34	8.0	25.1	1.99
A6	07 Mar 2023	6	12.52	83.06	6.5	33.42	8.0	25.3	1.87
A6	07 Mar 2023	7	12.60	84.02	6.5	33.39	8.0	25.2	1.90
A6	07 Mar 2023	8	12.45	85.03	6.4	33.44	8.0	25.3	1.93
A6	07 Mar 2023	9	12.36	85.74	6.0	33.46	8.0	25.3	1.60
A6	07 Mar 2023	10	12.08	86.18	5.4	33.54	7.9	25.4	1.39
A6	07 Mar 2023	11	12.04	87.27	5.2	33.54	7.9	25.4	0.95
A6	07 Mar 2023	12	12.02	87.02	5.2	33.55	7.9	25.5	0.97
A6	07 Mar 2023	13	12.01	86.90	5.1	33.55	7.9	25.5	0.90
A6	07 Mar 2023	14	11.97	86.78	5.0	33.56	7.9	25.5	0.92
A6	07 Mar 2023	15	11.82	86.95	4.9	33.59	7.9	25.5	0.84
A6	07 Mar 2023	16	11.80	87.35	4.8	33.59	7.8	25.5	0.85
A6	07 Mar 2023	17	11.71	87.55	4.7	33.61	7.8	25.6	0.71
A6	07 Mar 2023	18	11.63	87.49	4.6	33.62	7.8	25.6	0.57
A6	07 Mar 2023	19	11.62	87.64	4.5	33.63	7.8	25.6	0.57
A6	14 Mar 2023	1	13.03	79.43	7.7	33.36	8.0	25.1	3.39
A6	14 Mar 2023	2	12.87	79.57	7.4	33.41	8.0	25.2	4.49
A6	14 Mar 2023	3	12.43	80.79	6.6	33.51	8.0	25.3	4.65
A6	14 Mar 2023	4	12.15	83.02	5.8	33.57	7.9	25.4	4.40
A6	14 Mar 2023	5	12.01	83.41	5.1	33.59	7.9	25.5	3.33
A6	14 Mar 2023	6	11.67	84.44	4.5	33.67	7.8	25.6	2.16
A6	14 Mar 2023	7	11.32	85.85	4.0	33.74	7.8	25.7	1.60
A6	14 Mar 2023	8	11.17	87.09	3.8	33.76	7.7	25.8	1.20
A6	14 Mar 2023	9	11.16	87.73	3.8	33.76	7.7	25.8	0.99
A6	14 Mar 2023	10	11.16	87.99	3.8	33.76	7.7	25.8	1.13
A6	14 Mar 2023	11	11.12	88.08	3.8	33.77	7.7	25.8	0.95
A6	14 Mar 2023	12	11.05	88.06	3.6	33.79	7.7	25.8	0.95
A6	14 Mar 2023	13	10.96	87.87	3.5	33.82	7.7	25.9	0.79
A6	14 Mar 2023	14	10.89	87.67	3.4	33.83	7.7	25.9	0.74
A6	14 Mar 2023	15	10.84	87.94	3.3	33.84	7.7	25.9	0.74
A6	14 Mar 2023	16	10.76	88.46	3.3	33.87	7.7	25.9	0.66
A6	14 Mar 2023	17	10.69	88.60	3.1	33.89	7.7	26.0	0.62
A6	14 Mar 2023	18	10.66	87.73	3.1	33.90	7.7	26.0	0.53
A6	24 Mar 2023	1	14.20	71.52	8.2	33.01	8.0	24.6	1.42

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
A6	24 Mar 2023	2	14.25	72.66	8.1	32.96	8.0	24.6	1.53
A6	24 Mar 2023	3	14.17	72.56	8.1	33.16	8.0	24.7	1.66
A6	24 Mar 2023	4	14.02	74.40	8.2	33.27	8.0	24.8	1.56
A6	24 Mar 2023	5	13.91	80.52	8.1	33.28	8.0	24.9	1.34
A6	24 Mar 2023	6	13.78	85.26	8.0	33.30	8.0	24.9	1.21
A6	24 Mar 2023	7	13.71	87.41	7.8	33.31	8.0	24.9	1.19
A6	24 Mar 2023	8	13.61	88.19	7.6	33.33	8.0	25.0	1.04
A6	24 Mar 2023	9	13.38	87.89	7.2	33.37	8.0	25.1	1.03
A6	24 Mar 2023	10	13.14	86.90	6.8	33.41	7.9	25.1	1.07
A6	24 Mar 2023	11	12.99	85.93	6.5	33.44	7.9	25.2	1.25
A6	24 Mar 2023	12	12.80	85.06	6.3	33.47	7.9	25.3	0.99
A6	24 Mar 2023	13	12.69	84.17	6.0	33.48	7.8	25.3	0.95
A6	24 Mar 2023	14	12.33	83.52	5.6	33.56	7.8	25.4	0.90
A6	24 Mar 2023	15	12.12	83.66	5.3	33.58	7.8	25.5	0.73
A6	24 Mar 2023	16	12.09	84.58	5.2	33.58	7.8	25.5	0.69
A6	24 Mar 2023	17	12.08	85.33	5.2	33.58	7.8	25.5	0.78
A6	24 Mar 2023	18	12.07	84.92	5.2	33.58	7.8	25.5	0.76
A6	24 Mar 2023	19	12.03	82.63	5.1	33.60	7.8	25.5	0.90
A6	24 Mar 2023	20	12.01	78.71	5.0	33.60	7.8	25.5	0.81
A6	24 Mar 2023	21	12.03	75.91	5.0	33.60	7.8	25.5	0.99
A6	28 Mar 2023	1	13.71	86.28	7.5	33.31	8.0	24.9	1.55
A6	28 Mar 2023	2	13.52	86.34	7.2	33.35	8.0	25.0	1.80
A6	28 Mar 2023	3	13.34	86.32	6.9	33.38	8.0	25.1	1.88
A6	28 Mar 2023	4	13.23	87.06	6.6	33.40	8.0	25.1	1.54
A6	28 Mar 2023	5	12.96	87.87	6.3	33.44	8.0	25.2	1.41
A6	28 Mar 2023	6	12.89	88.49	6.2	33.45	8.0	25.2	1.16
A6	28 Mar 2023	7	12.77	89.16	6.1	33.47	7.9	25.2	1.06
A6	28 Mar 2023	8	12.63	89.93	5.9	33.49	7.9	25.3	0.89
A6	28 Mar 2023	9	12.26	90.49	5.4	33.56	7.9	25.4	0.75
A6	28 Mar 2023	10	12.03	91.07	5.0	33.59	7.8	25.5	0.67
A6	28 Mar 2023	11	12.02	91.57	4.9	33.59	7.8	25.5	0.66
A6	28 Mar 2023	12	12.02	91.49	5.0	33.59	7.8	25.5	0.64
A6	28 Mar 2023	13	12.03	91.64	5.0	33.59	7.8	25.5	0.65
A6	28 Mar 2023	14	12.02	91.41	5.0	33.59	7.8	25.5	0.67
A6	28 Mar 2023	15	12.00	91.55	4.9	33.60	7.8	25.5	0.64
A6	28 Mar 2023	16	11.91	91.37	4.7	33.62	7.8	25.5	0.69
A6	28 Mar 2023	17	11.85	91.54	4.5	33.63	7.8	25.6	0.57
A6	28 Mar 2023	18	11.77	91.59	4.4	33.65	7.8	25.6	0.53
A6	28 Mar 2023	19	11.65	91.58	4.3	33.67	7.8	25.6	0.50
A6	28 Mar 2023	20	11.53	91.54	4.1	33.69	7.8	25.7	0.49
A6	28 Mar 2023	21	11.39	91.54	3.9	33.72	7.8	25.7	0.50
A7	07 Mar 2023	1	12.93	78.09	7.4	33.34	8.0	25.1	1.87
A7	07 Mar 2023	2	12.94	80.11	7.4	33.34	8.0	25.1	1.91
A7	07 Mar 2023	3	12.95	81.83	7.4	33.34	8.0	25.1	1.81
A7	07 Mar 2023	4	12.86	82.44	7.2	33.36	8.0	25.1	2.12
A7	07 Mar 2023	5	12.72	82.84	6.8	33.39	8.0	25.2	2.27
A7	07 Mar 2023	6	12.59	83.97	6.5	33.42	8.0	25.3	2.11
A7	07 Mar 2023	7	12.44	84.94	6.2	33.46	8.0	25.3	1.88
A7	07 Mar 2023	8	12.31	86.11	5.8	33.48	8.0	25.3	1.94
A7	07 Mar 2023	9	11.94	86.83	5.3	33.56	7.9	25.5	1.35
A7	07 Mar 2023	10	11.86	88.55	5.1	33.57	7.9	25.5	0.90
A7	07 Mar 2023	11	11.79	88.99	4.9	33.58	7.9	25.5	0.78
A7	07 Mar 2023	12	11.51	89.74	4.5	33.64	7.8	25.6	0.58
A7	07 Mar 2023	13	11.50	90.24	4.4	33.64	7.8	25.6	0.46
A7	07 Mar 2023	14	11.47	90.39	4.3	33.65	7.8	25.6	0.52
A7	07 Mar 2023	15	11.42	90.03	4.2	33.66	7.8	25.7	0.41
A7	07 Mar 2023	16	11.38	89.48	4.1	33.67	7.8	25.7	0.35
A7	07 Mar 2023	17	11.34	89.06	4.1	33.68	7.8	25.7	0.40
A7	07 Mar 2023	18	11.33	88.17	4.0	33.69	7.8	25.7	0.38

Station	Date	Depth (m)	Temp (°C)	XMS (‰)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (µg/L)
A7	07 Mar 2023	19	11.31	87.92	4.0	33.69	7.8	25.7	0.33
A7	07 Mar 2023	20	11.27	87.69	3.9	33.70	7.8	25.7	0.34
A7	14 Mar 2023	1	13.29	79.35	8.0	33.33	8.0	25.0	3.38
A7	14 Mar 2023	2	13.27	79.31	7.9	33.34	8.0	25.1	3.89
A7	14 Mar 2023	3	12.99	78.55	7.5	33.40	8.0	25.2	5.08
A7	14 Mar 2023	4	12.59	78.08	6.7	33.47	8.0	25.3	4.44
A7	14 Mar 2023	5	12.27	79.74	6.0	33.55	7.9	25.4	3.38
A7	14 Mar 2023	6	12.23	82.33	5.7	33.55	7.9	25.4	2.75
A7	14 Mar 2023	7	12.14	84.05	5.4	33.57	7.9	25.5	2.33
A7	14 Mar 2023	8	11.84	84.95	4.8	33.64	7.8	25.6	1.53
A7	14 Mar 2023	9	11.47	86.30	4.2	33.72	7.8	25.7	1.17
A7	14 Mar 2023	10	11.33	86.88	3.9	33.73	7.8	25.7	1.05
A7	14 Mar 2023	11	11.22	87.00	3.8	33.76	7.7	25.8	0.98
A7	14 Mar 2023	12	11.12	86.95	3.7	33.78	7.7	25.8	0.91
A7	14 Mar 2023	13	11.06	86.97	3.5	33.79	7.7	25.8	0.85
A7	14 Mar 2023	14	10.91	86.84	3.4	33.83	7.7	25.9	0.71
A7	14 Mar 2023	15	10.85	86.68	3.3	33.84	7.7	25.9	0.65
A7	14 Mar 2023	16	10.77	86.81	3.2	33.86	7.7	25.9	0.69
A7	14 Mar 2023	17	10.73	85.93	3.1	33.87	7.7	25.9	0.54
A7	14 Mar 2023	18	10.73	85.07	3.1	33.88	7.7	25.9	0.49
A7	24 Mar 2023	1	14.02	80.20	8.3	33.25	8.0	24.8	1.41
A7	24 Mar 2023	2	14.16	79.62	8.2	33.20	8.0	24.8	1.60
A7	24 Mar 2023	3	13.92	81.57	8.2	33.27	8.0	24.9	1.60
A7	24 Mar 2023	4	13.81	86.52	8.2	33.29	8.0	24.9	1.39
A7	24 Mar 2023	5	13.77	87.38	8.1	33.30	8.0	24.9	1.27
A7	24 Mar 2023	6	13.74	88.61	8.0	33.30	8.0	24.9	1.34
A7	24 Mar 2023	7	13.68	89.25	7.9	33.31	8.0	24.9	1.32
A7	24 Mar 2023	8	13.53	89.62	7.6	33.34	8.0	25.0	1.16
A7	24 Mar 2023	9	13.30	88.66	7.2	33.38	7.9	25.1	1.06
A7	24 Mar 2023	10	13.15	87.39	6.9	33.40	7.9	25.1	1.02
A7	24 Mar 2023	11	12.85	87.12	6.5	33.45	7.9	25.2	1.01
A7	24 Mar 2023	12	12.65	86.60	6.2	33.48	7.9	25.3	1.03
A7	24 Mar 2023	13	12.54	85.52	5.9	33.51	7.8	25.3	0.95
A7	24 Mar 2023	14	12.43	83.57	5.8	33.52	7.8	25.4	0.98
A7	24 Mar 2023	15	12.29	83.06	5.5	33.55	7.8	25.4	0.99
A7	24 Mar 2023	16	12.19	81.81	5.3	33.57	7.8	25.4	1.06
A7	24 Mar 2023	17	12.07	76.06	5.1	33.60	7.8	25.5	1.06
A7	24 Mar 2023	18	12.00	63.80	5.0	33.61	7.7	25.5	1.40
A7	24 Mar 2023	19	12.01	58.06	5.0	33.61	7.7	25.5	1.42
A7	28 Mar 2023	1	13.48	87.25	7.2	33.35	8.0	25.0	1.82
A7	28 Mar 2023	2	13.45	86.72	7.1	33.36	8.0	25.0	1.86
A7	28 Mar 2023	3	13.39	87.09	7.0	33.37	8.0	25.1	1.65
A7	28 Mar 2023	4	13.20	87.95	6.7	33.40	8.0	25.1	1.18
A7	28 Mar 2023	5	13.10	88.48	6.6	33.42	8.0	25.1	1.18
A7	28 Mar 2023	6	13.08	89.50	6.5	33.42	8.0	25.2	1.29
A7	28 Mar 2023	7	13.04	89.02	6.4	33.42	8.0	25.2	1.16
A7	28 Mar 2023	8	12.79	89.58	6.1	33.47	8.0	25.2	1.08
A7	28 Mar 2023	9	12.59	90.76	5.8	33.50	7.9	25.3	0.86
A7	28 Mar 2023	10	12.30	90.96	5.4	33.55	7.9	25.4	0.72
A7	28 Mar 2023	11	12.05	91.49	5.1	33.59	7.9	25.5	0.65
A7	28 Mar 2023	12	11.85	91.79	4.8	33.62	7.8	25.5	0.60
A7	28 Mar 2023	13	11.84	91.75	4.7	33.62	7.8	25.5	0.58
A7	28 Mar 2023	14	11.81	91.53	4.7	33.63	7.8	25.6	0.63
A7	28 Mar 2023	15	11.77	91.47	4.6	33.64	7.8	25.6	0.58
A7	28 Mar 2023	16	11.72	91.04	4.5	33.65	7.8	25.6	0.72
A7	28 Mar 2023	17	11.66	91.50	4.4	33.66	7.8	25.6	0.73
A7	28 Mar 2023	18	11.67	91.43	4.4	33.66	7.8	25.6	0.60
A7	28 Mar 2023	19	11.54	91.46	4.2	33.69	7.8	25.7	0.59

Station	Date	Depth (m)	Temp (°C)	XMS (‰)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
A7	28 Mar 2023	20	11.40	91.31	4.0	33.71	7.8	25.7	0.52
C4	07 Mar 2023	1	13.36	75.25	7.6	33.35	8.1	25.0	0.43
C4	07 Mar 2023	2	13.23	75.40	7.3	33.37	8.1	25.1	0.51
C4	07 Mar 2023	3	12.74	79.05	6.4	33.45	8.0	25.2	0.66
C4	07 Mar 2023	4	12.35	80.79	5.5	33.51	8.0	25.4	0.74
C4	07 Mar 2023	5	11.89	82.31	4.9	33.58	7.9	25.5	0.68
C4	07 Mar 2023	6	11.80	84.66	4.7	33.59	7.9	25.5	0.54
C4	07 Mar 2023	7	11.65	86.27	4.6	33.62	7.8	25.6	0.47
C4	07 Mar 2023	8	11.64	86.54	4.5	33.62	7.8	25.6	0.46
C4	07 Mar 2023	9	11.61	86.36	4.5	33.62	7.8	25.6	0.47
C4	07 Mar 2023	10	11.60	86.06	4.5	33.63	7.8	25.6	0.46
C4	07 Mar 2023	11	11.60	83.17	4.5	33.63	7.8	25.6	0.44
C4	07 Mar 2023	12	11.60	82.75	4.5	33.63	7.8	25.6	0.50
C4	07 Mar 2023	13	11.61	82.01	4.5	33.63	7.8	25.6	0.60
C4	14 Mar 2023	1	13.67	77.02	8.2	33.40	8.0	25.0	1.15
C4	14 Mar 2023	2	13.59	76.16	8.2	33.40	8.0	25.0	1.41
C4	14 Mar 2023	3	13.44	77.25	8.0	33.40	8.0	25.1	2.20
C4	14 Mar 2023	4	13.35	78.02	7.7	33.40	8.0	25.1	2.39
C4	14 Mar 2023	5	13.13	78.28	7.3	33.43	8.0	25.2	2.77
C4	14 Mar 2023	6	12.95	79.01	7.2	33.45	8.0	25.2	3.48
C4	14 Mar 2023	7	12.89	79.64	6.9	33.47	8.0	25.2	2.77
C4	14 Mar 2023	8	12.68	77.92	6.4	33.53	7.9	25.3	1.45
C4	14 Mar 2023	9	12.08	73.50	5.1	33.62	7.8	25.5	1.03
C4	14 Mar 2023	10	11.89	64.82	4.5	33.64	7.8	25.6	0.85
C4	14 Mar 2023	11	11.87	61.47	4.4	33.64	7.8	25.6	0.74
C4	24 Mar 2023	1	14.26	67.74	8.1	33.20	8.0	24.7	0.78
C4	24 Mar 2023	2	14.26	68.18	8.1	33.20	8.0	24.7	0.80
C4	24 Mar 2023	3	14.27	68.18	8.1	33.20	8.0	24.7	0.89
C4	24 Mar 2023	4	14.26	68.88	8.0	33.20	8.0	24.7	1.00
C4	24 Mar 2023	5	14.20	69.75	7.8	33.21	8.0	24.8	1.10
C4	24 Mar 2023	6	14.04	70.49	7.6	33.25	8.0	24.8	1.08
C4	24 Mar 2023	7	13.85	73.06	7.5	33.30	8.0	24.9	0.95
C4	24 Mar 2023	8	13.81	75.79	7.3	33.30	8.0	24.9	1.01
C4	24 Mar 2023	9	13.81	74.11	7.1	33.30	8.0	24.9	0.87
C4	24 Mar 2023	10	13.81	70.01	7.1	33.30	8.0	24.9	0.82
C4	24 Mar 2023	11	13.81	67.59	7.1	33.30	7.9	24.9	0.84
C4	24 Mar 2023	12	13.81	64.71	7.1	33.30	7.9	24.9	0.84
C4	28 Mar 2023	1	14.46	85.20	8.1	33.20	8.1	24.7	0.72
C4	28 Mar 2023	2	14.38	85.07	8.0	33.20	8.1	24.7	0.73
C4	28 Mar 2023	3	13.96	84.50	8.0	33.26	8.1	24.9	0.98
C4	28 Mar 2023	4	13.75	83.96	8.1	33.32	8.1	24.9	0.92
C4	28 Mar 2023	5	13.69	84.33	7.9	33.33	8.1	25.0	1.05
C4	28 Mar 2023	6	13.52	84.19	7.4	33.36	8.1	25.0	1.21
C4	28 Mar 2023	7	13.30	84.50	7.0	33.41	8.1	25.1	0.97
C4	28 Mar 2023	8	13.16	86.50	6.6	33.43	8.0	25.1	0.81
C4	28 Mar 2023	9	12.94	87.93	6.3	33.47	8.0	25.2	0.67
C5	07 Mar 2023	1	13.19	73.91	7.3	33.36	8.0	25.1	0.38
C5	07 Mar 2023	2	13.03	74.07	6.9	33.39	8.0	25.1	0.42
C5	07 Mar 2023	3	12.77	75.21	6.4	33.43	8.0	25.2	0.51
C5	07 Mar 2023	4	12.52	76.63	5.9	33.48	8.0	25.3	0.56
C5	07 Mar 2023	5	12.24	80.82	5.3	33.52	7.9	25.4	0.63
C5	07 Mar 2023	6	12.21	83.02	5.2	33.52	7.9	25.4	0.65
C5	07 Mar 2023	7	12.18	83.71	5.1	33.53	7.9	25.4	0.66
C5	07 Mar 2023	8	11.95	83.63	4.9	33.57	7.9	25.5	0.55
C5	07 Mar 2023	9	11.72	83.51	4.6	33.61	7.8	25.6	0.52
C5	07 Mar 2023	10	11.71	82.58	4.6	33.61	7.8	25.6	0.52

Station	Date	Depth (m)	Temp (°C)	XMS (‰)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (µg/L)
C5	07 Mar 2023	11	11.70	80.77	4.6	33.61	7.8	25.6	0.50
C5	14 Mar 2023	1	13.36	77.52	7.7	33.42	8.0	25.1	0.94
C5	14 Mar 2023	2	13.34	77.30	7.6	33.43	8.0	25.1	1.10
C5	14 Mar 2023	3	13.23	77.17	7.3	33.44	8.0	25.1	1.34
C5	14 Mar 2023	4	12.82	76.82	6.5	33.50	8.0	25.3	1.28
C5	14 Mar 2023	5	12.48	75.91	5.9	33.55	7.9	25.4	1.26
C5	14 Mar 2023	6	12.31	77.06	5.6	33.56	7.9	25.4	1.54
C5	14 Mar 2023	7	12.13	79.01	5.1	33.59	7.9	25.5	1.16
C5	14 Mar 2023	8	11.87	80.34	4.7	33.64	7.8	25.6	0.99
C5	14 Mar 2023	9	11.72	79.06	4.4	33.66	7.8	25.6	0.79
C5	14 Mar 2023	10	11.68	73.96	4.3	33.67	7.8	25.6	0.78
C5	24 Mar 2023	1	14.32	67.04	8.1	33.18	8.0	24.7	0.76
C5	24 Mar 2023	2	14.37	69.81	8.0	33.17	8.0	24.7	0.70
C5	24 Mar 2023	3	14.31	75.44	7.9	33.19	8.0	24.7	0.78
C5	24 Mar 2023	4	14.20	78.34	7.8	33.23	8.0	24.8	0.86
C5	24 Mar 2023	5	14.18	79.75	7.8	33.23	8.0	24.8	0.94
C5	24 Mar 2023	6	14.15	80.07	7.7	33.24	8.0	24.8	1.01
C5	24 Mar 2023	7	14.10	79.70	7.7	33.24	8.0	24.8	0.99
C5	24 Mar 2023	8	14.04	78.47	7.7	33.26	8.0	24.8	1.01
C5	24 Mar 2023	9	13.98	78.17	7.7	33.27	8.0	24.9	1.16
C5	24 Mar 2023	10	13.95	78.07	7.7	33.28	8.0	24.9	1.03
C5	24 Mar 2023	11	13.95	77.71	7.8	33.27	8.0	24.9	1.03
C5	28 Mar 2023	1	13.50	86.64	6.9	33.36	8.0	25.0	0.50
C5	28 Mar 2023	2	13.42	86.53	6.6	33.38	8.0	25.1	0.55
C5	28 Mar 2023	3	12.86	86.18	6.0	33.48	8.0	25.2	0.50
C5	28 Mar 2023	4	12.59	88.15	5.6	33.51	7.9	25.3	0.47
C5	28 Mar 2023	5	12.45	90.34	5.5	33.54	7.9	25.4	0.46
C5	28 Mar 2023	6	12.30	90.82	5.3	33.56	7.9	25.4	0.41
C5	28 Mar 2023	7	12.27	91.47	5.2	33.56	7.9	25.4	0.33
C5	28 Mar 2023	8	12.22	91.86	5.1	33.57	7.8	25.4	0.33
C5	28 Mar 2023	9	12.16	91.95	5.0	33.59	7.8	25.5	0.35
C5	28 Mar 2023	10	12.00	91.45	4.9	33.62	7.8	25.5	0.34
C6	07 Mar 2023	1	13.45	73.45	8.0	33.27	8.1	25.0	0.52
C6	07 Mar 2023	2	13.31	75.28	7.6	33.30	8.1	25.0	0.61
C6	07 Mar 2023	3	12.76	76.56	6.2	33.42	8.0	25.2	0.74
C6	07 Mar 2023	4	12.05	79.84	4.8	33.56	7.9	25.5	0.52
C6	07 Mar 2023	5	11.97	80.80	4.6	33.56	7.9	25.5	0.47
C6	07 Mar 2023	6	11.80	82.62	4.6	33.60	7.8	25.5	0.50
C6	07 Mar 2023	7	11.72	83.76	4.6	33.61	7.8	25.6	0.53
C6	07 Mar 2023	8	11.71	82.70	4.6	33.61	7.8	25.6	0.53
C6	07 Mar 2023	9	11.72	81.64	4.6	33.61	7.8	25.6	0.52
C6	14 Mar 2023	1	12.96	76.90	6.9	33.42	7.9	25.2	1.55
C6	14 Mar 2023	2	12.91	76.08	6.7	33.43	7.9	25.2	1.75
C6	14 Mar 2023	3	12.81	76.71	6.4	33.45	7.9	25.2	1.86
C6	14 Mar 2023	4	12.56	76.70	5.6	33.50	7.9	25.3	1.51
C6	14 Mar 2023	5	11.95	76.39	4.6	33.63	7.8	25.5	0.95
C6	14 Mar 2023	6	11.85	78.56	4.2	33.63	7.8	25.6	0.68
C6	14 Mar 2023	7	11.80	81.07	4.2	33.64	7.8	25.6	0.64
C6	14 Mar 2023	8	11.80	81.61	4.2	33.64	7.8	25.6	0.61
C6	24 Mar 2023	1	14.12	76.05	7.9	33.17	8.0	24.8	0.76
C6	24 Mar 2023	2	14.20	75.43	7.9	33.12	8.0	24.7	0.66
C6	24 Mar 2023	3	14.16	73.52	7.9	33.13	8.0	24.7	0.72
C6	24 Mar 2023	4	14.11	74.57	7.9	33.22	8.0	24.8	0.83
C6	24 Mar 2023	5	14.08	77.44	7.8	33.26	8.0	24.8	0.84
C6	24 Mar 2023	6	14.03	80.92	7.8	33.27	8.0	24.8	0.80

Station	Date	Depth (m)	Temp (°C)	XMS (‰)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (µg/L)
C6	24 Mar 2023	7	13.99	81.71	7.7	33.28	8.0	24.9	0.77
C6	24 Mar 2023	8	13.98	81.99	7.6	33.28	8.0	24.9	0.73
C6	24 Mar 2023	9	13.96	81.59	7.6	33.28	8.0	24.9	0.67
C6	24 Mar 2023	10	13.94	79.49	7.5	33.29	8.0	24.9	0.73
C6	28 Mar 2023	1	13.56	84.78	7.1	33.30	8.0	25.0	0.83
C6	28 Mar 2023	2	13.51	84.77	7.0	33.31	8.0	25.0	0.90
C6	28 Mar 2023	3	13.33	84.51	6.5	33.36	8.0	25.1	1.06
C6	28 Mar 2023	4	12.59	85.25	5.6	33.53	7.9	25.3	0.72
C6	28 Mar 2023	5	12.31	88.67	5.0	33.56	7.9	25.4	0.44
C6	28 Mar 2023	6	12.15	91.04	4.8	33.59	7.8	25.5	0.43
C6	28 Mar 2023	7	12.23	91.48	4.9	33.56	7.8	25.4	0.35
C6	28 Mar 2023	8	12.09	91.48	5.0	33.60	7.8	25.5	0.36
C6	28 Mar 2023	9	12.09	91.57	5.0	33.59	7.8	25.5	0.35
C7	07 Mar 2023	1	13.18	74.71	8.0	33.15	8.1	24.9	1.25
C7	07 Mar 2023	2	13.19	75.34	8.0	33.16	8.1	24.9	1.48
C7	07 Mar 2023	3	13.24	75.84	8.0	33.19	8.1	24.9	1.79
C7	07 Mar 2023	4	13.36	76.38	8.0	33.26	8.1	25.0	2.70
C7	07 Mar 2023	5	13.37	77.18	8.0	33.27	8.1	25.0	3.24
C7	07 Mar 2023	6	13.28	78.28	7.8	33.30	8.1	25.0	3.26
C7	07 Mar 2023	7	13.16	79.85	7.6	33.32	8.1	25.1	2.92
C7	07 Mar 2023	8	13.02	81.58	7.4	33.34	8.1	25.1	2.69
C7	07 Mar 2023	9	12.91	82.57	7.2	33.36	8.0	25.1	2.54
C7	07 Mar 2023	10	12.83	82.74	7.0	33.37	8.0	25.2	2.56
C7	07 Mar 2023	11	12.79	83.07	6.8	33.38	8.0	25.2	2.25
C7	07 Mar 2023	12	12.68	83.15	6.6	33.41	8.0	25.2	2.11
C7	07 Mar 2023	13	12.49	83.27	6.2	33.45	8.0	25.3	1.82
C7	07 Mar 2023	14	12.33	84.56	5.8	33.48	7.9	25.3	1.72
C7	07 Mar 2023	15	12.15	85.41	5.5	33.53	7.9	25.4	1.56
C7	07 Mar 2023	16	11.88	85.88	5.1	33.58	7.9	25.5	1.08
C7	07 Mar 2023	17	11.86	87.69	4.9	33.58	7.9	25.5	0.89
C7	07 Mar 2023	18	11.63	87.12	4.6	33.62	7.8	25.6	0.61
C7	07 Mar 2023	19	11.62	86.67	4.5	33.63	7.8	25.6	0.52
C7	14 Mar 2023	1	13.13	76.57	7.5	33.32	8.0	25.1	2.56
C7	14 Mar 2023	2	12.49	76.67	6.9	33.50	8.0	25.3	3.55
C7	14 Mar 2023	3	12.31	78.53	6.4	33.52	7.9	25.4	4.20
C7	14 Mar 2023	4	12.14	81.00	6.1	33.55	7.9	25.4	4.35
C7	14 Mar 2023	5	12.11	82.99	5.8	33.56	7.9	25.4	4.24
C7	14 Mar 2023	6	11.80	83.68	5.1	33.64	7.8	25.6	3.19
C7	14 Mar 2023	7	11.65	85.33	4.5	33.66	7.8	25.6	2.38
C7	14 Mar 2023	8	11.47	85.78	4.1	33.71	7.8	25.7	1.87
C7	14 Mar 2023	9	11.29	85.75	3.8	33.74	7.8	25.7	1.56
C7	14 Mar 2023	10	11.12	86.35	3.7	33.78	7.7	25.8	1.28
C7	14 Mar 2023	11	11.05	86.86	3.5	33.80	7.7	25.8	0.88
C7	14 Mar 2023	12	10.87	87.66	3.4	33.84	7.7	25.9	0.88
C7	14 Mar 2023	13	10.79	88.03	3.3	33.86	7.7	25.9	0.73
C7	14 Mar 2023	14	10.75	88.25	3.2	33.87	7.7	25.9	0.61
C7	14 Mar 2023	15	10.74	87.81	3.2	33.87	7.7	25.9	0.56
C7	14 Mar 2023	16	10.74	87.59	3.2	33.87	7.7	25.9	0.63
C7	14 Mar 2023	17	10.74	87.63	3.2	33.87	7.7	25.9	0.82
C7	24 Mar 2023	1	14.14	71.87	8.1	33.16	8.0	24.7	0.92
C7	24 Mar 2023	2	14.16	72.42	8.1	33.12	8.0	24.7	0.93
C7	24 Mar 2023	3	14.17	72.56	8.2	33.14	8.0	24.7	1.09
C7	24 Mar 2023	4	14.20	73.87	8.1	33.19	8.0	24.8	1.48
C7	24 Mar 2023	5	14.19	79.57	8.0	33.23	8.0	24.8	1.47
C7	24 Mar 2023	6	14.15	84.08	8.0	33.26	8.0	24.8	1.47
C7	24 Mar 2023	7	14.07	85.50	7.9	33.27	8.0	24.8	1.13
C7	24 Mar 2023	8	13.73	83.73	7.6	33.34	8.0	25.0	0.94

Station	Date	Depth (m)	Temp (°C)	XMS (‰)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (µg/L)
C7	24 Mar 2023	9	13.57	84.67	7.3	33.35	8.0	25.0	0.87
C7	24 Mar 2023	10	13.46	84.57	7.1	33.37	7.9	25.0	0.84
C7	24 Mar 2023	11	13.27	85.20	6.8	33.39	7.9	25.1	0.88
C7	24 Mar 2023	12	12.82	86.32	6.2	33.48	7.9	25.2	0.86
C7	24 Mar 2023	13	12.25	86.52	5.4	33.56	7.8	25.4	0.76
C7	24 Mar 2023	14	11.81	86.50	4.8	33.63	7.8	25.6	0.86
C7	24 Mar 2023	15	11.73	87.11	4.6	33.63	7.7	25.6	0.77
C7	24 Mar 2023	16	11.70	87.78	4.5	33.64	7.7	25.6	0.71
C7	24 Mar 2023	17	11.67	86.07	4.5	33.65	7.7	25.6	0.69
C7	24 Mar 2023	18	11.69	80.13	4.5	33.65	7.7	25.6	0.73
C7	28 Mar 2023	1	13.66	85.24	7.3	33.32	8.0	25.0	1.42
C7	28 Mar 2023	2	13.30	85.39	6.7	33.39	8.0	25.1	1.34
C7	28 Mar 2023	3	12.85	86.35	6.1	33.47	8.0	25.2	1.05
C7	28 Mar 2023	4	12.69	88.68	5.9	33.48	7.9	25.3	0.83
C7	28 Mar 2023	5	12.66	90.22	5.9	33.48	7.9	25.3	0.87
C7	28 Mar 2023	6	12.58	90.66	5.8	33.50	7.9	25.3	0.77
C7	28 Mar 2023	7	12.41	91.00	5.6	33.53	7.9	25.4	0.75
C7	28 Mar 2023	8	12.17	91.27	5.2	33.57	7.9	25.4	1.31
C7	28 Mar 2023	9	11.95	91.89	5.0	33.60	7.8	25.5	0.78
C7	28 Mar 2023	10	11.89	92.02	4.8	33.61	7.8	25.5	0.57
C7	28 Mar 2023	11	11.73	92.16	4.6	33.64	7.8	25.6	0.53
C7	28 Mar 2023	12	11.64	92.28	4.5	33.65	7.8	25.6	0.50
C7	28 Mar 2023	13	11.56	92.18	4.3	33.67	7.8	25.6	0.53
C7	28 Mar 2023	14	11.54	92.18	4.3	33.67	7.8	25.6	0.50
C7	28 Mar 2023	15	11.49	91.95	4.2	33.69	7.8	25.7	0.58
C7	28 Mar 2023	16	11.45	91.81	4.1	33.69	7.8	25.7	0.59
C7	28 Mar 2023	17	11.42	91.79	4.1	33.70	7.8	25.7	0.51
C8	07 Mar 2023	1	13.33	77.06	8.4	33.05	8.1	24.8	1.30
C8	07 Mar 2023	2	13.42	76.60	8.4	33.13	8.1	24.9	1.14
C8	07 Mar 2023	3	13.47	78.39	8.5	33.28	8.1	25.0	1.65
C8	07 Mar 2023	4	13.40	81.45	8.5	33.30	8.1	25.0	2.11
C8	07 Mar 2023	5	13.25	82.43	8.1	33.30	8.1	25.0	2.37
C8	07 Mar 2023	6	13.02	83.44	7.6	33.35	8.1	25.1	2.37
C8	07 Mar 2023	7	12.91	84.32	7.3	33.38	8.1	25.2	2.36
C8	07 Mar 2023	8	12.87	84.81	7.2	33.39	8.1	25.2	2.15
C8	07 Mar 2023	9	12.86	85.02	7.2	33.39	8.0	25.2	2.27
C8	07 Mar 2023	10	12.81	85.04	7.1	33.40	8.0	25.2	2.19
C8	07 Mar 2023	11	12.75	85.34	7.0	33.41	8.0	25.2	2.35
C8	07 Mar 2023	12	12.70	85.47	6.8	33.42	8.0	25.2	2.27
C8	07 Mar 2023	13	12.60	85.35	6.6	33.45	8.0	25.3	2.08
C8	07 Mar 2023	14	12.48	85.91	6.2	33.47	8.0	25.3	1.87
C8	07 Mar 2023	15	12.35	85.75	5.9	33.49	8.0	25.4	1.61
C8	07 Mar 2023	16	11.98	85.47	5.2	33.58	7.9	25.5	1.41
C8	07 Mar 2023	17	11.64	82.83	4.4	33.63	7.8	25.6	1.08
C8	07 Mar 2023	18	11.59	80.50	4.3	33.64	7.8	25.6	0.92
C8	07 Mar 2023	19	11.59	78.91	4.3	33.64	7.8	25.6	0.91
C8	07 Mar 2023	20	11.56	76.93	4.3	33.64	7.8	25.6	0.91
C8	14 Mar 2023	1	13.25	78.64	8.2	33.29	8.0	25.0	3.01
C8	14 Mar 2023	2	13.23	78.38	7.9	33.31	8.0	25.0	3.38
C8	14 Mar 2023	3	12.69	78.15	7.1	33.44	8.0	25.2	3.90
C8	14 Mar 2023	4	12.15	79.12	6.2	33.54	8.0	25.4	5.06
C8	14 Mar 2023	5	11.81	81.10	5.4	33.61	7.9	25.5	4.60
C8	14 Mar 2023	6	11.68	82.58	4.9	33.63	7.8	25.6	4.99
C8	14 Mar 2023	7	11.56	83.94	4.6	33.66	7.8	25.6	3.62
C8	14 Mar 2023	8	11.34	84.50	4.2	33.72	7.8	25.7	2.85
C8	14 Mar 2023	9	11.22	85.21	3.9	33.75	7.8	25.8	2.19
C8	14 Mar 2023	10	11.15	85.98	3.8	33.76	7.7	25.8	1.81
C8	14 Mar 2023	11	11.12	86.41	3.7	33.77	7.7	25.8	1.56

Station	Date	Depth (m)	Temp (°C)	XMS (‰)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (µg/L)
C8	14 Mar 2023	12	11.08	86.35	3.6	33.78	7.7	25.8	1.31
C8	14 Mar 2023	13	11.02	85.95	3.5	33.80	7.7	25.8	0.93
C8	14 Mar 2023	14	11.00	85.91	3.5	33.81	7.7	25.8	0.83
C8	14 Mar 2023	15	10.99	85.60	3.4	33.81	7.7	25.8	0.89
C8	14 Mar 2023	16	10.98	85.29	3.5	33.81	7.7	25.9	0.99
C8	14 Mar 2023	17	10.99	85.18	3.5	33.81	7.7	25.9	0.80
C8	14 Mar 2023	18	11.00	85.09	3.4	33.81	7.7	25.9	0.80
C8	14 Mar 2023	19	11.00	84.94	3.4	33.81	7.7	25.8	0.86
C8	24 Mar 2023	1	14.28	67.10	8.3	32.94	8.0	24.5	0.93
C8	24 Mar 2023	2	14.32	66.78	8.3	33.01	8.0	24.6	1.05
C8	24 Mar 2023	3	14.24	71.32	8.2	33.20	8.0	24.7	1.24
C8	24 Mar 2023	4	14.13	78.22	8.2	33.26	8.0	24.8	1.33
C8	24 Mar 2023	5	14.06	83.70	8.2	33.27	8.0	24.8	1.18
C8	24 Mar 2023	6	13.96	85.55	8.0	33.28	8.0	24.9	1.13
C8	24 Mar 2023	7	13.83	85.52	7.8	33.30	8.0	24.9	1.12
C8	24 Mar 2023	8	13.63	83.96	7.5	33.34	8.0	25.0	1.13
C8	24 Mar 2023	9	13.42	84.02	7.2	33.37	8.0	25.0	0.94
C8	24 Mar 2023	10	13.21	84.20	6.9	33.40	7.9	25.1	0.90
C8	24 Mar 2023	11	13.04	84.54	6.6	33.43	7.9	25.2	1.03
C8	24 Mar 2023	12	12.89	85.25	6.3	33.45	7.9	25.2	0.92
C8	24 Mar 2023	13	12.68	85.60	6.0	33.50	7.9	25.3	0.93
C8	24 Mar 2023	14	12.43	85.77	5.6	33.54	7.8	25.4	0.81
C8	24 Mar 2023	15	12.22	85.45	5.2	33.57	7.8	25.4	0.91
C8	24 Mar 2023	16	12.04	84.10	4.8	33.60	7.8	25.5	0.90
C8	24 Mar 2023	17	11.90	82.76	4.6	33.63	7.7	25.5	1.24
C8	24 Mar 2023	18	11.82	80.72	4.5	33.64	7.7	25.6	1.25
C8	24 Mar 2023	19	11.80	79.90	4.5	33.64	7.7	25.6	1.30
C8	24 Mar 2023	20	11.80	80.17	4.5	33.64	7.7	25.6	1.12
C8	28 Mar 2023	1	13.86	85.83	7.9	33.29	8.1	24.9	1.07
C8	28 Mar 2023	2	13.83	85.73	7.9	33.30	8.1	24.9	1.13
C8	28 Mar 2023	3	13.80	85.39	7.8	33.30	8.1	24.9	1.54
C8	28 Mar 2023	4	13.78	84.77	7.8	33.30	8.1	24.9	2.35
C8	28 Mar 2023	5	13.59	84.06	7.2	33.34	8.1	25.0	2.46
C8	28 Mar 2023	6	12.62	88.22	5.8	33.51	7.9	25.3	1.20
C8	28 Mar 2023	7	12.28	90.99	5.3	33.56	7.9	25.4	0.64
C8	28 Mar 2023	8	12.15	91.72	5.1	33.57	7.9	25.4	0.51
C8	28 Mar 2023	9	11.76	92.22	4.7	33.65	7.8	25.6	0.44
C8	28 Mar 2023	10	11.70	92.57	4.5	33.65	7.8	25.6	0.39
C8	28 Mar 2023	11	11.60	92.59	4.3	33.67	7.8	25.6	0.37
C8	28 Mar 2023	12	11.61	92.45	4.3	33.67	7.8	25.6	0.43
C8	28 Mar 2023	13	11.52	92.56	4.2	33.69	7.8	25.7	0.54
C8	28 Mar 2023	14	11.52	92.32	4.2	33.69	7.8	25.7	0.49
C8	28 Mar 2023	15	11.51	92.51	4.2	33.69	7.8	25.7	0.43
C8	28 Mar 2023	16	11.48	92.53	4.2	33.70	7.8	25.7	0.45
C8	28 Mar 2023	17	11.48	92.59	4.1	33.70	7.8	25.7	0.44
C8	28 Mar 2023	18	11.48	92.57	4.1	33.70	7.8	25.7	0.45

NA = not available

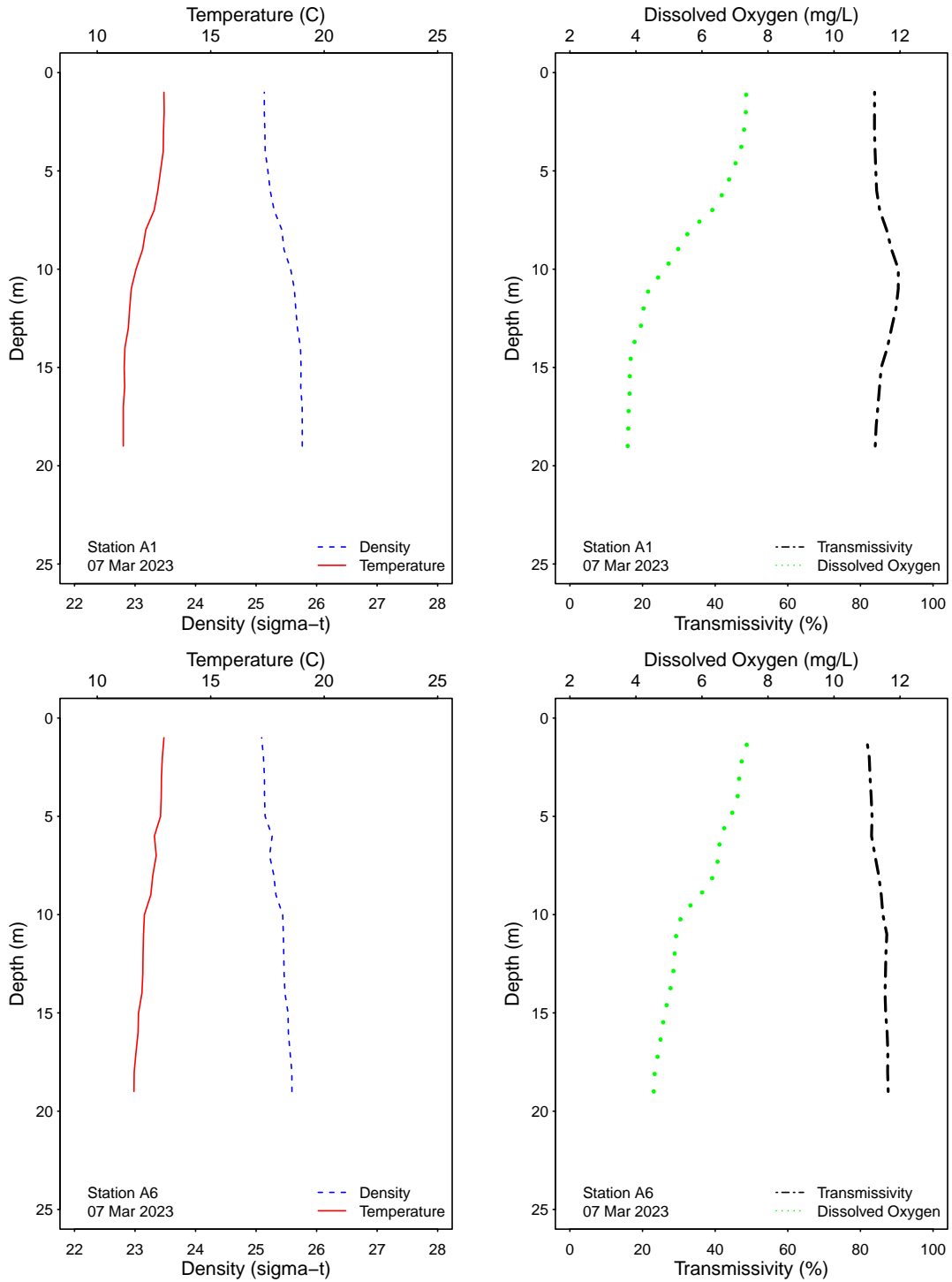


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

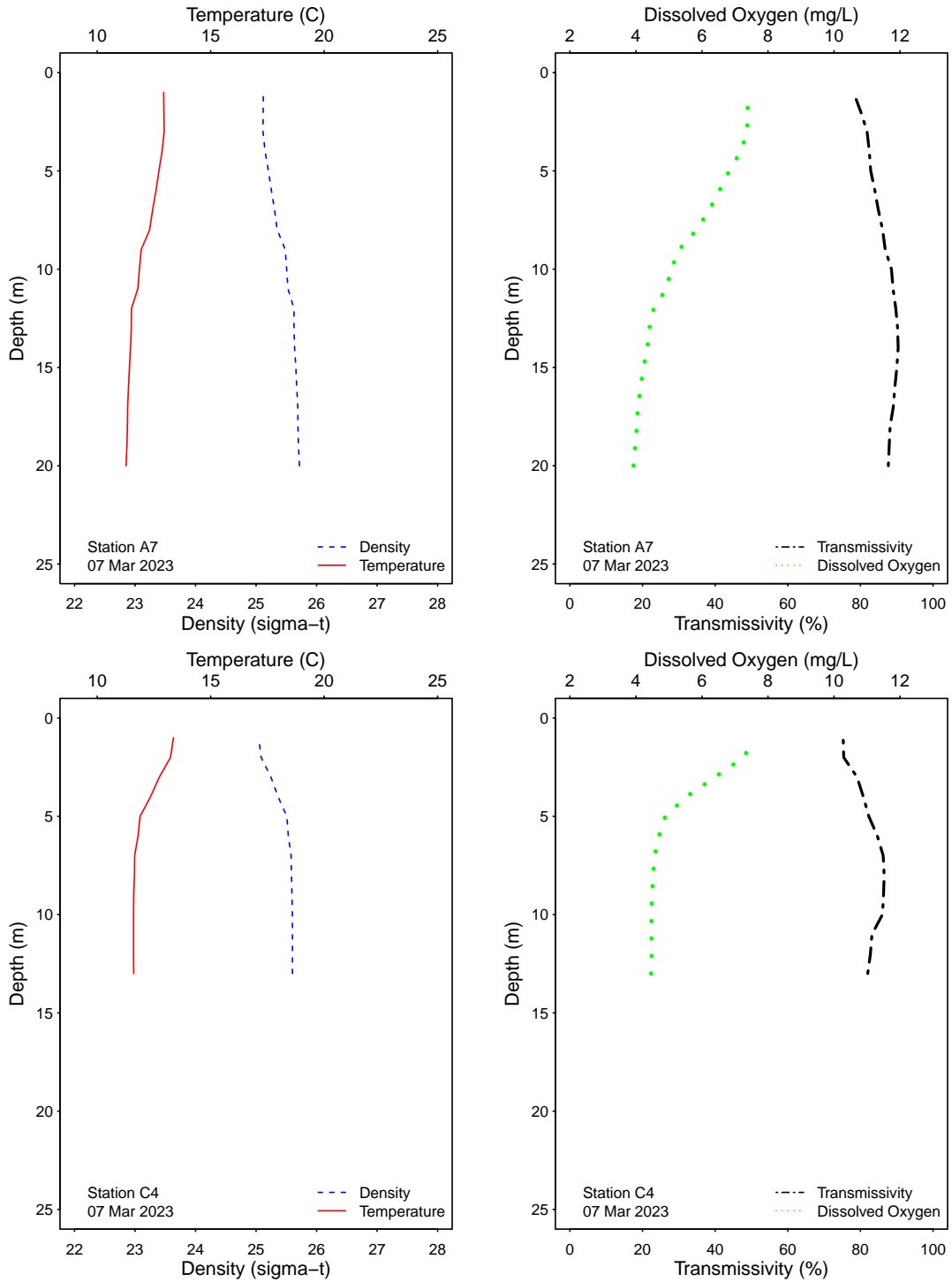


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

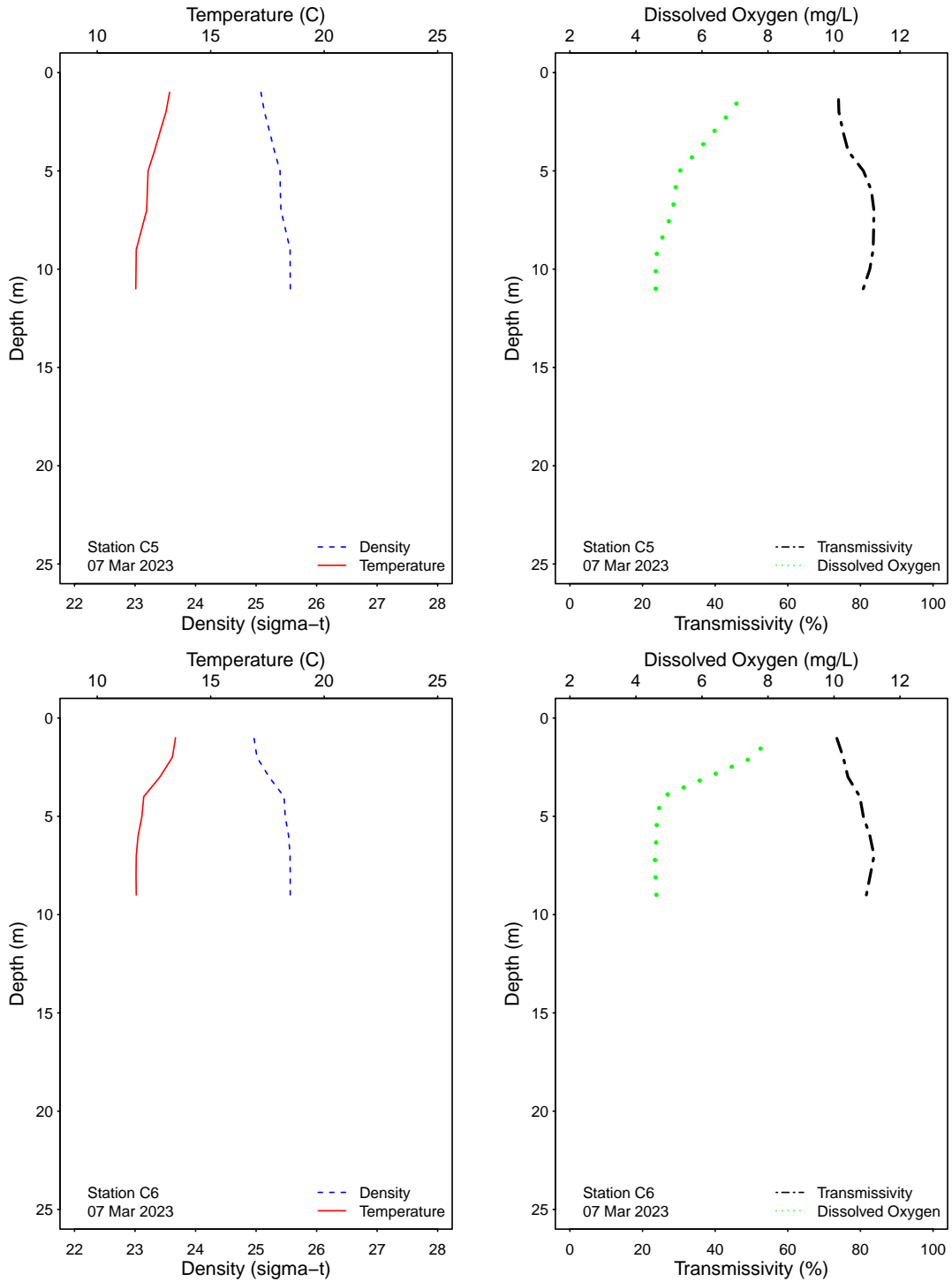


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

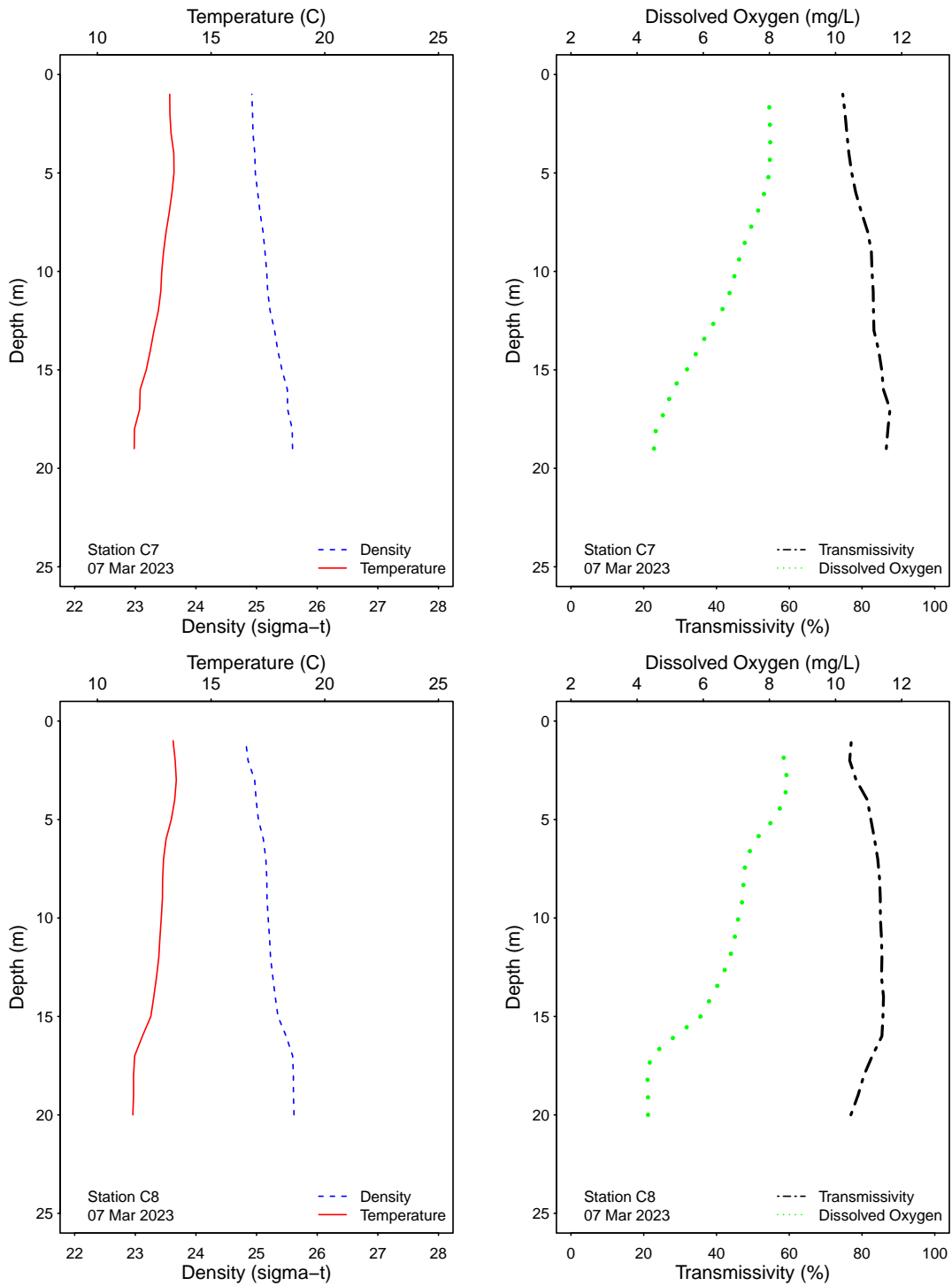


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

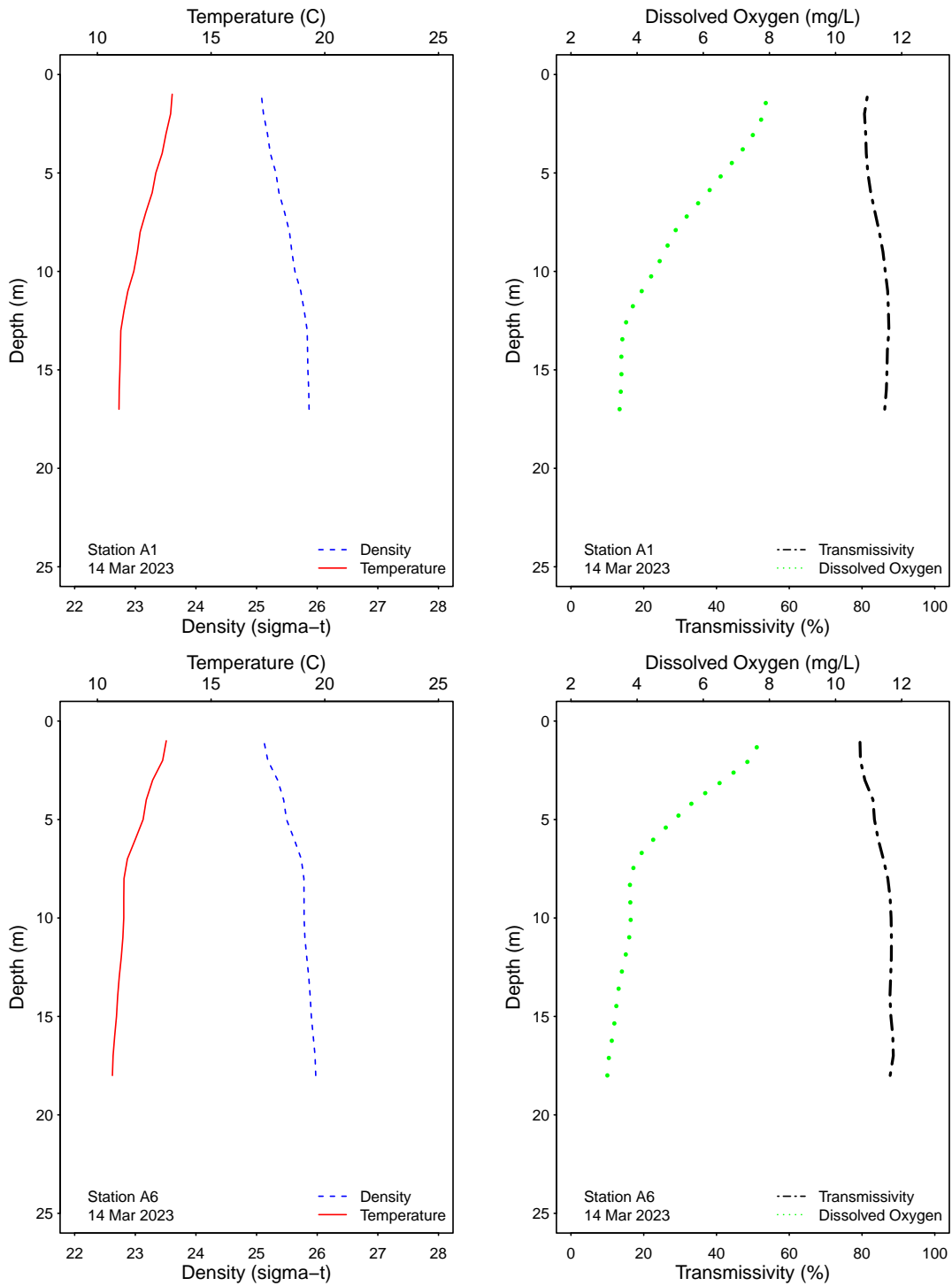


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

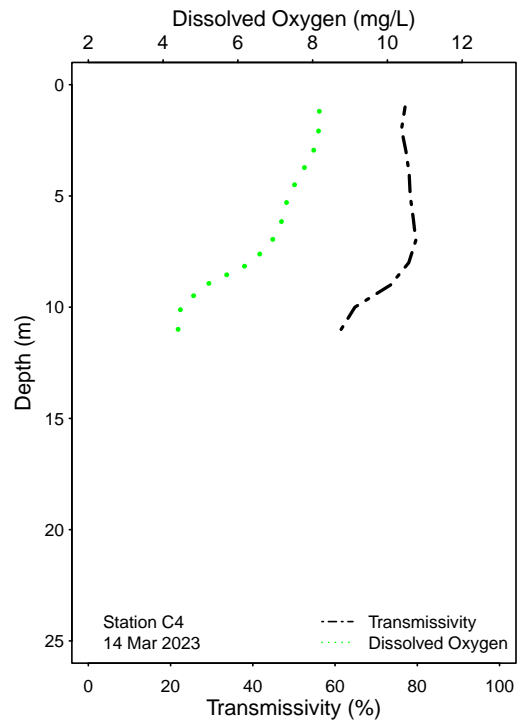
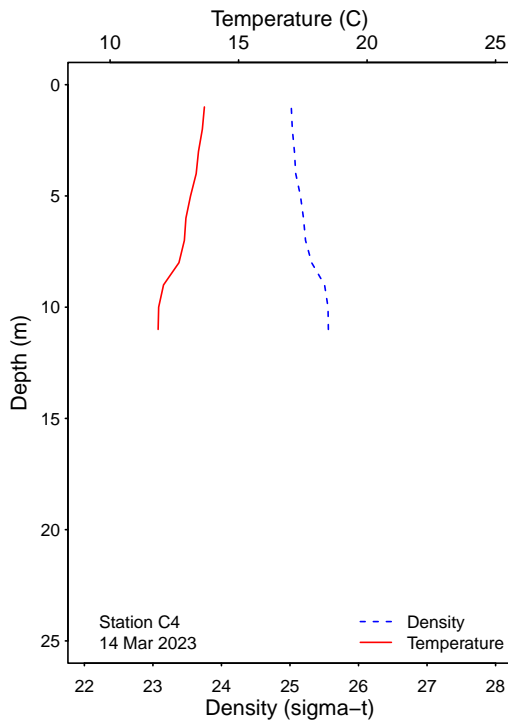
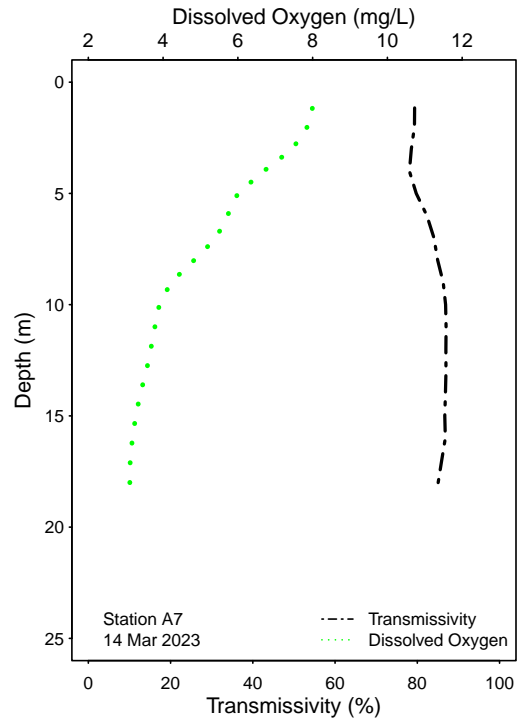
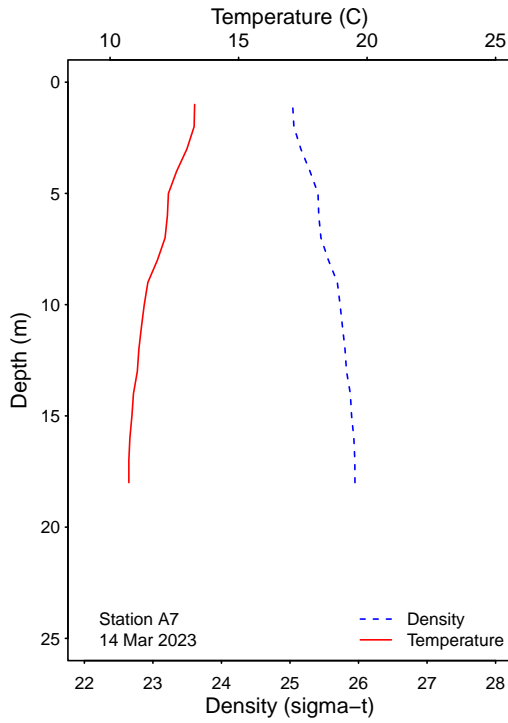


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

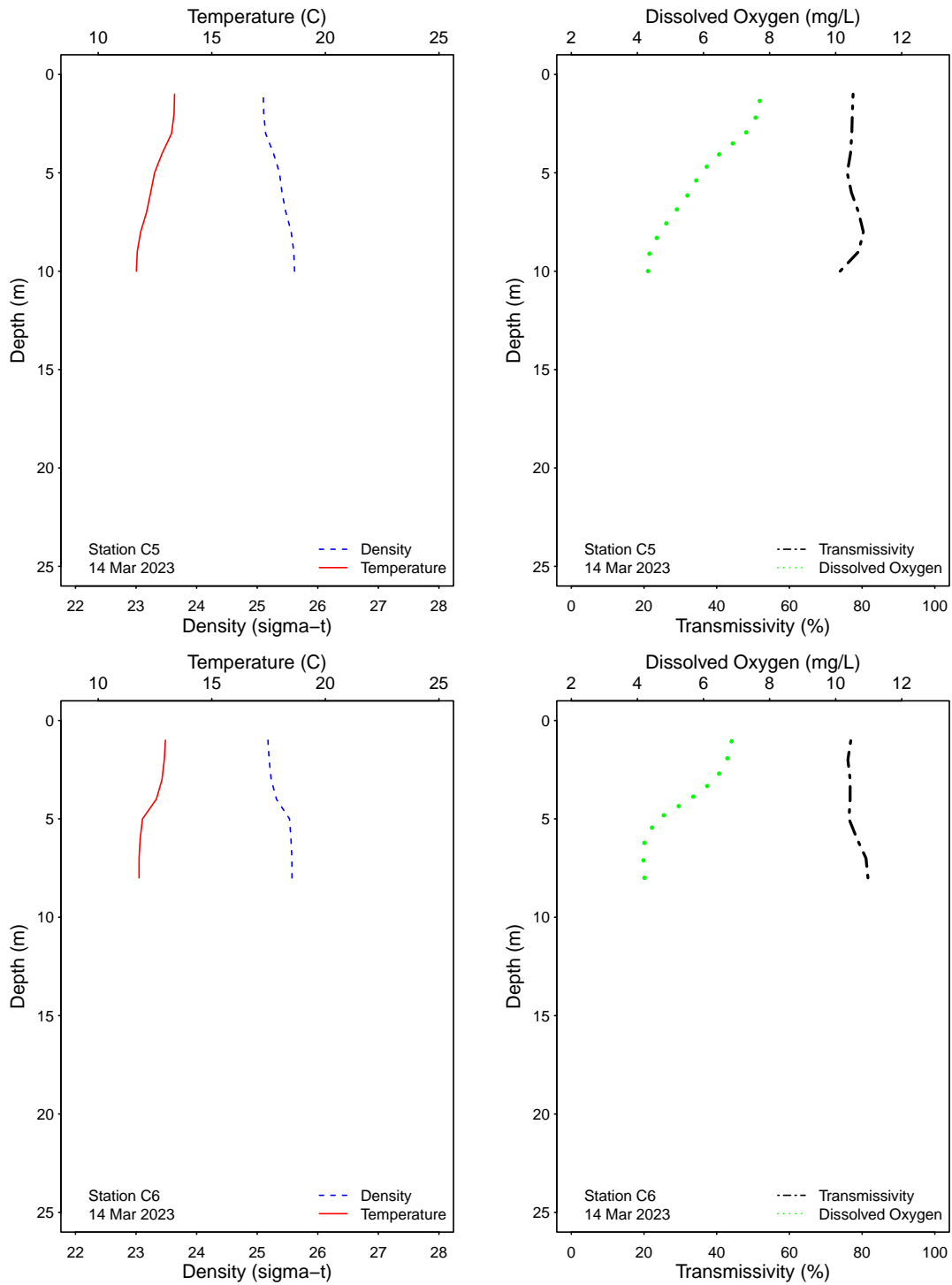


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

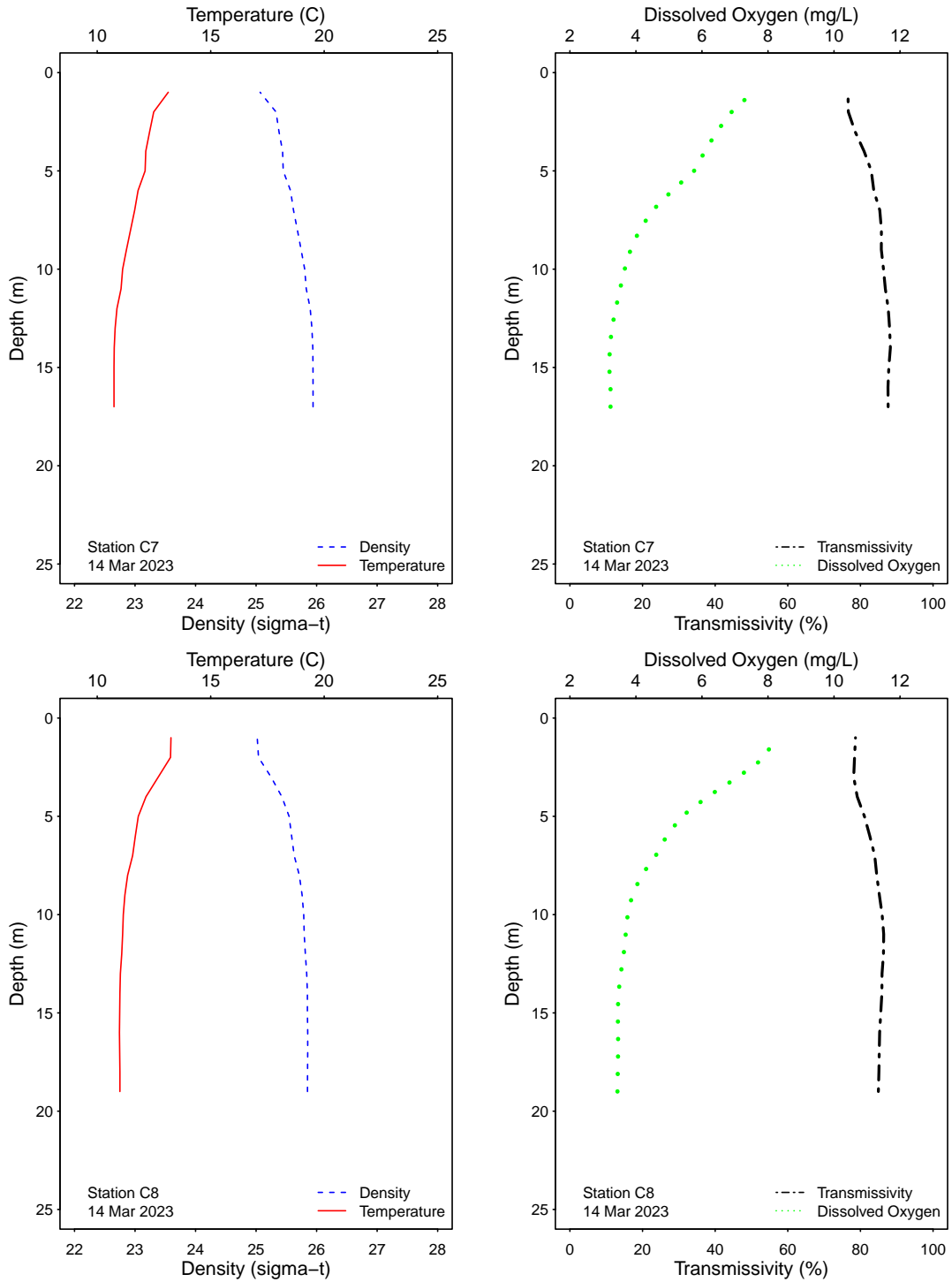


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

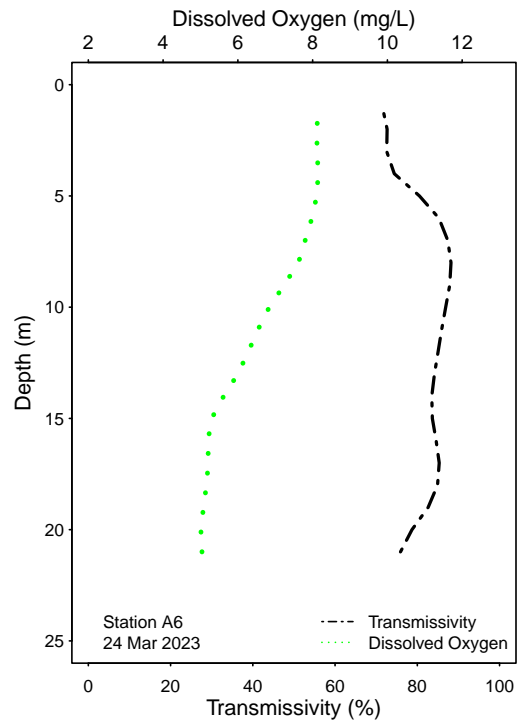
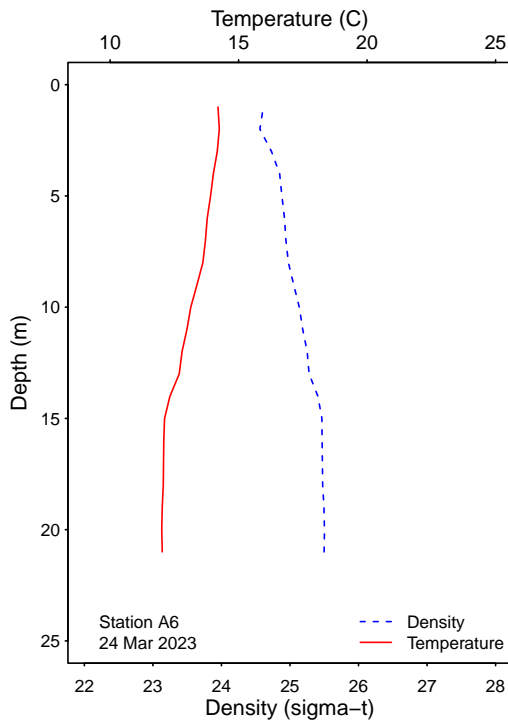
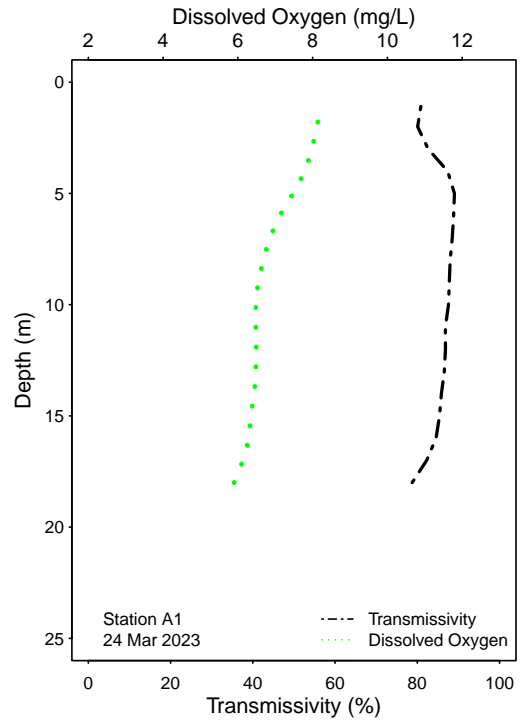
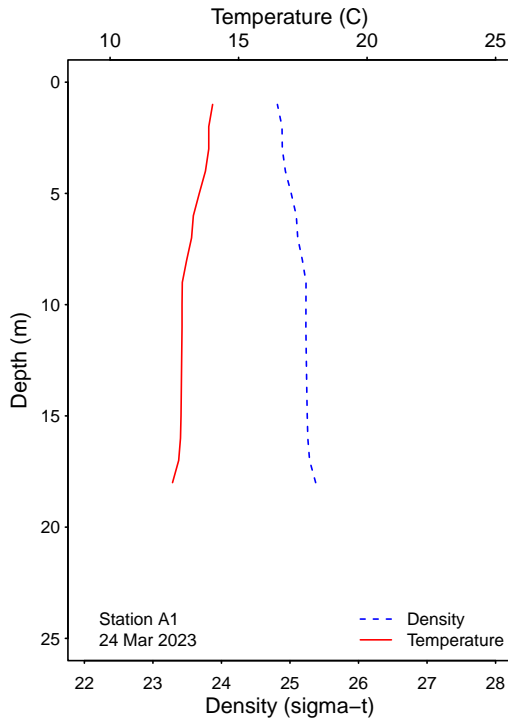


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

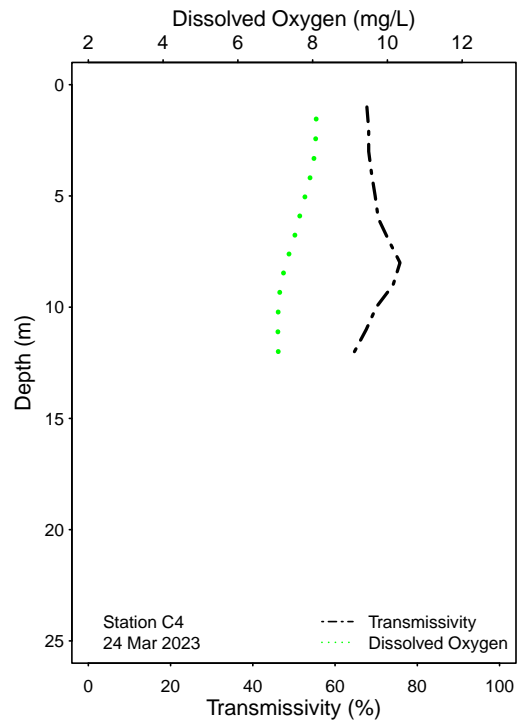
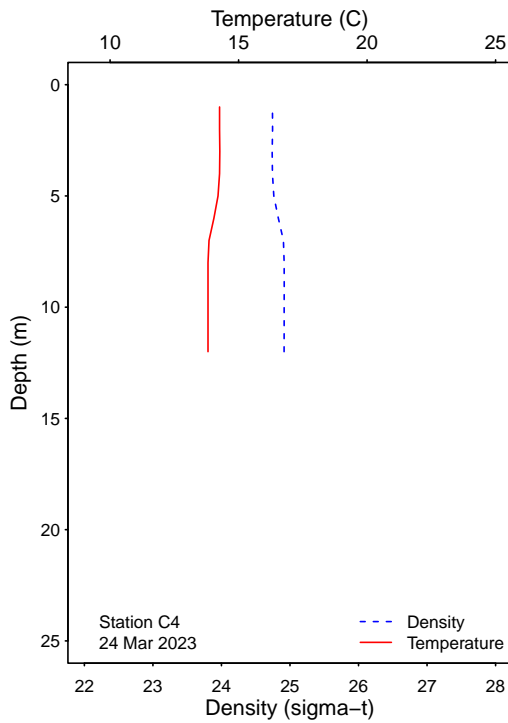
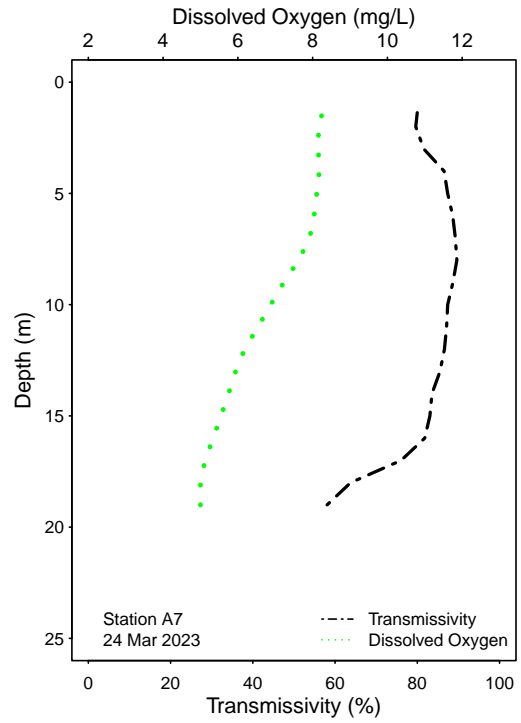
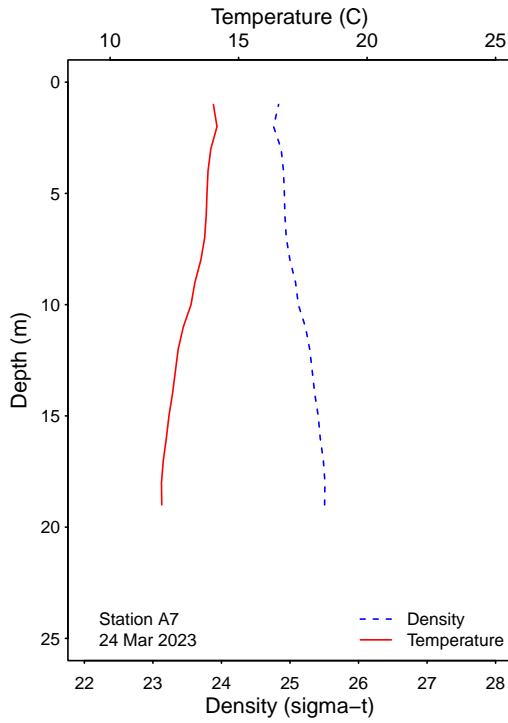


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

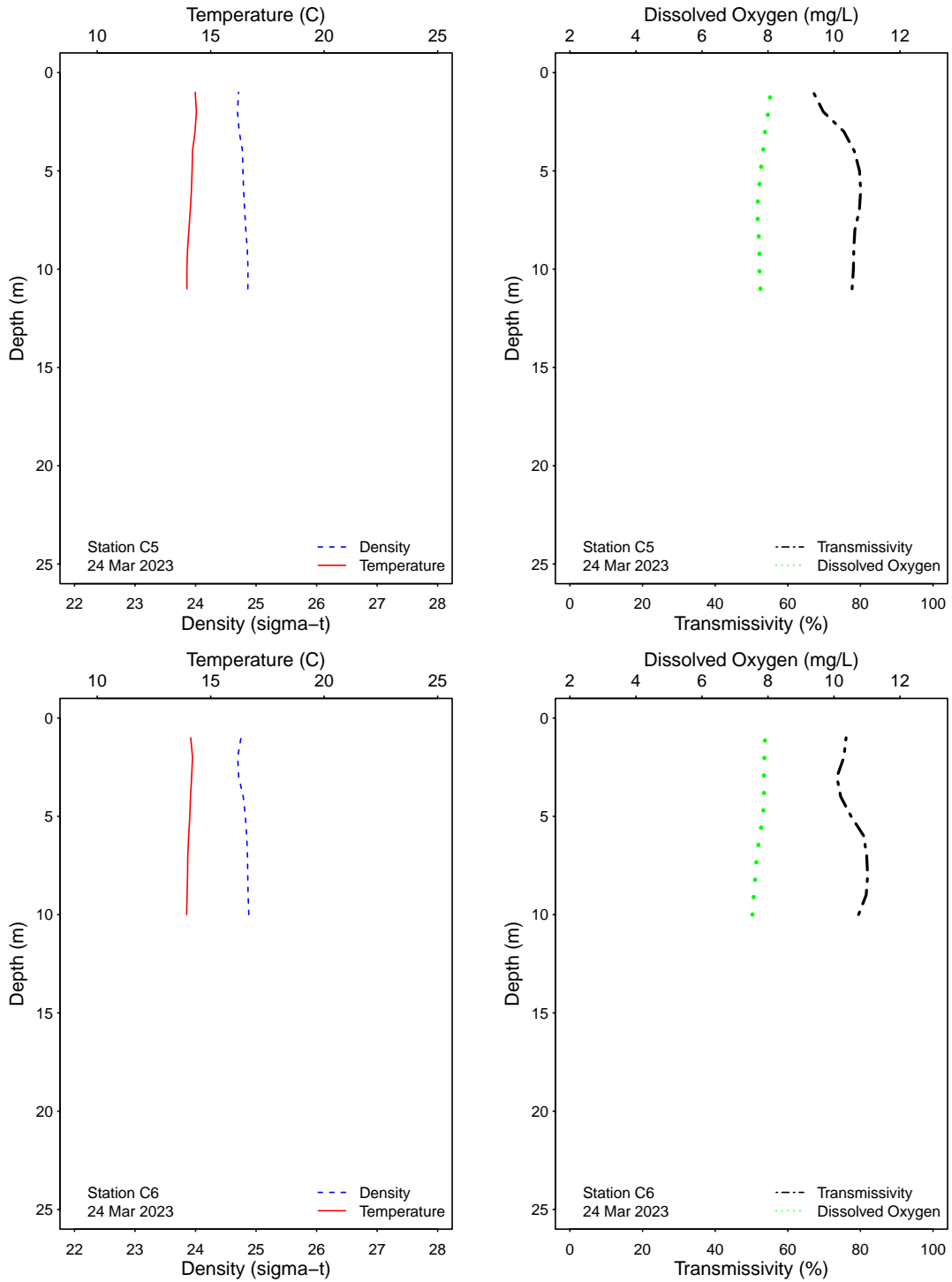


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

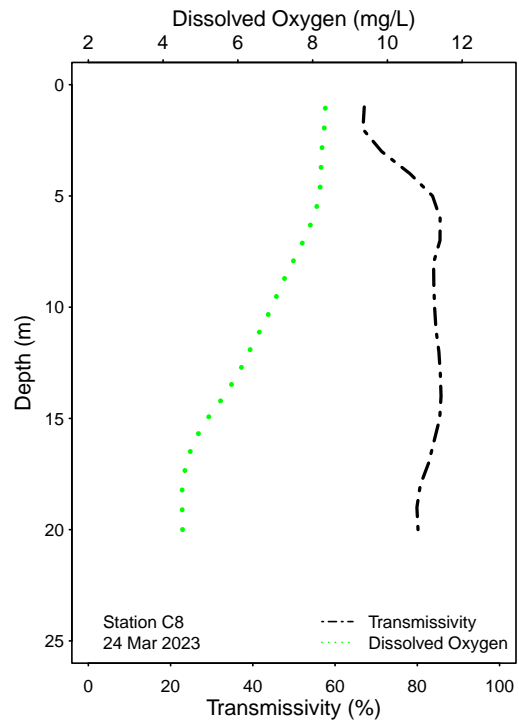
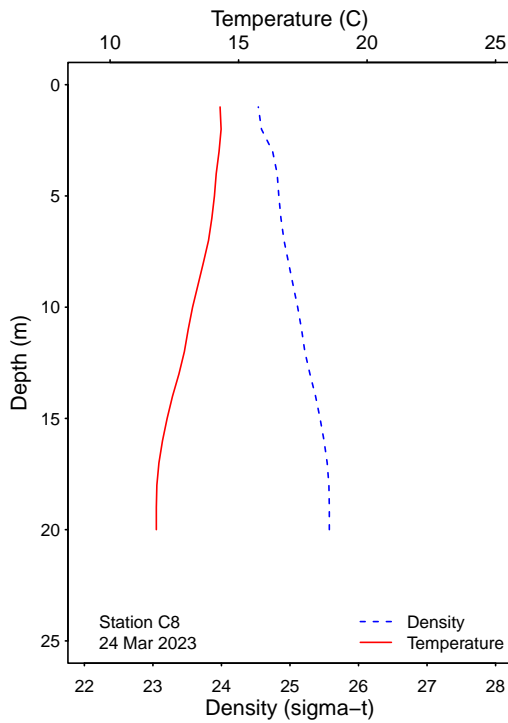
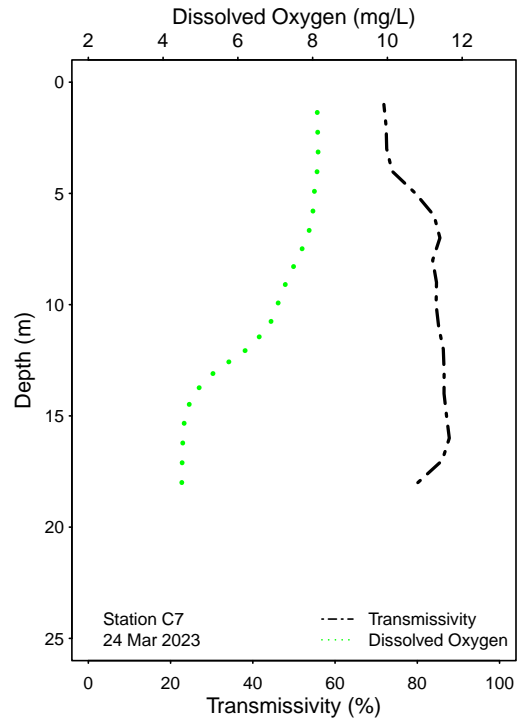
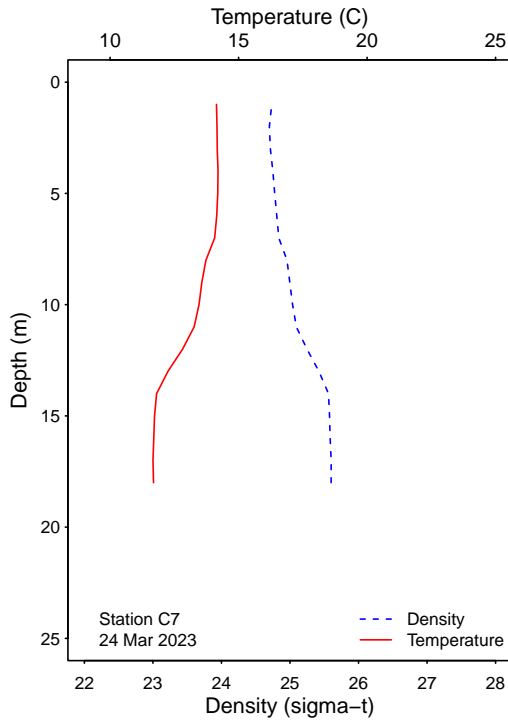


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

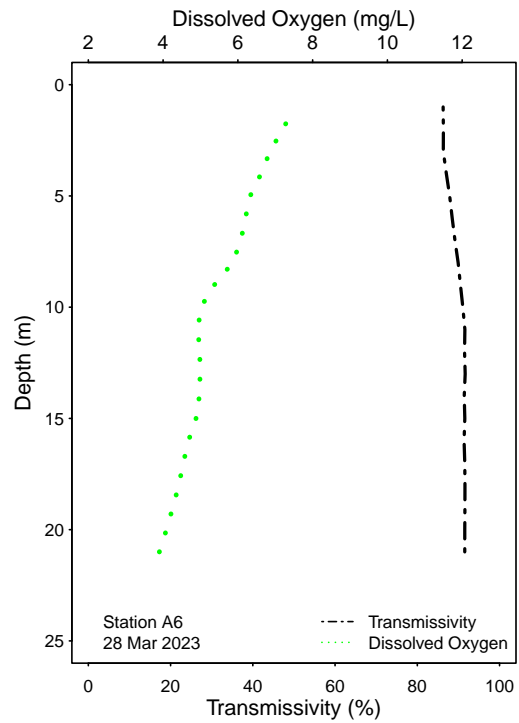
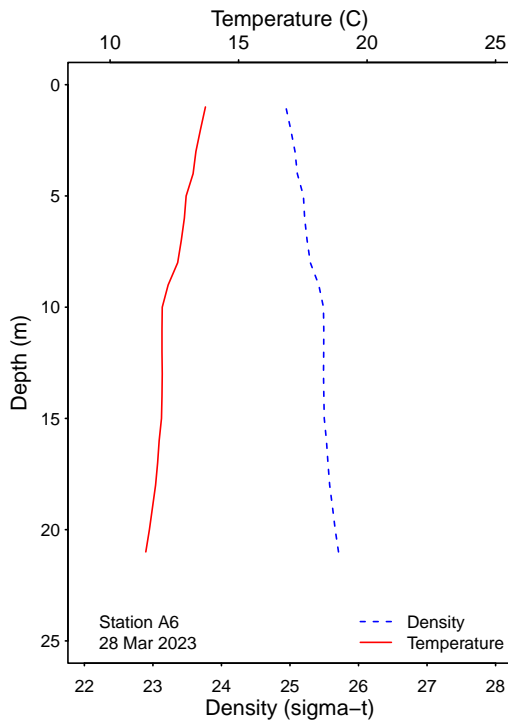
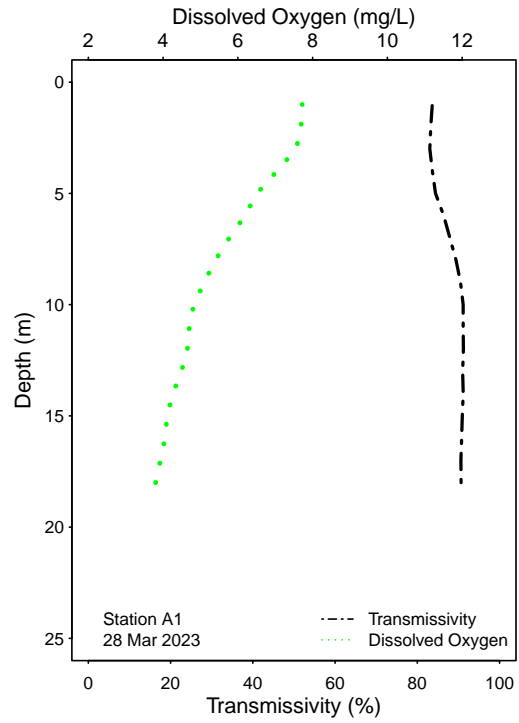
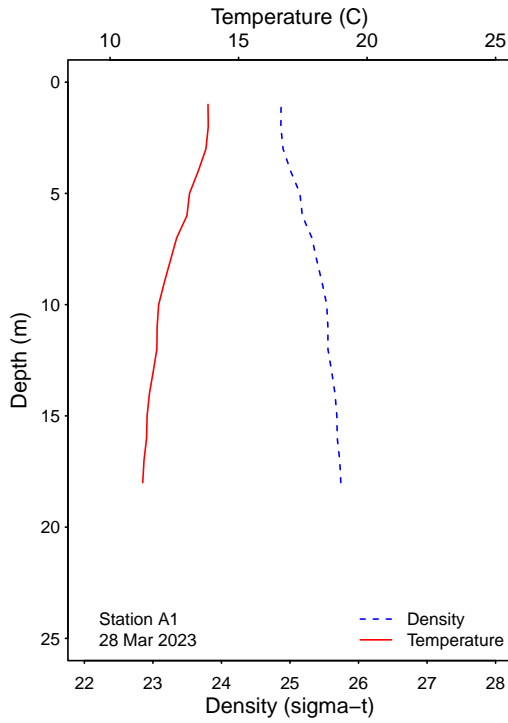


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

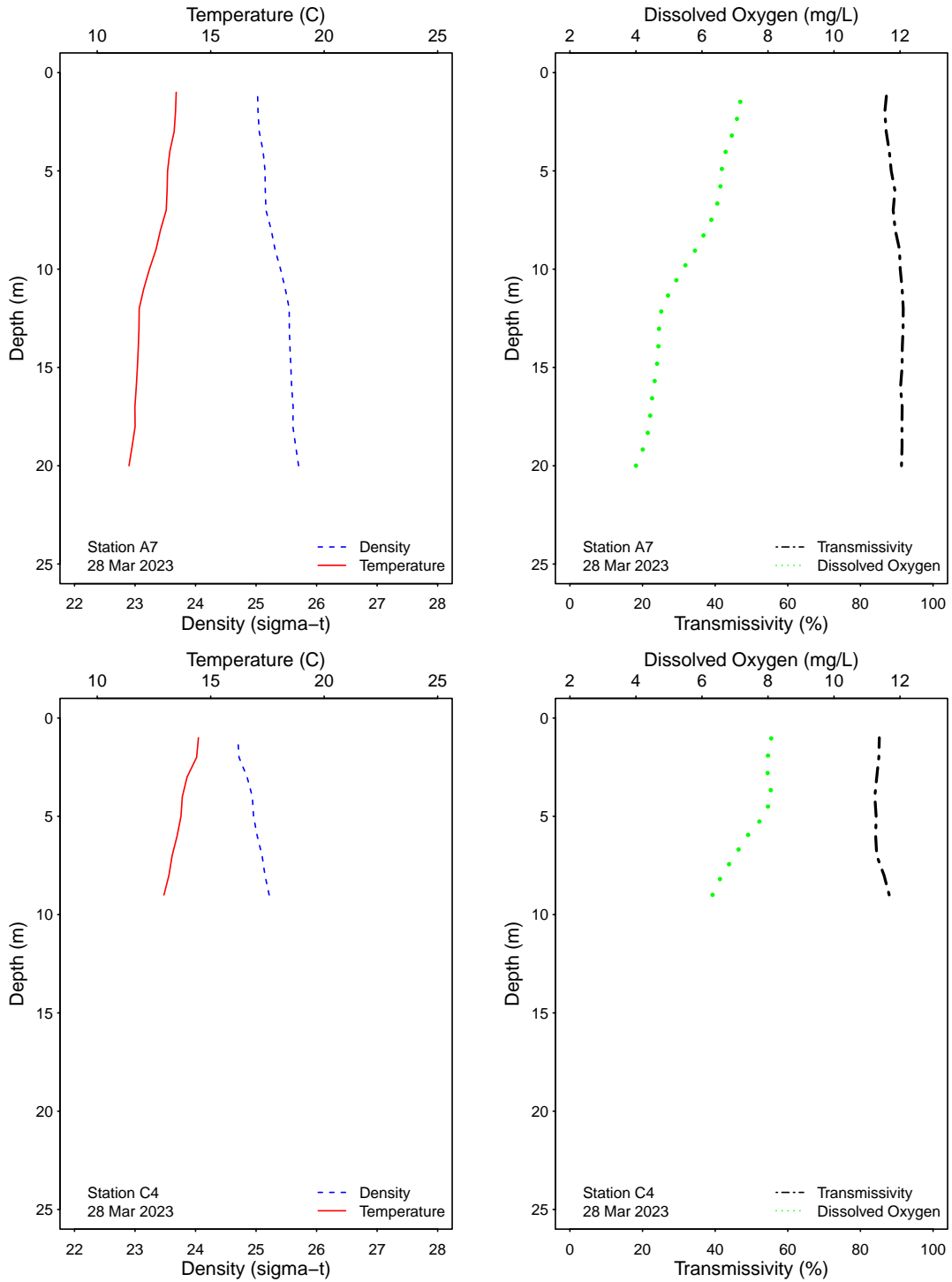


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

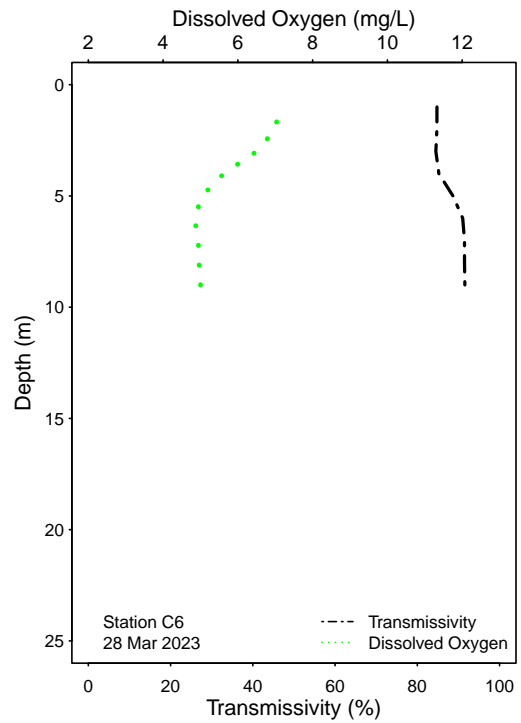
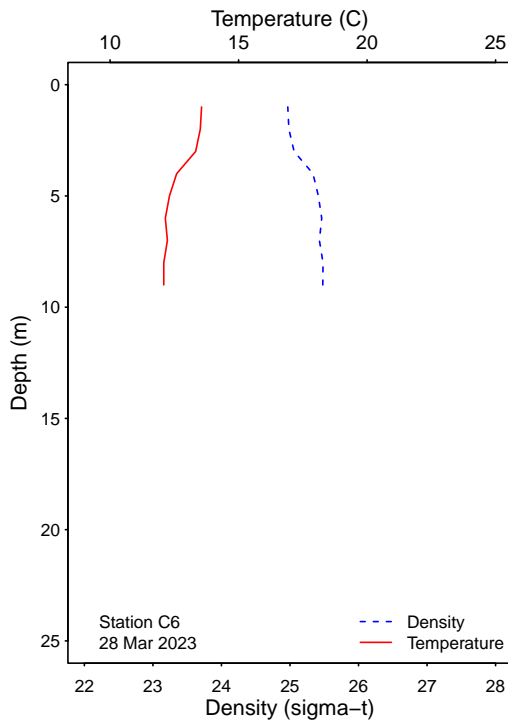
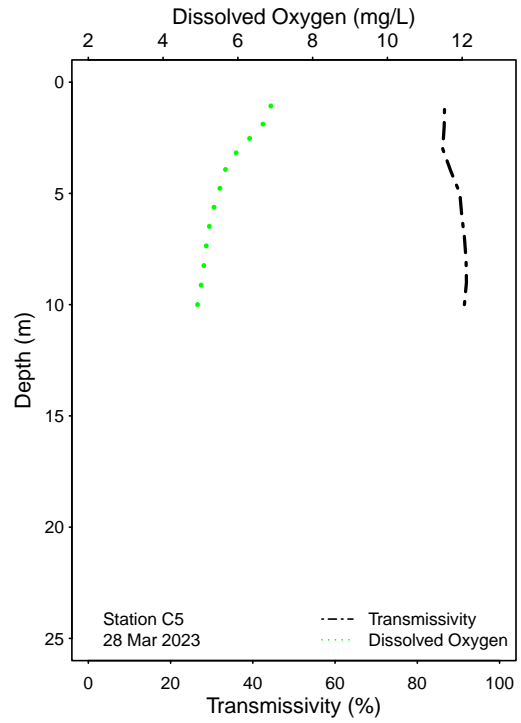
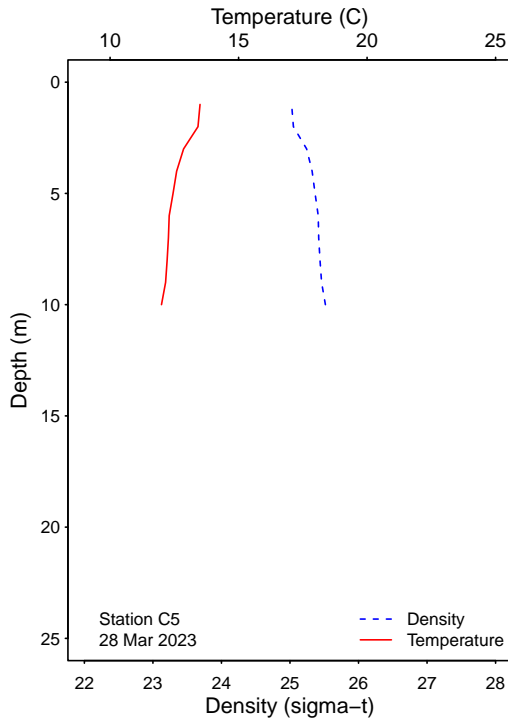


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

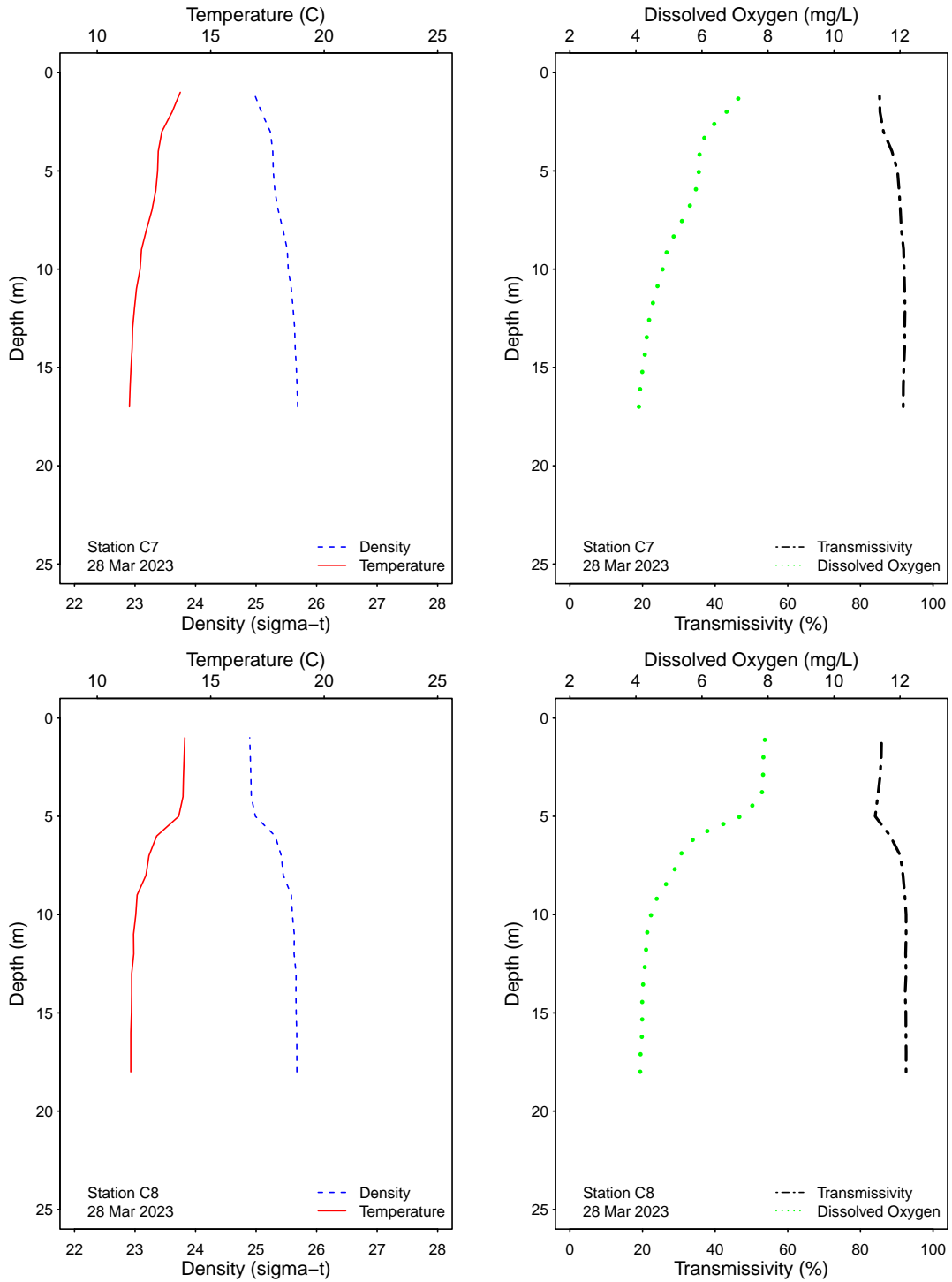


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

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* (Enteroc) are reported as CFU/100 mL.

Station	Date	Depth	Analyst	Procedure	Total	Fecal	Enteroc
A7	07 Mar 2023	18	CRE	LAB DUPLICATE	110	10e	6e
A7	14 Mar 2023	18	KA	LAB DUPLICATE	220e	30e	6e
A7	24 Mar 2023	18	JF	LAB DUPLICATE	100e	20e	<2
A7	28 Mar 2023	18	JF	LAB DUPLICATE	64	8e	2e
C7	07 Mar 2023	18	CRE	LAB DUPLICATE	18e	2e	2e
C7	14 Mar 2023	18	KA	LAB DUPLICATE	240e	18e	4e
C7	24 Mar 2023	18	JF	LAB DUPLICATE	50	10e	2e
C7	28 Mar 2023	18	JF	LAB DUPLICATE	32e	<2	<2
C8	07 Mar 2023	12	CRE	LAB DUPLICATE	4e	2e	<2
C8	14 Mar 2023	12	KA	LAB DUPLICATE	50	10e	4e
C8	24 Mar 2023	12	JF	LAB DUPLICATE	10e	<2	<2
C8	28 Mar 2023	12	JF	LAB DUPLICATE	<2	<2	<2
D12	01 Mar 2023		JF	FIELD DUPLICATE	6e	<2	2e
D12	01 Mar 2023		JF	LAB DUPLICATE	8e	6e	<2
D12	08 Mar 2023		KT	FIELD DUPLICATE	4e	2e	<2
D12	08 Mar 2023		KT	LAB DUPLICATE	2e	4e	<2
D12	15 Mar 2023		KA	FIELD DUPLICATE	<20	<2	4e
D12	15 Mar 2023		KA	LAB DUPLICATE	<20	<2	6e
D12	22 Mar 2023		KT	FIELD DUPLICATE	4400	60e	880
D12	22 Mar 2023		KT	LAB DUPLICATE	2400e	<200	1100
D12	29 Mar 2023		CRE	FIELD DUPLICATE	<20	<2	2e
D12	29 Mar 2023		CRE	LAB DUPLICATE	2e	2e	2e
F01	02 Mar 2023	12	KT	LAB DUPLICATE	ns	ns	<2
F02	02 Mar 2023	12	KT	LAB DUPLICATE	ns	ns	<2
F07	02 Mar 2023	60	KT	LAB DUPLICATE	ns	ns	16e
F08	02 Mar 2023	60	KT	LAB DUPLICATE	ns	ns	38e
F11	02 Mar 2023	60	KT	LAB DUPLICATE	ns	ns	6e
F17	03 Mar 2023	80	CRE	LAB DUPLICATE	ns	ns	62
F18	03 Mar 2023	60	CRE	LAB DUPLICATE	ns	ns	58
F19	03 Mar 2023	60	CRE	LAB DUPLICATE	ns	ns	54
F20	03 Mar 2023	60	CRE	LAB DUPLICATE	ns	ns	44
F21	03 Mar 2023	80	CRE	LAB DUPLICATE	ns	ns	6e

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 Mar 2023	2	7	6	7	7	11	10	3
02 Mar 2023	2	7	6	7	7	11	9	3
03 Mar 2023	2	7	6	7	7	11	9	3
04 Mar 2023	2	7	6	7	7	11	9	3
05 Mar 2023	2	7	6	7	7	11	9	3
06 Mar 2023	2	7	6	7	7	11	9	3
07 Mar 2023	2	7	6	7	7	11	9	3
08 Mar 2023	2	7	5	7	7	7	7	3
09 Mar 2023	2	7	5	7	7	7	7	3
10 Mar 2023	2	7	5	7	7	7	7	3
11 Mar 2023	2	7	5	7	7	7	7	3
12 Mar 2023	2	7	5	7	7	7	7	3
13 Mar 2023	2	7	5	7	7	7	7	3
14 Mar 2023	2	7	5	7	7	7	7	3
15 Mar 2023	2	5	10	17	15	23	17	2
16 Mar 2023	2	5	8	12	16	35	36	2
17 Mar 2023	2	5	8	12	16	27	29	2
18 Mar 2023	2	5	8	12	16	27	29	2
19 Mar 2023	2	5	8	12	16	27	29	2
20 Mar 2023	2	5	8	12	16	27	29	2
21 Mar 2023	2	5	8	12	16	27	29	2
22 Mar 2023	3	7	11	16	17	43	73	7
23 Mar 2023	3	7	11	16	17	43	73	7
24 Mar 2023	3	7	11	16	17	44	85	7
25 Mar 2023	3	7	11	16	17	44	85	7
26 Mar 2023	3	7	11	16	17	44	78	7
27 Mar 2023	3	7	11	16	17	44	78	7
28 Mar 2023	3	7	11	16	17	44	78	7
29 Mar 2023	3	7	10	12	11	34	79	6
30 Mar 2023	3	7	10	12	11	34	79	6
31 Mar 2023	3	7	10	12	11	34	79	6

* 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
March	IC	IC	E	E	E	E	E	E

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 Mar 2023	20	20	20	40	26	40	40	20
02 Mar 2023	20	20	20	40	26	40	40	20
03 Mar 2023	23	20	20	60	30	100	50	30
04 Mar 2023	23	20	20	60	30	100	50	30
05 Mar 2023	23	20	20	60	30	100	50	30
06 Mar 2023	23	20	20	60	30	100	50	30
07 Mar 2023	23	20	20	60	30	100	50	30
08 Mar 2023	20	20	20	40	20	40	40	20
09 Mar 2023	20	20	20	40	20	40	40	20
10 Mar 2023	23	20	20	60	20	100	50	20
11 Mar 2023	23	20	20	60	20	100	50	20
12 Mar 2023	23	20	20	60	20	100	50	20
13 Mar 2023	23	20	20	60	20	100	50	20
14 Mar 2023	23	20	20	60	20	100	50	20
15 Mar 2023	20	20	20	80	20	80	60	20
16 Mar 2023	20	20	20	80	20	80	250	20
17 Mar 2023	23	20	30	290	20	60	130	20
18 Mar 2023	23	20	30	290	20	60	130	20
19 Mar 2023	23	20	30	290	20	60	130	20
20 Mar 2023	23	20	30	290	20	60	130	20
21 Mar 2023	23	20	30	290	20	60	130	20
22 Mar 2023	26	20	40	80	20	80	200	20
23 Mar 2023	26	20	40	80	20	80	200	20
24 Mar 2023	26	20	70	290	60	140	650	20
25 Mar 2023	26	20	70	290	60	140	650	20
26 Mar 2023	26	20	70	290	60	140	650	20
27 Mar 2023	26	20	70	290	60	140	650	20
28 Mar 2023	26	20	70	290	60	140	650	20
29 Mar 2023	20	20	40	80	20	80	200	20
30 Mar 2023	20	20	40	80	20	80	200	20
31 Mar 2023	11	11	60	50	60	60	650	20

* 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
March	IC	IC	E	E	E	E	E	E

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 Mar 2023	2	2	2	2	2	2	2	2
02 Mar 2023	2	2	2	2	2	2	2	2
03 Mar 2023	2	2	2	2	2	2	2	2
04 Mar 2023	2	2	2	2	2	2	2	2
05 Mar 2023	2	2	2	2	2	2	2	2
06 Mar 2023	2	2	2	2	2	2	2	2
07 Mar 2023	3	2	2	2	2	2	2	2
08 Mar 2023	3	2	2	2	2	2	2	2
09 Mar 2023	3	2	2	2	2	2	2	2
10 Mar 2023	3	2	2	2	2	2	2	2
11 Mar 2023	3	2	2	2	2	2	2	2
12 Mar 2023	3	2	2	2	2	2	2	2
13 Mar 2023	3	2	2	2	2	2	2	2
14 Mar 2023	3	2	2	2	2	2	2	2
15 Mar 2023	3	2	2	2	2	2	2	2
16 Mar 2023	3	2	2	2	2	2	2	2
17 Mar 2023	3	2	2	2	2	2	2	2
18 Mar 2023	3	2	2	2	2	2	2	2
19 Mar 2023	3	2	2	2	2	2	2	2
20 Mar 2023	3	2	2	2	2	2	2	2
21 Mar 2023	3	2	2	2	2	2	2	2
22 Mar 2023	3	2	2	2	2	2	2	2
23 Mar 2023	3	2	2	2	2	2	2	2
24 Mar 2023	3	3	2	2	2	2	2	2
25 Mar 2023	3	3	2	2	2	2	2	2
26 Mar 2023	3	3	2	2	2	2	2	2
27 Mar 2023	3	3	3	2	2	2	2	2
28 Mar 2023	3	3	2	2	2	2	2	2
29 Mar 2023	3	3	2	2	2	2	2	2
30 Mar 2023	3	3	2	2	2	2	2	2
31 Mar 2023	3	3	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
March	IC	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table B.7

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

Date	A1			A6			A7			C4			C5			C6			C7			C8		
	1m	12m	18m	1m	12m	18m	1m	12m	18m	1m	3m	9m	1m	3m	9m	1m	3m	9m	1m	12m	18m	1m	12m	18m
01 Mar 2023	6	2	20	2	6	6	2	2	4	2	2	2	2	2	2	2	2	2	2	2	4	2	6	8
02 Mar 2023	4	3	24	2	6	15	2	3	20	2	2	2	2	3	2	2	2	2	2	2	5	2	25	24
03 Mar 2023	4	3	24	2	6	15	2	3	20	2	2	2	2	3	2	2	2	2	2	2	5	2	25	24
04 Mar 2023	4	3	24	2	6	15	2	3	20	2	2	2	2	3	2	2	2	2	2	2	5	2	25	24
05 Mar 2023	4	3	24	2	6	15	2	3	20	2	2	2	2	3	2	2	2	2	2	2	5	2	25	24
06 Mar 2023	4	3	24	2	6	15	2	3	20	2	2	2	2	3	2	2	2	2	2	2	5	2	25	24
07 Mar 2023	2	4	28	2	6	26	2	4	36	2	2	2	2	2	2	2	2	2	2	4	4	2	2	42
08 Mar 2023	2	4	28	2	6	26	2	4	36	2	2	2	2	2	2	2	2	2	2	4	4	2	2	42
09 Mar 2023	2	4	28	2	6	26	2	4	36	2	2	2	2	2	2	2	2	2	2	4	4	2	2	42
10 Mar 2023	2	4	28	2	6	26	2	4	36	2	2	2	2	2	2	2	2	2	2	4	4	2	2	42
11 Mar 2023	2	4	28	2	6	26	2	4	36	2	2	2	2	2	2	2	2	2	2	4	4	2	2	42
12 Mar 2023	2	12	29	2	9	15	2	7	57	2	4	7	2	3	3	2	2	2	2	5	5	3	2	22
13 Mar 2023	2	12	29	2	9	15	2	7	57	2	4	7	2	3	3	2	2	2	2	5	5	3	2	22
14 Mar 2023	2	22	38	2	12	26	2	10	110	2	2	12	2	4	4	2	2	2	2	6	6	4	2	42
15 Mar 2023	2	47	139	2	21	34	2	20	175	2	4	12	2	3	6	2	2	2	2	8	8	5	29	48
16 Mar 2023	2	47	139	2	21	34	2	20	175	2	4	12	2	3	6	2	2	2	2	8	8	5	29	48
17 Mar 2023	2	47	139	2	21	34	2	20	175	2	4	12	2	3	6	2	2	2	2	8	8	5	29	48
18 Mar 2023	2	47	139	2	21	34	2	20	175	2	4	12	2	3	6	2	2	2	2	8	8	5	29	48
19 Mar 2023	2	47	139	2	21	34	2	20	175	2	4	12	2	3	6	2	2	2	2	8	8	5	29	48
20 Mar 2023	2	47	139	2	21	34	2	20	175	2	4	12	2	3	6	2	2	2	2	8	8	5	29	48
21 Mar 2023	2	47	139	2	21	34	2	20	175	2	4	12	2	3	6	2	2	2	2	8	8	5	29	48
22 Mar 2023	2	47	139	2	21	34	2	20	175	2	4	12	2	3	6	2	2	2	2	8	8	5	29	48
23 Mar 2023	2*	72*	240*	2*	12*	42*	2*	30*	240*	2*	6*	12*	2*	4*	8*	2*	2*	2*	2*	10*	38*	4*	2*	42*
24 Mar 2023	14	76	220	2	21	61	3	37	220	4	4	12	2	4	6	4	2	11	4	14	59	5	6	31
25 Mar 2023	14	76	220	2	21	61	3	37	220	4	4	12	2	4	6	4	2	11	4	14	59	5	6	31
26 Mar 2023	14	76	220	2	21	61	3	37	220	4	4	12	2	4	6	4	2	11	4	14	59	5	6	31
27 Mar 2023	14	76	220	2	21	61	3	37	220	4	4	12	2	4	6	4	2	11	4	14	59	5	6	31
28 Mar 2023	2	76	240	2	12	42	2	30	200	2	2	12	2	4	4	2	2	2	2	10	38	4	4	20
29 Mar 2023	2	78	260	2	21	61	2	37	155	2	2	7	2	3	6	4	2	11	4	11	59	5	7	31
30 Mar 2023	2	78	260	2	21	61	2	37	155	2	2	7	2	3	6	4	2	11	4	11	59	5	7	31
31 Mar 2023	2	78	260	2	21	61	2	37	155	2	2	7	2	3	6	4	2	11	4	11	59	5	7	31

Table B.8

Summary of compliance at the PLOO kelp stations with the Ocean Plan's Statistical Threshold Value for total coliform bacteria, which states that total coliform density shall not exceed 230 CFU/100 mL in more than 10 IC = In Compliance E = Exceedance ns = not sampled ND = no data

Date	A1		A6		A7		C4		C5		C6		C7		C8		
	1m	18m	1m	18m	1m	18m	1m	3m	9m	1m	3m	9m	1m	12m	18m	1m	18m
March	IC	E	IC	IC	IC	E	IC	IC	IC	IC	IC	IC	IC	IC	IC	IC	IC

E = Exceedance

ns = not sampled

ND = no data