



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 2021

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





Public Utilities Department

Environmental Monitoring & Technical Services Division

April 30, 2021

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

Attention: POTW Compliance Unit

Dear Mr. Gibson:

Enclosed is the March 2021 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, chromomorphic 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 2021 Quality Assurance Report, which will be completed in March 2022.

SUMMARY OF RESULTS

As of October 2020, new 2019 Ocean Plan Water Quality Objectives are included for a six-week rolling geometric mean of *Enterococcus* density, which shall not exceed 30 cfu/100 ml, and a Statistical Threshold Value (STV) for *Enterococcus*, which shall not exceed 110 cfu/100 ml for more than 10% of samples per month (see Appendix B).

Shore Stations

- The eight shore stations (D4, D5, D7, D8-B, D9, D10, D11, D12) were sampled on March 3, 10, 17, and 24.
- During March, each of the shore stations was in compliance with the various 2015 California Ocean Plan (Ocean Plan) water contact standards.
- Notable observations included a sewage-like odor at station D5 on one or more days during 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>).

Kelp Bed Stations

- The eight kelp bed water quality stations (A1, A6, A7, C4, C5, C6, C7, C8) were sampled on March 2, 8, 18, and 24.
- During March, one of the eight kelp stations was out of compliance with 2015 Ocean Plan water contact standards on one or more days as follows:

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

- The single sample maximum (SSM) standards for fecal coliform and *Enterococcus* were exceeded at station C7.
 - The SSM standard that states total coliform densities shall not exceed 1000 CFU/100 mL when the fecal:total ratio exceeds 0.1 was exceeded at station C7.
- Water column temperatures ranged from 10.52 to 15.05°C. The difference between surface and bottom waters ranged from 0.13 to 3.74°C.
- Chlorophyll *a* concentrations ranged from 0.35 to 9.63 µg/L.
- Nothing of sewage origin was observed at any of the shore stations.

Offshore Stations

- Quarterly water quality sampling was not conducted during March at the offshore stations. The next quarterly sampling is scheduled for May 2021.



TABLES AND FIGURES

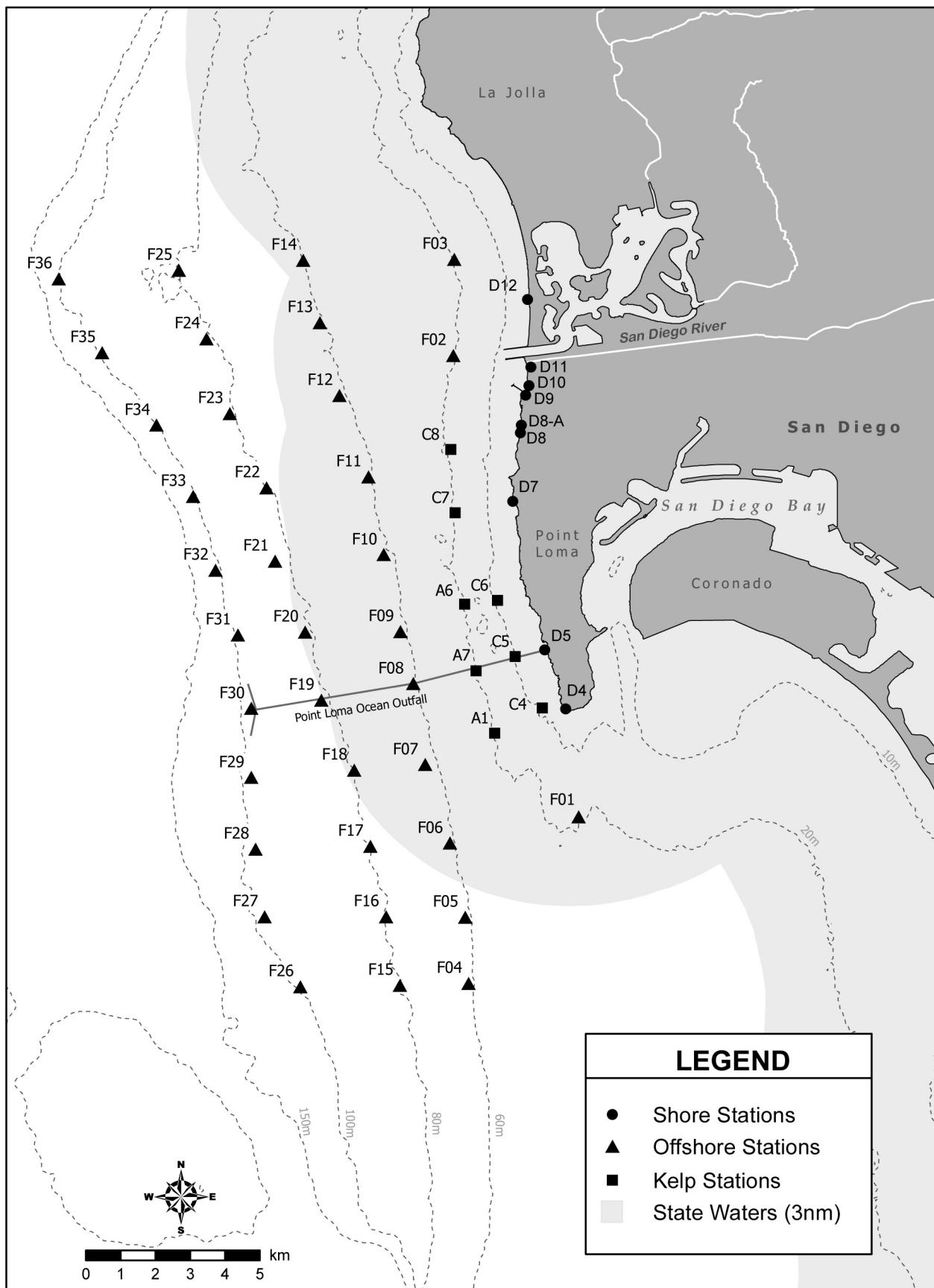


Figure 1.1 Station Map

Shore Stations

Table 2.1

Summary of compliance with the Ocean Plan's 30-day Geometric Mean standard for 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-A	D8-B	D9	D10	D11	D12
01 Mar 2021	11	4	11	9*	63*	28	36	36	20
02 Mar 2021	11	4	11	9*	63*	28	36	36	20
03 Mar 2021	8	5	8	9*	43*	19	32	32	20
04 Mar 2021	8	5	8	9*	43*	19	32	32	20
05 Mar 2021	11	6	11	20*	43*	28	36	36	20
06 Mar 2021	11	6	11	20*	43*	28	36	36	20
07 Mar 2021	11	6	11	20*	43*	28	36	36	20
08 Mar 2021	11	6	11	20*	43*	28	36	36	20
09 Mar 2021	11	6	11	20*	43*	28	36	36	20
10 Mar 2021	14	8	13	20*	42	23	29	32	13
11 Mar 2021	14	8	13	20*	42	23	29	32	13
12 Mar 2021	7	6	6	ns	42	20	31	36	12
13 Mar 2021	7	6	6	ns	42	20	31	36	12
14 Mar 2021	7	6	6	ns	42	20	31	36	12
15 Mar 2021	7	6	6	ns	42	20	31	36	12
16 Mar 2021	7	6	6	ns	42	20	31	36	12
17 Mar 2021	9	8	5	ns	36	20	29	32	13
18 Mar 2021	9	8	5	ns	36	20	29	32	13
19 Mar 2021	7	11	6	ns	42	11	31	20	6
20 Mar 2021	7	11	6	ns	42	11	31	20	6
21 Mar 2021	7	11	6	ns	42	11	31	20	6
22 Mar 2021	7	11	6	ns	42	11	31	20	6
23 Mar 2021	7	11	6	ns	42	11	31	20	6
24 Mar 2021	6	13	9	ns	36	13	29	20	8
25 Mar 2021	6	13	9	ns	36	13	29	20	8
26 Mar 2021	7	20	8	ns	24	11	18	20	11
27 Mar 2021	7	20	8	ns	24	11	18	20	11
28 Mar 2021	7	20	8	ns	24	11	18	20	11
29 Mar 2021	7	20	8	ns	24	11	18	20	11
30 Mar 2021	7	20	8	ns	24	11	18	20	11
31 Mar 2021	7	20	8	ns	24	11	18	20	11

* 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-A	D8-B	D9	D10	D11	D12
01 Mar 2021	4	2	4	3*	9*	3	6	5	3
02 Mar 2021	4	2	4	3*	9*	3	6	5	3
03 Mar 2021	4	3	4	3*	5*	3	6	4	3
04 Mar 2021	4	3	4	3*	5*	3	6	4	3
05 Mar 2021	4	4	4	4*	5*	3	4	5	2
06 Mar 2021	4	4	4	4*	5*	3	4	5	2
07 Mar 2021	4	4	4	4*	5*	3	4	5	2
08 Mar 2021	4	4	4	4*	5*	3	4	5	2
09 Mar 2021	4	4	4	4*	5*	3	4	5	2
10 Mar 2021	6	3	4	4*	7	3	4	6	3
11 Mar 2021	6	3	4	4*	7	3	4	6	3
12 Mar 2021	4	4	2	ns	7	3	4	8	3
13 Mar 2021	4	4	2	ns	7	3	4	8	3
14 Mar 2021	4	4	2	ns	7	3	4	8	3
15 Mar 2021	4	4	2	ns	7	3	4	8	3
16 Mar 2021	4	4	2	ns	7	3	4	8	3
17 Mar 2021	3	3	2	ns	5	3	3	7	3
18 Mar 2021	3	3	2	ns	5	3	3	7	3
19 Mar 2021	4	4	2	ns	7	3	3	8	2
20 Mar 2021	4	4	2	ns	7	3	3	8	2
21 Mar 2021	4	4	2	ns	7	3	3	8	2
22 Mar 2021	4	4	2	ns	7	3	3	8	2
23 Mar 2021	4	4	2	ns	7	3	3	8	2
24 Mar 2021	3	3	3	ns	5	3	3	6	2
25 Mar 2021	3	3	3	ns	5	3	3	6	2
26 Mar 2021	4	4	3	ns	3	2	3	5	2
27 Mar 2021	4	4	3	ns	3	2	3	5	2
28 Mar 2021	4	4	3	ns	3	2	3	5	2
29 Mar 2021	4	4	3	ns	3	2	3	5	2
30 Mar 2021	4	4	3	ns	3	2	3	5	2
31 Mar 2021	4	4	3	ns	3	2	3	5	2

* 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-A	D8-B	D9	D10	D11	D12
01 Mar 2021	3	2	3	4*	23*	4	8	4	2
02 Mar 2021	3	2	3	4*	23*	4	8	4	2
03 Mar 2021	3	2	2	4*	12	3	6	4	2
04 Mar 2021	3	2	2	4*	12	3	6	4	2
05 Mar 2021	3	2	3	10*	12	4	4	5	2
06 Mar 2021	3	2	3	10*	12	4	4	5	2
07 Mar 2021	3	2	3	10*	12	4	4	5	2
08 Mar 2021	3	2	3	10*	12	4	4	5	2
09 Mar 2021	3	2	3	10*	12	4	4	5	2
10 Mar 2021	3	2	2	10*	10	3	4	5	2
11 Mar 2021	3	2	2	10*	10	3	4	5	2
12 Mar 2021	2	2	2	ns	10	4	3	7	2
13 Mar 2021	2	2	2	ns	10	4	3	7	2
14 Mar 2021	2	2	2	ns	10	4	3	7	2
15 Mar 2021	2	2	2	ns	10	4	3	7	2
16 Mar 2021	2	2	2	ns	10	4	3	7	2
17 Mar 2021	2	2	2	ns	8	3	3	5	2
18 Mar 2021	2	2	2	ns	8	3	3	5	2
19 Mar 2021	2	2	2	ns	10	4	2	7	3
20 Mar 2021	2	2	2	ns	10	4	2	7	3
21 Mar 2021	2	2	2	ns	10	4	2	7	3
22 Mar 2021	2	2	2	ns	10	4	2	7	3
23 Mar 2021	2	2	2	ns	10	4	2	7	3
24 Mar 2021	2	2	3	ns	8	3	2	5	2
25 Mar 2021	2	2	3	ns	8	3	2	5	2
26 Mar 2021	2	2	4	ns	4	2	2	3	3
27 Mar 2021	2	2	4	ns	2	2	2	3	3
28 Mar 2021	2	2	4	ns	2	2	2	3	3
29 Mar 2021	2	2	4	ns	2	2	2	3	3
30 Mar 2021	2	2	4	ns	2	2	2	3	3
31 Mar 2021	2	2	4	ns	2	2	2	3	3

* 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
03 Mar 2021	IC	IC	IC	IC	IC	IC	IC	IC
10 Mar 2021	IC	IC	IC	IC	IC	IC	IC	IC
17 Mar 2021	IC	IC	IC	IC	IC	IC	IC	IC
24 Mar 2021	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
03 Mar 2021	IC	IC	IC	IC	IC	IC	IC	IC
10 Mar 2021	IC	IC	IC	IC	IC	IC	IC	IC
17 Mar 2021	IC	IC	IC	IC	IC	IC	IC	IC
24 Mar 2021	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
03 Mar 2021	IC	IC	IC	IC	IC	IC	IC	IC
10 Mar 2021	IC	IC	IC	IC	IC	IC	IC	IC
17 Mar 2021	IC	IC	IC	IC	IC	IC	IC	IC
24 Mar 2021	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
03 Mar 2021	IC	IC	IC	IC	IC	IC	IC	IC
10 Mar 2021	IC	IC	IC	IC	IC	IC	IC	IC
17 Mar 2021	IC	IC	IC	IC	IC	IC	IC	IC
24 Mar 2021	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* (Enter) 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	Enter	F:T
D4	03 Mar 2021	737	<2	<2	<2	1.0
	10 Mar 2021	758	34e	30e	<2	0.9
	17 Mar 2021	735	<20	<2	<2	0.1
	24 Mar 2021	812	2e	<2	<2	1.0
D5	03 Mar 2021	725	<20	<20	<2	1.0
	10 Mar 2021	745	<20	<2	<2	0.1
	17 Mar 2021	804	<20	<2	<2	0.1
	24 Mar 2021	800	20e	2e	<2	0.1
D7	03 Mar 2021	807	2e	<2	<2	1.0
	10 Mar 2021	817	<20	2e	<2	0.1
	17 Mar 2021	830	2e	<2	<2	1.0
	24 Mar 2021	836	40e	10e	26e	0.2
D8-B	03 Mar 2021	820	<20	2e	<2	0.1
	10 Mar 2021	835	40e	12e	4e	0.3
	17 Mar 2021	850	<20	<2	<2	0.1
	24 Mar 2021	924	<20	<2	<2	0.1
D9	03 Mar 2021	830	4e	<2	<2	0.5
	10 Mar 2021	845	10e	<2	2e	0.2
	17 Mar 2021	930	<20	2e	<2	0.1
	24 Mar 2021	936	<20	2e	<2	0.1
D10	03 Mar 2021	845	<20	6e	2e	0.3
	10 Mar 2021	855	12e	4e	2e	0.3
	17 Mar 2021	949	<20	2e	<2	0.1
	24 Mar 2021	950	<20	<2	<2	0.1
D11	03 Mar 2021	858	<20	4e	6e	0.2
	10 Mar 2021	905	<20	<20	6e	1.0
	17 Mar 2021	1002	<20	4e	<2	0.2
	24 Mar 2021	1000	<20	<2	2e	0.1
D12	03 Mar 2021	945	<20	<2	<2	0.1
	10 Mar 2021	1000	2e	4e	2e	2.0
	17 Mar 2021	1030	<20	<2	6e	0.1
	24 Mar 2021	1032	20e	<2	<2	0.1

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	03 Mar 2021	Arrive Time	737
D4	03 Mar 2021	Weather	Sunny
D4	03 Mar 2021	Wind Speed (kts)	12.4
D4	03 Mar 2021	Wind Dir	S
D4	03 Mar 2021	Animal Life	3 Seagulls
D4	03 Mar 2021	Floatables	None
D4	03 Mar 2021	Water Color	Blue
D4	03 Mar 2021	Current Direction	N
D4	03 Mar 2021	Water Temp (C)	13.3
D4	03 Mar 2021	Wave Height Low (ft)	1
D4	03 Mar 2021	High Tide (ft)	3.73
D4	03 Mar 2021	High Tide Time	1150
D4	03 Mar 2021	Low Tide (ft)	0.42
D4	03 Mar 2021	Low Tide Time	600
D4	03 Mar 2021	Comments	Water Clear; Algae
D4	10 Mar 2021	Arrive Time	758
D4	10 Mar 2021	Weather	Partly cloudy
D4	10 Mar 2021	Wind Speed (kts)	1.3
D4	10 Mar 2021	Wind Dir	SW
D4	10 Mar 2021	Animal Life	1 bird; 1 seagull
D4	10 Mar 2021	Floatables	Foam; Film
D4	10 Mar 2021	Water Color	Green
D4	10 Mar 2021	Current Direction	N
D4	10 Mar 2021	Water Temp (C)	15
D4	10 Mar 2021	Wave Height Low (ft)	3
D4	10 Mar 2021	High Tide (ft)	5.55
D4	10 Mar 2021	High Tide Time	656
D4	10 Mar 2021	Low Tide (ft)	-1.01
D4	10 Mar 2021	Low Tide Time	1356
D4	10 Mar 2021	Comments	water clear; kelp; trash 1; 1 boat; algae
D4	17 Mar 2021	Arrive Time	735
D4	17 Mar 2021	Weather	Sunny
D4	17 Mar 2021	Wind Speed (kts)	6
D4	17 Mar 2021	Wind Dir	E
D4	17 Mar 2021	Animal Life	4 Cormorants; 2 Seagulls
D4	17 Mar 2021	Floatables	Film
D4	17 Mar 2021	Water Color	Green
D4	17 Mar 2021	Current Direction	N
D4	17 Mar 2021	Water Temp (C)	11
D4	17 Mar 2021	Wave Height Low (ft)	2
D4	17 Mar 2021	High Tide (ft)	3.44
D4	17 Mar 2021	High Tide Time	1206
D4	17 Mar 2021	Low Tide (ft)	0.67
D4	17 Mar 2021	Low Tide Time	614
D4	17 Mar 2021	Comments	Algae; Water turbid
D4	24 Mar 2021	Arrive Time	812
D4	24 Mar 2021	Weather	Sunny
D4	24 Mar 2021	Wind Speed (kts)	3.4
D4	24 Mar 2021	Wind Dir	E
D4	24 Mar 2021	Animal Life	1 Pelican; 3 Seagulls
D4	24 Mar 2021	Floatables	None
D4	24 Mar 2021	Water Color	Green
D4	24 Mar 2021	Current Direction	S

Station	Date	Parameter	Value
D4	24 Mar 2021	Water Temp (C)	13.6
D4	24 Mar 2021	Wave Height Low (ft)	1
D4	24 Mar 2021	High Tide (ft)	4.78
D4	24 Mar 2021	High Tide Time	634
D4	24 Mar 2021	Low Tide (ft)	-0.45
D4	24 Mar 2021	Low Tide Time	1347
D4	24 Mar 2021	Comments	Water clear; Algae
D5	03 Mar 2021	Arrive Time	725
D5	03 Mar 2021	Weather	Sunny
D5	03 Mar 2021	Wind Speed (kts)	7.7
D5	03 Mar 2021	Wind Dir	Sunny
D5	03 Mar 2021	Animal Life	30 Cormorants; 2 Seagulls
D5	03 Mar 2021	Floatables	None
D5	03 Mar 2021	Water Color	Blue
D5	03 Mar 2021	Current Direction	N
D5	03 Mar 2021	Water Temp (C)	15
D5	03 Mar 2021	Wave Height Low (ft)	1
D5	03 Mar 2021	High Tide (ft)	3.73
D5	03 Mar 2021	High Tide Time	1150
D5	03 Mar 2021	Low Tide (ft)	0.42
D5	03 Mar 2021	Low Tide Time	600
D5	03 Mar 2021	Comments	Water Clear; Algae
D5	10 Mar 2021	Arrive Time	745
D5	10 Mar 2021	Weather	Partly cloudy
D5	10 Mar 2021	Wind Speed (kts)	1.7
D5	10 Mar 2021	Wind Dir	SW
D5	10 Mar 2021	Animal Life	1 seagull; 2 cormorants
D5	10 Mar 2021	Floatables	Foam; Film
D5	10 Mar 2021	Water Color	Green
D5	10 Mar 2021	Current Direction	N
D5	10 Mar 2021	Water Temp (C)	15.1
D5	10 Mar 2021	Wave Height Low (ft)	1
D5	10 Mar 2021	High Tide (ft)	5.55
D5	10 Mar 2021	High Tide Time	656
D5	10 Mar 2021	Low Tide (ft)	-1.01
D5	10 Mar 2021	Low Tide Time	1356
D5	10 Mar 2021	Comments	Water clear; Kelp; Trash 1
D5	17 Mar 2021	Arrive Time	804
D5	17 Mar 2021	Weather	Sunny
D5	17 Mar 2021	Wind Speed (kts)	2.5
D5	17 Mar 2021	Wind Dir	E
D5	17 Mar 2021	Animal Life	4 Seagulls; 1 Cormorant
D5	17 Mar 2021	Floatables	
D5	17 Mar 2021	Water Color	Green
D5	17 Mar 2021	Current Direction	
D5	17 Mar 2021	Water Temp (C)	12.9
D5	17 Mar 2021	Wave Height Low (ft)	3
D5	17 Mar 2021	High Tide (ft)	3.44
D5	17 Mar 2021	High Tide Time	1206
D5	17 Mar 2021	Low Tide (ft)	0.67
D5	17 Mar 2021	Low Tide Time	614
D5	17 Mar 2021	Comments	Algae; Water turbid; Sewage-like odor
D5	24 Mar 2021	Arrive Time	800
D5	24 Mar 2021	Weather	Sunny
D5	24 Mar 2021	Wind Speed (kts)	1.1
D5	24 Mar 2021	Wind Dir	W
D5	24 Mar 2021	Animal Life	8 Pelicans; 2 Seagulls; 3 Cormorants

Station	Date	Parameter	Value
D5	24 Mar 2021	Floatables	None; Sewage-like odor
D5	24 Mar 2021	Water Color	Green
D5	24 Mar 2021	Current Direction	S
D5	24 Mar 2021	Water Temp (C)	14.6
D5	24 Mar 2021	Wave Height Low (ft)	2
D5	24 Mar 2021	High Tide (ft)	4.78
D5	24 Mar 2021	High Tide Time	634
D5	24 Mar 2021	Low Tide (ft)	-0.45
D5	24 Mar 2021	Low Tide Time	1347
D5	24 Mar 2021	Comments	Kelp; Water turbid
D7	03 Mar 2021	Arrive Time	807
D7	03 Mar 2021	Weather	Sunny
D7	03 Mar 2021	Wind Speed (kts)	11
D7	03 Mar 2021	Wind Dir	S
D7	03 Mar 2021	Animal Life	None
D7	03 Mar 2021	Floatables	None
D7	03 Mar 2021	Water Color	Green
D7	03 Mar 2021	Current Direction	N
D7	03 Mar 2021	Water Temp (C)	15.2
D7	03 Mar 2021	Wave Height Low (ft)	2
D7	03 Mar 2021	High Tide (ft)	3.73
D7	03 Mar 2021	High Tide Time	1150
D7	03 Mar 2021	Low Tide (ft)	0.42
D7	03 Mar 2021	Low Tide Time	600
D7	03 Mar 2021	Comments	Water Clear; Algae; 6 Surfers
D7	10 Mar 2021	Arrive Time	817
D7	10 Mar 2021	Weather	Cloudy
D7	10 Mar 2021	Wind Speed (kts)	2.3
D7	10 Mar 2021	Wind Dir	SW
D7	10 Mar 2021	Animal Life	1 coromorant; 2 seagulls
D7	10 Mar 2021	Floatables	Foam; Film
D7	10 Mar 2021	Water Color	Green
D7	10 Mar 2021	Current Direction	N
D7	10 Mar 2021	Water Temp (C)	15.2
D7	10 Mar 2021	Wave Height Low (ft)	3
D7	10 Mar 2021	High Tide (ft)	5.55
D7	10 Mar 2021	High Tide Time	656
D7	10 Mar 2021	Low Tide (ft)	-1.01
D7	10 Mar 2021	Low Tide Time	1356
D7	10 Mar 2021	Comments	Water clear; Kelp; Algae; Seagrass; Trash 1
D7	17 Mar 2021	Arrive Time	830
D7	17 Mar 2021	Weather	Sunny
D7	17 Mar 2021	Wind Speed (kts)	5.2
D7	17 Mar 2021	Wind Dir	E
D7	17 Mar 2021	Animal Life	None
D7	17 Mar 2021	Floatables	None
D7	17 Mar 2021	Water Color	Green
D7	17 Mar 2021	Current Direction	N
D7	17 Mar 2021	Water Temp (C)	13.5
D7	17 Mar 2021	Wave Height Low (ft)	3
D7	17 Mar 2021	High Tide (ft)	3.44
D7	17 Mar 2021	High Tide Time	1206
D7	17 Mar 2021	Low Tide (ft)	0.67
D7	17 Mar 2021	Low Tide Time	614
D7	17 Mar 2021	Comments	Algae; Water clear; 8 Surfers
D7	24 Mar 2021	Arrive Time	836
D7	24 Mar 2021	Weather	Sunny

Station	Date	Parameter	Value
D7	24 Mar 2021	Wind Speed (kts)	4.4
D7	24 Mar 2021	Wind Dir	E
D7	24 Mar 2021	Animal Life	1 Tern; 1 seagull
D7	24 Mar 2021	Floatables	None
D7	24 Mar 2021	Water Color	Green
D7	24 Mar 2021	Current Direction	S
D7	24 Mar 2021	Water Temp (C)	13.8
D7	24 Mar 2021	Wave Height Low (ft)	2
D7	24 Mar 2021	High Tide (ft)	4.78
D7	24 Mar 2021	High Tide Time	634
D7	24 Mar 2021	Low Tide (ft)	-0.45
D7	24 Mar 2021	Low Tide Time	1347
D7	24 Mar 2021	Comments	Kelp; Algae; 3 Surfers; Water clear
D8-B	03 Mar 2021	Arrive Time	820
D8-B	03 Mar 2021	Weather	Partly Cloudy
D8-B	03 Mar 2021	Wind Speed (kts)	11.8
D8-B	03 Mar 2021	Wind Dir	S
D8-B	03 Mar 2021	Animal Life	None
D8-B	03 Mar 2021	Floatables	None
D8-B	03 Mar 2021	Water Color	Gray
D8-B	03 Mar 2021	Current Direction	N
D8-B	03 Mar 2021	Water Temp (C)	14.3
D8-B	03 Mar 2021	Wave Height Low (ft)	2
D8-B	03 Mar 2021	High Tide (ft)	3.73
D8-B	03 Mar 2021	High Tide Time	1150
D8-B	03 Mar 2021	Low Tide (ft)	0.42
D8-B	03 Mar 2021	Low Tide Time	600
D8-B	03 Mar 2021	Comments	Water Turbid; Algae
D8-B	10 Mar 2021	Arrive Time	835
D8-B	10 Mar 2021	Weather	Cloudy
D8-B	10 Mar 2021	Wind Speed (kts)	1.1
D8-B	10 Mar 2021	Wind Dir	SW
D8-B	10 Mar 2021	Animal Life	None
D8-B	10 Mar 2021	Floatables	Foam; Film
D8-B	10 Mar 2021	Water Color	Green
D8-B	10 Mar 2021	Current Direction	N
D8-B	10 Mar 2021	Water Temp (C)	15
D8-B	10 Mar 2021	Wave Height Low (ft)	3
D8-B	10 Mar 2021	High Tide (ft)	5.55
D8-B	10 Mar 2021	High Tide Time	656
D8-B	10 Mar 2021	Low Tide (ft)	-1.01
D8-B	10 Mar 2021	Low Tide Time	1356
D8-B	10 Mar 2021	Comments	Water clear; Kelp; Seagrass; Debris; Trash 1
D8-B	17 Mar 2021	Arrive Time	850
D8-B	17 Mar 2021	Weather	Sunny
D8-B	17 Mar 2021	Wind Speed (kts)	2.7
D8-B	17 Mar 2021	Wind Dir	N
D8-B	17 Mar 2021	Animal Life	1 Cormorant
D8-B	17 Mar 2021	Floatables	Foam; Film
D8-B	17 Mar 2021	Water Color	Brown
D8-B	17 Mar 2021	Current Direction	N
D8-B	17 Mar 2021	Water Temp (C)	13.1
D8-B	17 Mar 2021	Wave Height Low (ft)	2
D8-B	17 Mar 2021	High Tide (ft)	3.44
D8-B	17 Mar 2021	High Tide Time	1206
D8-B	17 Mar 2021	Low Tide (ft)	0.67
D8-B	17 Mar 2021	Low Tide Time	614
D8-B	17 Mar 2021	Comments	Algae; Water turbid; 4 Surfers

Station	Date	Parameter	Value
D8-B	24 Mar 2021	Arrive Time	924
D8-B	24 Mar 2021	Weather	Sunny
D8-B	24 Mar 2021	Wind Speed (kts)	2.1
D8-B	24 Mar 2021	Wind Dir	SW
D8-B	24 Mar 2021	Animal Life	None
D8-B	24 Mar 2021	Floatables	Foam
D8-B	24 Mar 2021	Water Color	Brown
D8-B	24 Mar 2021	Current Direction	S
D8-B	24 Mar 2021	Water Temp (C)	14.4
D8-B	24 Mar 2021	Wave Height Low (ft)	2
D8-B	24 Mar 2021	High Tide (ft)	4.78
D8-B	24 Mar 2021	High Tide Time	634
D8-B	24 Mar 2021	Low Tide (ft)	-0.45
D8-B	24 Mar 2021	Low Tide Time	1347
D8-B	24 Mar 2021	Comments	3 Surfers; 1 Person; Algae; Turbid water
D9	03 Mar 2021	Arrive Time	830
D9	03 Mar 2021	Weather	Cloudy
D9	03 Mar 2021	Wind Speed (kts)	11
D9	03 Mar 2021	Wind Dir	E
D9	03 Mar 2021	Animal Life	1 Seagull
D9	03 Mar 2021	Floatables	Foam
D9	03 Mar 2021	Water Color	Gray
D9	03 Mar 2021	Current Direction	N
D9	03 Mar 2021	Water Temp (C)	15
D9	03 Mar 2021	Wave Height Low (ft)	2
D9	03 Mar 2021	High Tide (ft)	3.73
D9	03 Mar 2021	High Tide Time	1150
D9	03 Mar 2021	Low Tide (ft)	0.42
D9	03 Mar 2021	Low Tide Time	600
D9	03 Mar 2021	Comments	Water Turbid; Algae
D9	10 Mar 2021	Arrive Time	845
D9	10 Mar 2021	Weather	Partly cloudy
D9	10 Mar 2021	Wind Speed (kts)	15.8
D9	10 Mar 2021	Wind Dir	W
D9	10 Mar 2021	Animal Life	None
D9	10 Mar 2021	Floatables	Foam
D9	10 Mar 2021	Water Color	Green
D9	10 Mar 2021	Current Direction	N
D9	10 Mar 2021	Water Temp (C)	15.1
D9	10 Mar 2021	Wave Height Low (ft)	4
D9	10 Mar 2021	High Tide (ft)	5.55
D9	10 Mar 2021	High Tide Time	656
D9	10 Mar 2021	Low Tide (ft)	-1.01
D9	10 Mar 2021	Low Tide Time	1356
D9	10 Mar 2021	Comments	Water clear; Kelp; Seagrass; Algae; Trash 1
D9	17 Mar 2021	Arrive Time	930
D9	17 Mar 2021	Weather	Sunny
D9	17 Mar 2021	Wind Speed (kts)	2.7
D9	17 Mar 2021	Wind Dir	E
D9	17 Mar 2021	Animal Life	1 Cormorant
D9	17 Mar 2021	Floatables	None
D9	17 Mar 2021	Water Color	Green
D9	17 Mar 2021	Current Direction	S
D9	17 Mar 2021	Water Temp (C)	14.6
D9	17 Mar 2021	Wave Height Low (ft)	3
D9	17 Mar 2021	High Tide (ft)	3.44
D9	17 Mar 2021	High Tide Time	1206

Station	Date	Parameter	Value
D9	17 Mar 2021	Low Tide (ft)	0.67
D9	17 Mar 2021	Low Tide Time	614
D9	17 Mar 2021	Comments	Algae; Water turbid
D9	24 Mar 2021	Arrive Time	936
D9	24 Mar 2021	Weather	Sunny
D9	24 Mar 2021	Wind Speed (kts)	0
D9	24 Mar 2021	Wind Dir	
D9	24 Mar 2021	Animal Life	3 Seagulls
D9	24 Mar 2021	Floatables	Foam
D9	24 Mar 2021	Water Color	Green
D9	24 Mar 2021	Current Direction	S
D9	24 Mar 2021	Water Temp (C)	14.4
D9	24 Mar 2021	Wave Height Low (ft)	3
D9	24 Mar 2021	High Tide (ft)	4.78
D9	24 Mar 2021	High Tide Time	634
D9	24 Mar 2021	Low Tide (ft)	-0.45
D9	24 Mar 2021	Low Tide Time	1347
D9	24 Mar 2021	Comments	Water turbid; Algae
D10	03 Mar 2021	Arrive Time	845
D10	03 Mar 2021	Weather	Cloudy
D10	03 Mar 2021	Wind Speed (kts)	7.3
D10	03 Mar 2021	Wind Dir	SE
D10	03 Mar 2021	Animal Life	24 Seagulls
D10	03 Mar 2021	Floatables	Foam
D10	03 Mar 2021	Water Color	Green
D10	03 Mar 2021	Current Direction	N
D10	03 Mar 2021	Water Temp (C)	15.4
D10	03 Mar 2021	Wave Height Low (ft)	3
D10	03 Mar 2021	High Tide (ft)	3.73
D10	03 Mar 2021	High Tide Time	1150
D10	03 Mar 2021	Low Tide (ft)	0.42
D10	03 Mar 2021	Low Tide Time	600
D10	03 Mar 2021	Comments	Water Clear; Kelp; Seagrass; 6 People; 11 Surfers
D10	10 Mar 2021	Arrive Time	855
D10	10 Mar 2021	Weather	Partly cloudy
D10	10 Mar 2021	Wind Speed (kts)	10.1
D10	10 Mar 2021	Wind Dir	W
D10	10 Mar 2021	Animal Life	4 grebes; 10 seagulls; 1 godwit
D10	10 Mar 2021	Floatables	Foam; Film
D10	10 Mar 2021	Water Color	Green
D10	10 Mar 2021	Current Direction	N
D10	10 Mar 2021	Water Temp (C)	14.9
D10	10 Mar 2021	Wave Height Low (ft)	5
D10	10 Mar 2021	High Tide (ft)	5.55
D10	10 Mar 2021	High Tide Time	656
D10	10 Mar 2021	Low Tide (ft)	-1.01
D10	10 Mar 2021	Low Tide Time	1356
D10	10 Mar 2021	Comments	Water clear; 2 persons; Kelp; Seagrass; Trash 1
D10	17 Mar 2021	Arrive Time	949
D10	17 Mar 2021	Weather	Sunny
D10	17 Mar 2021	Wind Speed (kts)	2.1
D10	17 Mar 2021	Wind Dir	W
D10	17 Mar 2021	Animal Life	5 Seagulls
D10	17 Mar 2021	Floatables	Foam; Film
D10	17 Mar 2021	Water Color	Green
D10	17 Mar 2021	Current Direction	S
D10	17 Mar 2021	Water Temp (C)	15.3

Station	Date	Parameter	Value
D10	17 Mar 2021	Wave Height Low (ft)	3
D10	17 Mar 2021	High Tide (ft)	3.44
D10	17 Mar 2021	High Tide Time	1206
D10	17 Mar 2021	Low Tide (ft)	0.67
D10	17 Mar 2021	Low Tide Time	614
D10	17 Mar 2021	Comments	Kelp; Seagrass; Water turbid; 15 Surfers; 14 People
D10	24 Mar 2021	Arrive Time	950
D10	24 Mar 2021	Weather	Sunny
D10	24 Mar 2021	Wind Speed (kts)	0.9
D10	24 Mar 2021	Wind Dir	W
D10	24 Mar 2021	Animal Life	1 Seagull
D10	24 Mar 2021	Floatables	Foam
D10	24 Mar 2021	Water Color	Green
D10	24 Mar 2021	Current Direction	S
D10	24 Mar 2021	Water Temp (C)	14.2
D10	24 Mar 2021	Wave Height Low (ft)	3
D10	24 Mar 2021	High Tide (ft)	4.78
D10	24 Mar 2021	High Tide Time	634
D10	24 Mar 2021	Low Tide (ft)	-0.45
D10	24 Mar 2021	Low Tide Time	1347
D10	24 Mar 2021	Comments	3 Walkers; 1 Jogger; 8 People; 10 Surfers; Kelp; Seagrass; Turbid water; 1 Paddle boarder
D11	03 Mar 2021	Arrive Time	858
D11	03 Mar 2021	Weather	Cloudy
D11	03 Mar 2021	Wind Speed (kts)	11.6
D11	03 Mar 2021	Wind Dir	S
D11	03 Mar 2021	Animal Life	None
D11	03 Mar 2021	Floatables	Foam
D11	03 Mar 2021	Water Color	Gray
D11	03 Mar 2021	Current Direction	N
D11	03 Mar 2021	Water Temp (C)	14.9
D11	03 Mar 2021	Wave Height Low (ft)	2
D11	03 Mar 2021	High Tide (ft)	3.73
D11	03 Mar 2021	High Tide Time	1150
D11	03 Mar 2021	Low Tide (ft)	0.42
D11	03 Mar 2021	Low Tide Time	600
D11	03 Mar 2021	Comments	Kelp; Seagrass; Clear; 4 Surfers; 4 People
D11	10 Mar 2021	Arrive Time	905
D11	10 Mar 2021	Weather	Partly cloudy
D11	10 Mar 2021	Wind Speed (kts)	5.4
D11	10 Mar 2021	Wind Dir	W
D11	10 Mar 2021	Animal Life	1 godwit
D11	10 Mar 2021	Floatables	Foam; Film
D11	10 Mar 2021	Water Color	Green
D11	10 Mar 2021	Current Direction	N
D11	10 Mar 2021	Water Temp (C)	14.1
D11	10 Mar 2021	Wave Height Low (ft)	3
D11	10 Mar 2021	High Tide (ft)	5.55
D11	10 Mar 2021	High Tide Time	656
D11	10 Mar 2021	Low Tide (ft)	-1.01
D11	10 Mar 2021	Low Tide Time	1356
D11	10 Mar 2021	Comments	Water clear; Kelp; Seagrass; Trash 1; 3 persons
D11	17 Mar 2021	Arrive Time	1002
D11	17 Mar 2021	Weather	Sunny
D11	17 Mar 2021	Wind Speed (kts)	1.1
D11	17 Mar 2021	Wind Dir	W
D11	17 Mar 2021	Animal Life	5 Seagulls

Station	Date	Parameter	Value
D11	17 Mar 2021	Floatables	Foam; Film
D11	17 Mar 2021	Water Color	Green
D11	17 Mar 2021	Current Direction	S
D11	17 Mar 2021	Water Temp (C)	15.3
D11	17 Mar 2021	Wave Height Low (ft)	3
D11	17 Mar 2021	High Tide (ft)	3.44
D11	17 Mar 2021	High Tide Time	1206
D11	17 Mar 2021	Low Tide (ft)	0.67
D11	17 Mar 2021	Low Tide Time	614
D11	17 Mar 2021	Comments	Kelp; Seagrass; Water turbid; 21 Surfers; 4 People
D11	24 Mar 2021	Arrive Time	1000
D11	24 Mar 2021	Weather	Sunny
D11	24 Mar 2021	Wind Speed (kts)	1.5
D11	24 Mar 2021	Wind Dir	W
D11	24 Mar 2021	Animal Life	None
D11	24 Mar 2021	Floatables	Foam
D11	24 Mar 2021	Water Color	Green
D11	24 Mar 2021	Current Direction	N
D11	24 Mar 2021	Water Temp (C)	13.9
D11	24 Mar 2021	Wave Height Low (ft)	4
D11	24 Mar 2021	High Tide (ft)	4.78
D11	24 Mar 2021	High Tide Time	634
D11	24 Mar 2021	Low Tide (ft)	-0.45
D11	24 Mar 2021	Low Tide Time	1347
D11	24 Mar 2021	Comments	8 Walkers; 16 People; 21 Surfers; Kelp; Seagrass; Water clear
D12	03 Mar 2021	Arrive Time	945
D12	03 Mar 2021	Weather	Rain
D12	03 Mar 2021	Wind Speed (kts)	5.8
D12	03 Mar 2021	Wind Dir	S
D12	03 Mar 2021	Animal Life	6 Seagulls
D12	03 Mar 2021	Floatables	None
D12	03 Mar 2021	Water Color	Green
D12	03 Mar 2021	Current Direction	N
D12	03 Mar 2021	Water Temp (C)	15
D12	03 Mar 2021	Wave Height Low (ft)	2
D12	03 Mar 2021	High Tide (ft)	3.73
D12	03 Mar 2021	High Tide Time	1150
D12	03 Mar 2021	Low Tide (ft)	0.42
D12	03 Mar 2021	Low Tide Time	600
D12	03 Mar 2021	Comments	Water Clear; 1 Person
D12	10 Mar 2021	Arrive Time	1000
D12	10 Mar 2021	Weather	Cloudy
D12	10 Mar 2021	Wind Speed (kts)	5.4
D12	10 Mar 2021	Wind Dir	W
D12	10 Mar 2021	Animal Life	1 seagull
D12	10 Mar 2021	Floatables	Foam; Film
D12	10 Mar 2021	Water Color	Green
D12	10 Mar 2021	Current Direction	N
D12	10 Mar 2021	Water Temp (C)	15.4
D12	10 Mar 2021	Wave Height Low (ft)	3
D12	10 Mar 2021	High Tide (ft)	5.55
D12	10 Mar 2021	High Tide Time	656
D12	10 Mar 2021	Low Tide (ft)	-1.01
D12	10 Mar 2021	Low Tide Time	1356
D12	10 Mar 2021	Comments	2 walkers; Kelp; Seagrass; Water clear
D12	17 Mar 2021	Arrive Time	1030

Station	Date	Parameter	Value
D12	17 Mar 2021	Weather	Sunny
D12	17 Mar 2021	Wind Speed (kts)	2.3
D12	17 Mar 2021	Wind Dir	W
D12	17 Mar 2021	Animal Life	1 Seagull
D12	17 Mar 2021	Floatables	None
D12	17 Mar 2021	Water Color	Green
D12	17 Mar 2021	Current Direction	N
D12	17 Mar 2021	Water Temp (C)	18
D12	17 Mar 2021	Wave Height Low (ft)	3
D12	17 Mar 2021	High Tide (ft)	3.44
D12	17 Mar 2021	High Tide Time	1206
D12	17 Mar 2021	Low Tide (ft)	0.67
D12	17 Mar 2021	Low Tide Time	614
D12	17 Mar 2021	Comments	Kelp; Seagrass; Water turbid; 2 Surfers; 10 People
D12	24 Mar 2021	Arrive Time	1032
D12	24 Mar 2021	Weather	Sunny
D12	24 Mar 2021	Wind Speed (kts)	1.1
D12	24 Mar 2021	Wind Dir	W
D12	24 Mar 2021	Animal Life	1 Seagull
D12	24 Mar 2021	Floatables	Foam
D12	24 Mar 2021	Water Color	Green
D12	24 Mar 2021	Current Direction	N
D12	24 Mar 2021	Water Temp (C)	17.6
D12	24 Mar 2021	Wave Height Low (ft)	3
D12	24 Mar 2021	High Tide (ft)	4.78
D12	24 Mar 2021	High Tide Time	634
D12	24 Mar 2021	Low Tide (ft)	-0.45
D12	24 Mar 2021	Low Tide Time	1347
D12	24 Mar 2021	Comments	19 People; 2 Walkers; 1 Jogger; 5 Swimmers; 1 Fisherman; 7 Surfers; Water clear; kelp; Seagrass

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 2021	15	10	8	5	3	2	7	10
02 Mar 2021	10	7	6	4	3	2	6	8
03 Mar 2021	9	9	7	5	3	2	5	7
04 Mar 2021	9	9	7	5	3	2	5	7
05 Mar 2021	9	9	7	5	3	2	5	7
06 Mar 2021	9	9	7	5	3	2	5	7
07 Mar 2021	9	9	7	5	3	2	5	7
08 Mar 2021	7	7	6	9	4	2	16	6
09 Mar 2021	7	7	6	9	4	2	16	6
10 Mar 2021	10	9	5	13	5	2	23	7
11 Mar 2021	10	9	5	13	5	2	23	7
12 Mar 2021	10	9	5	13	5	2	23	7
13 Mar 2021	10	9	5	13	5	2	23	7
14 Mar 2021	10	9	5	13	5	2	23	7
15 Mar 2021	10	9	5	13	5	2	23	7
16 Mar 2021	10	9	5	13	5	2	23	7
17 Mar 2021	10	9	5	13	5	2	23	7
18 Mar 2021	17	12	8	12	4	3	28	8
19 Mar 2021	17	12	8	12	4	3	28	8
20 Mar 2021	12	7	7	7	5	3	39	6
21 Mar 2021	12	7	7	7	5	3	39	6
22 Mar 2021	12	7	7	7	5	3	39	6
23 Mar 2021	12	7	7	7	5	3	39	6
24 Mar 2021	8	4	5	8	3	3	36	6
25 Mar 2021	8	4	5	8	3	3	36	6
26 Mar 2021	8	4	5	8	3	3	36	6
27 Mar 2021	8	4	5	8	3	3	36	6
28 Mar 2021	8	4	5	8	3	3	36	6
29 Mar 2021	8	4	5	8	3	3	36	6
30 Mar 2021	8	4	5	8	3	3	36	6
31 Mar 2021	8	4	5	8	3	3	36	6

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

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

* Geometric mean calculated using n<5

Table 3.4

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

Date	A1	A6	A7	C4	C5	C6	C7	C8
02 Mar 2021	IC							
08 Mar 2021	IC							
18 Mar 2021	IC							
24 Mar 2021	IC							

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 3.5

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

Date	A1	A6	A7	C4	C5	C6	C7	C8
02 Mar 2021	IC							
08 Mar 2021	IC	IC	IC	IC	IC	IC	E	IC
18 Mar 2021	IC							
24 Mar 2021	IC							

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 3.6

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

Date	A1	A6	A7	C4	C5	C6	C7	C8
02 Mar 2021	IC							
08 Mar 2021	IC	IC	IC	IC	IC	IC	E	IC
18 Mar 2021	IC							
24 Mar 2021	IC							

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 3.7

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

Date	A1	A6	A7	C4	C5	C6	C7	C8
02 Mar 2021	IC							
08 Mar 2021	IC	IC	IC	IC	IC	IC	E	IC
18 Mar 2021	IC							
24 Mar 2021	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* (Enter) 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	Enter	F:T	Temp	XMS	DO	Sal	pH
A1	02 Mar 2021	800	1	<2	<2	<2	1.00	14.2	80.94	7.7	33.57	8.1
A1	02 Mar 2021	800	12	<2	<2	<2	1.00	14.0	80.62	7.5	33.57	8.1
A1	02 Mar 2021	800	18	<2	<2	<2	1.00	13.1	83.42	6.7	33.59	8.0
A1	08 Mar 2021	855	1	<2	<2	<2	1.00	14.7	79.07	8.3	33.52	8.2
A1	08 Mar 2021	855	12	<2	<2	<2	1.00	14.6	78.30	8.2	33.53	8.2
A1	08 Mar 2021	855	18	4e	2e	<2	0.50	14.0	82.44	7.2	33.58	8.1
A1	18 Mar 2021	815	1	<2	<2	<2	1.00	14.1	70.14	8.0	33.57	8.1
A1	18 Mar 2021	815	12	160e	32e	12e	0.20	10.9	84.60	4.1	33.80	7.8
A1	18 Mar 2021	815	18	400e	12e	22e	0.03	10.5	83.68	3.6	33.88	7.7
A1	24 Mar 2021	739	1	<2	<2	<2	1.00	13.3	78.42	7.7	33.66	8.1
A1	24 Mar 2021	739	12	<2	<2	<2	1.00	12.4	77.96	6.1	33.74	8.0
A1	24 Mar 2021	739	18	8e	<2	2e	0.25	11.1	80.65	4.2	33.81	7.8
A6	02 Mar 2021	837	1	<2	<2	<2	1.00	14.4	80.37	8.3	33.56	8.1
A6	02 Mar 2021	837	12	2e	<2	<2	1.00	13.2	83.85	6.5	33.59	8.0
A6	02 Mar 2021	837	18	2e	<2	<2	1.00	12.7	84.43	5.8	33.64	8.0
A6	08 Mar 2021	922	1	<2	<2	<2	1.00	14.7	79.24	8.4	33.51	8.2
A6	08 Mar 2021	922	12	<2	<2	<2	1.00	14.6	77.62	8.5	33.52	8.2
A6	08 Mar 2021	922	18	<2	<2	<2	1.00	14.6	78.11	8.3	33.53	8.2
A6	18 Mar 2021	839	1	<2	<2	<2	1.00	14.4	68.36	8.5	33.55	8.2
A6	18 Mar 2021	839	12	6e	6e	<2	1.00	13.2	79.12	6.5	33.64	8.0
A6	18 Mar 2021	839	18	100e	12e	10e	0.12	11.0	84.52	4.0	33.81	7.8
A6	24 Mar 2021	800	1	<2	<2	<2	1.00	13.3	74.46	7.3	33.70	8.0
A6	24 Mar 2021	800	12	<2	<2	<2	1.00	12.1	79.95	6.0	33.72	8.0
A6	24 Mar 2021	800	18	<2	<2	<2	1.00	11.3	82.12	4.5	33.80	7.8
A7	02 Mar 2021	827	1	<2	<2	<2	1.00	14.6	80.97	7.8	33.58	8.1
A7	02 Mar 2021	827	12	<2	<2	<2	1.00	13.7	81.74	7.5	33.55	8.1
A7	02 Mar 2021	827	18	<2	<2	<2	1.00	13.1	84.38	6.6	33.57	8.0
A7	08 Mar 2021	907	1	2e	<2	<2	1.00	14.7	78.36	8.4	33.52	8.2
A7	08 Mar 2021	907	12	<2	<2	<2	1.00	14.6	78.90	8.3	33.52	8.2
A7	08 Mar 2021	907	18	<2	<2	<2	1.00	14.3	81.60	7.5	33.52	8.1
A7	18 Mar 2021	827	1	<2	<2	<2	1.00	14.4	67.40	8.5	33.55	8.2
A7	18 Mar 2021	827	12	2e	2e	<2	1.00	12.8	81.75	6.2	33.64	8.0
A7	18 Mar 2021	827	18	160e	42	8e	0.26	10.7	83.34	3.8	33.84	7.8
A7	24 Mar 2021	751	1	2e	4e	<2	2.00	13.2	71.70	7.1	33.69	8.0
A7	24 Mar 2021	751	12	2e	<2	<2	1.00	11.4	74.67	4.6	33.79	7.8
A7	24 Mar 2021	751	18	4e	<2	<2	0.50	11.1	82.26	4.1	33.82	7.8
C4	02 Mar 2021	940	1	<2	<2	<2	1.00	14.7	81.17	8.2	33.56	8.2
C4	02 Mar 2021	940	3	<2	<2	<2	1.00	14.6	79.68	8.1	33.56	8.2
C4	02 Mar 2021	940	9	<2	<2	<2	1.00	14.2	85.18	6.8	33.58	8.0

Station	Date	Time	Depth	Total	Fecal	Enteric	F:T	Temp	XMS	DO	Sal	pH
C4	08 Mar 2021	1038	1	<20	<2	<2	0.10	14.9	60.43	7.4	33.57	8.1
C4	08 Mar 2021	1038	3	<20	<20	<2	1.00	14.8	60.46	7.5	33.57	8.1
C4	08 Mar 2021	1038	9	<200	200e	<2	1.00	14.6	55.99	7.4	33.56	8.1
C4	18 Mar 2021	956	1	<2	<2	<2	1.00	14.4	75.65	8.2	33.56	8.1
C4	18 Mar 2021	956	3	2e	<2	<2	1.00	14.2	74.50	8.0	33.56	8.1
C4	18 Mar 2021	956	9	20e	<2	<2	0.10	11.6	85.74	4.1	33.75	7.8
C4	24 Mar 2021	900	1	<2	<2	<2	1.00	12.9	69.46	7.1	33.73	8.0
C4	24 Mar 2021	900	3	<2	<2	<2	1.00	12.9	72.03	7.1	33.73	8.0
C4	24 Mar 2021	900	9	4e	<2	<2	0.50	12.4	70.56	5.7	33.76	7.9
C5	02 Mar 2021	930	1	<2	<2	<2	1.00	14.8	81.01	8.0	33.59	8.1
C5	02 Mar 2021	930	3	<2	<2	<2	1.00	14.8	81.38	8.0	33.59	8.1
C5	02 Mar 2021	930	9	<2	<2	<2	1.00	14.1	83.87	6.7	33.63	8.1
C5	08 Mar 2021	1032	1	2e	<2	<2	1.00	15.0	62.22	7.6	33.58	8.1
C5	08 Mar 2021	1032	3	<20	6e	<2	0.30	15.0	62.24	7.5	33.58	8.1
C5	08 Mar 2021	1032	9	<20	<2	<2	0.10	14.6	58.80	7.2	33.58	8.1
C5	18 Mar 2021	947	1	<2	<2	<2	1.00	14.3	73.29	8.3	33.55	8.2
C5	18 Mar 2021	947	3	<2	<2	<2	1.00	14.2	73.32	8.2	33.56	8.2
C5	18 Mar 2021	947	9	4e	<2	2e	0.50	12.3	84.41	4.9	33.68	7.9
C5	24 Mar 2021	849	1	<2	<2	<2	1.00	12.9	71.03	6.8	33.73	8.0
C5	24 Mar 2021	849	3	2e	<2	<2	1.00	12.9	71.97	6.9	33.73	8.0
C5	24 Mar 2021	849	9	<2	<2	<2	1.00	12.0	75.17	5.2	33.81	7.9
C6	02 Mar 2021	921	1	<2	<2	<2	1.00	14.8	82.68	8.0	33.58	8.1
C6	02 Mar 2021	921	3	2e	<2	<2	1.00	14.7	81.87	8.1	33.59	8.2
C6	02 Mar 2021	921	9	2e	<2	<2	1.00	13.8	82.09	7.3	33.60	8.1
C6	08 Mar 2021	1015	1	2e	<2	<2	1.00	14.8	73.68	8.4	33.13	8.2
C6	08 Mar 2021	1015	3	<2	<2	<2	1.00	14.8	77.11	8.4	33.55	8.2
C6	08 Mar 2021	1015	9	<2	<2	<2	1.00	14.6	80.16	8.2	33.55	8.2
C6	18 Mar 2021	931	1	<20	<2	<2	0.10	14.4	74.79	8.1	33.55	8.1
C6	18 Mar 2021	931	3	<20	<2	<2	0.10	14.3	74.60	7.9	33.57	8.1
C6	18 Mar 2021	931	9	2e	<2	<2	1.00	12.4	85.18	5.0	33.66	7.9
C6	24 Mar 2021	841	1	<2	2e	<2	1.00	13.3	64.81	6.8	33.71	8.0
C6	24 Mar 2021	841	3	<2	<2	<2	1.00	13.3	67.87	6.7	33.70	8.0
C6	24 Mar 2021	841	9	<2	<2	<2	1.00	12.1	78.81	5.0	33.70	7.8
C7	02 Mar 2021	850	1	<2	<2	<2	1.00	14.8	78.14	8.3	33.57	8.1
C7	02 Mar 2021	850	12	<2	<2	<2	1.00	13.6	82.71	7.2	33.57	8.1
C7	02 Mar 2021	850	18	<2	<2	<2	1.00	12.8	86.22	5.6	33.66	7.9
C7	08 Mar 2021	943	1	4000	7600	180e	1.90	14.6	79.04	8.5	33.51	8.2
C7	08 Mar 2021	943	12	540	110	88	0.20	14.6	77.69	8.4	33.52	8.2
C7	08 Mar 2021	943	18	<2	2e	<2	1.00	14.4	82.85	7.8	33.56	8.2
C7	18 Mar 2021	901	1	2e	<2	<2	1.00	14.4	64.87	8.2	33.52	8.1
C7	18 Mar 2021	901	12	<2	<2	<2	1.00	11.9	84.98	5.1	33.69	7.9
C7	18 Mar 2021	901	18	200e	8e	2e	0.04	11.0	84.88	4.0	33.80	7.8
C7	24 Mar 2021	813	1	<2	<2	<2	1.00	13.4	76.38	7.3	33.69	8.1
C7	24 Mar 2021	813	12	2e	<2	<2	1.00	11.1	83.08	4.2	33.80	7.8
C7	24 Mar 2021	813	18	<20	2e	<2	0.10	10.9	84.47	3.7	33.83	7.8
C8	02 Mar 2021	901	1	<2	<2	<2	1.00	14.6	79.43	8.2	33.56	8.1

Station	Date	Time	Depth	Total	Fecal	Enteric	F:T	Temp	XMS	DO	Sal	pH
C8	02 Mar 2021	901	12	4e	<2	<2	0.50	13.7	83.06	7.1	33.60	8.1
C8	02 Mar 2021	901	18	<2	<2	<2	1.00	13.2	83.68	6.5	33.61	8.0
C8	08 Mar 2021	950	1	<2	<2	<2	1.00	14.6	76.12	8.4	33.53	8.2
C8	08 Mar 2021	950	12	<2	<2	<2	1.00	14.5	76.88	8.4	33.53	8.2
C8	08 Mar 2021	950	18	2e	<2	<2	1.00	13.9	81.19	7.1	33.60	8.1
C8	18 Mar 2021	913	1	<2	<2	<2	1.00	14.4	66.94	8.7	33.51	8.2
C8	18 Mar 2021	913	12	4e	4e	<2	1.00	11.5	86.02	4.7	33.72	7.8
C8	18 Mar 2021	913	18	40e	4e	<2	0.10	11.3	86.47	4.4	33.75	7.8
C8	24 Mar 2021	824	1	<2	<2	<2	1.00	13.8	74.29	7.9	33.66	8.1
C8	24 Mar 2021	824	12	<20	2e	<2	0.10	10.9	81.78	4.0	33.81	7.8
C8	24 Mar 2021	824	18	<20	<2	<2	0.10	10.9	83.31	3.9	33.83	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	02 Mar 2021	Depth (m)	18
A1	02 Mar 2021	Arrive Time	800
A1	02 Mar 2021	Depart Time	810
A1	02 Mar 2021	Air Temp (C)	14
A1	02 Mar 2021	Weather	Partly Cloudy
A1	02 Mar 2021	Visibility (mi)	12
A1	02 Mar 2021	Wind Speed (kts)	8
A1	02 Mar 2021	Wind Dir	NW
A1	02 Mar 2021	Water Color	Bluish-Green
A1	02 Mar 2021	Wave Ht Low (ft)	3
A1	02 Mar 2021	Wave Period (sec)	13
A1	02 Mar 2021	Sea State	Calm
A1	02 Mar 2021	High Tide (ft)	4.55
A1	02 Mar 2021	High Tide Time	1053
A1	02 Mar 2021	Low Tide (ft)	0.35
A1	02 Mar 2021	Low Tide Time	459
A1	02 Mar 2021	Comments	none
A1	08 Mar 2021	Depth (m)	19
A1	08 Mar 2021	Arrive Time	855
A1	08 Mar 2021	Depart Time	901
A1	08 Mar 2021	Air Temp (C)	14
A1	08 Mar 2021	Weather	Partly Cloudy
A1	08 Mar 2021	Visibility (mi)	8
A1	08 Mar 2021	Wind Speed (kts)	3
A1	08 Mar 2021	Wind Dir	S
A1	08 Mar 2021	Water Color	Green
A1	08 Mar 2021	Wave Ht Low (ft)	3
A1	08 Mar 2021	Wave Period (sec)	9
A1	08 Mar 2021	Sea State	Calm
A1	08 Mar 2021	High Tide (ft)	5.07
A1	08 Mar 2021	High Tide Time	509
A1	08 Mar 2021	Low Tide (ft)	-0.73
A1	08 Mar 2021	Low Tide Time	1240
A1	08 Mar 2021	Comments	Kelp
A1	18 Mar 2021	Depth (m)	18.4
A1	18 Mar 2021	Arrive Time	815
A1	18 Mar 2021	Depart Time	820
A1	18 Mar 2021	Air Temp (C)	12.6
A1	18 Mar 2021	Weather	Overcast
A1	18 Mar 2021	Visibility (mi)	7
A1	18 Mar 2021	Wind Speed (kts)	5.7
A1	18 Mar 2021	Wind Dir	N
A1	18 Mar 2021	Water Color	Blueish-Green
A1	18 Mar 2021	Wave Ht Low (ft)	3
A1	18 Mar 2021	Wave Period (sec)	10
A1	18 Mar 2021	Sea State	Wind Ripples
A1	18 Mar 2021	High Tide (ft)	2.89
A1	18 Mar 2021	High Tide Time	1255
A1	18 Mar 2021	Low Tide (ft)	0.85
A1	18 Mar 2021	Low Tide Time	700
A1	18 Mar 2021	Comments	none
A1	24 Mar 2021	Depth (m)	18
A1	24 Mar 2021	Arrive Time	739

Station	Date	Parameter	Value
A1	24 Mar 2021	Depart Time	746
A1	24 Mar 2021	Air Temp (C)	11.2
A1	24 Mar 2021	Weather	Overcast
A1	24 Mar 2021	Visibility (mi)	4
A1	24 Mar 2021	Wind Speed (kts)	9.9
A1	24 Mar 2021	Wind Dir	NE
A1	24 Mar 2021	Water Color	Blueish-Green
A1	24 Mar 2021	Wave Ht Low (ft)	4
A1	24 Mar 2021	Wave Period (sec)	8
A1	24 Mar 2021	Sea State	Confused Swell
A1	24 Mar 2021	High Tide (ft)	5.3
A1	24 Mar 2021	High Tide Time	6:46
A1	24 Mar 2021	Low Tide (ft)	-0.4
A1	24 Mar 2021	Low Tide Time	13:48
A1	24 Mar 2021	Comments	none
A6	02 Mar 2021	Depth (m)	19
A6	02 Mar 2021	Arrive Time	837
A6	02 Mar 2021	Depart Time	841
A6	02 Mar 2021	Air Temp (C)	14
A6	02 Mar 2021	Weather	Partly Cloudy
A6	02 Mar 2021	Visibility (mi)	12
A6	02 Mar 2021	Wind Speed (kts)	10
A6	02 Mar 2021	Wind Dir	NW
A6	02 Mar 2021	Water Color	Bluish-Green
A6	02 Mar 2021	Wave Ht Low (ft)	3
A6	02 Mar 2021	Wave Period (sec)	13
A6	02 Mar 2021	Sea State	Calm
A6	02 Mar 2021	High Tide (ft)	4.55
A6	02 Mar 2021	High Tide Time	1053
A6	02 Mar 2021	Low Tide (ft)	0.35
A6	02 Mar 2021	Low Tide Time	459
A6	02 Mar 2021	Comments	Kelp
A6	08 Mar 2021	Depth (m)	19
A6	08 Mar 2021	Arrive Time	922
A6	08 Mar 2021	Depart Time	932
A6	08 Mar 2021	Air Temp (C)	14
A6	08 Mar 2021	Weather	Overcast
A6	08 Mar 2021	Visibility (mi)	8
A6	08 Mar 2021	Wind Speed (kts)	5
A6	08 Mar 2021	Wind Dir	SW
A6	08 Mar 2021	Water Color	Green
A6	08 Mar 2021	Wave Ht Low (ft)	4
A6	08 Mar 2021	Wave Period (sec)	11
A6	08 Mar 2021	Sea State	Calm
A6	08 Mar 2021	High Tide (ft)	5.07
A6	08 Mar 2021	High Tide Time	509
A6	08 Mar 2021	Low Tide (ft)	-0.73
A6	08 Mar 2021	Low Tide Time	1240
A6	08 Mar 2021	Comments	Kelp
A6	18 Mar 2021	Depth (m)	17.9
A6	18 Mar 2021	Arrive Time	839
A6	18 Mar 2021	Depart Time	843
A6	18 Mar 2021	Air Temp (C)	12.8
A6	18 Mar 2021	Weather	Overcast
A6	18 Mar 2021	Visibility (mi)	7
A6	18 Mar 2021	Wind Speed (kts)	4.5
A6	18 Mar 2021	Wind Dir	N
A6	18 Mar 2021	Water Color	Blueish-Green

Station	Date	Parameter	Value
A6	18 Mar 2021	Wave Ht Low (ft)	3
A6	18 Mar 2021	Wave Period (sec)	10
A6	18 Mar 2021	Sea State	Wind Ripples
A6	18 Mar 2021	High Tide (ft)	2.89
A6	18 Mar 2021	High Tide Time	1255
A6	18 Mar 2021	Low Tide (ft)	0.85
A6	18 Mar 2021	Low Tide Time	700
A6	18 Mar 2021	Comments	Kelp; Kelp Debris
A6	24 Mar 2021	Depth (m)	20.2
A6	24 Mar 2021	Arrive Time	800
A6	24 Mar 2021	Depart Time	806
A6	24 Mar 2021	Air Temp (C)	11.7
A6	24 Mar 2021	Weather	Haze
A6	24 Mar 2021	Visibility (mi)	4
A6	24 Mar 2021	Wind Speed (kts)	6.9
A6	24 Mar 2021	Wind Dir	NE
A6	24 Mar 2021	Water Color	Blueish-Green
A6	24 Mar 2021	Wave Ht Low (ft)	4
A6	24 Mar 2021	Wave Period (sec)	8
A6	24 Mar 2021	Sea State	Confused Swell
A6	24 Mar 2021	High Tide (ft)	5.3
A6	24 Mar 2021	High Tide Time	6:46
A6	24 Mar 2021	Low Tide (ft)	-0.4
A6	24 Mar 2021	Low Tide Time	13:48
A6	24 Mar 2021	Comments	none
A7	02 Mar 2021	Depth (m)	19
A7	02 Mar 2021	Arrive Time	827
A7	02 Mar 2021	Depart Time	831
A7	02 Mar 2021	Air Temp (C)	14
A7	02 Mar 2021	Weather	Partly Cloudy
A7	02 Mar 2021	Visibility (mi)	12
A7	02 Mar 2021	Wind Speed (kts)	4
A7	02 Mar 2021	Wind Dir	N
A7	02 Mar 2021	Water Color	Bluish-Green
A7	02 Mar 2021	Wave Ht Low (ft)	3
A7	02 Mar 2021	Wave Period (sec)	13
A7	02 Mar 2021	Sea State	Calm
A7	02 Mar 2021	High Tide (ft)	4.55
A7	02 Mar 2021	High Tide Time	1053
A7	02 Mar 2021	Low Tide (ft)	0.35
A7	02 Mar 2021	Low Tide Time	459
A7	02 Mar 2021	Comments	none
A7	08 Mar 2021	Depth (m)	20
A7	08 Mar 2021	Arrive Time	907
A7	08 Mar 2021	Depart Time	915
A7	08 Mar 2021	Air Temp (C)	14
A7	08 Mar 2021	Weather	Overcast
A7	08 Mar 2021	Visibility (mi)	8
A7	08 Mar 2021	Wind Speed (kts)	5
A7	08 Mar 2021	Wind Dir	SW
A7	08 Mar 2021	Water Color	Green
A7	08 Mar 2021	Wave Ht Low (ft)	4
A7	08 Mar 2021	Wave Period (sec)	11
A7	08 Mar 2021	Sea State	Calm
A7	08 Mar 2021	High Tide (ft)	5.07
A7	08 Mar 2021	High Tide Time	509
A7	08 Mar 2021	Low Tide (ft)	-0.73
A7	08 Mar 2021	Low Tide Time	1240

Station	Date	Parameter	Value
A7	08 Mar 2021	Comments	Kelp
A7	18 Mar 2021	Depth (m)	18.5
A7	18 Mar 2021	Arrive Time	827
A7	18 Mar 2021	Depart Time	836
A7	18 Mar 2021	Air Temp (C)	12.7
A7	18 Mar 2021	Weather	Overcast
A7	18 Mar 2021	Visibility (mi)	7
A7	18 Mar 2021	Wind Speed (kts)	6.6
A7	18 Mar 2021	Wind Dir	N
A7	18 Mar 2021	Water Color	Blueish-Green
A7	18 Mar 2021	Wave Ht Low (ft)	3
A7	18 Mar 2021	Wave Period (sec)	10
A7	18 Mar 2021	Sea State	Wind Ripples
A7	18 Mar 2021	High Tide (ft)	2.89
A7	18 Mar 2021	High Tide Time	1255
A7	18 Mar 2021	Low Tide (ft)	0.85
A7	18 Mar 2021	Low Tide Time	700
A7	18 Mar 2021	Comments	none
A7	24 Mar 2021	Depth (m)	19.3
A7	24 Mar 2021	Arrive Time	751
A7	24 Mar 2021	Depart Time	755
A7	24 Mar 2021	Air Temp (C)	11.8
A7	24 Mar 2021	Weather	Haze
A7	24 Mar 2021	Visibility (mi)	4
A7	24 Mar 2021	Wind Speed (kts)	6.2
A7	24 Mar 2021	Wind Dir	NE
A7	24 Mar 2021	Water Color	Blueish-Green
A7	24 Mar 2021	Wave Ht Low (ft)	4
A7	24 Mar 2021	Wave Period (sec)	8
A7	24 Mar 2021	Sea State	Confused Swell
A7	24 Mar 2021	High Tide (ft)	5.3
A7	24 Mar 2021	High Tide Time	6:46
A7	24 Mar 2021	Low Tide (ft)	-0.4
A7	24 Mar 2021	Low Tide Time	13:48
A7	24 Mar 2021	Comments	none
C4	02 Mar 2021	Depth (m)	10
C4	02 Mar 2021	Arrive Time	940
C4	02 Mar 2021	Depart Time	944
C4	02 Mar 2021	Air Temp (C)	15
C4	02 Mar 2021	Weather	Partly Cloudy
C4	02 Mar 2021	Visibility (mi)	12
C4	02 Mar 2021	Wind Speed (kts)	0
C4	02 Mar 2021	Wind Dir	
C4	02 Mar 2021	Water Color	Bluish-Green
C4	02 Mar 2021	Wave Ht Low (ft)	3
C4	02 Mar 2021	Wave Period (sec)	13
C4	02 Mar 2021	Sea State	Calm
C4	02 Mar 2021	High Tide (ft)	4.55
C4	02 Mar 2021	High Tide Time	1053
C4	02 Mar 2021	Low Tide (ft)	0.35
C4	02 Mar 2021	Low Tide Time	459
C4	02 Mar 2021	Comments	none
C4	08 Mar 2021	Depth (m)	10
C4	08 Mar 2021	Arrive Time	1038
C4	08 Mar 2021	Depart Time	1048
C4	08 Mar 2021	Air Temp (C)	14
C4	08 Mar 2021	Weather	Partly Cloudy

Station	Date	Parameter	Value
C4	08 Mar 2021	Visibility (mi)	8
C4	08 Mar 2021	Wind Speed (kts)	3
C4	08 Mar 2021	Wind Dir	W
C4	08 Mar 2021	Water Color	Green
C4	08 Mar 2021	Wave Ht Low (ft)	4
C4	08 Mar 2021	Wave Period (sec)	11
C4	08 Mar 2021	Sea State	Calm
C4	08 Mar 2021	High Tide (ft)	5.07
C4	08 Mar 2021	High Tide Time	509
C4	08 Mar 2021	Low Tide (ft)	-0.73
C4	08 Mar 2021	Low Tide Time	1240
C4	08 Mar 2021	Comments	Kelp; Kelp debris
C4	18 Mar 2021	Depth (m)	9.6
C4	18 Mar 2021	Arrive Time	956
C4	18 Mar 2021	Depart Time	959
C4	18 Mar 2021	Air Temp (C)	13.6
C4	18 Mar 2021	Weather	Haze
C4	18 Mar 2021	Visibility (mi)	7
C4	18 Mar 2021	Wind Speed (kts)	2.8
C4	18 Mar 2021	Wind Dir	W
C4	18 Mar 2021	Water Color	Green
C4	18 Mar 2021	Wave Ht Low (ft)	2
C4	18 Mar 2021	Wave Period (sec)	10
C4	18 Mar 2021	Sea State	Wind Ripples
C4	18 Mar 2021	High Tide (ft)	2.89
C4	18 Mar 2021	High Tide Time	1255
C4	18 Mar 2021	Low Tide (ft)	0.85
C4	18 Mar 2021	Low Tide Time	700
C4	18 Mar 2021	Comments	Kelp; Kelp Debris
C4	24 Mar 2021	Depth (m)	10.6
C4	24 Mar 2021	Arrive Time	900
C4	24 Mar 2021	Depart Time	907
C4	24 Mar 2021	Air Temp (C)	11.5
C4	24 Mar 2021	Weather	Haze
C4	24 Mar 2021	Visibility (mi)	4
C4	24 Mar 2021	Wind Speed (kts)	11.3
C4	24 Mar 2021	Wind Dir	SE
C4	24 Mar 2021	Water Color	Blueish-Green
C4	24 Mar 2021	Wave Ht Low (ft)	4
C4	24 Mar 2021	Wave Period (sec)	8
C4	24 Mar 2021	Sea State	Confused Swell
C4	24 Mar 2021	High Tide (ft)	5.3
C4	24 Mar 2021	High Tide Time	6:46
C4	24 Mar 2021	Low Tide (ft)	-0.4
C4	24 Mar 2021	Low Tide Time	13:48
C4	24 Mar 2021	Comments	none
C5	02 Mar 2021	Depth (m)	9
C5	02 Mar 2021	Arrive Time	930
C5	02 Mar 2021	Depart Time	934
C5	02 Mar 2021	Air Temp (C)	15
C5	02 Mar 2021	Weather	Partly Cloudy
C5	02 Mar 2021	Visibility (mi)	12
C5	02 Mar 2021	Wind Speed (kts)	1
C5	02 Mar 2021	Wind Dir	W
C5	02 Mar 2021	Water Color	Bluish-Green
C5	02 Mar 2021	Wave Ht Low (ft)	3
C5	02 Mar 2021	Wave Period (sec)	13
C5	02 Mar 2021	Sea State	Calm

Station	Date	Parameter	Value
C5	02 Mar 2021	High Tide (ft)	4.55
C5	02 Mar 2021	High Tide Time	1053
C5	02 Mar 2021	Low Tide (ft)	0.35
C5	02 Mar 2021	Low Tide Time	459
C5	02 Mar 2021	Comments	Kelp
C5	08 Mar 2021	Depth (m)	9
C5	08 Mar 2021	Arrive Time	1032
C5	08 Mar 2021	Depart Time	1036
C5	08 Mar 2021	Air Temp (C)	14
C5	08 Mar 2021	Weather	Partly Cloudy
C5	08 Mar 2021	Visibility (mi)	8
C5	08 Mar 2021	Wind Speed (kts)	9
C5	08 Mar 2021	Wind Dir	S
C5	08 Mar 2021	Water Color	Green
C5	08 Mar 2021	Wave Ht Low (ft)	4
C5	08 Mar 2021	Wave Period (sec)	11
C5	08 Mar 2021	Sea State	Calm
C5	08 Mar 2021	High Tide (ft)	5.07
C5	08 Mar 2021	High Tide Time	509
C5	08 Mar 2021	Low Tide (ft)	-0.73
C5	08 Mar 2021	Low Tide Time	1240
C5	08 Mar 2021	Comments	Kelp
C5	18 Mar 2021	Depth (m)	10.4
C5	18 Mar 2021	Arrive Time	947
C5	18 Mar 2021	Depart Time	951
C5	18 Mar 2021	Air Temp (C)	13.6
C5	18 Mar 2021	Weather	Overcast
C5	18 Mar 2021	Visibility (mi)	7
C5	18 Mar 2021	Wind Speed (kts)	1.8
C5	18 Mar 2021	Wind Dir	W
C5	18 Mar 2021	Water Color	Green
C5	18 Mar 2021	Wave Ht Low (ft)	3
C5	18 Mar 2021	Wave Period (sec)	10
C5	18 Mar 2021	Sea State	Wind Ripples
C5	18 Mar 2021	High Tide (ft)	2.89
C5	18 Mar 2021	High Tide Time	1255
C5	18 Mar 2021	Low Tide (ft)	0.85
C5	18 Mar 2021	Low Tide Time	700
C5	18 Mar 2021	Comments	Kelp; Kelp Debris
C5	24 Mar 2021	Depth (m)	9.8
C5	24 Mar 2021	Arrive Time	849
C5	24 Mar 2021	Depart Time	853
C5	24 Mar 2021	Air Temp (C)	12
C5	24 Mar 2021	Weather	Haze
C5	24 Mar 2021	Visibility (mi)	4
C5	24 Mar 2021	Wind Speed (kts)	12.2
C5	24 Mar 2021	Wind Dir	E
C5	24 Mar 2021	Water Color	Blueish-Green
C5	24 Mar 2021	Wave Ht Low (ft)	4
C5	24 Mar 2021	Wave Period (sec)	8
C5	24 Mar 2021	Sea State	Confused Swell
C5	24 Mar 2021	High Tide (ft)	5.3
C5	24 Mar 2021	High Tide Time	6:46
C5	24 Mar 2021	Low Tide (ft)	-0.4
C5	24 Mar 2021	Low Tide Time	13:48
C5	24 Mar 2021	Comments	none
C6	02 Mar 2021	Depth (m)	9

Station	Date	Parameter	Value
C6	02 Mar 2021	Arrive Time	921
C6	02 Mar 2021	Depart Time	924
C6	02 Mar 2021	Air Temp (C)	15
C6	02 Mar 2021	Weather	Partly Cloudy
C6	02 Mar 2021	Visibility (mi)	12
C6	02 Mar 2021	Wind Speed (kts)	6
C6	02 Mar 2021	Wind Dir	NW
C6	02 Mar 2021	Water Color	Bluish-Green
C6	02 Mar 2021	Wave Ht Low (ft)	3
C6	02 Mar 2021	Wave Period (sec)	13
C6	02 Mar 2021	Sea State	Calm
C6	02 Mar 2021	High Tide (ft)	4.55
C6	02 Mar 2021	High Tide Time	1053
C6	02 Mar 2021	Low Tide (ft)	0.35
C6	02 Mar 2021	Low Tide Time	459
C6	02 Mar 2021	Comments	none
C6	08 Mar 2021	Depth (m)	11
C6	08 Mar 2021	Arrive Time	1015
C6	08 Mar 2021	Depart Time	1019
C6	08 Mar 2021	Air Temp (C)	14
C6	08 Mar 2021	Weather	Rain
C6	08 Mar 2021	Visibility (mi)	8
C6	08 Mar 2021	Wind Speed (kts)	9
C6	08 Mar 2021	Wind Dir	SW
C6	08 Mar 2021	Water Color	Green
C6	08 Mar 2021	Wave Ht Low (ft)	4
C6	08 Mar 2021	Wave Period (sec)	11
C6	08 Mar 2021	Sea State	Calm
C6	08 Mar 2021	High Tide (ft)	5.07
C6	08 Mar 2021	High Tide Time	509
C6	08 Mar 2021	Low Tide (ft)	-0.73
C6	08 Mar 2021	Low Tide Time	1240
C6	08 Mar 2021	Comments	Kelp
C6	18 Mar 2021	Depth (m)	9
C6	18 Mar 2021	Arrive Time	931
C6	18 Mar 2021	Depart Time	940
C6	18 Mar 2021	Air Temp (C)	13.6
C6	18 Mar 2021	Weather	Overcast
C6	18 Mar 2021	Visibility (mi)	7
C6	18 Mar 2021	Wind Speed (kts)	1.3
C6	18 Mar 2021	Wind Dir	N
C6	18 Mar 2021	Water Color	Green
C6	18 Mar 2021	Wave Ht Low (ft)	3
C6	18 Mar 2021	Wave Period (sec)	10
C6	18 Mar 2021	Sea State	Wind Ripples
C6	18 Mar 2021	High Tide (ft)	2.89
C6	18 Mar 2021	High Tide Time	1255
C6	18 Mar 2021	Low Tide (ft)	0.85
C6	18 Mar 2021	Low Tide Time	700
C6	18 Mar 2021	Comments	none
C6	24 Mar 2021	Depth (m)	8.8
C6	24 Mar 2021	Arrive Time	841
C6	24 Mar 2021	Depart Time	846
C6	24 Mar 2021	Air Temp (C)	12.1
C6	24 Mar 2021	Weather	Haze
C6	24 Mar 2021	Visibility (mi)	4
C6	24 Mar 2021	Wind Speed (kts)	9.5
C6	24 Mar 2021	Wind Dir	E

Station	Date	Parameter	Value
C6	24 Mar 2021	Water Color	Blueish-Green
C6	24 Mar 2021	Wave Ht Low (ft)	4
C6	24 Mar 2021	Wave Period (sec)	8
C6	24 Mar 2021	Sea State	Confused Swell
C6	24 Mar 2021	High Tide (ft)	5.3
C6	24 Mar 2021	High Tide Time	6:46
C6	24 Mar 2021	Low Tide (ft)	-0.4
C6	24 Mar 2021	Low Tide Time	13:48
C6	24 Mar 2021	Comments	none
C7	02 Mar 2021	Depth (m)	18
C7	02 Mar 2021	Arrive Time	850
C7	02 Mar 2021	Depart Time	854
C7	02 Mar 2021	Air Temp (C)	14
C7	02 Mar 2021	Weather	Partly Cloudy
C7	02 Mar 2021	Visibility (mi)	12
C7	02 Mar 2021	Wind Speed (kts)	12
C7	02 Mar 2021	Wind Dir	NW
C7	02 Mar 2021	Water Color	Bluish-Green
C7	02 Mar 2021	Wave Ht Low (ft)	3
C7	02 Mar 2021	Wave Period (sec)	13
C7	02 Mar 2021	Sea State	Calm
C7	02 Mar 2021	High Tide (ft)	4.55
C7	02 Mar 2021	High Tide Time	1053
C7	02 Mar 2021	Low Tide (ft)	0.35
C7	02 Mar 2021	Low Tide Time	459
C7	02 Mar 2021	Comments	none
C7	08 Mar 2021	Depth (m)	18
C7	08 Mar 2021	Arrive Time	943
C7	08 Mar 2021	Depart Time	947
C7	08 Mar 2021	Air Temp (C)	14
C7	08 Mar 2021	Weather	Rain
C7	08 Mar 2021	Visibility (mi)	8
C7	08 Mar 2021	Wind Speed (kts)	3
C7	08 Mar 2021	Wind Dir	SW
C7	08 Mar 2021	Water Color	Green
C7	08 Mar 2021	Wave Ht Low (ft)	4
C7	08 Mar 2021	Wave Period (sec)	11
C7	08 Mar 2021	Sea State	Calm
C7	08 Mar 2021	High Tide (ft)	5.07
C7	08 Mar 2021	High Tide Time	509
C7	08 Mar 2021	Low Tide (ft)	-0.73
C7	08 Mar 2021	Low Tide Time	1240
C7	08 Mar 2021	Comments	Kelp
C7	18 Mar 2021	Depth (m)	18
C7	18 Mar 2021	Arrive Time	901
C7	18 Mar 2021	Depart Time	906
C7	18 Mar 2021	Air Temp (C)	13.1
C7	18 Mar 2021	Weather	Overcast
C7	18 Mar 2021	Visibility (mi)	7
C7	18 Mar 2021	Wind Speed (kts)	1.1
C7	18 Mar 2021	Wind Dir	N
C7	18 Mar 2021	Water Color	Green
C7	18 Mar 2021	Wave Ht Low (ft)	3
C7	18 Mar 2021	Wave Period (sec)	10
C7	18 Mar 2021	Sea State	Wind Ripples
C7	18 Mar 2021	High Tide (ft)	2.89
C7	18 Mar 2021	High Tide Time	1255
C7	18 Mar 2021	Low Tide (ft)	0.85

Station	Date	Parameter	Value
C7	18 Mar 2021	Low Tide Time	700
C7	18 Mar 2021	Comments	Kelp
C7	24 Mar 2021	Depth (m)	18
C7	24 Mar 2021	Arrive Time	813
C7	24 Mar 2021	Depart Time	819
C7	24 Mar 2021	Air Temp (C)	12.4
C7	24 Mar 2021	Weather	Haze
C7	24 Mar 2021	Visibility (mi)	4
C7	24 Mar 2021	Wind Speed (kts)	5.4
C7	24 Mar 2021	Wind Dir	NW
C7	24 Mar 2021	Water Color	Blueish-Green
C7	24 Mar 2021	Wave Ht Low (ft)	4
C7	24 Mar 2021	Wave Period (sec)	8
C7	24 Mar 2021	Sea State	Confused Swell
C7	24 Mar 2021	High Tide (ft)	5.3
C7	24 Mar 2021	High Tide Time	6:46
C7	24 Mar 2021	Low Tide (ft)	-0.4
C7	24 Mar 2021	Low Tide Time	13:48
C7	24 Mar 2021	Comments	Kelp
C8	02 Mar 2021	Depth (m)	19
C8	02 Mar 2021	Arrive Time	901
C8	02 Mar 2021	Depart Time	908
C8	02 Mar 2021	Air Temp (C)	14
C8	02 Mar 2021	Weather	Partly Cloudy
C8	02 Mar 2021	Visibility (mi)	12
C8	02 Mar 2021	Wind Speed (kts)	3
C8	02 Mar 2021	Wind Dir	N
C8	02 Mar 2021	Water Color	Bluish-Green
C8	02 Mar 2021	Wave Ht Low (ft)	3
C8	02 Mar 2021	Wave Period (sec)	13
C8	02 Mar 2021	Sea State	Calm
C8	02 Mar 2021	High Tide (ft)	4.55
C8	02 Mar 2021	High Tide Time	1053
C8	02 Mar 2021	Low Tide (ft)	0.35
C8	02 Mar 2021	Low Tide Time	459
C8	02 Mar 2021	Comments	none
C8	08 Mar 2021	Depth (m)	19
C8	08 Mar 2021	Arrive Time	950
C8	08 Mar 2021	Depart Time	1000
C8	08 Mar 2021	Air Temp (C)	14
C8	08 Mar 2021	Weather	Rain
C8	08 Mar 2021	Visibility (mi)	8
C8	08 Mar 2021	Wind Speed (kts)	8
C8	08 Mar 2021	Wind Dir	S
C8	08 Mar 2021	Water Color	Green
C8	08 Mar 2021	Wave Ht Low (ft)	4
C8	08 Mar 2021	Wave Period (sec)	11
C8	08 Mar 2021	Sea State	Calm
C8	08 Mar 2021	High Tide (ft)	5.07
C8	08 Mar 2021	High Tide Time	509
C8	08 Mar 2021	Low Tide (ft)	-0.73
C8	08 Mar 2021	Low Tide Time	1240
C8	08 Mar 2021	Comments	Kelp; Kelp debris
C8	18 Mar 2021	Depth (m)	18.7
C8	18 Mar 2021	Arrive Time	913
C8	18 Mar 2021	Depart Time	917
C8	18 Mar 2021	Air Temp (C)	13.2

Station	Date	Parameter	Value
C8	18 Mar 2021	Weather	Overcast
C8	18 Mar 2021	Visibility (mi)	7
C8	18 Mar 2021	Wind Speed (kts)	1.6
C8	18 Mar 2021	Wind Dir	NE
C8	18 Mar 2021	Water Color	Green
C8	18 Mar 2021	Wave Ht Low (ft)	3
C8	18 Mar 2021	Wave Period (sec)	10
C8	18 Mar 2021	Sea State	Wind Ripples
C8	18 Mar 2021	High Tide (ft)	2.89
C8	18 Mar 2021	High Tide Time	1255
C8	18 Mar 2021	Low Tide (ft)	0.85
C8	18 Mar 2021	Low Tide Time	700
C8	18 Mar 2021	Comments	none
C8	24 Mar 2021	Depth (m)	19.2
C8	24 Mar 2021	Arrive Time	824
C8	24 Mar 2021	Depart Time	829
C8	24 Mar 2021	Air Temp (C)	12.3
C8	24 Mar 2021	Weather	Haze
C8	24 Mar 2021	Visibility (mi)	4
C8	24 Mar 2021	Wind Speed (kts)	4.7
C8	24 Mar 2021	Wind Dir	E
C8	24 Mar 2021	Water Color	Blueish-Green
C8	24 Mar 2021	Wave Ht Low (ft)	4
C8	24 Mar 2021	Wave Period (sec)	8
C8	24 Mar 2021	Sea State	Confused Swell
C8	24 Mar 2021	High Tide (ft)	5.3
C8	24 Mar 2021	High Tide Time	6:46
C8	24 Mar 2021	Low Tide (ft)	-0.4
C8	24 Mar 2021	Low Tide Time	13:48
C8	24 Mar 2021	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 ($\sigma\text{-t}$)	Chlor ($\mu\text{g/L}$)
A1	02 Mar 2021	1	14.23	80.94	7.7	33.57	8.1	25.0	1.36
A1	02 Mar 2021	2	14.22	80.89	7.7	33.57	8.1	25.0	1.45
A1	02 Mar 2021	3	14.20	80.73	7.6	33.57	8.1	25.0	1.63
A1	02 Mar 2021	4	14.19	80.85	7.7	33.57	8.1	25.0	1.77
A1	02 Mar 2021	5	14.17	80.75	7.7	33.57	8.1	25.0	2.01
A1	02 Mar 2021	6	14.20	80.70	7.7	33.56	8.1	25.0	2.20
A1	02 Mar 2021	7	14.25	80.80	7.7	33.57	8.1	25.0	2.47
A1	02 Mar 2021	8	14.25	80.47	7.8	33.57	8.1	25.0	2.57
A1	02 Mar 2021	9	14.23	80.25	7.8	33.57	8.1	25.0	2.65
A1	02 Mar 2021	10	14.22	80.25	7.7	33.57	8.1	25.0	2.78
A1	02 Mar 2021	11	14.16	80.14	7.6	33.58	8.1	25.1	2.63
A1	02 Mar 2021	12	13.97	80.62	7.5	33.57	8.1	25.1	2.79
A1	02 Mar 2021	13	13.69	81.03	7.4	33.56	8.1	25.1	2.99
A1	02 Mar 2021	14	13.61	81.93	7.4	33.54	8.1	25.1	3.00
A1	02 Mar 2021	15	13.29	82.35	7.2	33.56	8.0	25.2	2.88
A1	02 Mar 2021	16	13.22	83.30	7.0	33.55	8.0	25.2	2.73
A1	02 Mar 2021	17	13.19	83.25	6.9	33.55	8.0	25.2	2.65
A1	02 Mar 2021	18	13.08	83.42	6.7	33.59	8.0	25.3	2.41
A1	08 Mar 2021	1	14.71	79.07	8.3	33.52	8.2	24.9	1.97
A1	08 Mar 2021	2	14.71	79.29	8.3	33.52	8.2	24.9	2.11
A1	08 Mar 2021	3	14.70	79.26	8.3	33.52	8.2	24.9	2.36
A1	08 Mar 2021	4	14.67	78.90	8.3	33.52	8.2	24.9	2.71
A1	08 Mar 2021	5	14.67	78.66	8.3	33.52	8.2	24.9	2.88
A1	08 Mar 2021	6	14.66	78.31	8.3	33.52	8.2	24.9	3.08
A1	08 Mar 2021	7	14.65	78.35	8.3	33.52	8.2	24.9	3.14
A1	08 Mar 2021	8	14.65	78.08	8.2	33.52	8.2	24.9	3.38
A1	08 Mar 2021	9	14.63	78.44	8.2	33.52	8.2	24.9	3.55
A1	08 Mar 2021	10	14.63	78.26	8.2	33.52	8.2	24.9	3.71
A1	08 Mar 2021	11	14.62	78.22	8.2	33.53	8.2	24.9	3.83
A1	08 Mar 2021	12	14.61	78.30	8.2	33.53	8.2	24.9	3.78
A1	08 Mar 2021	13	14.61	78.40	8.2	33.53	8.2	24.9	3.71
A1	08 Mar 2021	14	14.60	78.49	8.1	33.53	8.2	24.9	3.56
A1	08 Mar 2021	15	14.44	79.25	7.8	33.55	8.2	25.0	3.05
A1	08 Mar 2021	16	14.39	80.14	7.7	33.54	8.1	25.0	2.60
A1	08 Mar 2021	17	14.23	81.54	7.4	33.58	8.1	25.0	2.28
A1	08 Mar 2021	18	13.99	82.44	7.2	33.58	8.1	25.1	1.67
A1	18 Mar 2021	1	14.08	70.14	8.0	33.57	8.1	25.1	7.14
A1	18 Mar 2021	2	14.04	67.76	7.9	33.57	8.1	25.1	7.42
A1	18 Mar 2021	3	13.89	72.00	7.6	33.59	8.1	25.1	7.08
A1	18 Mar 2021	4	13.67	73.77	7.3	33.60	8.1	25.2	6.35
A1	18 Mar 2021	5	13.42	74.67	7.0	33.62	8.0	25.2	5.10
A1	18 Mar 2021	6	13.00	76.80	6.4	33.65	8.0	25.4	3.81
A1	18 Mar 2021	7	12.67	79.55	6.0	33.65	8.0	25.4	2.66
A1	18 Mar 2021	8	12.39	82.28	5.4	33.68	7.9	25.5	2.15
A1	18 Mar 2021	9	11.27	83.87	4.6	33.80	7.8	25.8	1.25
A1	18 Mar 2021	10	11.09	84.89	4.2	33.78	7.8	25.8	0.78
A1	18 Mar 2021	11	11.02	85.05	4.2	33.78	7.8	25.8	0.62
A1	18 Mar 2021	12	10.94	84.60	4.1	33.80	7.8	25.9	0.54
A1	18 Mar 2021	13	10.86	82.71	4.1	33.81	7.8	25.9	0.52
A1	18 Mar 2021	14	10.78	83.24	4.0	33.83	7.8	25.9	0.45
A1	18 Mar 2021	15	10.65	82.95	3.8	33.86	7.8	25.9	0.41
A1	18 Mar 2021	16	10.53	83.22	3.6	33.88	7.7	26.0	0.37
A1	18 Mar 2021	17	10.52	83.68	3.6	33.88	7.7	26.0	0.35

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
A1	24 Mar 2021	1	13.33	78.42	7.7	33.66	8.1	25.3	3.23
A1	24 Mar 2021	2	13.26	78.57	7.6	33.66	8.1	25.3	3.34
A1	24 Mar 2021	3	13.25	78.78	7.6	33.66	8.1	25.3	3.69
A1	24 Mar 2021	4	13.21	78.94	7.6	33.66	8.1	25.3	3.77
A1	24 Mar 2021	5	13.20	79.08	7.5	33.66	8.1	25.3	3.74
A1	24 Mar 2021	6	13.11	79.17	7.4	33.67	8.1	25.3	3.74
A1	24 Mar 2021	7	12.93	79.18	7.2	33.69	8.0	25.4	3.78
A1	24 Mar 2021	8	12.77	79.13	7.0	33.69	8.0	25.4	3.83
A1	24 Mar 2021	9	12.58	79.03	6.7	33.71	8.0	25.5	3.93
A1	24 Mar 2021	10	12.48	78.73	6.4	33.71	8.0	25.5	4.05
A1	24 Mar 2021	11	12.47	78.30	6.3	33.71	8.0	25.5	4.01
A1	24 Mar 2021	12	12.37	77.96	6.1	33.74	8.0	25.5	3.51
A1	24 Mar 2021	13	12.18	77.22	5.7	33.76	7.9	25.6	3.37
A1	24 Mar 2021	14	11.99	76.70	5.4	33.78	7.9	25.6	3.00
A1	24 Mar 2021	15	11.64	77.20	4.9	33.80	7.9	25.7	2.76
A1	24 Mar 2021	16	11.23	78.66	4.5	33.83	7.8	25.8	2.11
A1	24 Mar 2021	17	11.14	79.52	4.3	33.81	7.8	25.8	1.58
A1	24 Mar 2021	18	11.05	80.65	4.2	33.81	7.8	25.8	1.32
A1	24 Mar 2021	19	11.03	82.29	4.1	33.81	7.8	25.8	1.22
A6	02 Mar 2021	1	14.45	80.37	8.3	33.56	8.1	25.0	1.29
A6	02 Mar 2021	2	14.44	78.52	8.2	33.57	8.1	25.0	1.29
A6	02 Mar 2021	3	14.34	80.81	8.2	33.56	8.1	25.0	1.42
A6	02 Mar 2021	4	14.03	80.88	7.9	33.55	8.1	25.1	1.83
A6	02 Mar 2021	5	13.89	80.96	7.7	33.55	8.1	25.1	2.24
A6	02 Mar 2021	6	13.58	81.99	7.5	33.54	8.1	25.1	2.27
A6	02 Mar 2021	7	13.47	82.53	7.2	33.55	8.1	25.2	2.20
A6	02 Mar 2021	8	13.37	82.88	7.1	33.56	8.0	25.2	2.41
A6	02 Mar 2021	9	13.28	83.34	6.9	33.57	8.0	25.2	2.13
A6	02 Mar 2021	10	13.21	83.38	6.7	33.58	8.0	25.3	2.05
A6	02 Mar 2021	11	13.17	83.63	6.6	33.59	8.0	25.3	1.91
A6	02 Mar 2021	12	13.15	83.85	6.5	33.59	8.0	25.3	2.01
A6	02 Mar 2021	13	13.06	83.90	6.4	33.60	8.0	25.3	1.99
A6	02 Mar 2021	14	13.05	84.01	6.4	33.60	8.0	25.3	1.93
A6	02 Mar 2021	15	13.02	84.13	6.3	33.61	8.0	25.3	1.87
A6	02 Mar 2021	16	12.89	84.40	6.1	33.62	8.0	25.3	1.67
A6	02 Mar 2021	17	12.84	84.42	5.9	33.63	8.0	25.4	1.57
A6	02 Mar 2021	18	12.73	84.43	5.8	33.64	8.0	25.4	1.52
A6	02 Mar 2021	19	12.59	84.45	5.7	33.65	7.9	25.4	1.45
A6	08 Mar 2021	1	14.73	79.24	8.4	33.51	8.2	24.9	1.70
A6	08 Mar 2021	2	14.72	79.60	8.5	33.52	8.2	24.9	1.91
A6	08 Mar 2021	3	14.71	79.31	8.5	33.52	8.2	24.9	2.20
A6	08 Mar 2021	4	14.71	79.33	8.4	33.52	8.2	24.9	2.45
A6	08 Mar 2021	5	14.71	78.81	8.4	33.52	8.2	24.9	2.59
A6	08 Mar 2021	6	14.71	79.06	8.5	33.52	8.2	24.9	2.76
A6	08 Mar 2021	7	14.68	78.56	8.5	33.52	8.2	24.9	3.23
A6	08 Mar 2021	8	14.65	77.40	8.5	33.52	8.2	24.9	3.66
A6	08 Mar 2021	9	14.65	77.35	8.5	33.52	8.2	24.9	3.76
A6	08 Mar 2021	10	14.64	77.51	8.5	33.52	8.2	24.9	3.96
A6	08 Mar 2021	11	14.64	77.56	8.5	33.52	8.2	24.9	4.00
A6	08 Mar 2021	12	14.64	77.62	8.5	33.52	8.2	24.9	4.10
A6	08 Mar 2021	13	14.64	77.61	8.5	33.52	8.2	24.9	4.14
A6	08 Mar 2021	14	14.63	77.61	8.4	33.52	8.2	24.9	4.06
A6	08 Mar 2021	15	14.63	77.63	8.5	33.52	8.2	24.9	4.13
A6	08 Mar 2021	16	14.63	77.70	8.4	33.52	8.2	24.9	4.10
A6	08 Mar 2021	17	14.62	77.91	8.4	33.52	8.2	24.9	3.98
A6	08 Mar 2021	18	14.60	78.11	8.3	33.53	8.2	24.9	3.81
A6	08 Mar 2021	19	14.53	79.20	8.2	33.53	8.2	24.9	3.43
A6	18 Mar 2021	1	14.39	68.36	8.5	33.55	8.2	25.0	7.01

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ($\sigma\text{-t}$)	Chlor ($\mu\text{g/L}$)
A6	18 Mar 2021	2	14.39	68.22	8.5	33.55	8.2	25.0	8.19
A6	18 Mar 2021	3	14.37	68.19	8.4	33.55	8.2	25.0	8.64
A6	18 Mar 2021	4	14.35	68.84	8.3	33.55	8.2	25.0	8.45
A6	18 Mar 2021	5	14.06	69.46	7.8	33.59	8.1	25.1	8.06
A6	18 Mar 2021	6	13.69	72.17	7.3	33.61	8.1	25.2	6.46
A6	18 Mar 2021	7	13.53	76.38	7.0	33.59	8.1	25.2	5.39
A6	18 Mar 2021	8	13.17	76.43	6.6	33.65	8.0	25.3	4.10
A6	18 Mar 2021	9	13.01	78.09	6.4	33.63	8.0	25.3	3.13
A6	18 Mar 2021	10	13.15	80.17	6.6	33.60	8.0	25.3	2.95
A6	18 Mar 2021	11	13.37	79.48	6.7	33.60	8.0	25.2	2.97
A6	18 Mar 2021	12	13.16	79.12	6.5	33.64	8.0	25.3	2.64
A6	18 Mar 2021	13	12.95	81.24	6.1	33.64	8.0	25.3	2.12
A6	18 Mar 2021	14	12.53	83.16	5.5	33.69	8.0	25.5	1.59
A6	18 Mar 2021	15	11.78	82.65	4.9	33.78	7.9	25.7	1.16
A6	18 Mar 2021	16	11.55	84.33	4.5	33.75	7.8	25.7	0.87
A6	18 Mar 2021	17	11.17	84.59	4.2	33.81	7.8	25.8	0.65
A6	18 Mar 2021	18	11.01	84.52	4.0	33.81	7.8	25.8	0.56
A6	24 Mar 2021	1	13.26	74.46	7.3	33.70	8.0	25.3	2.40
A6	24 Mar 2021	2	13.26	74.59	7.3	33.70	8.0	25.3	2.67
A6	24 Mar 2021	3	13.25	74.61	7.2	33.70	8.0	25.3	3.10
A6	24 Mar 2021	4	13.17	74.75	7.1	33.71	8.0	25.4	3.38
A6	24 Mar 2021	5	12.88	75.48	6.8	33.72	8.0	25.4	3.74
A6	24 Mar 2021	6	12.49	76.39	6.5	33.73	8.0	25.5	3.86
A6	24 Mar 2021	7	12.32	77.93	6.3	33.71	8.0	25.5	3.88
A6	24 Mar 2021	8	12.31	79.11	6.3	33.70	8.0	25.5	4.01
A6	24 Mar 2021	9	12.26	79.17	6.2	33.71	8.0	25.5	3.80
A6	24 Mar 2021	10	12.20	79.79	6.2	33.70	8.0	25.5	3.89
A6	24 Mar 2021	11	12.21	79.93	6.1	33.71	8.0	25.5	4.01
A6	24 Mar 2021	12	12.07	79.95	6.0	33.72	8.0	25.6	3.86
A6	24 Mar 2021	13	12.01	79.99	5.8	33.73	7.9	25.6	3.53
A6	24 Mar 2021	14	12.04	80.11	5.8	33.72	7.9	25.6	3.65
A6	24 Mar 2021	15	11.90	80.27	5.5	33.75	7.9	25.6	3.14
A6	24 Mar 2021	16	11.69	80.59	5.1	33.78	7.9	25.7	2.63
A6	24 Mar 2021	17	11.46	81.39	4.7	33.80	7.8	25.8	1.98
A6	24 Mar 2021	18	11.35	82.12	4.5	33.80	7.8	25.8	1.69
A6	24 Mar 2021	19	11.29	83.10	4.4	33.80	7.8	25.8	1.35
A6	24 Mar 2021	20	11.41	83.17	4.5	33.78	7.8	25.8	1.39
A7	02 Mar 2021	1	14.55	80.97	7.8	33.58	8.1	25.0	1.16
A7	02 Mar 2021	2	14.54	81.18	7.8	33.59	8.1	25.0	1.15
A7	02 Mar 2021	3	14.47	81.09	7.8	33.58	8.1	25.0	1.28
A7	02 Mar 2021	4	14.33	80.97	7.6	33.59	8.1	25.0	1.44
A7	02 Mar 2021	5	14.12	80.89	7.6	33.56	8.1	25.1	1.95
A7	02 Mar 2021	6	14.02	80.93	7.6	33.57	8.1	25.1	2.30
A7	02 Mar 2021	7	13.99	80.96	7.6	33.55	8.1	25.1	2.56
A7	02 Mar 2021	8	14.00	81.04	7.6	33.55	8.1	25.1	2.65
A7	02 Mar 2021	9	14.01	80.98	7.6	33.56	8.1	25.1	2.71
A7	02 Mar 2021	10	13.91	80.96	7.5	33.56	8.1	25.1	2.72
A7	02 Mar 2021	11	13.85	81.34	7.5	33.55	8.1	25.1	2.73
A7	02 Mar 2021	12	13.73	81.74	7.5	33.55	8.1	25.1	2.92
A7	02 Mar 2021	13	13.66	82.13	7.5	33.55	8.1	25.1	2.86
A7	02 Mar 2021	14	13.60	82.07	7.4	33.54	8.1	25.1	2.84
A7	02 Mar 2021	15	13.54	82.29	7.4	33.54	8.1	25.2	2.87
A7	02 Mar 2021	16	13.47	82.63	7.2	33.55	8.1	25.2	2.82
A7	02 Mar 2021	17	13.19	83.16	6.9	33.58	8.0	25.3	2.54
A7	02 Mar 2021	18	13.10	84.38	6.6	33.57	8.0	25.3	2.23
A7	02 Mar 2021	19	13.06	84.69	6.6	33.57	8.0	25.3	1.99
A7	08 Mar 2021	1	14.71	78.36	8.4	33.52	8.2	24.9	1.98
A7	08 Mar 2021	2	14.70	79.04	8.4	33.52	8.2	24.9	2.08

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
A7	08 Mar 2021	3	14.69	78.98	8.4	33.52	8.2	24.9	2.60
A7	08 Mar 2021	4	14.68	78.81	8.4	33.52	8.2	24.9	2.83
A7	08 Mar 2021	5	14.67	78.85	8.4	33.52	8.2	24.9	3.06
A7	08 Mar 2021	6	14.67	78.66	8.4	33.52	8.2	24.9	3.13
A7	08 Mar 2021	7	14.66	78.44	8.4	33.52	8.2	24.9	3.39
A7	08 Mar 2021	8	14.66	78.44	8.4	33.52	8.2	24.9	3.39
A7	08 Mar 2021	9	14.66	78.54	8.4	33.52	8.2	24.9	3.60
A7	08 Mar 2021	10	14.66	78.45	8.3	33.52	8.2	24.9	3.56
A7	08 Mar 2021	11	14.65	78.47	8.4	33.52	8.2	24.9	3.54
A7	08 Mar 2021	12	14.65	78.90	8.3	33.52	8.2	24.9	3.29
A7	08 Mar 2021	13	14.64	79.81	8.2	33.52	8.2	24.9	3.06
A7	08 Mar 2021	14	14.63	79.92	8.1	33.52	8.2	24.9	2.99
A7	08 Mar 2021	15	14.56	79.96	8.0	33.54	8.2	24.9	2.78
A7	08 Mar 2021	16	14.44	81.02	7.8	33.55	8.1	25.0	2.27
A7	08 Mar 2021	17	14.21	82.35	7.5	33.57	8.1	25.0	1.70
A7	08 Mar 2021	18	14.28	81.60	7.5	33.52	8.1	25.0	1.63
A7	18 Mar 2021	1	14.41	67.40	8.5	33.55	8.2	25.0	8.19
A7	18 Mar 2021	2	14.41	67.51	8.5	33.55	8.2	25.0	8.54
A7	18 Mar 2021	3	14.41	67.42	8.5	33.55	8.2	25.0	8.86
A7	18 Mar 2021	4	14.39	67.37	8.4	33.55	8.2	25.0	9.63
A7	18 Mar 2021	5	14.16	67.55	8.2	33.57	8.1	25.0	8.85
A7	18 Mar 2021	6	14.13	69.57	8.1	33.56	8.1	25.0	8.17
A7	18 Mar 2021	7	14.11	70.36	8.1	33.56	8.1	25.1	7.89
A7	18 Mar 2021	8	14.05	70.18	7.9	33.57	8.1	25.1	7.92
A7	18 Mar 2021	9	13.83	70.86	7.5	33.59	8.1	25.1	7.35
A7	18 Mar 2021	10	13.35	76.20	6.9	33.62	8.1	25.3	5.26
A7	18 Mar 2021	11	13.03	80.27	6.4	33.63	8.0	25.3	3.52
A7	18 Mar 2021	12	12.76	81.75	6.2	33.64	8.0	25.4	2.58
A7	18 Mar 2021	13	12.65	82.91	5.9	33.64	8.0	25.4	2.15
A7	18 Mar 2021	14	12.13	84.03	5.3	33.69	7.9	25.5	1.71
A7	18 Mar 2021	15	11.56	85.03	4.6	33.75	7.9	25.7	1.20
A7	18 Mar 2021	16	10.89	84.34	4.0	33.84	7.8	25.9	0.71
A7	18 Mar 2021	17	10.70	83.37	3.8	33.84	7.8	25.9	0.49
A7	18 Mar 2021	18	10.67	83.34	3.8	33.84	7.8	25.9	0.43
A7	18 Mar 2021	19	10.68	83.38	3.8	33.85	7.8	25.9	0.42
A7	24 Mar 2021	1	13.22	71.70	7.1	33.69	8.0	25.3	3.29
A7	24 Mar 2021	2	13.16	74.92	7.0	33.70	8.0	25.4	3.40
A7	24 Mar 2021	3	12.65	76.11	6.6	33.74	8.0	25.5	3.90
A7	24 Mar 2021	4	12.37	76.73	6.3	33.74	8.0	25.5	3.98
A7	24 Mar 2021	5	12.32	77.20	6.1	33.73	8.0	25.5	4.28
A7	24 Mar 2021	6	12.23	78.05	6.0	33.73	8.0	25.6	4.03
A7	24 Mar 2021	7	12.16	78.27	5.8	33.73	7.9	25.6	4.08
A7	24 Mar 2021	8	12.02	78.66	5.6	33.75	7.9	25.6	3.62
A7	24 Mar 2021	9	11.79	79.66	5.2	33.77	7.9	25.7	3.10
A7	24 Mar 2021	10	11.81	80.49	5.0	33.76	7.9	25.7	2.83
A7	24 Mar 2021	11	11.52	78.77	4.8	33.80	7.9	25.7	2.50
A7	24 Mar 2021	12	11.40	74.67	4.6	33.79	7.8	25.8	2.13
A7	24 Mar 2021	13	11.37	77.17	4.5	33.79	7.8	25.8	1.96
A7	24 Mar 2021	14	11.31	79.31	4.4	33.79	7.8	25.8	1.72
A7	24 Mar 2021	15	11.26	80.07	4.4	33.80	7.8	25.8	1.59
A7	24 Mar 2021	16	11.20	80.91	4.3	33.80	7.8	25.8	1.39
A7	24 Mar 2021	17	11.15	81.65	4.2	33.81	7.8	25.8	1.31
A7	24 Mar 2021	18	11.10	82.26	4.1	33.82	7.8	25.8	1.31
A7	24 Mar 2021	19	11.05	82.10	4.0	33.82	7.8	25.8	1.15
C4	02 Mar 2021	1	14.71	81.17	8.2	33.56	8.2	24.9	0.93
C4	02 Mar 2021	2	14.62	80.78	8.2	33.56	8.2	24.9	1.05
C4	02 Mar 2021	3	14.58	79.68	8.1	33.56	8.2	25.0	1.32
C4	02 Mar 2021	4	14.54	80.44	8.0	33.56	8.1	25.0	1.35

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (µg/L)
C4	02 Mar 2021	5	14.50	80.84	7.8	33.57	8.1	25.0	1.40
C4	02 Mar 2021	6	14.44	82.61	7.5	33.57	8.1	25.0	1.21
C4	02 Mar 2021	7	14.26	84.87	7.0	33.59	8.1	25.0	0.82
C4	02 Mar 2021	8	14.24	85.12	6.8	33.58	8.1	25.0	0.62
C4	02 Mar 2021	9	14.23	85.18	6.8	33.58	8.0	25.0	0.57
C4	02 Mar 2021	10	14.22	85.16	6.8	33.58	8.0	25.0	0.55
C4	02 Mar 2021	11	14.22	85.05	6.8	33.58	8.0	25.0	0.56
C4	08 Mar 2021	1	14.86	60.43	7.4	33.57	8.1	24.9	0.75
C4	08 Mar 2021	2	14.86	58.55	7.5	33.57	8.1	24.9	0.75
C4	08 Mar 2021	3	14.85	60.46	7.5	33.57	8.1	24.9	0.79
C4	08 Mar 2021	4	14.75	59.52	7.5	33.57	8.1	24.9	0.95
C4	08 Mar 2021	5	14.70	59.41	7.5	33.57	8.1	24.9	1.14
C4	08 Mar 2021	6	14.66	58.83	7.5	33.57	8.1	24.9	1.12
C4	08 Mar 2021	7	14.64	59.02	7.5	33.56	8.1	24.9	1.12
C4	08 Mar 2021	8	14.62	57.39	7.4	33.56	8.1	24.9	1.18
C4	08 Mar 2021	9	14.60	55.99	7.4	33.56	8.1	24.9	1.25
C4	08 Mar 2021	10	14.61	56.41	7.4	33.56	8.1	24.9	1.24
C4	18 Mar 2021	1	14.36	75.65	8.2	33.56	8.1	25.0	1.50
C4	18 Mar 2021	2	14.30	75.30	8.1	33.56	8.1	25.0	1.84
C4	18 Mar 2021	3	14.24	74.50	8.0	33.56	8.1	25.0	2.49
C4	18 Mar 2021	4	14.16	74.32	7.5	33.57	8.1	25.0	2.78
C4	18 Mar 2021	5	13.65	75.20	6.6	33.64	8.1	25.2	2.27
C4	18 Mar 2021	6	12.74	79.49	5.4	33.73	8.0	25.5	1.36
C4	18 Mar 2021	7	11.93	83.45	4.6	33.77	7.9	25.6	0.92
C4	18 Mar 2021	8	11.67	85.02	4.2	33.76	7.8	25.7	0.70
C4	18 Mar 2021	9	11.61	85.74	4.1	33.75	7.8	25.7	0.55
C4	18 Mar 2021	10	11.59	85.52	4.2	33.75	7.8	25.7	0.50
C4	18 Mar 2021	11	11.60	85.12	4.4	33.74	7.8	25.7	0.47
C4	24 Mar 2021	1	12.91	69.46	7.1	33.73	8.0	25.4	2.54
C4	24 Mar 2021	2	12.91	71.92	7.1	33.73	8.0	25.4	2.60
C4	24 Mar 2021	3	12.90	72.03	7.1	33.73	8.0	25.4	2.69
C4	24 Mar 2021	4	12.91	71.98	7.2	33.73	8.0	25.4	2.92
C4	24 Mar 2021	5	12.90	72.06	7.2	33.73	8.0	25.4	3.14
C4	24 Mar 2021	6	12.88	71.95	7.1	33.73	8.0	25.4	4.17
C4	24 Mar 2021	7	12.84	71.67	7.0	33.73	8.0	25.4	4.49
C4	24 Mar 2021	8	12.56	64.24	6.4	33.77	8.0	25.5	4.21
C4	24 Mar 2021	9	12.39	70.56	5.7	33.76	7.9	25.5	3.42
C4	24 Mar 2021	10	11.65	72.54	4.8	33.85	7.8	25.8	2.47
C5	02 Mar 2021	1	14.82	81.01	8.0	33.59	8.1	24.9	0.80
C5	02 Mar 2021	2	14.83	81.42	8.0	33.59	8.1	24.9	0.79
C5	02 Mar 2021	3	14.79	81.38	8.0	33.59	8.1	24.9	0.87
C5	02 Mar 2021	4	14.76	81.08	8.0	33.59	8.1	24.9	0.99
C5	02 Mar 2021	5	14.71	81.33	7.9	33.59	8.1	24.9	1.09
C5	02 Mar 2021	6	14.62	81.81	7.6	33.60	8.1	25.0	1.02
C5	02 Mar 2021	7	14.52	83.07	7.2	33.60	8.1	25.0	0.84
C5	02 Mar 2021	8	14.32	83.87	6.9	33.62	8.1	25.1	0.66
C5	02 Mar 2021	9	14.07	83.87	6.7	33.63	8.1	25.1	0.60
C5	02 Mar 2021	10	13.98	83.41	6.6	33.62	8.0	25.1	0.59
C5	08 Mar 2021	1	15.03	62.22	7.6	33.58	8.1	24.9	0.90
C5	08 Mar 2021	2	15.05	62.61	7.6	33.58	8.1	24.9	0.93
C5	08 Mar 2021	3	15.02	62.24	7.5	33.58	8.1	24.9	1.01
C5	08 Mar 2021	4	14.88	61.37	7.5	33.58	8.1	24.9	1.15
C5	08 Mar 2021	5	14.88	62.93	7.5	33.58	8.1	24.9	1.16
C5	08 Mar 2021	6	14.81	64.02	7.5	33.58	8.1	24.9	1.16
C5	08 Mar 2021	7	14.77	67.35	7.5	33.57	8.1	24.9	1.16
C5	08 Mar 2021	8	14.70	68.02	7.3	33.58	8.1	24.9	1.09

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (µg/L)
C5	08 Mar 2021	9	14.58	58.80	7.2	33.58	8.1	25.0	1.07
C5	18 Mar 2021	1	14.31	73.29	8.3	33.55	8.2	25.0	2.31
C5	18 Mar 2021	2	14.32	73.45	8.3	33.55	8.2	25.0	2.39
C5	18 Mar 2021	3	14.22	73.32	8.2	33.56	8.2	25.0	3.79
C5	18 Mar 2021	4	13.96	71.65	7.7	33.59	8.1	25.1	5.60
C5	18 Mar 2021	5	13.38	73.92	6.6	33.65	8.1	25.3	4.46
C5	18 Mar 2021	6	12.74	78.88	5.7	33.68	8.0	25.4	2.30
C5	18 Mar 2021	7	12.61	83.31	5.3	33.66	7.9	25.4	1.24
C5	18 Mar 2021	8	12.48	84.70	5.1	33.67	7.9	25.5	0.90
C5	18 Mar 2021	9	12.32	84.41	4.9	33.68	7.9	25.5	0.75
C5	18 Mar 2021	10	12.25	83.33	4.8	33.68	7.9	25.5	0.62
C5	18 Mar 2021	11	12.25	82.04	4.8	33.68	7.9	25.5	0.61
C5	24 Mar 2021	1	12.92	71.03	6.8	33.73	8.0	25.4	2.26
C5	24 Mar 2021	2	12.92	72.08	6.9	33.73	8.0	25.4	2.54
C5	24 Mar 2021	3	12.91	71.97	6.9	33.73	8.0	25.4	2.92
C5	24 Mar 2021	4	12.90	71.92	6.8	33.73	8.0	25.4	3.52
C5	24 Mar 2021	5	12.88	72.10	6.8	33.73	8.0	25.4	3.85
C5	24 Mar 2021	6	12.81	72.38	6.7	33.74	8.0	25.5	3.86
C5	24 Mar 2021	7	12.73	73.05	6.5	33.75	8.0	25.5	3.70
C5	24 Mar 2021	8	12.59	73.46	6.0	33.76	8.0	25.5	3.55
C5	24 Mar 2021	9	12.01	75.17	5.2	33.81	7.9	25.7	2.24
C5	24 Mar 2021	10	11.43	78.77	4.3	33.87	7.8	25.8	1.45
C5	24 Mar 2021	11	11.07	80.42	3.9	33.83	7.8	25.9	0.94
C6	02 Mar 2021	1	14.76	82.68	8.0	33.58	8.1	24.9	0.74
C6	02 Mar 2021	2	14.77	82.54	8.0	33.59	8.2	24.9	0.70
C6	02 Mar 2021	3	14.70	81.87	8.1	33.59	8.2	25.0	0.83
C6	02 Mar 2021	4	14.59	81.83	7.9	33.61	8.2	25.0	0.98
C6	02 Mar 2021	5	14.16	80.59	7.7	33.58	8.1	25.1	1.41
C6	02 Mar 2021	6	14.19	81.07	7.7	33.56	8.1	25.0	1.83
C6	02 Mar 2021	7	13.96	80.36	7.6	33.57	8.1	25.1	2.10
C6	02 Mar 2021	8	13.99	80.72	7.5	33.55	8.1	25.1	2.39
C6	02 Mar 2021	9	13.83	82.09	7.3	33.60	8.1	25.1	1.93
C6	02 Mar 2021	10	13.71	84.56	7.2	33.60	8.1	25.2	1.37
C6	08 Mar 2021	1	14.76	73.68	8.4	33.13	8.2	24.6	2.21
C6	08 Mar 2021	2	14.76	72.10	8.4	33.50	8.2	24.9	2.37
C6	08 Mar 2021	3	14.75	77.11	8.4	33.55	8.2	24.9	2.65
C6	08 Mar 2021	4	14.74	76.95	8.4	33.55	8.2	24.9	2.94
C6	08 Mar 2021	5	14.74	77.22	8.4	33.55	8.2	24.9	3.05
C6	08 Mar 2021	6	14.71	77.19	8.3	33.55	8.2	24.9	2.85
C6	08 Mar 2021	7	14.69	78.67	8.3	33.55	8.2	24.9	2.63
C6	08 Mar 2021	8	14.65	79.66	8.2	33.55	8.2	24.9	2.24
C6	08 Mar 2021	9	14.63	80.16	8.2	33.55	8.2	24.9	1.96
C6	18 Mar 2021	1	14.41	74.79	8.1	33.55	8.1	25.0	2.07
C6	18 Mar 2021	2	14.37	74.71	8.1	33.55	8.1	25.0	2.23
C6	18 Mar 2021	3	14.29	74.60	7.9	33.57	8.1	25.0	2.69
C6	18 Mar 2021	4	14.09	74.79	7.4	33.57	8.1	25.1	3.36
C6	18 Mar 2021	5	13.26	79.07	6.2	33.66	8.0	25.3	2.91
C6	18 Mar 2021	6	12.89	82.44	5.4	33.65	8.0	25.4	1.53
C6	18 Mar 2021	7	12.77	84.88	5.2	33.65	7.9	25.4	0.95
C6	18 Mar 2021	8	12.48	85.47	5.0	33.67	7.9	25.5	0.67
C6	18 Mar 2021	9	12.44	85.18	5.0	33.66	7.9	25.5	0.59
C6	24 Mar 2021	1	13.30	64.81	6.8	33.71	8.0	25.3	1.71
C6	24 Mar 2021	2	13.21	67.41	6.8	33.72	8.0	25.4	2.02
C6	24 Mar 2021	3	13.29	67.87	6.7	33.70	8.0	25.3	2.04
C6	24 Mar 2021	4	12.63	68.86	6.4	33.76	8.0	25.5	3.56

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
C6	24 Mar 2021	5	12.50	75.99	6.2	33.72	8.0	25.5	4.35
C6	24 Mar 2021	6	12.38	77.56	5.9	33.74	8.0	25.5	3.74
C6	24 Mar 2021	7	12.09	78.49	5.1	33.78	7.9	25.6	2.58
C6	24 Mar 2021	8	11.42	78.94	4.2	33.78	7.8	25.8	1.29
C6	24 Mar 2021	9	12.12	78.81	5.0	33.70	7.8	25.6	1.97
C7	02 Mar 2021	1	14.78	78.14	8.3	33.57	8.1	24.9	1.90
C7	02 Mar 2021	2	14.78	78.10	8.3	33.57	8.1	24.9	2.09
C7	02 Mar 2021	3	14.77	77.92	8.3	33.57	8.1	24.9	2.53
C7	02 Mar 2021	4	14.74	77.96	8.3	33.57	8.1	24.9	2.78
C7	02 Mar 2021	5	14.61	78.96	8.0	33.58	8.1	25.0	2.58
C7	02 Mar 2021	6	14.32	81.09	7.8	33.56	8.1	25.0	2.40
C7	02 Mar 2021	7	13.97	82.13	7.5	33.61	8.1	25.1	2.40
C7	02 Mar 2021	8	13.72	82.44	7.3	33.56	8.1	25.1	2.45
C7	02 Mar 2021	9	13.69	82.70	7.3	33.56	8.1	25.1	2.61
C7	02 Mar 2021	10	13.65	82.60	7.2	33.57	8.1	25.2	2.61
C7	02 Mar 2021	11	13.65	82.72	7.2	33.57	8.1	25.2	2.50
C7	02 Mar 2021	12	13.64	82.71	7.2	33.57	8.1	25.2	2.41
C7	02 Mar 2021	13	13.64	82.80	7.2	33.57	8.1	25.2	2.31
C7	02 Mar 2021	14	13.62	82.90	7.1	33.58	8.1	25.2	2.27
C7	02 Mar 2021	15	13.59	83.40	7.0	33.58	8.1	25.2	2.00
C7	02 Mar 2021	16	13.36	83.91	6.5	33.63	8.0	25.3	1.53
C7	02 Mar 2021	17	12.88	85.72	5.7	33.66	8.0	25.4	1.01
C7	02 Mar 2021	18	12.78	86.22	5.6	33.66	7.9	25.4	0.77
C7	08 Mar 2021	1	14.62	79.04	8.5	33.51	8.2	24.9	2.56
C7	08 Mar 2021	2	14.62	79.24	8.5	33.51	8.2	24.9	2.68
C7	08 Mar 2021	3	14.61	79.12	8.4	33.51	8.2	24.9	2.83
C7	08 Mar 2021	4	14.59	78.97	8.5	33.52	8.2	24.9	3.00
C7	08 Mar 2021	5	14.59	78.65	8.5	33.52	8.2	24.9	3.19
C7	08 Mar 2021	6	14.59	77.83	8.5	33.52	8.2	24.9	3.49
C7	08 Mar 2021	7	14.59	77.49	8.5	33.52	8.2	24.9	3.91
C7	08 Mar 2021	8	14.58	77.42	8.5	33.52	8.2	24.9	4.07
C7	08 Mar 2021	9	14.58	77.58	8.5	33.52	8.2	24.9	4.33
C7	08 Mar 2021	10	14.58	77.66	8.5	33.52	8.2	24.9	4.24
C7	08 Mar 2021	11	14.58	77.58	8.4	33.52	8.2	24.9	4.26
C7	08 Mar 2021	12	14.58	77.69	8.4	33.52	8.2	24.9	4.27
C7	08 Mar 2021	13	14.58	77.65	8.5	33.52	8.2	24.9	4.30
C7	08 Mar 2021	14	14.58	77.41	8.5	33.52	8.2	24.9	4.50
C7	08 Mar 2021	15	14.58	77.47	8.3	33.53	8.2	24.9	4.28
C7	08 Mar 2021	16	14.55	78.84	8.0	33.54	8.2	24.9	3.44
C7	08 Mar 2021	17	14.36	82.47	7.7	33.55	8.1	25.0	2.41
C7	08 Mar 2021	18	14.40	82.85	7.8	33.56	8.2	25.0	2.57
C7	18 Mar 2021	1	14.42	64.87	8.2	33.52	8.1	25.0	5.35
C7	18 Mar 2021	2	14.38	65.64	8.2	33.52	8.1	25.0	6.70
C7	18 Mar 2021	3	14.37	65.73	8.1	33.53	8.1	25.0	8.44
C7	18 Mar 2021	4	14.27	65.93	8.0	33.54	8.1	25.0	9.09
C7	18 Mar 2021	5	14.00	68.66	7.8	33.56	8.1	25.1	8.03
C7	18 Mar 2021	6	13.89	74.46	7.4	33.57	8.1	25.1	6.72
C7	18 Mar 2021	7	13.35	79.12	6.7	33.63	8.1	25.3	4.17
C7	18 Mar 2021	8	12.89	82.62	6.1	33.64	8.0	25.4	2.42
C7	18 Mar 2021	9	12.69	84.27	5.8	33.66	8.0	25.4	1.69
C7	18 Mar 2021	10	12.11	84.91	5.4	33.69	7.9	25.6	1.38
C7	18 Mar 2021	11	12.00	84.78	5.2	33.68	7.9	25.6	1.38
C7	18 Mar 2021	12	11.90	84.98	5.1	33.69	7.9	25.6	1.39
C7	18 Mar 2021	13	11.70	85.39	4.9	33.71	7.9	25.6	1.09
C7	18 Mar 2021	14	11.63	85.89	4.8	33.71	7.8	25.7	0.88
C7	18 Mar 2021	15	11.39	86.24	4.5	33.76	7.8	25.7	0.75
C7	18 Mar 2021	16	11.11	86.17	4.2	33.79	7.8	25.8	0.61
C7	18 Mar 2021	17	11.08	85.50	4.1	33.79	7.8	25.8	0.56

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (µg/L)
C7	18 Mar 2021	18	10.99	84.88	4.0	33.80	7.8	25.8	0.53
C7	24 Mar 2021	1	13.39	76.38	7.3	33.69	8.1	25.3	2.96
C7	24 Mar 2021	2	13.32	76.18	6.8	33.70	8.1	25.3	3.09
C7	24 Mar 2021	3	12.03	77.05	5.5	33.82	8.0	25.7	2.60
C7	24 Mar 2021	4	11.52	80.51	4.7	33.77	7.9	25.7	2.07
C7	24 Mar 2021	5	11.30	82.05	4.4	33.78	7.8	25.8	1.66
C7	24 Mar 2021	6	11.20	83.55	4.3	33.78	7.8	25.8	1.53
C7	24 Mar 2021	7	11.14	83.64	4.3	33.79	7.8	25.8	1.43
C7	24 Mar 2021	8	11.11	83.53	4.2	33.79	7.8	25.8	1.48
C7	24 Mar 2021	9	11.10	83.34	4.2	33.79	7.8	25.8	1.51
C7	24 Mar 2021	10	11.08	83.15	4.2	33.80	7.8	25.8	1.44
C7	24 Mar 2021	11	11.07	83.15	4.2	33.80	7.8	25.8	1.37
C7	24 Mar 2021	12	11.05	83.08	4.2	33.80	7.8	25.8	1.28
C7	24 Mar 2021	13	11.03	83.14	4.1	33.81	7.8	25.8	1.25
C7	24 Mar 2021	14	11.00	83.21	4.0	33.81	7.8	25.9	1.09
C7	24 Mar 2021	15	10.97	83.54	4.0	33.82	7.8	25.9	0.90
C7	24 Mar 2021	16	10.95	83.93	3.9	33.82	7.8	25.9	0.82
C7	24 Mar 2021	17	10.93	84.28	3.8	33.83	7.8	25.9	0.71
C7	24 Mar 2021	18	10.89	84.47	3.7	33.83	7.8	25.9	0.61
C8	02 Mar 2021	1	14.55	79.43	8.2	33.56	8.1	25.0	1.45
C8	02 Mar 2021	2	14.53	79.87	8.3	33.55	8.2	25.0	1.39
C8	02 Mar 2021	3	14.51	80.08	8.4	33.55	8.2	25.0	1.62
C8	02 Mar 2021	4	14.51	79.61	8.3	33.55	8.2	25.0	1.98
C8	02 Mar 2021	5	14.51	79.52	8.2	33.55	8.1	25.0	2.37
C8	02 Mar 2021	6	14.50	78.44	8.1	33.56	8.1	25.0	2.78
C8	02 Mar 2021	7	14.49	77.78	8.1	33.56	8.1	25.0	2.97
C8	02 Mar 2021	8	14.45	77.60	8.0	33.57	8.1	25.0	2.97
C8	02 Mar 2021	9	14.23	78.34	7.7	33.58	8.1	25.0	2.27
C8	02 Mar 2021	10	13.96	80.88	7.4	33.59	8.1	25.1	1.97
C8	02 Mar 2021	11	13.77	82.44	7.2	33.59	8.1	25.1	1.77
C8	02 Mar 2021	12	13.70	83.06	7.1	33.60	8.1	25.2	1.65
C8	02 Mar 2021	13	13.67	83.28	7.0	33.60	8.1	25.2	1.64
C8	02 Mar 2021	14	13.67	83.35	7.0	33.60	8.1	25.2	1.65
C8	02 Mar 2021	15	13.66	83.40	7.0	33.60	8.1	25.2	1.75
C8	02 Mar 2021	16	13.64	83.33	7.0	33.60	8.1	25.2	1.70
C8	02 Mar 2021	17	13.49	83.49	6.8	33.62	8.0	25.2	1.64
C8	02 Mar 2021	18	13.22	83.68	6.5	33.61	8.0	25.3	1.78
C8	02 Mar 2021	19	12.87	83.79	6.0	33.65	8.0	25.4	1.63
C8	02 Mar 2021	20	12.42	84.09	5.6	33.69	7.9	25.5	1.33
C8	08 Mar 2021	1	14.60	76.12	8.4	33.53	8.2	24.9	4.03
C8	08 Mar 2021	2	14.55	76.73	8.5	33.53	8.2	24.9	4.53
C8	08 Mar 2021	3	14.54	76.75	8.4	33.53	8.2	24.9	4.75
C8	08 Mar 2021	4	14.52	76.08	8.4	33.53	8.2	24.9	5.44
C8	08 Mar 2021	5	14.51	75.81	8.5	33.53	8.2	24.9	5.74
C8	08 Mar 2021	6	14.50	75.89	8.5	33.53	8.2	24.9	5.50
C8	08 Mar 2021	7	14.50	76.10	8.5	33.53	8.2	24.9	5.38
C8	08 Mar 2021	8	14.50	76.30	8.5	33.53	8.2	24.9	5.61
C8	08 Mar 2021	9	14.49	76.35	8.4	33.53	8.2	24.9	5.40
C8	08 Mar 2021	10	14.49	76.55	8.4	33.53	8.2	24.9	5.38
C8	08 Mar 2021	11	14.49	76.67	8.4	33.53	8.2	24.9	5.18
C8	08 Mar 2021	12	14.49	76.88	8.4	33.53	8.2	24.9	4.95
C8	08 Mar 2021	13	14.49	77.24	8.4	33.53	8.2	24.9	4.64
C8	08 Mar 2021	14	14.49	77.44	8.4	33.53	8.2	24.9	4.68
C8	08 Mar 2021	15	14.49	77.48	8.4	33.53	8.2	24.9	4.56
C8	08 Mar 2021	16	14.49	77.78	8.3	33.53	8.2	25.0	4.10
C8	08 Mar 2021	17	14.43	78.76	8.0	33.54	8.2	25.0	3.34
C8	08 Mar 2021	18	13.89	81.19	7.1	33.60	8.1	25.1	1.83

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
C8	18 Mar 2021	1	14.43	66.94	8.7	33.51	8.2	24.9	3.55
C8	18 Mar 2021	2	14.42	66.91	8.6	33.51	8.2	24.9	4.12
C8	18 Mar 2021	3	14.41	66.29	8.6	33.51	8.2	24.9	5.84
C8	18 Mar 2021	4	14.40	65.92	8.7	33.51	8.2	24.9	7.32
C8	18 Mar 2021	5	14.39	65.87	8.6	33.51	8.2	25.0	8.43
C8	18 Mar 2021	6	14.01	68.39	7.7	33.57	8.1	25.1	7.20
C8	18 Mar 2021	7	13.17	76.27	6.7	33.65	8.1	25.3	4.30
C8	18 Mar 2021	8	12.65	81.69	5.9	33.66	8.0	25.4	2.68
C8	18 Mar 2021	9	12.42	83.69	5.6	33.65	7.9	25.5	1.85
C8	18 Mar 2021	10	12.04	84.91	5.2	33.70	7.9	25.6	1.47
C8	18 Mar 2021	11	11.63	85.75	4.8	33.72	7.9	25.7	1.16
C8	18 Mar 2021	12	11.54	86.02	4.7	33.72	7.8	25.7	0.96
C8	18 Mar 2021	13	11.47	86.11	4.6	33.72	7.8	25.7	0.88
C8	18 Mar 2021	14	11.41	86.29	4.5	33.73	7.8	25.7	0.79
C8	18 Mar 2021	15	11.39	86.44	4.5	33.73	7.8	25.7	0.74
C8	18 Mar 2021	16	11.37	86.45	4.5	33.74	7.8	25.7	0.72
C8	18 Mar 2021	17	11.34	86.44	4.5	33.74	7.8	25.7	0.69
C8	18 Mar 2021	18	11.33	86.47	4.4	33.75	7.8	25.7	0.67
C8	18 Mar 2021	19	11.33	86.43	4.4	33.75	7.8	25.7	0.67
C8	24 Mar 2021	1	13.77	74.29	7.9	33.66	8.1	25.2	2.85
C8	24 Mar 2021	2	13.73	74.94	7.8	33.66	8.1	25.2	3.26
C8	24 Mar 2021	3	13.32	75.25	6.8	33.72	8.1	25.3	3.89
C8	24 Mar 2021	4	12.01	75.79	5.4	33.81	8.0	25.7	3.29
C8	24 Mar 2021	5	11.55	77.78	4.6	33.78	7.9	25.7	2.44
C8	24 Mar 2021	6	11.43	80.44	4.3	33.77	7.8	25.7	1.91
C8	24 Mar 2021	7	11.23	81.72	4.2	33.78	7.8	25.8	1.60
C8	24 Mar 2021	8	11.12	81.03	4.1	33.79	7.8	25.8	1.46
C8	24 Mar 2021	9	11.03	80.68	4.0	33.80	7.8	25.8	1.48
C8	24 Mar 2021	10	11.02	80.89	4.0	33.80	7.8	25.8	1.55
C8	24 Mar 2021	11	10.96	81.24	4.0	33.81	7.8	25.9	1.45
C8	24 Mar 2021	12	10.94	81.78	4.0	33.81	7.8	25.9	1.17
C8	24 Mar 2021	13	10.89	82.66	4.0	33.82	7.8	25.9	1.02
C8	24 Mar 2021	14	10.87	83.12	3.9	33.82	7.8	25.9	0.84
C8	24 Mar 2021	15	10.88	83.52	4.0	33.82	7.8	25.9	0.92
C8	24 Mar 2021	16	10.88	83.54	4.0	33.83	7.8	25.9	0.87
C8	24 Mar 2021	17	10.88	83.73	4.0	33.83	7.8	25.9	0.88
C8	24 Mar 2021	18	10.87	83.31	3.9	33.83	7.8	25.9	0.92
C8	24 Mar 2021	19	10.77	82.64	3.7	33.85	7.8	25.9	0.72

NA = not available

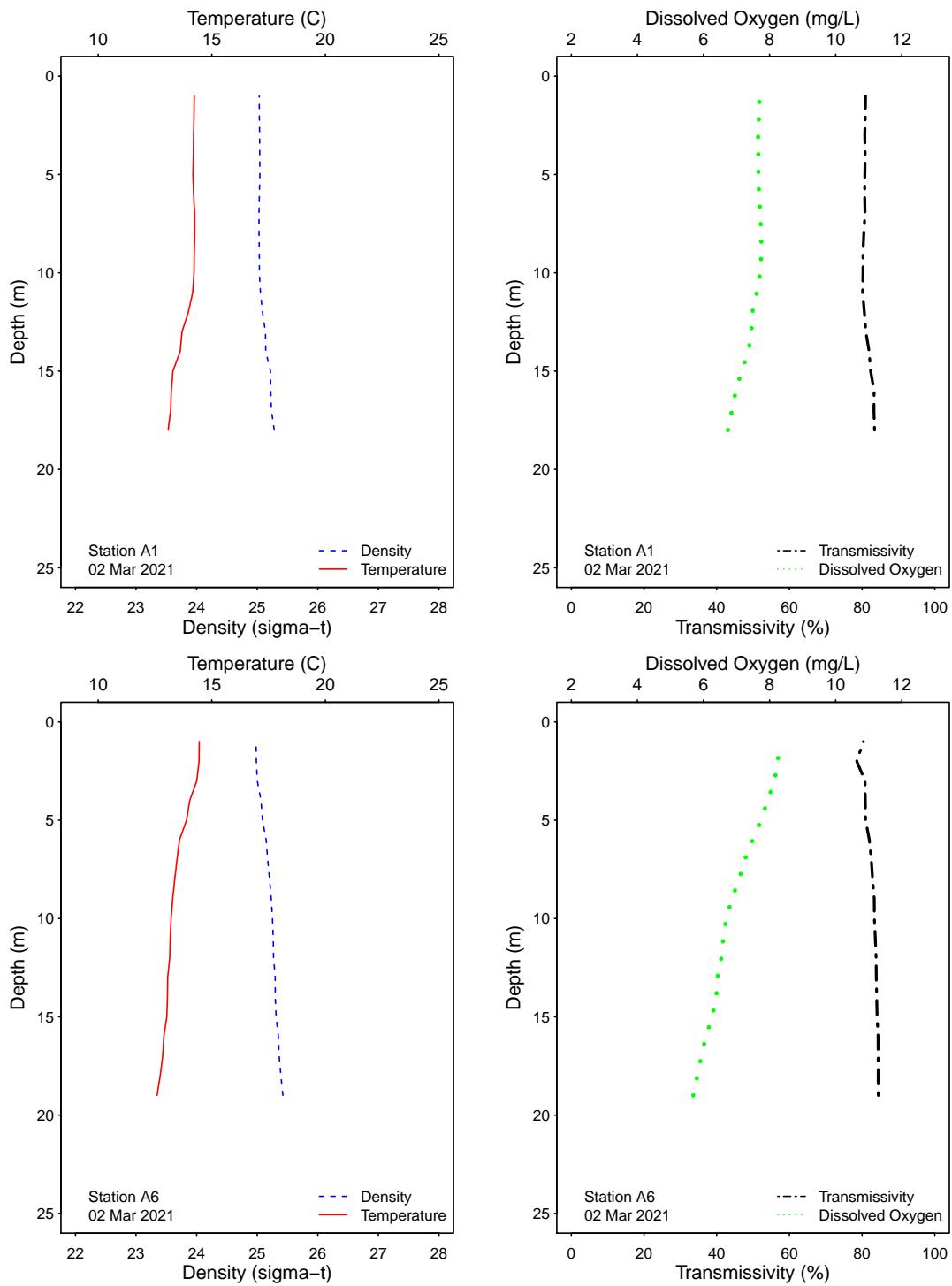


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

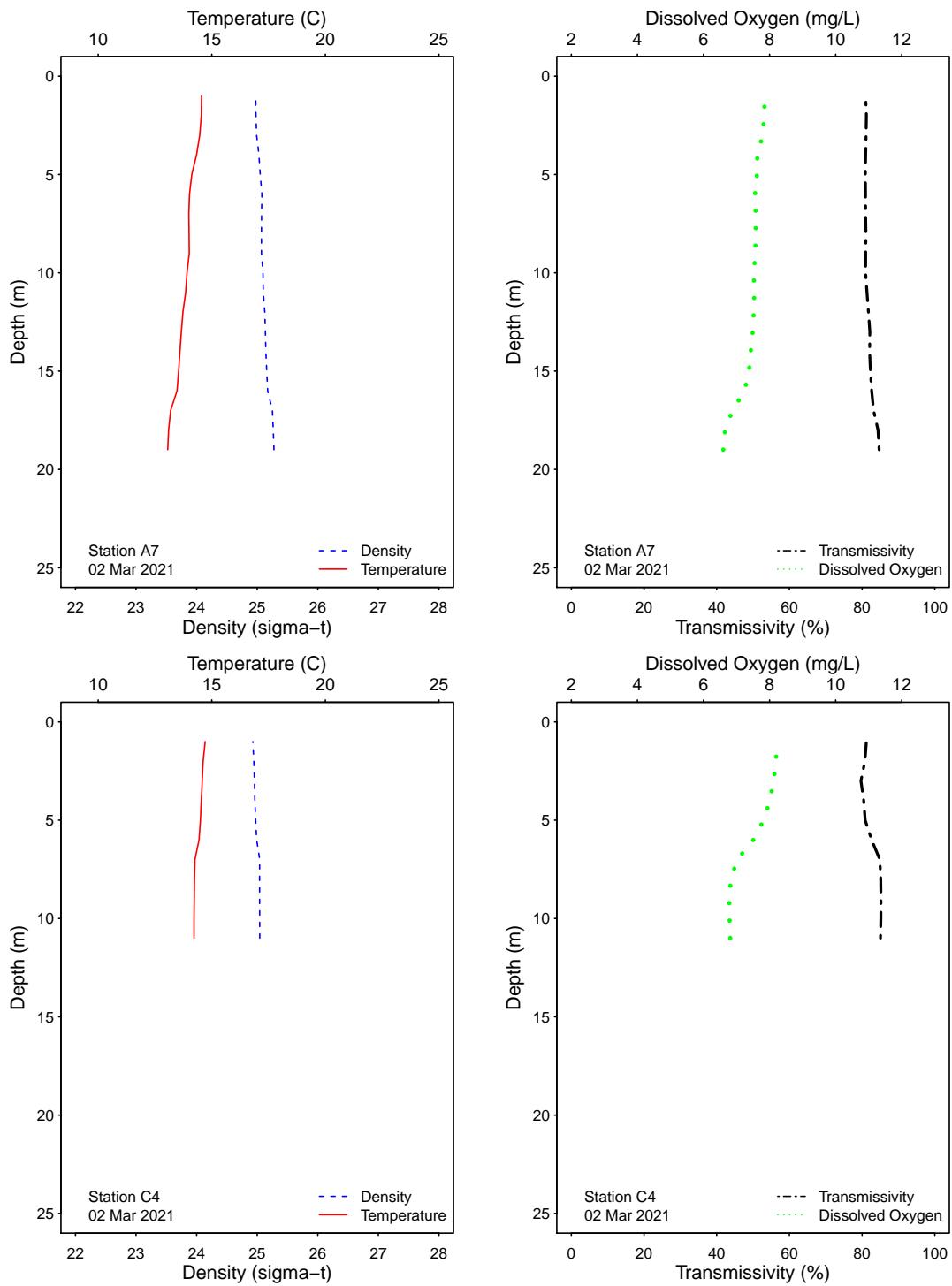


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

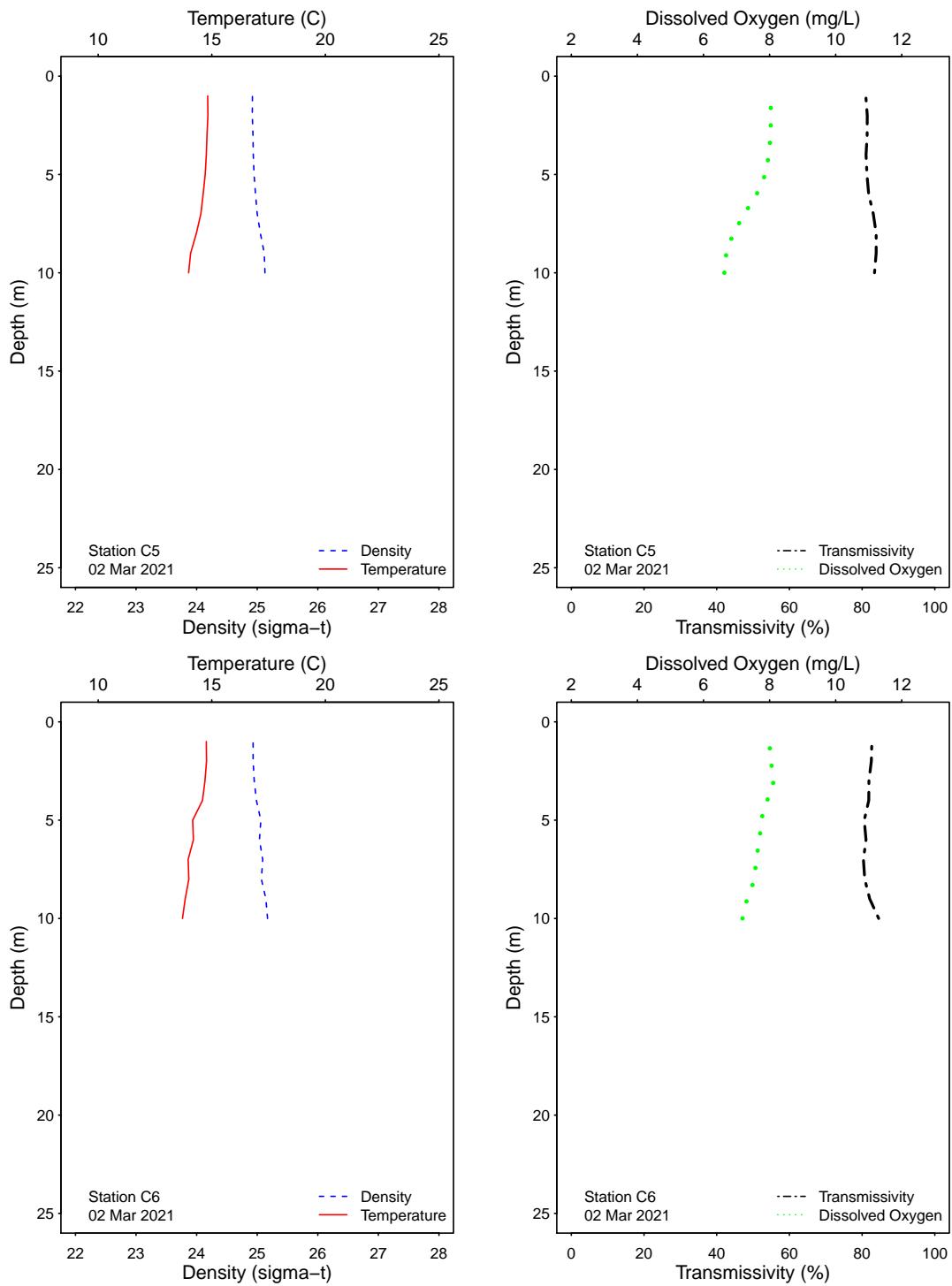


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

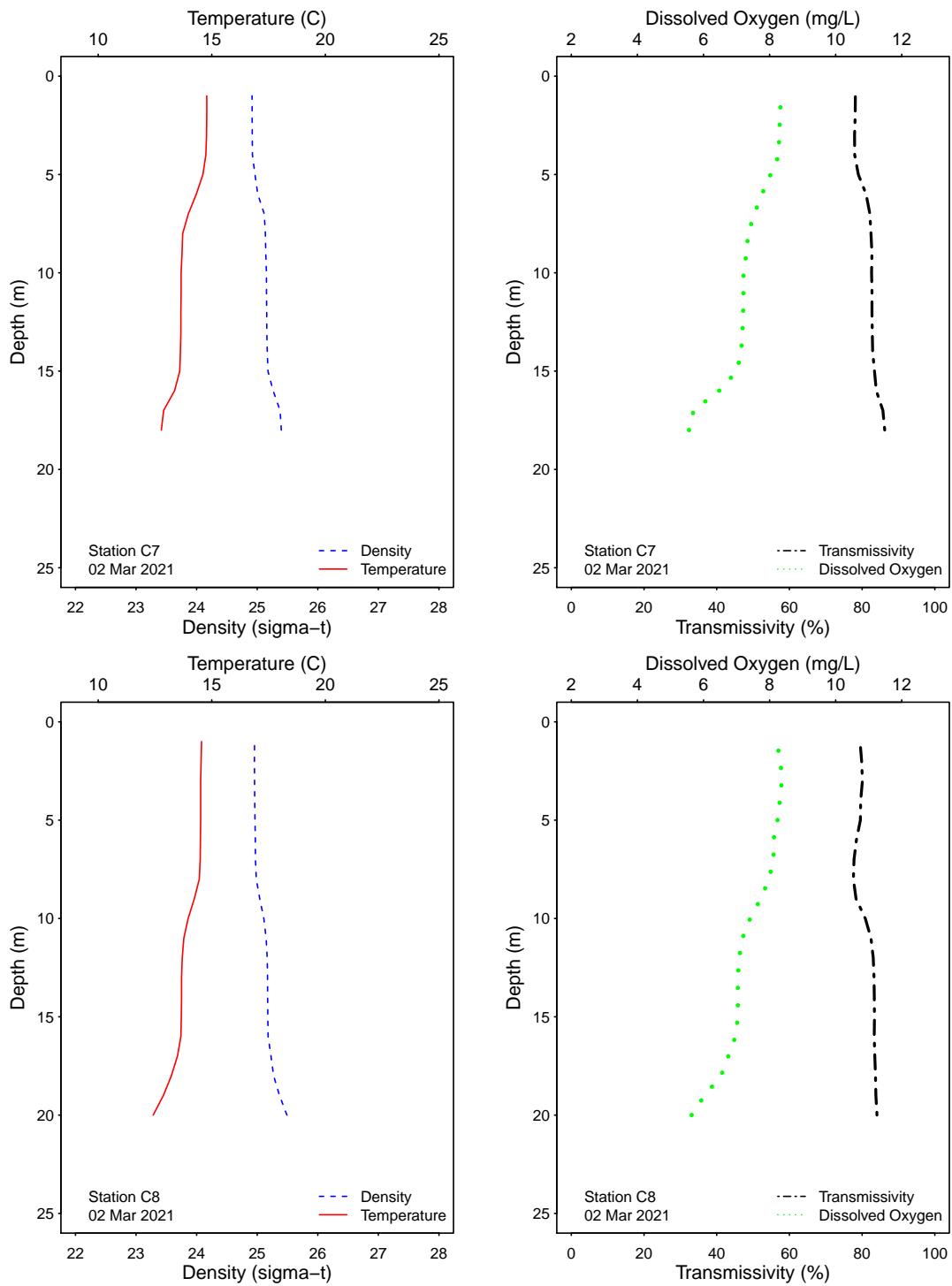


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

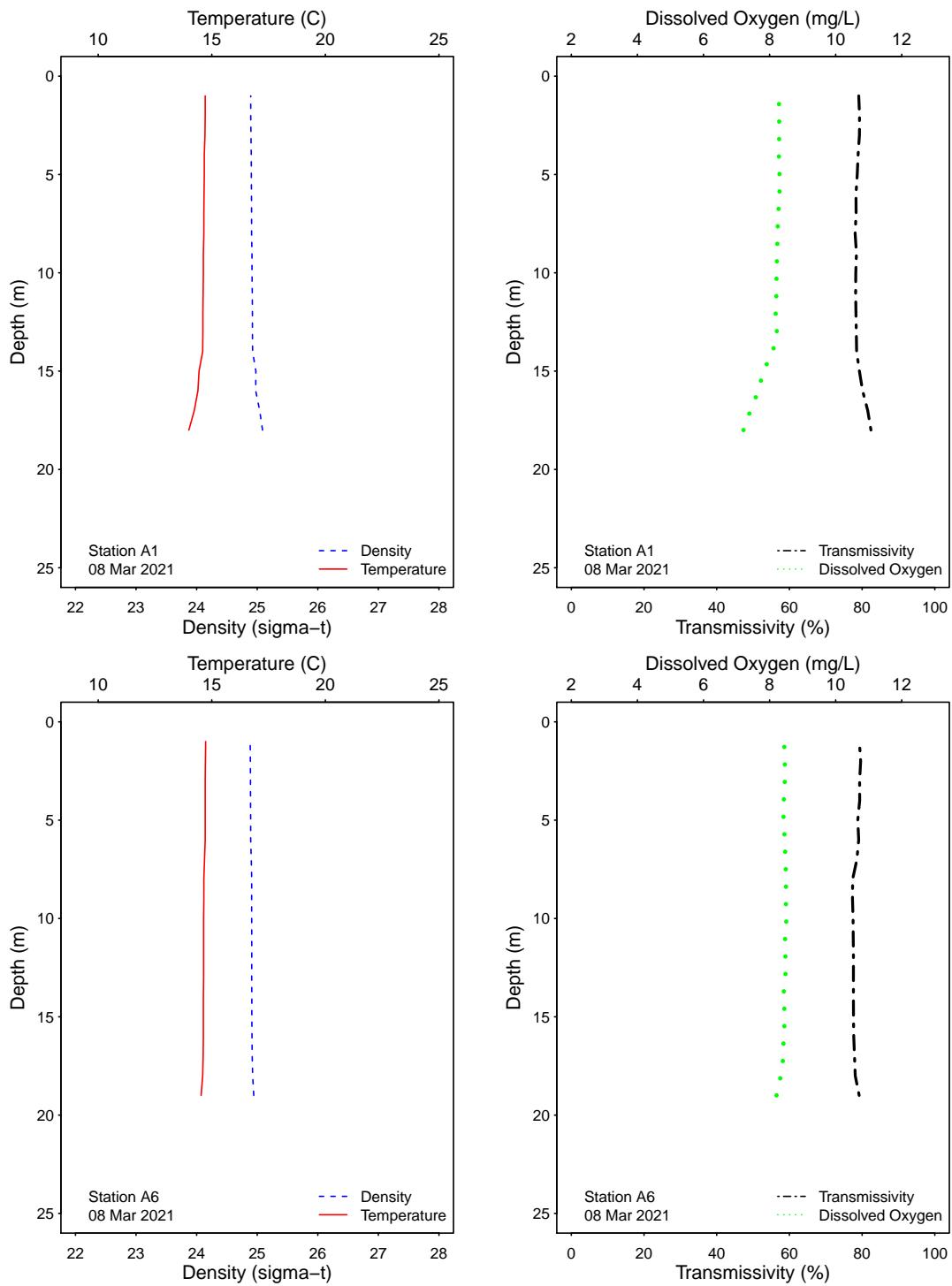


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

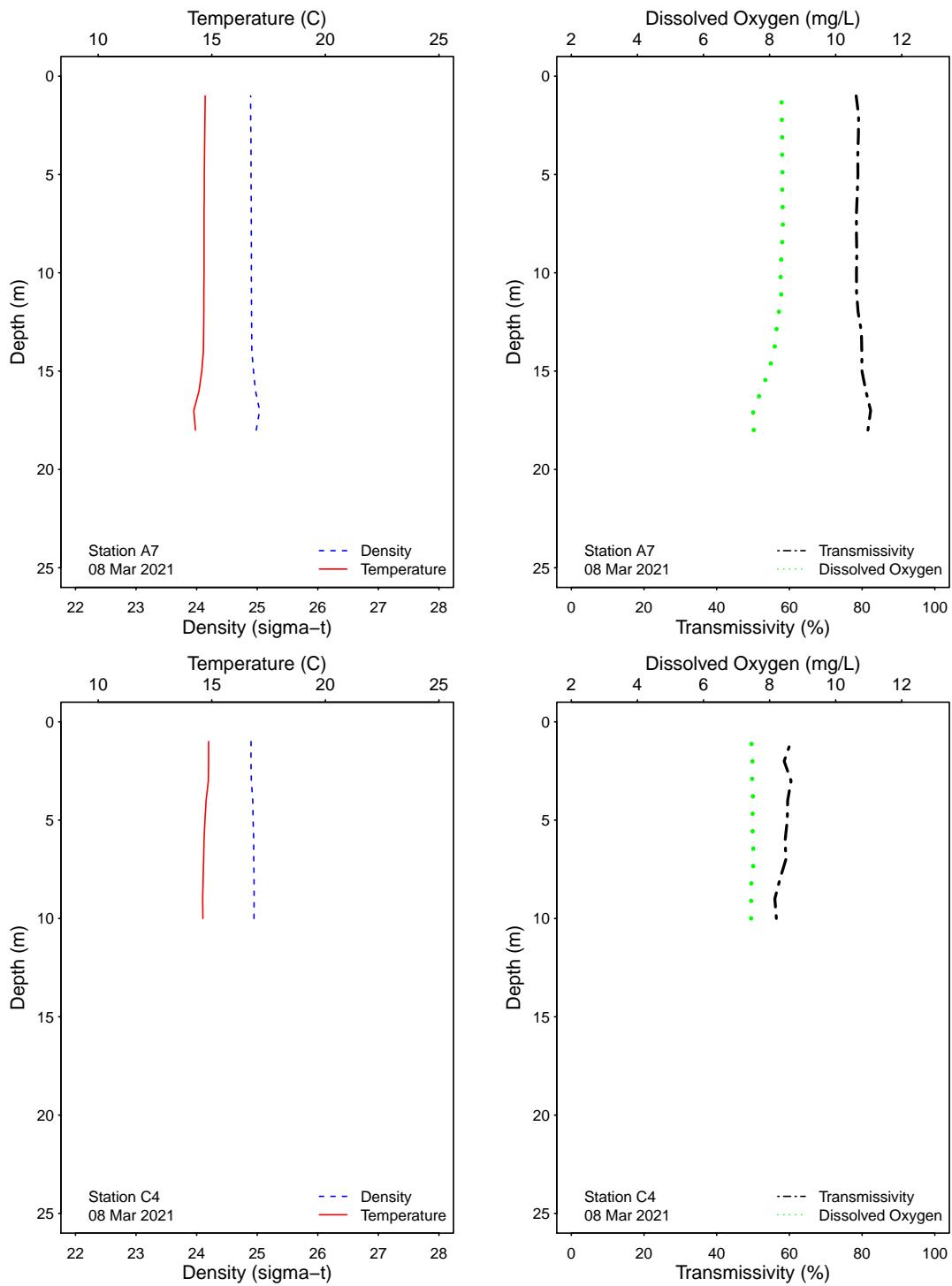


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

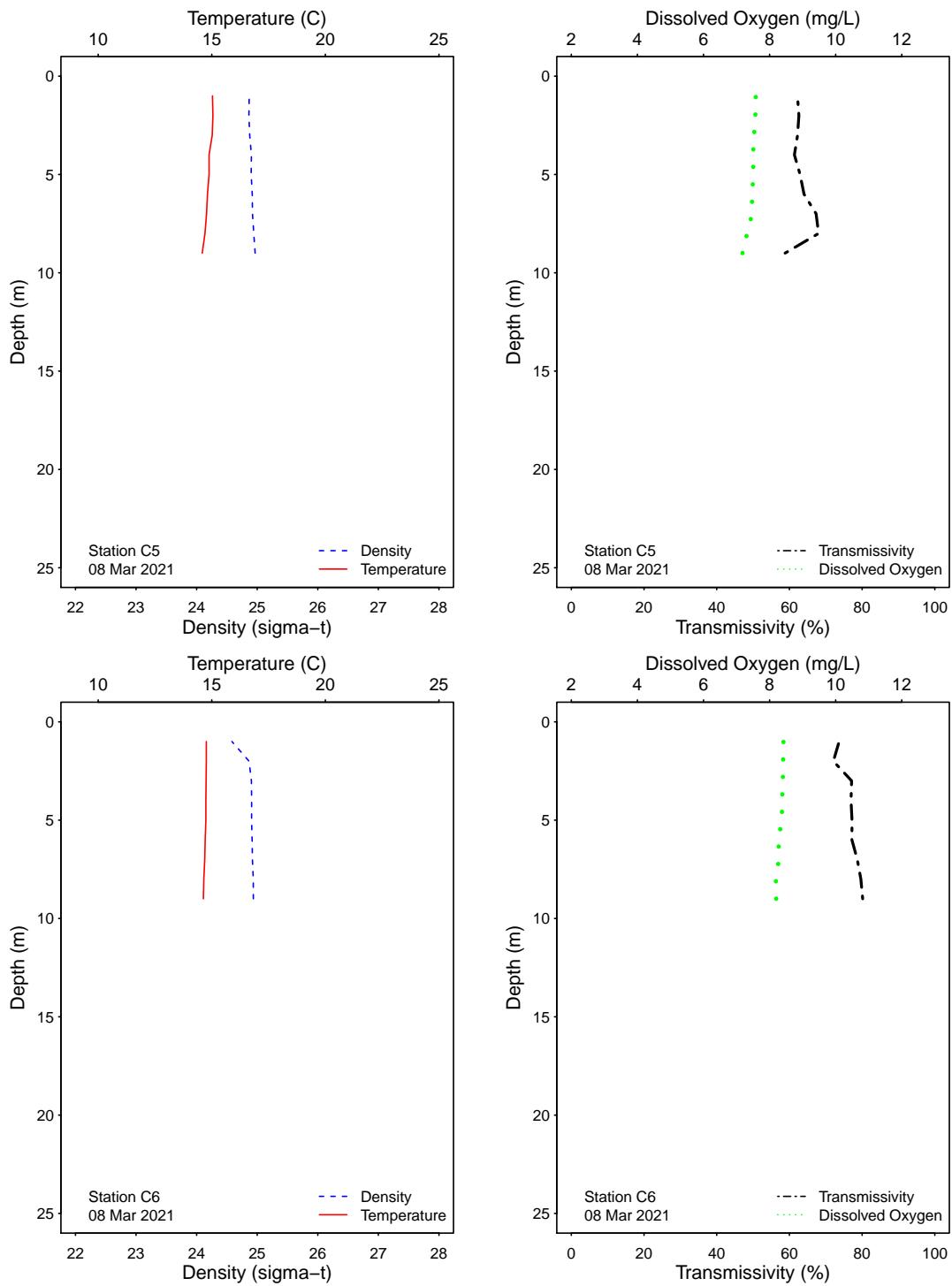


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

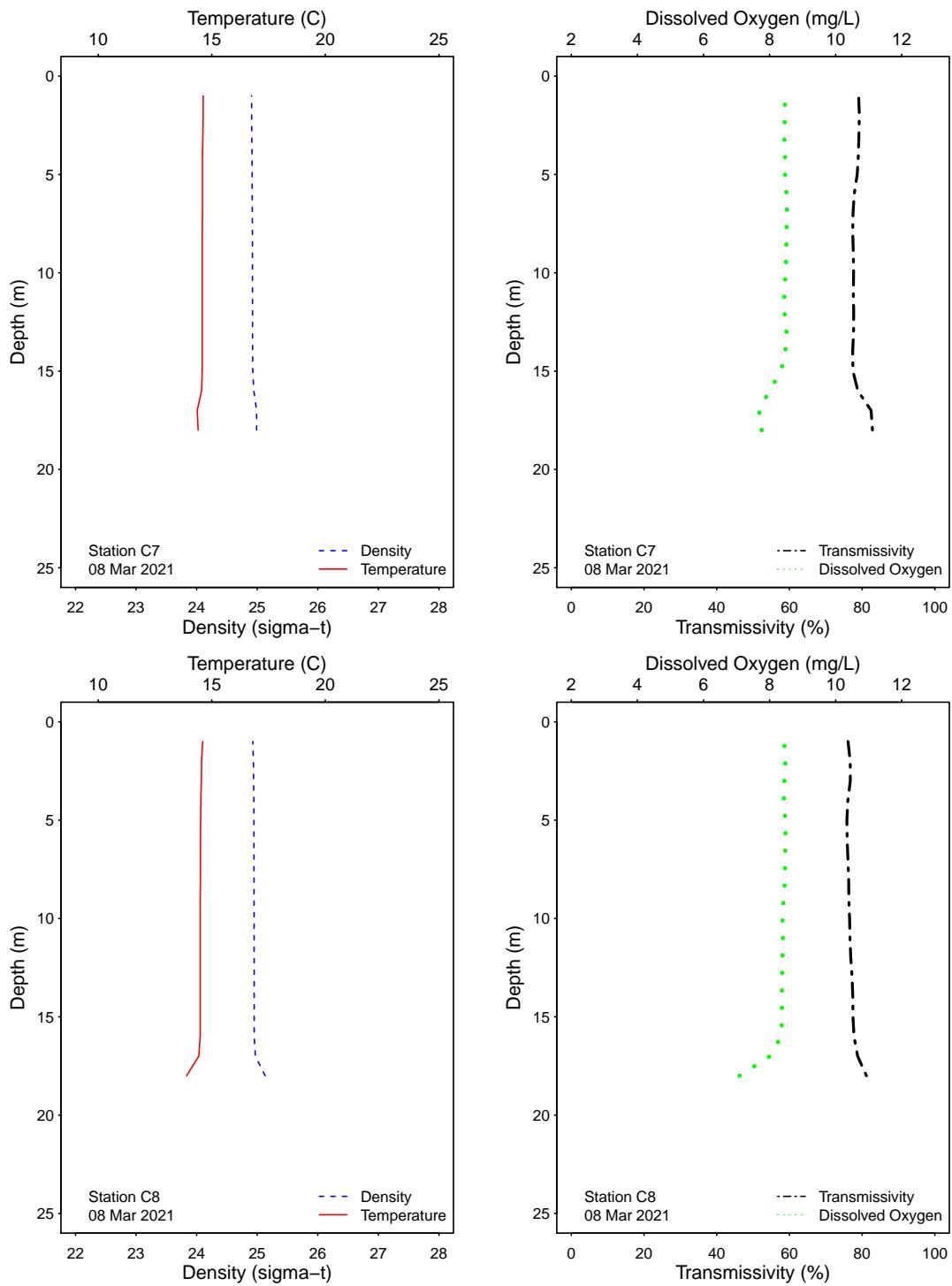


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

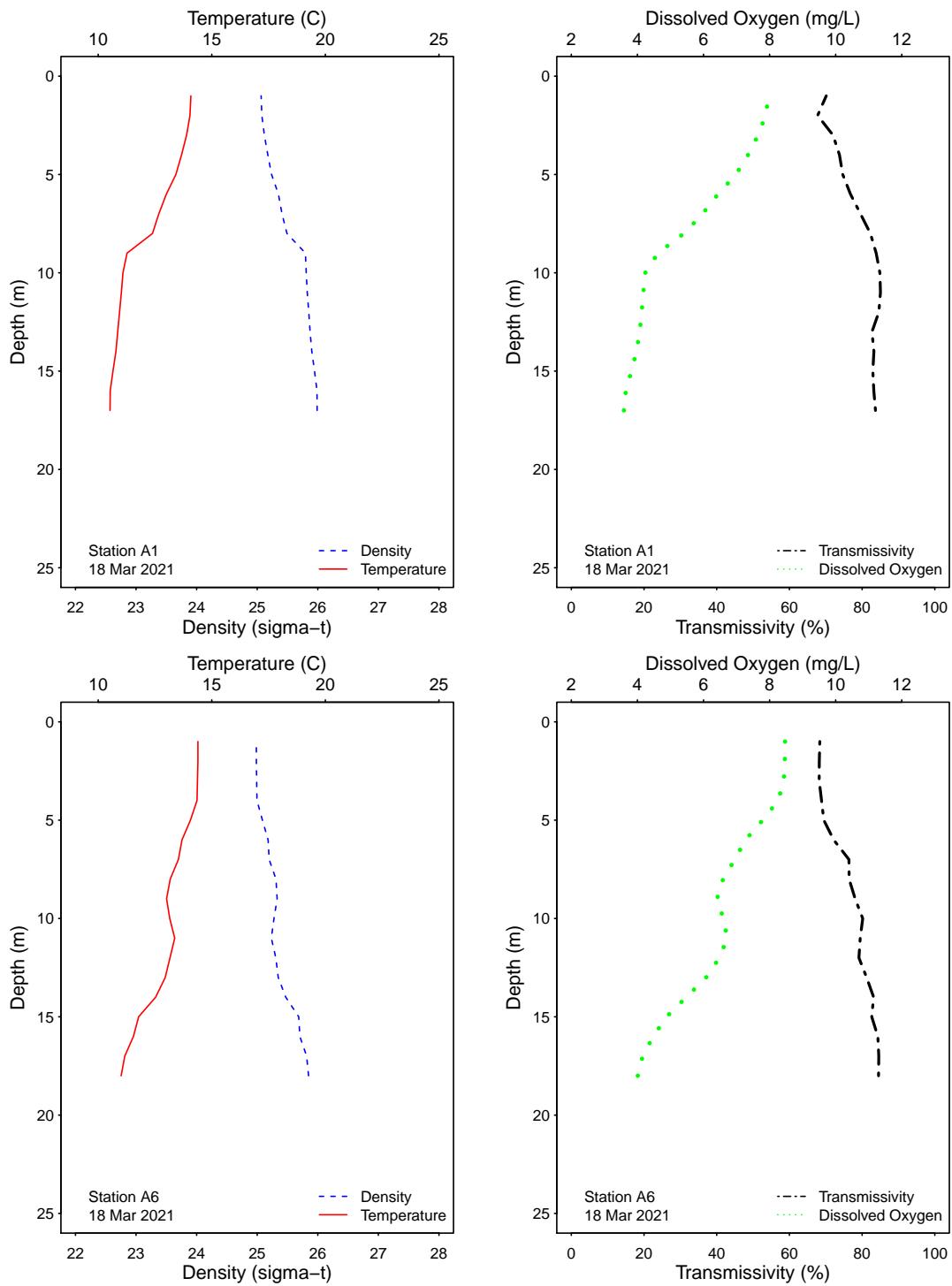


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

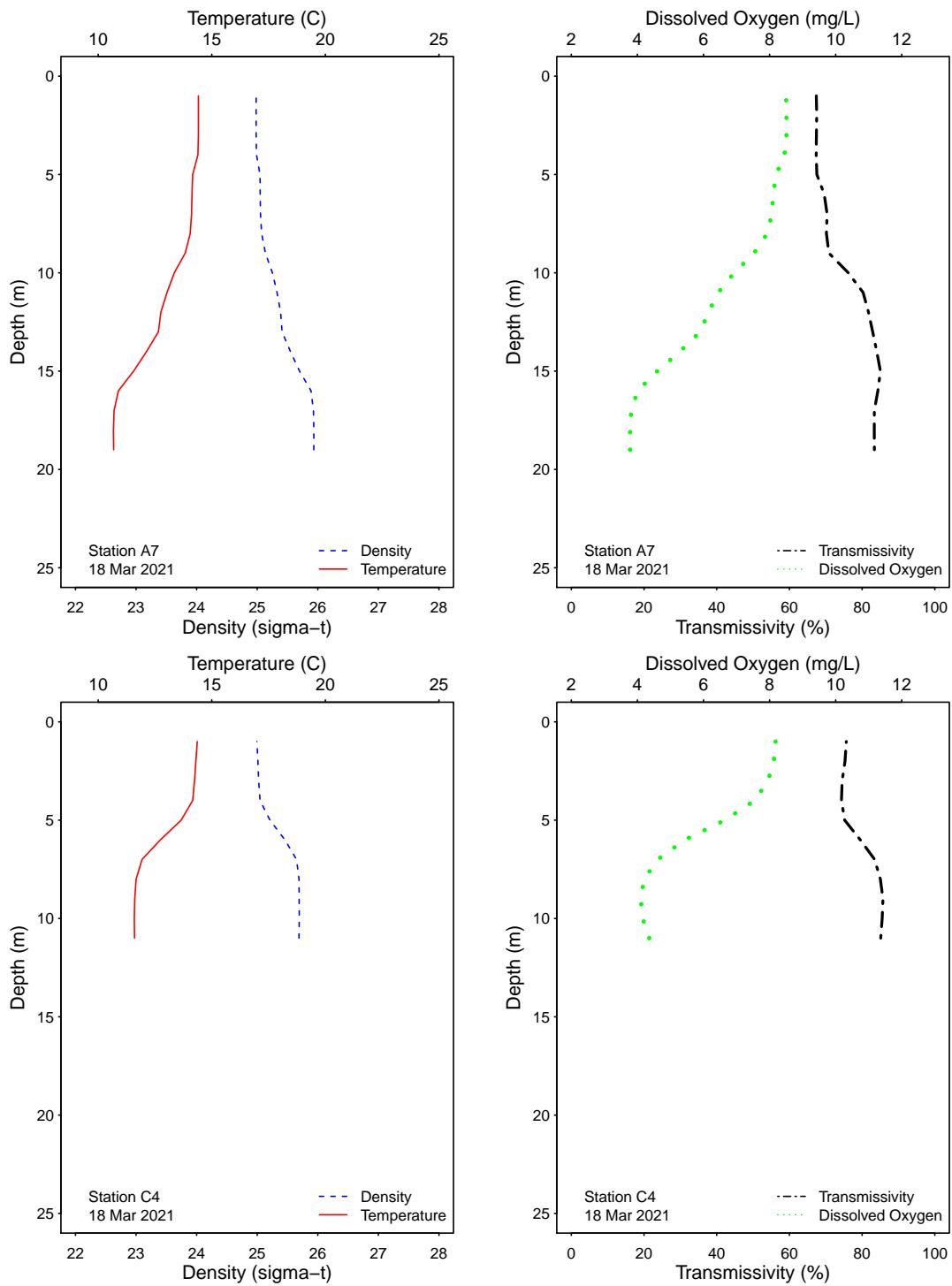


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

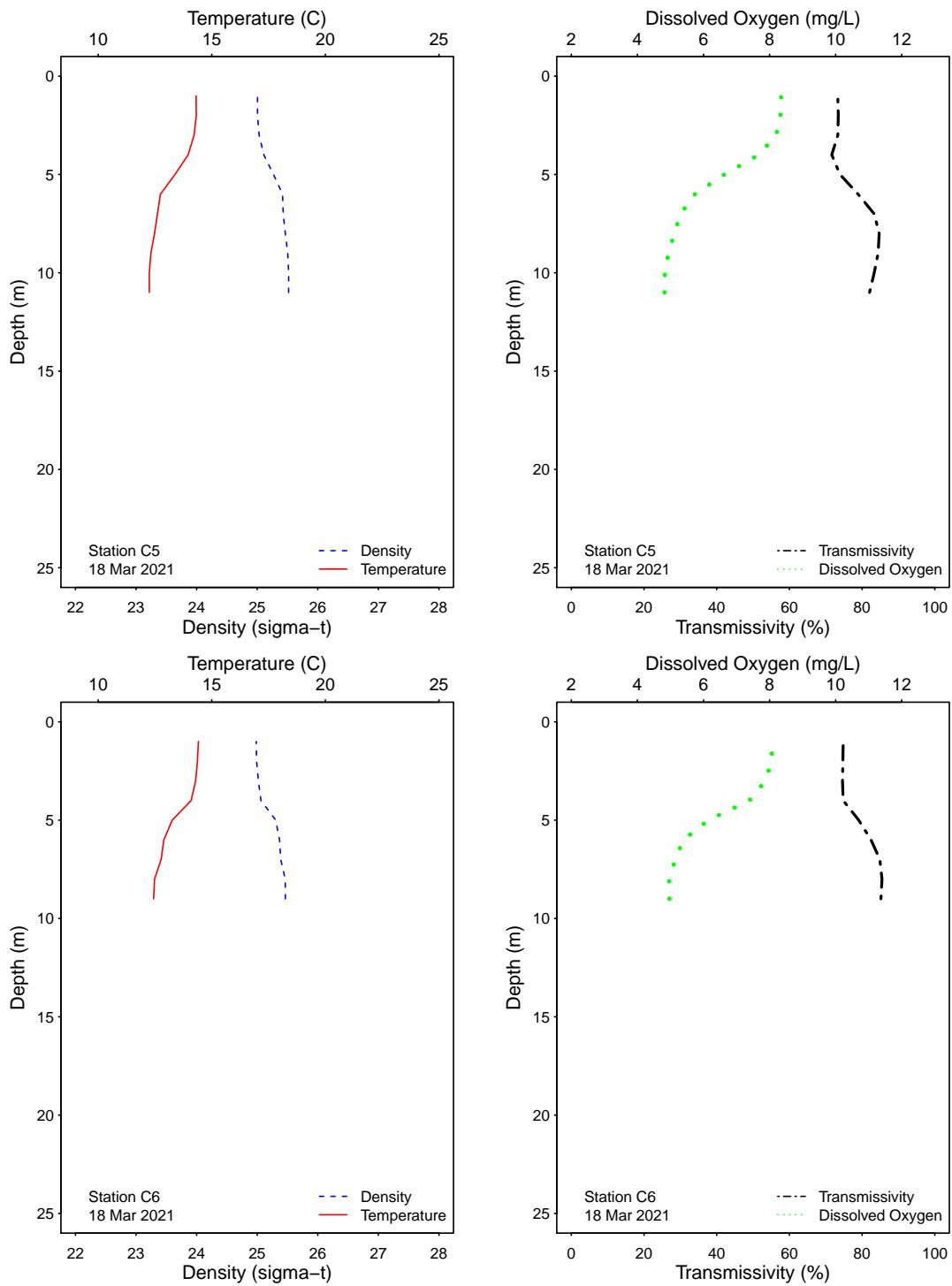


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

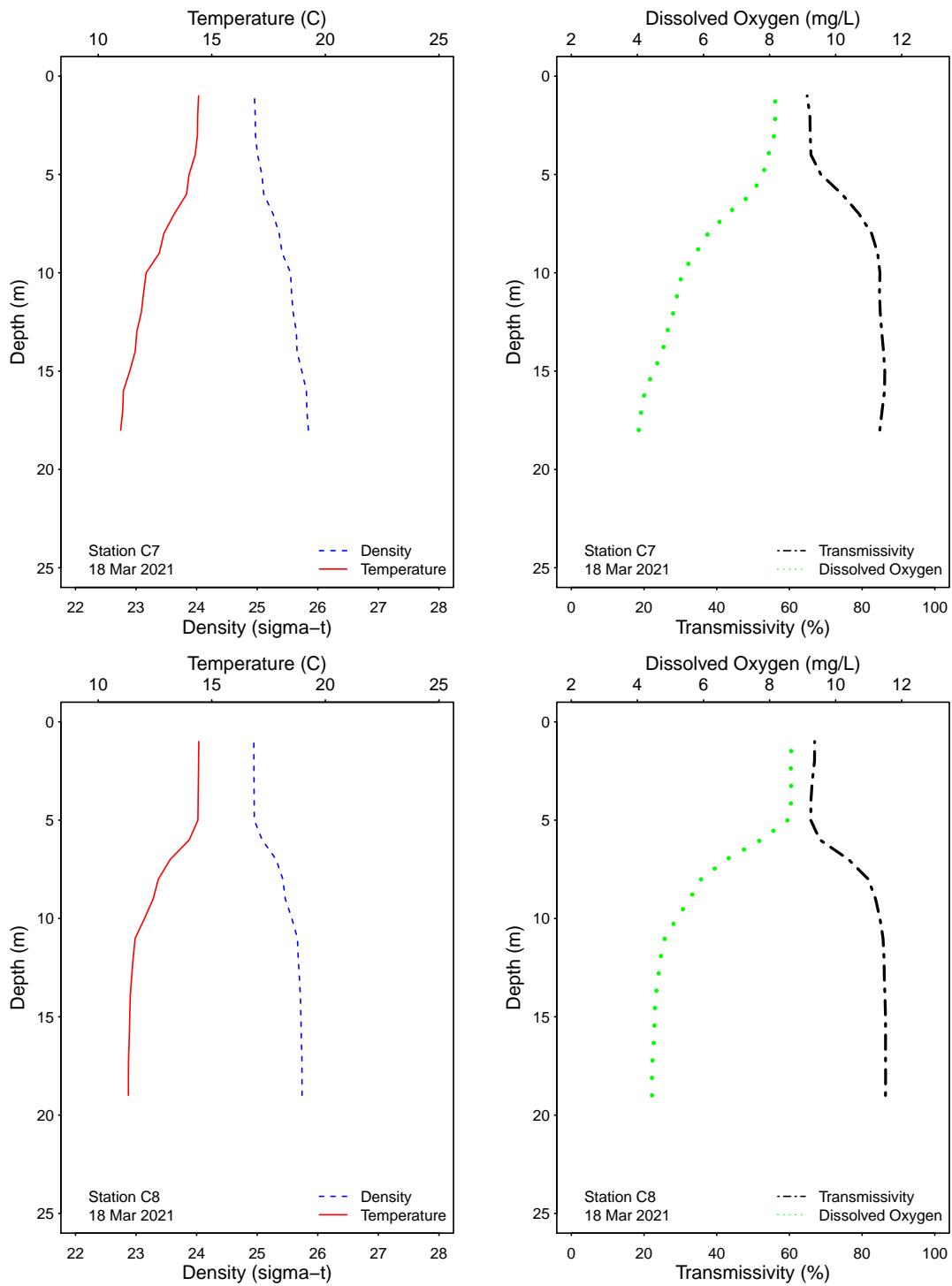


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

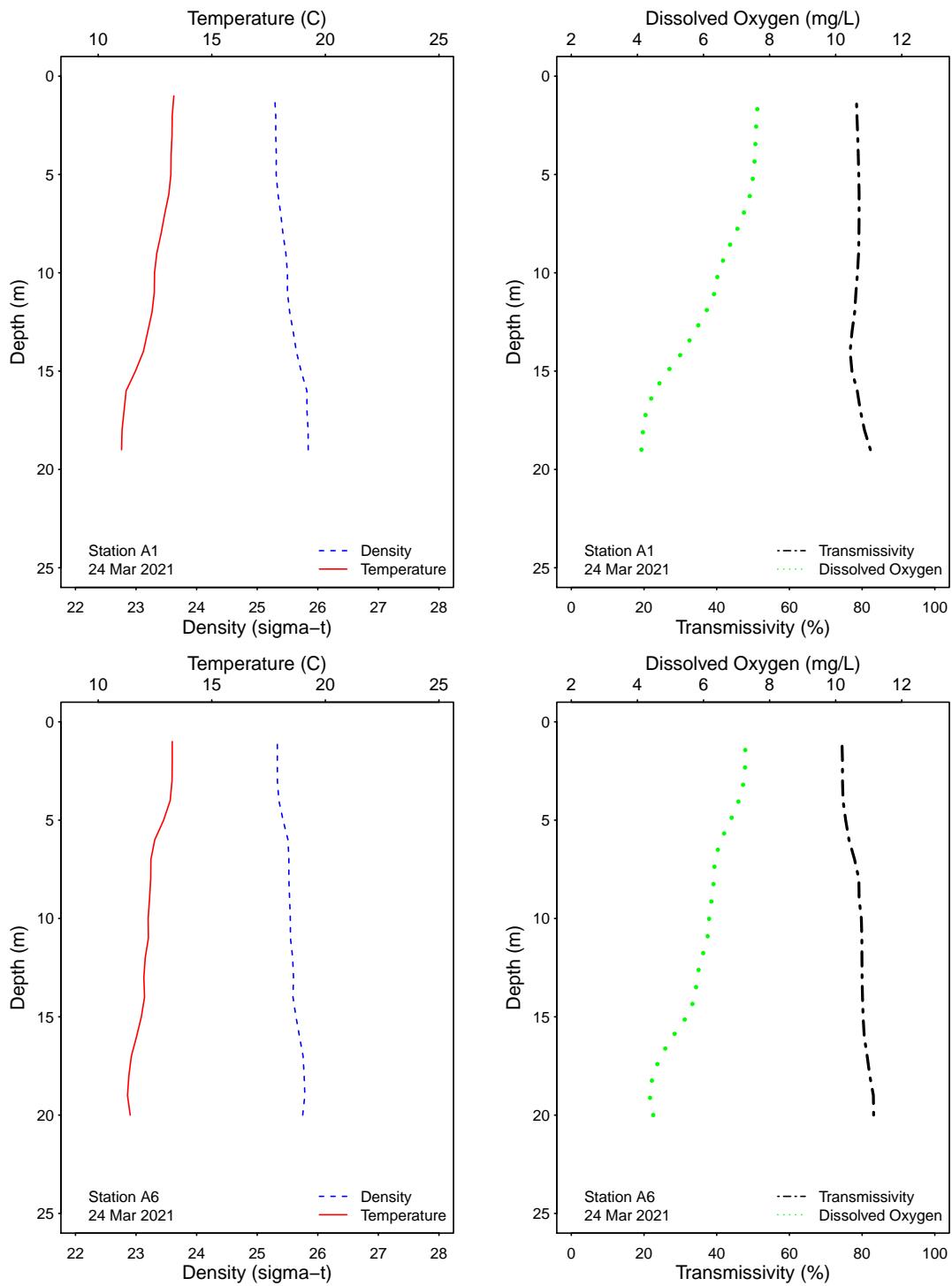


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

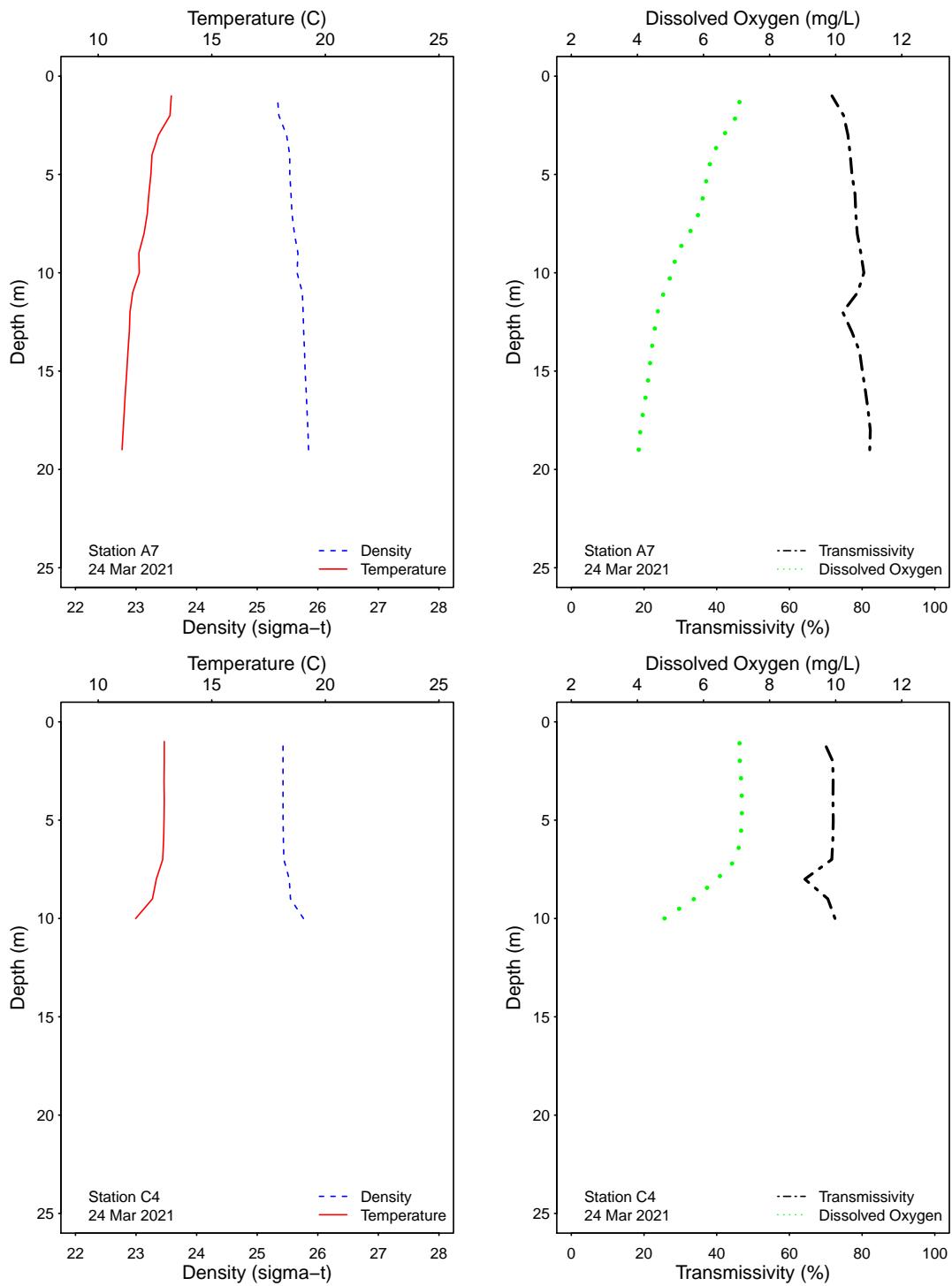


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

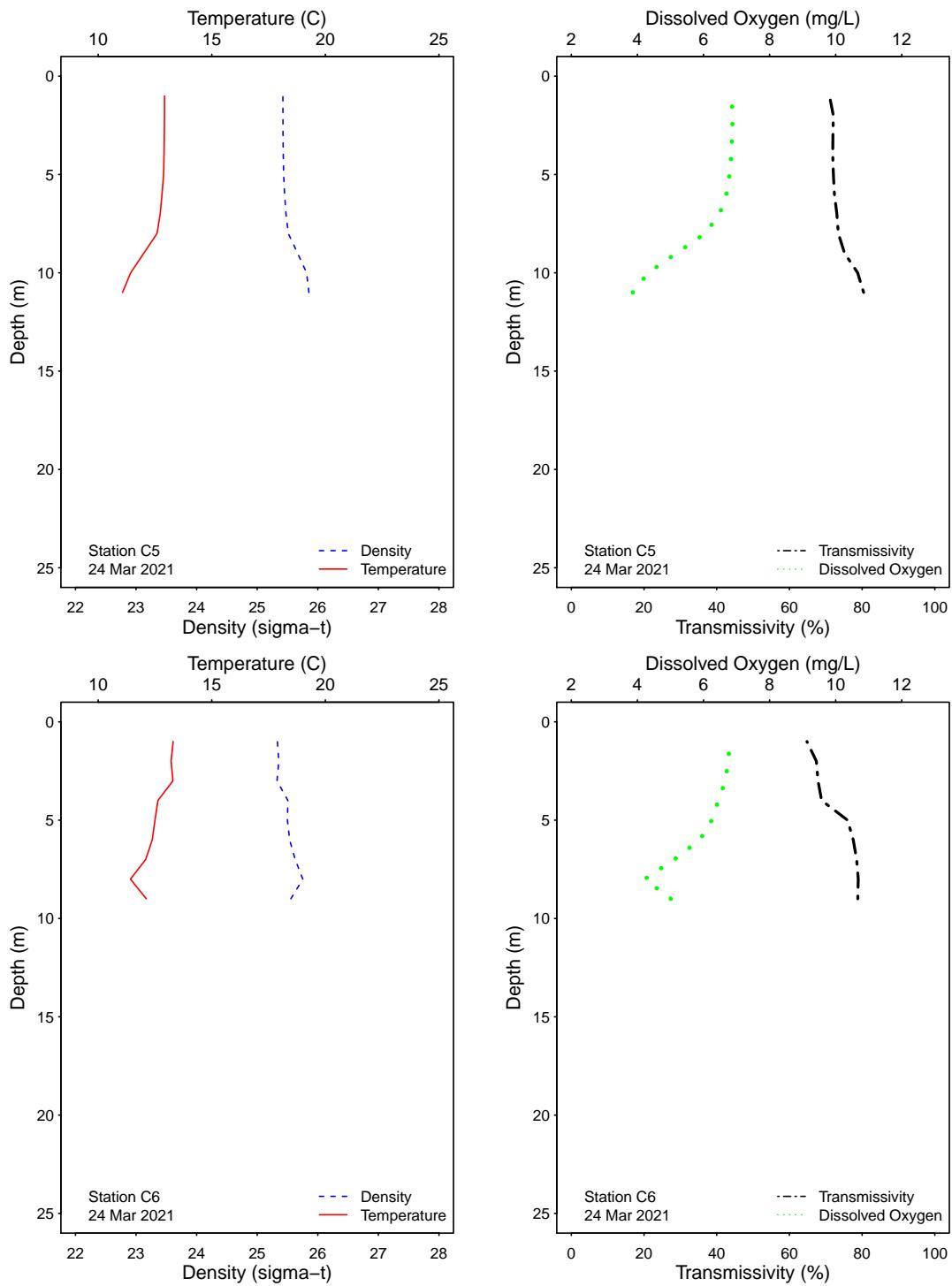


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

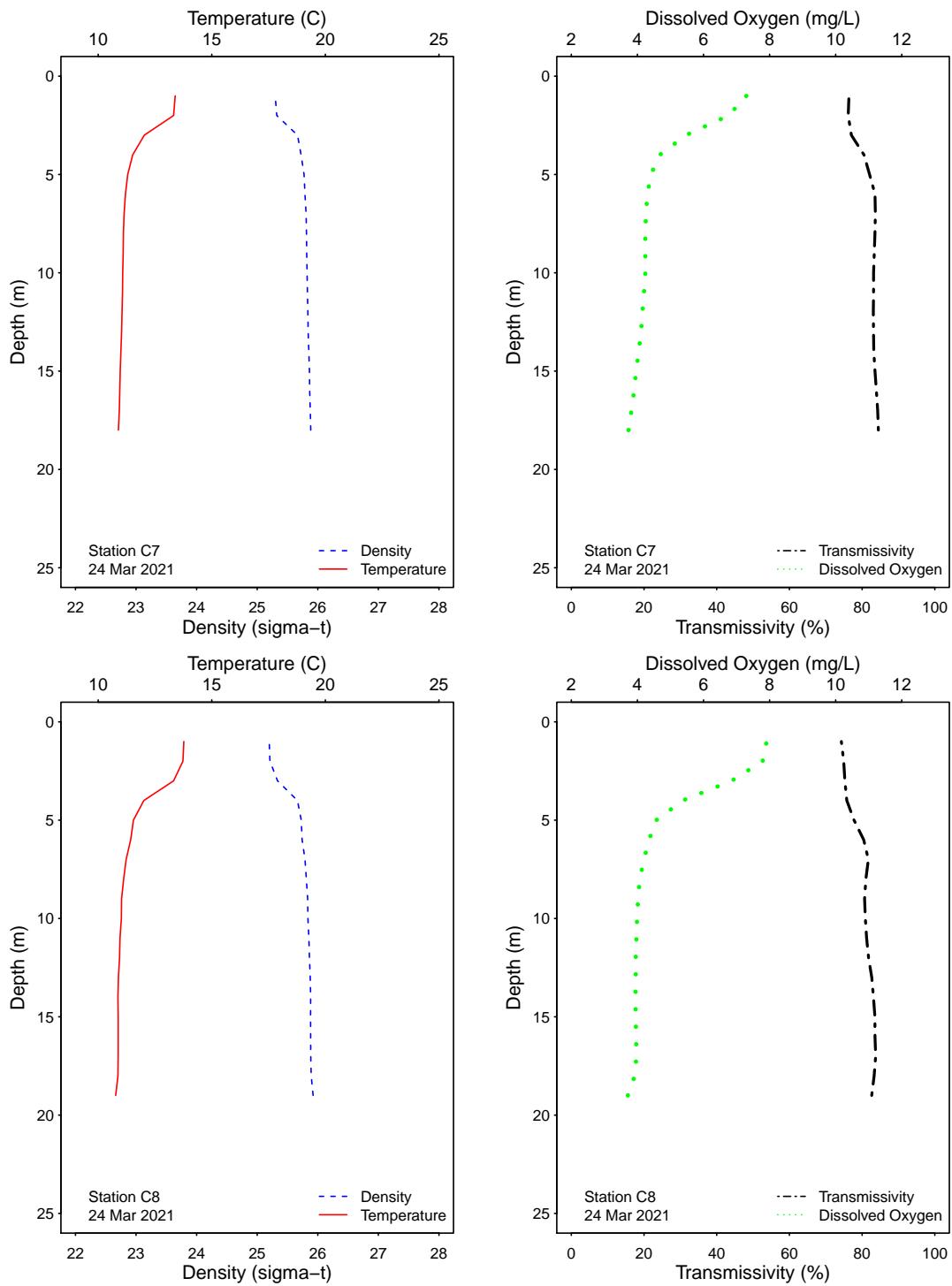


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

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

Station	Date	Depth	Analyst	Procedure	Total	Fecal	Enter
A7	02 Mar 2021	18	AE	LAB DUPLICATE	<2	<2	<2
A7	08 Mar 2021	18	BS	LAB DUPLICATE	<2	<2	<2
A7	18 Mar 2021	18	AE	LAB DUPLICATE	<200	30e	10e
A7	24 Mar 2021	18	AR	LAB DUPLICATE	<20	<2	<2
C7	02 Mar 2021	18	AE	LAB DUPLICATE	2e	<2	<2
C7	08 Mar 2021	18	BS	LAB DUPLICATE	<2	<2	<2
C7	18 Mar 2021	18	JF	LAB DUPLICATE	40e	8e	<2
C7	24 Mar 2021	18	AR	LAB DUPLICATE	6e	<2	2e
C8	02 Mar 2021	12	BS	LAB DUPLICATE	2e	<2	<2
C8	08 Mar 2021	12	BS	LAB DUPLICATE	<2	<2	<2
C8	18 Mar 2021	12	BS	LAB DUPLICATE	<2	4e	2e
C8	24 Mar 2021	12	AR	LAB DUPLICATE	12e	<2	2e
D12	03 Mar 2021		JF	FIELD DUPLICATE	2e	<2	8e
D12	03 Mar 2021		JF	LAB DUPLICATE	<20	<2	<2
D12	10 Mar 2021		BS	FIELD DUPLICATE	6e	2e	2e
D12	10 Mar 2021		BS	LAB DUPLICATE	<2	<2	4e
D12	17 Mar 2021		AE	FIELD DUPLICATE	<20	<2	4e
D12	17 Mar 2021		AE	LAB DUPLICATE	20e	<2	8e
D12	24 Mar 2021		JF	FIELD DUPLICATE	<20	<2	<2
D12	24 Mar 2021		JF	LAB DUPLICATE	20e	<2	<2

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-A	D8-B	D9	D10	D11	D12
01 Mar 2021	3	2	2	4	23*	4	7	5	3
02 Mar 2021	3	2	2	4	23*	4	7	5	3
03 Mar 2021	3	2	2	5*	12	4	7	5	3
04 Mar 2021	3	2	2	5*	12	4	7	5	3
05 Mar 2021	3	2	2	5*	12	4	7	5	3
06 Mar 2021	3	2	2	5*	12	4	7	5	3
07 Mar 2021	3	2	2	5*	12	4	7	5	3
08 Mar 2021	3	2	2	5*	12	4	7	5	3
09 Mar 2021	3	2	2	5*	12	4	7	5	3
10 Mar 2021	3	2	2	4*	10	3	5	4	2
11 Mar 2021	3	2	2	4*	10	3	5	4	2
12 Mar 2021	3	2	2	4*	10	3	5	4	2
13 Mar 2021	3	2	2	4*	10	3	5	4	2
14 Mar 2021	3	2	2	4*	10	3	5	4	2
15 Mar 2021	3	2	2	4*	10	3	5	4	2
16 Mar 2021	3	2	2	4*	10	3	5	4	2
17 Mar 2021	3	2	2	10*	8	3	3	4	2
18 Mar 2021	3	2	2	10*	8	3	3	4	2
19 Mar 2021	3	2	2	10*	8	3	3	4	2
20 Mar 2021	3	2	2	10*	8	3	3	4	2
21 Mar 2021	3	2	2	10*	8	3	3	4	2
22 Mar 2021	3	2	2	10*	8	3	3	4	2
23 Mar 2021	3	2	2	10*	8	3	3	4	2
24 Mar 2021	2	2	3	ns	6	3	3	4	2
25 Mar 2021	2	2	3	ns	6	3	3	4	2
26 Mar 2021	2	2	3	ns	6	3	3	4	2
27 Mar 2021	2	2	3	ns	6	3	3	4	2
28 Mar 2021	2	2	3	ns	6	3	3	4	2
29 Mar 2021	2	2	3	ns	6	3	3	4	2
30 Mar 2021	2	2	3	ns	6	3	3	4	2
31 Mar 2021	2	2	3	ns	8	3	2	5	2

* 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	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Kelp Stations

Table B.3

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

* Geometric mean calculated using n<5

Table B.4

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	E	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data