



POINT LOMA OCEAN OUTFALL MONTHLY RECEIVING WATERS MONITORING REPORT

**POINT LOMA
WASTEWATER TREATMENT PLANT**

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

JANUARY 2020

Environmental Monitoring and Technical Services
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The City of
SAN DIEGO
Public Utilities Department

Environmental Monitoring & Technical Services Division

February 28, 2020

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 January 2020 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

RK/rg

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. However, due to increasing instability, City staff have been unable to safely access and sample station D8-A since February 7, 2018. During March 2018, the City identified an alternate location for stations D8/D8-A. This new station, designated D8-B, is located about 150 feet north of D8-A.

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

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.

Single Sample Maximums:

- (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 2020 Quality Assurance Report, which will be completed in March 2021.

SUMMARY OF RESULTS

Shore Stations

- During January, two of the eight shore stations were out of compliance with California Ocean Plan (Ocean Plan) water contact standards on one or more days as follows:
 - o The 30-day geometric mean standard for *Enterococcus* was exceeded at station D8-B.
 - o The single sample maximum (SSM) standard for *Enterococcus* was exceeded at station D9.
 - o Per permit requirements, resamples were collected in response to these SSM exceedances (see Table 2.8 for details).
- Nothing of sewage origin was observed at any of the shore stations.
- Over the years, elevated bacteria levels at shore and kelp bed stations have tended to be associated with rainfall events, heavy recreational use, or the presence of seabirds or decaying kelp and surf grass. See the City of San Diego's most recent *Biennial Receiving Waters Monitoring and Assessment Report for the Point Loma and South Bay Ocean Outfalls* for details (<https://www.sandiego.gov/public-utilities/sustainability/ocean-monitoring/reports>).

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

Kelp Bed Stations

- The eight kelp bed water quality stations (A1, A6, A7, C4, C5, C6, C7, C8) were sampled on January 2, 7, 13, 21, and 28.
- During January, all eight stations were in compliance with the various Ocean Plan water contact standards.
- Water column temperatures ranged from 13.92 to 15.77°C. The difference between surface and bottom waters ranged from 0.02 to 1.38°C.
- Chlorophyll a concentrations ranged from 0.50 to 2.29 µg/L.
- Nothing of sewage origin was observed at any of the kelp stations.

Offshore Stations

- Quarterly offshore water quality sampling was not conducted during January. The next quarterly sampling is scheduled for February 2020.

REPORT OUTLINE

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Shore Stations

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Fecal Coliform Compliance Summary, Geometric Mean Standard
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Kelp Stations

Total Coliform Compliance Summary, Geometric Mean Standard
Fecal Coliform Compliance Summary, Geometric Mean Standard
Enterococcus Bacteria Compliance Summary, Geometric Mean Standard
Total Coliform Single Sample Maximum
Fecal Coliform Single Sample Maximum
Enterococcus Bacteria Single Sample Maximum
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APPENDIX A

Quality Assurance

Water Quality Summary Data



TABLES AND FIGURES

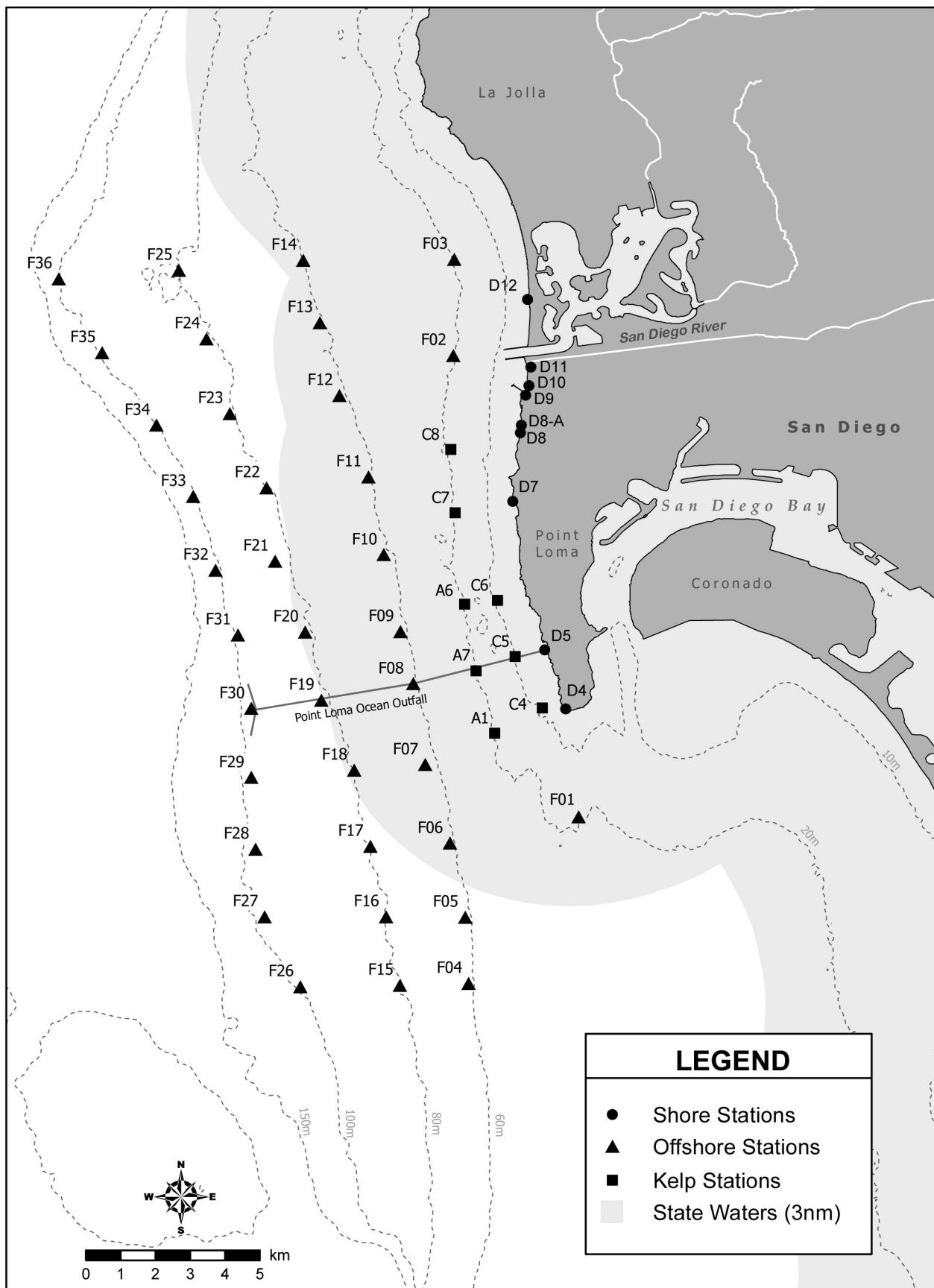


Figure 1.1 Station Map

Shore Stations

Table 2.1

Summary of compliance with the Ocean Plan's 30-day Geometric Mean standard for total coliform bacteria at the PLOO shore stations. Data are based on the geometric mean of the five most recent samples from each site over the previous 30 days unless otherwise noted (*). Values >1,000 CFU/100 mL exceed the standard.

Date	D4	D5	D7	D8-B	D9	D10	D11	D12
01 Jan 2020	44*	46*	85	252*	83*	84*	37*	15*
02 Jan 2020	24	25	45	152	78	78	31	16
03 Jan 2020	14*	18*	20	69*	62*	93*	22*	10*
04 Jan 2020	14*	18*	12*	69*	62*	93*	22*	10*
05 Jan 2020	14*	18*	12*	69*	62*	93*	22*	10*
06 Jan 2020	14*	18*	12*	69*	62*	93*	22*	10*
07 Jan 2020	14*	18*	12*	69*	62*	93*	22*	10*
08 Jan 2020	23	19	9	106	49	68	17	7
09 Jan 2020	23	19	9	106	49	68	17	7
10 Jan 2020	24*	12*	7*	76*	47*	70*	14*	10*
11 Jan 2020	24*	12*	7*	76*	47*	70*	14*	10*
12 Jan 2020	24*	12*	7*	76*	47*	70*	14*	10*
13 Jan 2020	24*	12*	7*	76*	47*	70*	14*	10*
14 Jan 2020	24*	12*	7*	76*	47*	70*	14*	10*
15 Jan 2020	15	9	9	58	39	43	11	7
16 Jan 2020	15	9	9	58	39	43	11	7
17 Jan 2020	24*	12*	12*	76*	47*	70*	16*	10*
18 Jan 2020	24*	12*	12*	76*	47*	70*	16*	10*
19 Jan 2020	24*	12*	12*	76*	47*	70*	16*	10*
20 Jan 2020	24*	12*	12*	76*	47*	70*	16*	10*
21 Jan 2020	24*	12*	12*	76*	47*	70*	16*	10*
22 Jan 2020	15	13	9	58	70	68	23	11
23 Jan 2020	15	13	9	58	70	68	23	11
24 Jan 2020	15	13	9	58	70	68	23	11
25 Jan 2020	6*	6*	4*	47*	53*	26*	14*	6*
26 Jan 2020	6*	6*	4*	47*	53*	26*	14*	6*
27 Jan 2020	6*	6*	4*	47*	53*	26*	14*	6*
28 Jan 2020	6*	6*	4*	47*	53*	26*	14*	6*
29 Jan 2020	5	8	3	25	38	24	12	6
30 Jan 2020	5	8	3	25	38	24	12	6
31 Jan 2020	5	8	3	25	38	24	12	6

* Geometric mean calculated using n<5

ns = not sampled

Table 2.2

Summary of compliance with the Ocean Plan's 30-day Geometric Mean standard for fecal coliform bacteria at the PLOO shore stations. Data are based on the geometric mean of the five most recent samples from each site over the previous 30 days unless otherwise noted (*). Values >200 CFU/100 mL exceed the standard.

Date	D4	D5	D7	D8-B	D9	D10	D11	D12
01 Jan 2020	9*	6*	28	19*	9*	16*	10*	4*
02 Jan 2020	7	8	18	19	10	17	7	3
03 Jan 2020	6*	8*	10	13*	8*	20*	6*	4*
04 Jan 2020	6*	8*	10*	13*	8*	20*	6*	4*
05 Jan 2020	6*	8*	10*	13*	8*	20*	6*	4*
06 Jan 2020	6*	8*	10*	13*	8*	20*	6*	4*
07 Jan 2020	6*	8*	10*	13*	8*	20*	6*	4*
08 Jan 2020	10	8	7	9	6	15	5	3
09 Jan 2020	10	8	7	9	6	15	5	3
10 Jan 2020	16*	11*	5*	7*	8*	14*	5*	3*
11 Jan 2020	16*	11*	5*	7*	8*	14*	5*	3*
12 Jan 2020	16*	11*	5*	7*	8*	14*	5*	3*
13 Jan 2020	16*	11*	5*	7*	8*	14*	5*	3*
14 Jan 2020	16*	11*	5*	7*	8*	14*	5*	3*
15 Jan 2020	12	8	6	5	7	9	4	3
16 Jan 2020	12	8	6	5	7	9	4	3
17 Jan 2020	16*	11*	8*	6*	9*	14*	5*	3*
18 Jan 2020	16*	11*	8*	6*	9*	14*	5*	3*
19 Jan 2020	16*	11*	8*	6*	9*	14*	5*	3*
20 Jan 2020	16*	11*	8*	6*	9*	14*	5*	3*
21 Jan 2020	16*	11*	8*	6*	9*	14*	5*	3*
22 Jan 2020	10	11	6	7	14	12	8	3
23 Jan 2020	10	11	6	7	14	12	8	3
24 Jan 2020	10	11	6	7	14	12	8	3
25 Jan 2020	6*	7*	3*	6*	11*	7*	5*	2*
26 Jan 2020	6*	7*	3*	6*	11*	7*	5*	2*
27 Jan 2020	6*	7*	3*	6*	11*	7*	5*	2*
28 Jan 2020	6*	7*	3*	6*	11*	7*	5*	2*
29 Jan 2020	5	6	3	5	8	6	4	2
30 Jan 2020	5	6	3	5	8	6	4	2
31 Jan 2020	5	6	3	5	8	6	4	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-B	D9	D10	D11	D12
01 Jan 2020	15	7*	28	52	13*	22	13*	4*
02 Jan 2020	11	6	18	45	10	18	12	4
03 Jan 2020	9	6*	9	28	6*	17	11*	4*
04 Jan 2020	9	6*	6*	11	6*	17	11*	4*
05 Jan 2020	9	6*	6*	11	6*	17	11*	4*
06 Jan 2020	9	6*	6*	15*	6*	17	11*	4*
07 Jan 2020	9	6*	6*	15*	6*	17	11*	4*
08 Jan 2020	14	5	5	12	5	12	8	4
09 Jan 2020	14	5	5	12	5	12	8	4
10 Jan 2020	14	6*	5*	10*	5*	10	8*	4*
11 Jan 2020	14	6*	5*	10*	5*	10	8*	4*
12 Jan 2020	14	6*	5*	10*	5*	10	8*	4*
13 Jan 2020	14	6*	5*	10*	5*	10	8*	4*
14 Jan 2020	14	6*	5*	10*	5*	10	8*	4*
15 Jan 2020	10	5	4	7	6	9	6	4
16 Jan 2020	10	5	4	7	6	9	6	4
17 Jan 2020	14	6*	5*	10*	8*	13	8*	4*
18 Jan 2020	14	6*	5*	10*	8*	13	8*	4*
19 Jan 2020	14	6*	5*	10*	8*	13	8*	4*
20 Jan 2020	14	6*	5*	10*	8*	13	8*	4*
21 Jan 2020	14	6*	5*	10*	8*	13	8*	4*
22 Jan 2020	10	7	5	12	16	14	10	6
23 Jan 2020	10	7	5	12	14	14	10	6
24 Jan 2020	10	7	5	12	14	14	10	6
25 Jan 2020	5	4*	2*	9*	12	7	6*	3*
26 Jan 2020	5*	4*	2*	9*	12	6*	6*	3*
27 Jan 2020	5*	4*	2*	9*	12	6*	6*	3*
28 Jan 2020	5*	4*	2*	9*	12	6*	6*	3*
29 Jan 2020	6	3	2	7	12	5	5	3
30 Jan 2020	6	3	2	7	12	5	5	3
31 Jan 2020	6	3	2	7	12	5	5	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
02 Jan 2020	IC	IC	IC	IC	IC	IC	IC	IC
08 Jan 2020	IC	IC	IC	IC	IC	IC	IC	IC
15 Jan 2020	IC	IC	IC	IC	IC	IC	IC	IC
22 Jan 2020	IC	IC	IC	IC	IC	IC	IC	IC
29 Jan 2020	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
02 Jan 2020	IC	IC	IC	IC	IC	IC	IC	IC
08 Jan 2020	IC	IC	IC	IC	IC	IC	IC	IC
15 Jan 2020	IC	IC	IC	IC	IC	IC	IC	IC
22 Jan 2020	IC	IC	IC	IC	IC	IC	IC	IC
29 Jan 2020	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
02 Jan 2020	IC	IC	IC	IC	IC	IC	IC	IC
08 Jan 2020	IC	IC	IC	IC	IC	IC	IC	IC
15 Jan 2020	IC	IC	IC	IC	IC	IC	IC	IC
22 Jan 2020	IC	IC	IC	IC	E	IC	IC	IC
23 Jan 2020	ns	ns	ns	ns	IC	ns	ns	ns
29 Jan 2020	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
02 Jan 2020	IC	IC	IC	IC	IC	IC	IC	IC
08 Jan 2020	IC	IC	IC	IC	IC	IC	IC	IC
15 Jan 2020	IC	IC	IC	IC	IC	IC	IC	IC
22 Jan 2020	IC	IC	IC	IC	IC	IC	IC	IC
29 Jan 2020	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	02 Jan 2020	856	2e	<2	<2	1.000
	08 Jan 2020	809	<200	94	100e	0.470
	15 Jan 2020	830	2e	4e	<2	2.000
	22 Jan 2020	940	<2	2e	<2	1.000
	29 Jan 2020	957	<2	2e	8e	1.000
D5	02 Jan 2020	834	2e	<20	4e	10.000
	08 Jan 2020	755	<20	6e	<2	0.300
	15 Jan 2020	814	2e	<2	<2	1.000
	22 Jan 2020	925	<20	12e	10e	0.600
	29 Jan 2020	944	<20	4e	<2	0.200
D7	02 Jan 2020	930	2e	<2	<2	1.000
	08 Jan 2020	827	<2	<2	<2	1.000
	15 Jan 2020	906	<20	10e	<2	0.500
	22 Jan 2020	1000	2e	<2	4e	1.000
	29 Jan 2020	919	<2	<2	<2	1.000
D8-B	02 Jan 2020	950	<20	<20	18e	1.000
	08 Jan 2020	840	600e	<2	6e	0.003
	15 Jan 2020	928	<20	<2	<2	0.100
	22 Jan 2020	1013	<20	18e	28e	0.900
	29 Jan 2020	904	2e	2e	<2	1.000
D9	02 Jan 2020	1005	60e	<20	4e	0.333
	08 Jan 2020	849	20e	<2	<2	0.100
	15 Jan 2020	945	<20	4e	18e	0.200
	22 Jan 2020	1020	340e	96	200e	0.282
	23 Jan 2020	1119	ns	ns	8e	ns
	29 Jan 2020	850	10e	<2	16e	0.200
D10	02 Jan 2020	1025	60e	<20	6e	0.333
	08 Jan 2020	918	<20	6e	<2	0.300
	15 Jan 2020	1002	6e	2e	6e	0.333
	22 Jan 2020	846	60e	8e	20e	0.133
	29 Jan 2020	817	<20	4e	<2	0.200
D11	02 Jan 2020	1045	14e	<2	8e	0.143
	08 Jan 2020	930	6e	<2	<2	0.333
	15 Jan 2020	1016	4e	<2	2e	0.500
	22 Jan 2020	834	100e	60e	36e	0.600
	29 Jan 2020	759	8e	2e	2e	0.250

Station	Date	Time	Total	Fecal	Enteric	F:T
D12	02 Jan 2020	1140	20e	<2	<2	0.100
D12	08 Jan 2020	1007	<2	2e	<2	1.000
D12	15 Jan 2020	1106	<2	<2	<2	1.000
D12	22 Jan 2020	815	<20	<2	14e	0.100
D12	29 Jan 2020	738	6e	<2	<2	0.333

ns = not sampled

ND = no data

Comments

Station	Date	Depth	Parameter	Comments
D9	23 Jan 2020			Resample

Table 2.9

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

Station	Date	Parameter	Value
D4	02 Jan 2020	Arrive Time	856
D4	02 Jan 2020	Weather	Sunny
D4	02 Jan 2020	Wind Speed (kts)	6.6
D4	02 Jan 2020	Wind Dir	E
D4	02 Jan 2020	Animal Life	1 Godwit
D4	02 Jan 2020	Floatables	Foam
D4	02 Jan 2020	Water Color	Green
D4	02 Jan 2020	Current Direction	N
D4	02 Jan 2020	Water Temp (C)	15.1
D4	02 Jan 2020	Wave Height Low (ft)	8
D4	02 Jan 2020	High Tide (ft)	3.2
D4	02 Jan 2020	High Tide Time	1348
D4	02 Jan 2020	Low Tide (ft)	2.5
D4	02 Jan 2020	Low Tide Time	853
D4	02 Jan 2020	Comments	Kelp; Seagrass; 9 Surfers; 4 Boats; Water turbid
D4	08 Jan 2020	Arrive Time	809
D4	08 Jan 2020	Weather	Partly Cloudy
D4	08 Jan 2020	Wind Speed (kts)	4.6
D4	08 Jan 2020	Wind Dir	SE
D4	08 Jan 2020	Animal Life	6 Cormorants; 3 Pelicans; 2 Seagulls
D4	08 Jan 2020	Floatables	Foam
D4	08 Jan 2020	Water Color	Green
D4	08 Jan 2020	Current Direction	N
D4	08 Jan 2020	Water Temp (C)	14.5
D4	08 Jan 2020	Wave Height Low (ft)	2
D4	08 Jan 2020	High Tide (ft)	5.9
D4	08 Jan 2020	High Tide Time	644
D4	08 Jan 2020	Low Tide (ft)	-0.8
D4	08 Jan 2020	Low Tide Time	1405
D4	08 Jan 2020	Comments	Kelp; Seagrass; Algae; Water clear
D4	15 Jan 2020	Arrive Time	830
D4	15 Jan 2020	Weather	Sunny
D4	15 Jan 2020	Wind Speed (kts)	6.6
D4	15 Jan 2020	Wind Dir	E
D4	15 Jan 2020	Animal Life	None
D4	15 Jan 2020	Floatables	None
D4	15 Jan 2020	Water Color	Green
D4	15 Jan 2020	Current Direction	S
D4	15 Jan 2020	Water Temp (C)	13.5
D4	15 Jan 2020	Wave Height Low (ft)	2
D4	15 Jan 2020	High Tide (ft)	4.7
D4	15 Jan 2020	High Tide Time	1159
D4	15 Jan 2020	Low Tide (ft)	1.9
D4	15 Jan 2020	Low Tide Time	617
D4	15 Jan 2020	Comments	Kelp; Seagrass; Algae; 4 Surfers; 2 Boats; Water clear
D4	22 Jan 2020	Arrive Time	940
D4	22 Jan 2020	Weather	Sunny
D4	22 Jan 2020	Wind Speed (kts)	1.7

Station	Date	Parameter	Value
D4	22 Jan 2020	Wind Dir	SW
D4	22 Jan 2020	Animal Life	None
D4	22 Jan 2020	Floatables	Foam
D4	22 Jan 2020	Water Color	Green
D4	22 Jan 2020	Current Direction	S
D4	22 Jan 2020	Water Temp (C)	16.5
D4	22 Jan 2020	Wave Height Low (ft)	6
D4	22 Jan 2020	High Tide (ft)	6
D4	22 Jan 2020	High Tide Time	656
D4	22 Jan 2020	Low Tide (ft)	-1.1
D4	22 Jan 2020	Low Tide Time	1417
D4	22 Jan 2020	Comments	Kelp; Seagrass; Algae; 6 Surfers; 5 Boats; Water clear
D4	29 Jan 2020	Arrive Time	957
D4	29 Jan 2020	Weather	Sunny
D4	29 Jan 2020	Wind Speed (kts)	2.1
D4	29 Jan 2020	Wind Dir	W
D4	29 Jan 2020	Animal Life	2 Dolphins; 1 Pelican; 3 Seagulls
D4	29 Jan 2020	Floatables	Foam
D4	29 Jan 2020	Water Color	Green
D4	29 Jan 2020	Current Direction	N
D4	29 Jan 2020	Water Temp (C)	16.7
D4	29 Jan 2020	Wave Height Low (ft)	3
D4	29 Jan 2020	High Tide (ft)	4.3
D4	29 Jan 2020	High Tide Time	1102
D4	29 Jan 2020	Low Tide (ft)	1.9
D4	29 Jan 2020	Low Tide Time	520
D4	29 Jan 2020	Comments	Kelp; 1 Boat; Water clear
D5	02 Jan 2020	Arrive Time	834
D5	02 Jan 2020	Weather	Partly Cloudy
D5	02 Jan 2020	Wind Speed (kts)	3.6
D5	02 Jan 2020	Wind Dir	N
D5	02 Jan 2020	Animal Life	2 Cormorants
D5	02 Jan 2020	Floatables	Foam
D5	02 Jan 2020	Water Color	Brown
D5	02 Jan 2020	Current Direction	S
D5	02 Jan 2020	Water Temp (C)	14.6
D5	02 Jan 2020	Wave Height Low (ft)	7
D5	02 Jan 2020	High Tide (ft)	3.2
D5	02 Jan 2020	High Tide Time	1348
D5	02 Jan 2020	Low Tide (ft)	2.5
D5	02 Jan 2020	Low Tide Time	853
D5	02 Jan 2020	Comments	Kelp; Seagrass; Water turbid
D5	08 Jan 2020	Arrive Time	755
D5	08 Jan 2020	Weather	Partly Cloudy
D5	08 Jan 2020	Wind Speed (kts)	1.9
D5	08 Jan 2020	Wind Dir	SW
D5	08 Jan 2020	Animal Life	1 Cormorant; 1 Seagull
D5	08 Jan 2020	Floatables	Foam
D5	08 Jan 2020	Water Color	Green
D5	08 Jan 2020	Current Direction	N
D5	08 Jan 2020	Water Temp (C)	15.1
D5	08 Jan 2020	Wave Height Low (ft)	1

Station	Date	Parameter	Value
D5	08 Jan 2020	High Tide (ft)	5.9
D5	08 Jan 2020	High Tide Time	644
D5	08 Jan 2020	Low Tide (ft)	-0.8
D5	08 Jan 2020	Low Tide Time	1405
D5	08 Jan 2020	Comments	Seagrass; Algae; Water clear
D5	15 Jan 2020	Arrive Time	814
D5	15 Jan 2020	Weather	Sunny
D5	15 Jan 2020	Wind Speed (kts)	2.1
D5	15 Jan 2020	Wind Dir	N
D5	15 Jan 2020	Animal Life	1 Cormorant
D5	15 Jan 2020	Floatables	Foam
D5	15 Jan 2020	Water Color	Brown
D5	15 Jan 2020	Current Direction	S
D5	15 Jan 2020	Water Temp (C)	13.4
D5	15 Jan 2020	Wave Height Low (ft)	2
D5	15 Jan 2020	High Tide (ft)	4.7
D5	15 Jan 2020	High Tide Time	1159
D5	15 Jan 2020	Low Tide (ft)	1.9
D5	15 Jan 2020	Low Tide Time	617
D5	15 Jan 2020	Comments	Kelp; Seagrass; Algae; Water turbid
D5	22 Jan 2020	Arrive Time	925
D5	22 Jan 2020	Weather	Partly Cloudy
D5	22 Jan 2020	Wind Speed (kts)	1.1
D5	22 Jan 2020	Wind Dir	W
D5	22 Jan 2020	Animal Life	100 Flies
D5	22 Jan 2020	Floatables	Foam
D5	22 Jan 2020	Water Color	Green
D5	22 Jan 2020	Current Direction	S
D5	22 Jan 2020	Water Temp (C)	16.2
D5	22 Jan 2020	Wave Height Low (ft)	4
D5	22 Jan 2020	High Tide (ft)	6
D5	22 Jan 2020	High Tide Time	656
D5	22 Jan 2020	Low Tide (ft)	-1.1
D5	22 Jan 2020	Low Tide Time	1417
D5	22 Jan 2020	Comments	Kelp; Seagrass; Algae; 1 Boat; Water clear
D5	29 Jan 2020	Arrive Time	944
D5	29 Jan 2020	Weather	Partly Cloudy
D5	29 Jan 2020	Wind Speed (kts)	1.1
D5	29 Jan 2020	Wind Dir	NW
D5	29 Jan 2020	Animal Life	2 Grebes; 1 Seagull
D5	29 Jan 2020	Floatables	Foam
D5	29 Jan 2020	Water Color	Green
D5	29 Jan 2020	Current Direction	N
D5	29 Jan 2020	Water Temp (C)	16.9
D5	29 Jan 2020	Wave Height Low (ft)	3
D5	29 Jan 2020	High Tide (ft)	4.3
D5	29 Jan 2020	High Tide Time	1102
D5	29 Jan 2020	Low Tide (ft)	1.9
D5	29 Jan 2020	Low Tide Time	520
D5	29 Jan 2020	Comments	Kelp
D7	02 Jan 2020	Arrive Time	930

Station	Date	Parameter	Value
D7	02 Jan 2020	Weather	Sunny
D7	02 Jan 2020	Wind Speed (kts)	3.6
D7	02 Jan 2020	Wind Dir	E
D7	02 Jan 2020	Animal Life	2 Pigeons
D7	02 Jan 2020	Floatables	Foam
D7	02 Jan 2020	Water Color	Green
D7	02 Jan 2020	Current Direction	S
D7	02 Jan 2020	Water Temp (C)	15.8
D7	02 Jan 2020	Wave Height Low (ft)	12
D7	02 Jan 2020	High Tide (ft)	3.2
D7	02 Jan 2020	High Tide Time	1348
D7	02 Jan 2020	Low Tide (ft)	2.5
D7	02 Jan 2020	Low Tide Time	853
D7	02 Jan 2020	Comments	Kelp; Algae; 8 Persons; 37 Surfers; Water clear
D7	08 Jan 2020	Arrive Time	827
D7	08 Jan 2020	Weather	Sunny
D7	08 Jan 2020	Wind Speed (kts)	3.6
D7	08 Jan 2020	Wind Dir	S
D7	08 Jan 2020	Animal Life	3 Dogs
D7	08 Jan 2020	Floatables	Foam
D7	08 Jan 2020	Water Color	Green
D7	08 Jan 2020	Current Direction	N
D7	08 Jan 2020	Water Temp (C)	14.5
D7	08 Jan 2020	Wave Height Low (ft)	4
D7	08 Jan 2020	High Tide (ft)	5.9
D7	08 Jan 2020	High Tide Time	644
D7	08 Jan 2020	Low Tide (ft)	-0.8
D7	08 Jan 2020	Low Tide Time	1405
D7	08 Jan 2020	Comments	Kelp; Seagrass; Algae; 1 Person; Water turbid
D7	15 Jan 2020	Arrive Time	906
D7	15 Jan 2020	Weather	Sunny
D7	15 Jan 2020	Wind Speed (kts)	1.3
D7	15 Jan 2020	Wind Dir	N
D7	15 Jan 2020	Animal Life	1 Cormorant; 2 Seagulls
D7	15 Jan 2020	Floatables	Foam
D7	15 Jan 2020	Water Color	Green
D7	15 Jan 2020	Current Direction	S
D7	15 Jan 2020	Water Temp (C)	15.2
D7	15 Jan 2020	Wave Height Low (ft)	3
D7	15 Jan 2020	High Tide (ft)	4.7
D7	15 Jan 2020	High Tide Time	1159
D7	15 Jan 2020	Low Tide (ft)	1.9
D7	15 Jan 2020	Low Tide Time	617
D7	15 Jan 2020	Comments	Kelp; Seagrass; Algae; 1 Surfer; Water turbid
D7	22 Jan 2020	Arrive Time	1000
D7	22 Jan 2020	Weather	Sunny
D7	22 Jan 2020	Wind Speed (kts)	4.6
D7	22 Jan 2020	Wind Dir	NW
D7	22 Jan 2020	Animal Life	1 Seagull
D7	22 Jan 2020	Floatables	Foam
D7	22 Jan 2020	Water Color	Green
D7	22 Jan 2020	Current Direction	S

Station	Date	Parameter	Value
D7	22 Jan 2020	Water Temp (C)	17.3
D7	22 Jan 2020	Wave Height Low (ft)	6
D7	22 Jan 2020	High Tide (ft)	6
D7	22 Jan 2020	High Tide Time	656
D7	22 Jan 2020	Low Tide (ft)	-1.1
D7	22 Jan 2020	Low Tide Time	1417
D7	22 Jan 2020	Comments	Kelp; Seagrass; Algae; 18 Surfers; Water clear
D7	29 Jan 2020	Arrive Time	919
D7	29 Jan 2020	Weather	Partly Cloudy
D7	29 Jan 2020	Wind Speed (kts)	2.7
D7	29 Jan 2020	Wind Dir	NW
D7	29 Jan 2020	Animal Life	1 Pigeon; 1 Seagull
D7	29 Jan 2020	Floatables	Foam
D7	29 Jan 2020	Water Color	Green
D7	29 Jan 2020	Current Direction	N
D7	29 Jan 2020	Water Temp (C)	16.1
D7	29 Jan 2020	Wave Height Low (ft)	3
D7	29 Jan 2020	High Tide (ft)	4.3
D7	29 Jan 2020	High Tide Time	1102
D7	29 Jan 2020	Low Tide (ft)	1.9
D7	29 Jan 2020	Low Tide Time	520
D7	29 Jan 2020	Comments	Kelp; 10 Surfers; Water clear
D8-B	02 Jan 2020	Arrive Time	950
D8-B	02 Jan 2020	Weather	Sunny
D8-B	02 Jan 2020	Wind Speed (kts)	1.3
D8-B	02 Jan 2020	Wind Dir	NE
D8-B	02 Jan 2020	Animal Life	2 Seagulls
D8-B	02 Jan 2020	Floatables	Foam
D8-B	02 Jan 2020	Water Color	Brown
D8-B	02 Jan 2020	Current Direction	S
D8-B	02 Jan 2020	Water Temp (C)	15.6
D8-B	02 Jan 2020	Wave Height Low (ft)	6
D8-B	02 Jan 2020	High Tide (ft)	3.2
D8-B	02 Jan 2020	High Tide Time	1348
D8-B	02 Jan 2020	Low Tide (ft)	2.5
D8-B	02 Jan 2020	Low Tide Time	853
D8-B	02 Jan 2020	Comments	Kelp; Algae; 5 Persons; Water clear
D8-B	08 Jan 2020	Arrive Time	840
D8-B	08 Jan 2020	Weather	Partly Cloudy
D8-B	08 Jan 2020	Wind Speed (kts)	5.4
D8-B	08 Jan 2020	Wind Dir	E
D8-B	08 Jan 2020	Animal Life	None
D8-B	08 Jan 2020	Floatables	Foam
D8-B	08 Jan 2020	Water Color	Green
D8-B	08 Jan 2020	Current Direction	N
D8-B	08 Jan 2020	Water Temp (C)	14.7
D8-B	08 Jan 2020	Wave Height Low (ft)	3
D8-B	08 Jan 2020	High Tide (ft)	5.9
D8-B	08 Jan 2020	High Tide Time	644
D8-B	08 Jan 2020	Low Tide (ft)	-0.8
D8-B	08 Jan 2020	Low Tide Time	1405
D8-B	08 Jan 2020	Comments	Kelp; Seagrass; Algae; 1 Person; Water turbid

Station	Date	Parameter	Value
D8-B	15 Jan 2020	Arrive Time	928
D8-B	15 Jan 2020	Weather	Sunny
D8-B	15 Jan 2020	Wind Speed (kts)	1.5
D8-B	15 Jan 2020	Wind Dir	W
D8-B	15 Jan 2020	Animal Life	1 Cormorant; 1 Seagull
D8-B	15 Jan 2020	Floatables	Foam
D8-B	15 Jan 2020	Water Color	Brown
D8-B	15 Jan 2020	Current Direction	S
D8-B	15 Jan 2020	Water Temp (C)	15.6
D8-B	15 Jan 2020	Wave Height Low (ft)	4
D8-B	15 Jan 2020	High Tide (ft)	4.7
D8-B	15 Jan 2020	High Tide Time	1159
D8-B	15 Jan 2020	Low Tide (ft)	1.9
D8-B	15 Jan 2020	Low Tide Time	617
D8-B	15 Jan 2020	Comments	Kelp; Seagrass; Algae; 1 Surfer; Water turbid
D8-B	22 Jan 2020	Arrive Time	1013
D8-B	22 Jan 2020	Weather	Sunny
D8-B	22 Jan 2020	Wind Speed (kts)	4.8
D8-B	22 Jan 2020	Wind Dir	W
D8-B	22 Jan 2020	Animal Life	None
D8-B	22 Jan 2020	Floatables	Foam
D8-B	22 Jan 2020	Water Color	Green
D8-B	22 Jan 2020	Current Direction	S
D8-B	22 Jan 2020	Water Temp (C)	16.4
D8-B	22 Jan 2020	Wave Height Low (ft)	4
D8-B	22 Jan 2020	High Tide (ft)	6
D8-B	22 Jan 2020	High Tide Time	656
D8-B	22 Jan 2020	Low Tide (ft)	-1.1
D8-B	22 Jan 2020	Low Tide Time	1417
D8-B	22 Jan 2020	Comments	Kelp; Seagrass; Algae; Water clear
D8-B	29 Jan 2020	Arrive Time	904
D8-B	29 Jan 2020	Weather	Partly Cloudy
D8-B	29 Jan 2020	Wind Speed (kts)	2.7
D8-B	29 Jan 2020	Wind Dir	NE
D8-B	29 Jan 2020	Animal Life	1 Pelican; 1 Seagull
D8-B	29 Jan 2020	Floatables	Foam
D8-B	29 Jan 2020	Water Color	Brown
D8-B	29 Jan 2020	Current Direction	N
D8-B	29 Jan 2020	Water Temp (C)	16.3
D8-B	29 Jan 2020	Wave Height Low (ft)	4
D8-B	29 Jan 2020	High Tide (ft)	4.3
D8-B	29 Jan 2020	High Tide Time	1102
D8-B	29 Jan 2020	Low Tide (ft)	1.9
D8-B	29 Jan 2020	Low Tide Time	520
D8-B	29 Jan 2020	Comments	Water clear
D9	02 Jan 2020	Arrive Time	1005
D9	02 Jan 2020	Weather	Sunny
D9	02 Jan 2020	Wind Speed (kts)	2.3
D9	02 Jan 2020	Wind Dir	E
D9	02 Jan 2020	Animal Life	None
D9	02 Jan 2020	Floatables	Foam; Film

Station	Date	Parameter	Value
D9	02 Jan 2020	Water Color	Brown
D9	02 Jan 2020	Current Direction	S
D9	02 Jan 2020	Water Temp (C)	16.4
D9	02 Jan 2020	Wave Height Low (ft)	8
D9	02 Jan 2020	High Tide (ft)	3.2
D9	02 Jan 2020	High Tide Time	1348
D9	02 Jan 2020	Low Tide (ft)	2.5
D9	02 Jan 2020	Low Tide Time	853
D9	02 Jan 2020	Comments	Kelp; Algae; 2 Persons; Water clear
D9	08 Jan 2020	Arrive Time	849
D9	08 Jan 2020	Weather	Cloudy
D9	08 Jan 2020	Wind Speed (kts)	0.7
D9	08 Jan 2020	Wind Dir	S
D9	08 Jan 2020	Animal Life	None
D9	08 Jan 2020	Floatables	Foam
D9	08 Jan 2020	Water Color	Green
D9	08 Jan 2020	Current Direction	N
D9	08 Jan 2020	Water Temp (C)	14.4
D9	08 Jan 2020	Wave Height Low (ft)	3
D9	08 Jan 2020	High Tide (ft)	5.9
D9	08 Jan 2020	High Tide Time	644
D9	08 Jan 2020	Low Tide (ft)	-0.8
D9	08 Jan 2020	Low Tide Time	1405
D9	08 Jan 2020	Comments	Kelp; Seagrass; Algae; Water clear
D9	15 Jan 2020	Arrive Time	945
D9	15 Jan 2020	Weather	Sunny
D9	15 Jan 2020	Wind Speed (kts)	1.5
D9	15 Jan 2020	Wind Dir	N
D9	15 Jan 2020	Animal Life	None
D9	15 Jan 2020	Floatables	Foam
D9	15 Jan 2020	Water Color	Brown
D9	15 Jan 2020	Current Direction	S
D9	15 Jan 2020	Water Temp (C)	15.8
D9	15 Jan 2020	Wave Height Low (ft)	3
D9	15 Jan 2020	High Tide (ft)	4.7
D9	15 Jan 2020	High Tide Time	1159
D9	15 Jan 2020	Low Tide (ft)	1.9
D9	15 Jan 2020	Low Tide Time	617
D9	15 Jan 2020	Comments	Kelp; Seagrass; Algae; 4 Surfers; Water turbid
D9	22 Jan 2020	Arrive Time	1020
D9	22 Jan 2020	Weather	Sunny
D9	22 Jan 2020	Wind Speed (kts)	4.8
D9	22 Jan 2020	Wind Dir	W
D9	22 Jan 2020	Animal Life	None
D9	22 Jan 2020	Floatables	Foam
D9	22 Jan 2020	Water Color	Green
D9	22 Jan 2020	Current Direction	S
D9	22 Jan 2020	Water Temp (C)	17.3
D9	22 Jan 2020	Wave Height Low (ft)	5
D9	22 Jan 2020	High Tide (ft)	6
D9	22 Jan 2020	High Tide Time	656
D9	22 Jan 2020	Low Tide (ft)	-1.1

Station	Date	Parameter	Value
D9	22 Jan 2020	Low Tide Time	1417
D9	22 Jan 2020	Comments	Kelp; Seagrass; Algae; 1 Boat; Water clear
D9	23 Jan 2020	Arrive Time	1119
D9	23 Jan 2020	Weather	Sunny
D9	23 Jan 2020	Wind Speed (kts)	6.6
D9	23 Jan 2020	Wind Dir	W
D9	23 Jan 2020	Animal Life	None
D9	23 Jan 2020	Floatables	Foam; Film; Detergent soap
D9	23 Jan 2020	Water Color	Green
D9	23 Jan 2020	Current Direction	S
D9	23 Jan 2020	Water Temp (C)	15
D9	23 Jan 2020	Wave Height Low (ft)	4
D9	23 Jan 2020	High Tide (ft)	6.1
D9	23 Jan 2020	High Tide Time	736
D9	23 Jan 2020	Low Tide (ft)	-1.2
D9	23 Jan 2020	Low Tide Time	1453
D9	23 Jan 2020	Comments	Resample; Kelp; Seagrass; Algae; 1 Person; 2 Surfers; Water clear
D9	29 Jan 2020	Arrive Time	850
D9	29 Jan 2020	Weather	Sunny
D9	29 Jan 2020	Wind Speed (kts)	0
D9	29 Jan 2020	Wind Dir	
D9	29 Jan 2020	Animal Life	1 Shorebird
D9	29 Jan 2020	Floatables	Foam
D9	29 Jan 2020	Water Color	Brown
D9	29 Jan 2020	Current Direction	N
D9	29 Jan 2020	Water Temp (C)	16.3
D9	29 Jan 2020	Wave Height Low (ft)	4
D9	29 Jan 2020	High Tide (ft)	4.3
D9	29 Jan 2020	High Tide Time	1102
D9	29 Jan 2020	Low Tide (ft)	1.9
D9	29 Jan 2020	Low Tide Time	520
D9	29 Jan 2020	Comments	Algae; Water clear
D10	02 Jan 2020	Arrive Time	1025
D10	02 Jan 2020	Weather	Sunny
D10	02 Jan 2020	Wind Speed (kts)	3.6
D10	02 Jan 2020	Wind Dir	NE
D10	02 Jan 2020	Animal Life	12 Seagulls
D10	02 Jan 2020	Floatables	Foam
D10	02 Jan 2020	Water Color	Green
D10	02 Jan 2020	Current Direction	N
D10	02 Jan 2020	Water Temp (C)	16.8
D10	02 Jan 2020	Wave Height Low (ft)	8
D10	02 Jan 2020	High Tide (ft)	3.2
D10	02 Jan 2020	High Tide Time	1348
D10	02 Jan 2020	Low Tide (ft)	2.5
D10	02 Jan 2020	Low Tide Time	853
D10	02 Jan 2020	Comments	Kelp; 15 Persons; Water clear
D10	08 Jan 2020	Arrive Time	918
D10	08 Jan 2020	Weather	Cloudy
D10	08 Jan 2020	Wind Speed (kts)	3.1

Station	Date	Parameter	Value
D10	08 Jan 2020	Wind Dir	SW
D10	08 Jan 2020	Animal Life	1 Dog; 1 Godwit; 1 Seagull
D10	08 Jan 2020	Floatables	Foam
D10	08 Jan 2020	Water Color	Green
D10	08 Jan 2020	Current Direction	N
D10	08 Jan 2020	Water Temp (C)	14.7
D10	08 Jan 2020	Wave Height Low (ft)	3
D10	08 Jan 2020	High Tide (ft)	5.9
D10	08 Jan 2020	High Tide Time	644
D10	08 Jan 2020	Low Tide (ft)	-0.8
D10	08 Jan 2020	Low Tide Time	1405
D10	08 Jan 2020	Comments	Kelp; Seagrass; 3 Persons; 12 Surfers; 1 Swimmer; Water clear
D10	15 Jan 2020	Arrive Time	1002
D10	15 Jan 2020	Weather	Sunny
D10	15 Jan 2020	Wind Speed (kts)	2.3
D10	15 Jan 2020	Wind Dir	W
D10	15 Jan 2020	Animal Life	1 Dog
D10	15 Jan 2020	Floatables	Foam
D10	15 Jan 2020	Water Color	Green
D10	15 Jan 2020	Current Direction	S
D10	15 Jan 2020	Water Temp (C)	16.3
D10	15 Jan 2020	Wave Height Low (ft)	4
D10	15 Jan 2020	High Tide (ft)	4.7
D10	15 Jan 2020	High Tide Time	1159
D10	15 Jan 2020	Low Tide (ft)	1.9
D10	15 Jan 2020	Low Tide Time	617
D10	15 Jan 2020	Comments	Kelp; Seagrass; Algae; 10 Persons; 21 Surfers; 1 Swimmer; Water clear
D10	22 Jan 2020	Arrive Time	846
D10	22 Jan 2020	Weather	Partly Cloudy
D10	22 Jan 2020	Wind Speed (kts)	1.9
D10	22 Jan 2020	Wind Dir	E
D10	22 Jan 2020	Animal Life	None
D10	22 Jan 2020	Floatables	Foam
D10	22 Jan 2020	Water Color	Green
D10	22 Jan 2020	Current Direction	S
D10	22 Jan 2020	Water Temp (C)	16.2
D10	22 Jan 2020	Wave Height Low (ft)	4
D10	22 Jan 2020	High Tide (ft)	6
D10	22 Jan 2020	High Tide Time	656
D10	22 Jan 2020	Low Tide (ft)	-1.1
D10	22 Jan 2020	Low Tide Time	1417
D10	22 Jan 2020	Comments	Kelp; Seagrass; 5 Surfers; 1 Swimmer; Water clear
D10	29 Jan 2020	Arrive Time	817
D10	29 Jan 2020	Weather	Sunny
D10	29 Jan 2020	Wind Speed (kts)	0
D10	29 Jan 2020	Wind Dir	
D10	29 Jan 2020	Animal Life	6 Pigeons; 6 Seagulls
D10	29 Jan 2020	Floatables	Foam
D10	29 Jan 2020	Water Color	Green
D10	29 Jan 2020	Current Direction	N
D10	29 Jan 2020	Water Temp (C)	15.4

Station	Date	Parameter	Value
D10	29 Jan 2020	Wave Height Low (ft)	4
D10	29 Jan 2020	High Tide (ft)	4.3
D10	29 Jan 2020	High Tide Time	1102
D10	29 Jan 2020	Low Tide (ft)	1.9
D10	29 Jan 2020	Low Tide Time	520
D10	29 Jan 2020	Comments	2 Persons; 2 Surfers; Water clear
D11	02 Jan 2020	Arrive Time	1045
D11	02 Jan 2020	Weather	Sunny
D11	02 Jan 2020	Wind Speed (kts)	1.7
D11	02 Jan 2020	Wind Dir	E
D11	02 Jan 2020	Animal Life	5 Seagulls
D11	02 Jan 2020	Floatables	Foam
D11	02 Jan 2020	Water Color	Green
D11	02 Jan 2020	Current Direction	N
D11	02 Jan 2020	Water Temp (C)	17.5
D11	02 Jan 2020	Wave Height Low (ft)	5
D11	02 Jan 2020	High Tide (ft)	3.2
D11	02 Jan 2020	High Tide Time	1348
D11	02 Jan 2020	Low Tide (ft)	2.5
D11	02 Jan 2020	Low Tide Time	853
D11	02 Jan 2020	Comments	26 Persons; Water clear
D11	08 Jan 2020	Arrive Time	930
D11	08 Jan 2020	Weather	Cloudy
D11	08 Jan 2020	Wind Speed (kts)	3.6
D11	08 Jan 2020	Wind Dir	SE
D11	08 Jan 2020	Animal Life	3 Pigeons; 4 Seagulls
D11	08 Jan 2020	Floatables	Foam
D11	08 Jan 2020	Water Color	Green
D11	08 Jan 2020	Current Direction	N
D11	08 Jan 2020	Water Temp (C)	15.3
D11	08 Jan 2020	Wave Height Low (ft)	4
D11	08 Jan 2020	High Tide (ft)	5.9
D11	08 Jan 2020	High Tide Time	644
D11	08 Jan 2020	Low Tide (ft)	-0.8
D11	08 Jan 2020	Low Tide Time	1405
D11	08 Jan 2020	Comments	4 Persons; 13 Surfers; 1 Fisherman; Water clear
D11	15 Jan 2020	Arrive Time	1016
D11	15 Jan 2020	Weather	Sunny
D11	15 Jan 2020	Wind Speed (kts)	2.3
D11	15 Jan 2020	Wind Dir	W
D11	15 Jan 2020	Animal Life	1 Dog
D11	15 Jan 2020	Floatables	Foam
D11	15 Jan 2020	Water Color	Green
D11	15 Jan 2020	Current Direction	S
D11	15 Jan 2020	Water Temp (C)	16.7
D11	15 Jan 2020	Wave Height Low (ft)	3
D11	15 Jan 2020	High Tide (ft)	4.7
D11	15 Jan 2020	High Tide Time	1159
D11	15 Jan 2020	Low Tide (ft)	1.9
D11	15 Jan 2020	Low Tide Time	617
D11	15 Jan 2020	Comments	Kelp; Seagrass; Algae; 1 Jogger; 9 Persons; 26 Surfers; 1 Fisherman; Water clear

Station	Date	Parameter	Value
D11	22 Jan 2020	Arrive Time	834
D11	22 Jan 2020	Weather	Sunny
D11	22 Jan 2020	Wind Speed (kts)	0.7
D11	22 Jan 2020	Wind Dir	W
D11	22 Jan 2020	Animal Life	None
D11	22 Jan 2020	Floatables	Foam
D11	22 Jan 2020	Water Color	Green
D11	22 Jan 2020	Current Direction	S
D11	22 Jan 2020	Water Temp (C)	16.2
D11	22 Jan 2020	Wave Height Low (ft)	3
D11	22 Jan 2020	High Tide (ft)	6
D11	22 Jan 2020	High Tide Time	656
D11	22 Jan 2020	Low Tide (ft)	-1.1
D11	22 Jan 2020	Low Tide Time	1417
D11	22 Jan 2020	Comments	Kelp; Seagrass; Algae; 3 Persons; Water clear
D11	29 Jan 2020	Arrive Time	759
D11	29 Jan 2020	Weather	Sunny
D11	29 Jan 2020	Wind Speed (kts)	2.9
D11	29 Jan 2020	Wind Dir	NE
D11	29 Jan 2020	Animal Life	5 Dogs; 4 Seagulls
D11	29 Jan 2020	Floatables	Foam
D11	29 Jan 2020	Water Color	Brown
D11	29 Jan 2020	Current Direction	N
D11	29 Jan 2020	Water Temp (C)	15.3
D11	29 Jan 2020	Wave Height Low (ft)	4
D11	29 Jan 2020	High Tide (ft)	4.3
D11	29 Jan 2020	High Tide Time	1102
D11	29 Jan 2020	Low Tide (ft)	1.9
D11	29 Jan 2020	Low Tide Time	520
D11	29 Jan 2020	Comments	1 Jogger; 5 Persons; 6 Surfers; Water clear
D12	02 Jan 2020	Arrive Time	1140
D12	02 Jan 2020	Weather	Sunny
D12	02 Jan 2020	Wind Speed (kts)	4.6
D12	02 Jan 2020	Wind Dir	W
D12	02 Jan 2020	Animal Life	None
D12	02 Jan 2020	Floatables	Foam
D12	02 Jan 2020	Water Color	Green
D12	02 Jan 2020	Current Direction	N
D12	02 Jan 2020	Water Temp (C)	18.7
D12	02 Jan 2020	Wave Height Low (ft)	10
D12	02 Jan 2020	High Tide (ft)	3.2
D12	02 Jan 2020	High Tide Time	1348
D12	02 Jan 2020	Low Tide (ft)	2.5
D12	02 Jan 2020	Low Tide Time	853
D12	02 Jan 2020	Comments	Kelp; Seagrass; 23 Persons; Water clear
D12	08 Jan 2020	Arrive Time	1140
D12	08 Jan 2020	Weather	Sunny
D12	08 Jan 2020	Wind Speed (kts)	4.6
D12	08 Jan 2020	Wind Dir	W
D12	08 Jan 2020	Animal Life	1 Seagull
D12	08 Jan 2020	Floatables	Foam

Station	Date	Parameter	Value
D12	08 Jan 2020	Water Color	Green
D12	08 Jan 2020	Current Direction	W
D12	08 Jan 2020	Water Temp (C)	18.7
D12	08 Jan 2020	Wave Height Low (ft)	10
D12	08 Jan 2020	High Tide (ft)	5.9
D12	08 Jan 2020	High Tide Time	644
D12	08 Jan 2020	Low Tide (ft)	-0.8
D12	08 Jan 2020	Low Tide Time	1405
D12	08 Jan 2020	Comments	Water clear; Entry please disregard
D12	15 Jan 2020	Arrive Time	1106
D12	15 Jan 2020	Weather	Sunny
D12	15 Jan 2020	Wind Speed (kts)	5.4
D12	15 Jan 2020	Wind Dir	W
D12	15 Jan 2020	Animal Life	10 Seagulls
D12	15 Jan 2020	Floatables	Foam
D12	15 Jan 2020	Water Color	Green
D12	15 Jan 2020	Current Direction	S
D12	15 Jan 2020	Water Temp (C)	16.9
D12	15 Jan 2020	Wave Height Low (ft)	3
D12	15 Jan 2020	High Tide (ft)	4.7
D12	15 Jan 2020	High Tide Time	1159
D12	15 Jan 2020	Low Tide (ft)	1.9
D12	15 Jan 2020	Low Tide Time	617
D12	15 Jan 2020	Comments	Kelp; Seagrass; 1 Jogger; 7 Persons; Water clear
D12	22 Jan 2020	Arrive Time	815
D12	22 Jan 2020	Weather	Partly Cloudy
D12	22 Jan 2020	Wind Speed (kts)	0
D12	22 Jan 2020	Wind Dir	
D12	22 Jan 2020	Animal Life	1 Seagull
D12	22 Jan 2020	Floatables	Foam
D12	22 Jan 2020	Water Color	Green
D12	22 Jan 2020	Current Direction	S
D12	22 Jan 2020	Water Temp (C)	16.5
D12	22 Jan 2020	Wave Height Low (ft)	2
D12	22 Jan 2020	High Tide (ft)	6
D12	22 Jan 2020	High Tide Time	656
D12	22 Jan 2020	Low Tide (ft)	-1.1
D12	22 Jan 2020	Low Tide Time	1417
D12	22 Jan 2020	Comments	Kelp; Seagrass; 1 Jogger; Water clear
D12	29 Jan 2020	Arrive Time	738
D12	29 Jan 2020	Weather	Sunny
D12	29 Jan 2020	Wind Speed (kts)	0
D12	29 Jan 2020	Wind Dir	
D12	29 Jan 2020	Animal Life	5 Seagulls
D12	29 Jan 2020	Floatables	Foam
D12	29 Jan 2020	Water Color	Green
D12	29 Jan 2020	Current Direction	N
D12	29 Jan 2020	Water Temp (C)	15.7
D12	29 Jan 2020	Wave Height Low (ft)	4
D12	29 Jan 2020	High Tide (ft)	4.3
D12	29 Jan 2020	High Tide Time	1102
D12	29 Jan 2020	Low Tide (ft)	1.9

Station	Date	Parameter	Value
D12	29 Jan 2020	Low Tide Time	520
D12	29 Jan 2020	Comments	1 Jogger; 4 Surfers; Water clear; 2 Kayakers

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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 Jan 2020	2*	6*	5*	16*	15*	5*	33*	16*
02 Jan 2020	3*	5*	4*	14*	9*	4*	16*	9*
03 Jan 2020	3*	5*	4*	14*	9*	4*	16*	9*
04 Jan 2020	3*	5*	4*	14*	9*	4*	16*	9*
05 Jan 2020	3*	5*	4*	14*	9*	4*	16*	9*
06 Jan 2020	3*	5*	4*	14*	9*	4*	16*	9*
07 Jan 2020	4	5	4	12	9	3	13	7
08 Jan 2020	4*	5*	4*	9*	5*	3*	13*	5*
09 Jan 2020	4*	5*	4*	9*	5*	3*	13*	5*
10 Jan 2020	4*	5*	4*	9*	5*	3*	13*	5*
11 Jan 2020	4*	5*	4*	9*	5*	3*	13*	5*
12 Jan 2020	4*	5*	4*	9*	5*	3*	13*	5*
13 Jan 2020	9	7	8	9	4	4	12	6
14 Jan 2020	9	7	8	9	4	4	12	6
15 Jan 2020	13*	6*	7*	9*	5*	3*	9*	4*
16 Jan 2020	13*	6*	7*	9*	5*	3*	9*	4*
17 Jan 2020	13*	6*	7*	9*	5*	3*	9*	4*
18 Jan 2020	13*	6*	7*	9*	5*	3*	9*	4*
19 Jan 2020	13*	6*	7*	9*	5*	3*	9*	4*
20 Jan 2020	13*	6*	7*	9*	5*	3*	9*	4*
21 Jan 2020	13*	6*	8*	10*	6*	5*	5*	4*
22 Jan 2020	13*	6*	8*	10*	6*	5*	5*	4*
23 Jan 2020	13*	6*	8*	10*	6*	5*	5*	4*
24 Jan 2020	13*	6*	8*	10*	6*	5*	5*	4*
25 Jan 2020	13*	6*	8*	10*	6*	5*	5*	4*
26 Jan 2020	13*	6*	8*	10*	6*	5*	5*	4*
27 Jan 2020	13*	6*	8*	10*	6*	5*	5*	4*
28 Jan 2020	21	7	14	8	5	4	4	5
29 Jan 2020	21	7	14	8	5	4	4	5
30 Jan 2020	21	7	14	8	5	4	4	5
31 Jan 2020	21	7	14	8	5	4	4	5

* 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 Jan 2020	2*	2*	3*	2*	2*	2*	3*	3*
02 Jan 2020	2*	2*	2*	2*	2*	2*	2*	3*
03 Jan 2020	2*	2*	2*	2*	2*	2*	2*	3*
04 Jan 2020	2*	2*	2*	2*	2*	2*	2*	3*
05 Jan 2020	2*	2*	2*	2*	2*	2*	2*	3*
06 Jan 2020	2*	2*	2*	2*	2*	2*	2*	3*
07 Jan 2020	2	2	2	2	2	2	2	3
08 Jan 2020	2*	2*	2*	2*	2*	2*	2*	3*
09 Jan 2020	2*	2*	2*	2*	2*	2*	2*	3*
10 Jan 2020	2*	2*	2*	2*	2*	2*	2*	3*
11 Jan 2020	2*	2*	2*	2*	2*	2*	2*	3*
12 Jan 2020	2*	2*	2*	2*	2*	2*	2*	3*
13 Jan 2020	4	3	2	2	2	2	3	3
14 Jan 2020	4	3	2	2	2	2	3	3
15 Jan 2020	4*	3*	2*	2*	2*	2*	2*	2*
16 Jan 2020	4*	3*	2*	2*	2*	2*	2*	2*
17 Jan 2020	4*	3*	2*	2*	2*	2*	2*	2*
18 Jan 2020	4*	3*	2*	2*	2*	2*	2*	2*
19 Jan 2020	4*	3*	2*	2*	2*	2*	2*	2*
20 Jan 2020	4*	3*	2*	2*	2*	2*	2*	2*
21 Jan 2020	4*	3*	2*	2*	3*	2*	2*	2*
22 Jan 2020	4*	3*	2*	2*	3*	2*	2*	2*
23 Jan 2020	4*	3*	2*	2*	3*	2*	2*	2*
24 Jan 2020	4*	3*	2*	2*	3*	2*	2*	2*
25 Jan 2020	4*	3*	2*	2*	3*	2*	2*	2*
26 Jan 2020	4*	3*	2*	2*	3*	2*	2*	2*
27 Jan 2020	4*	3*	2*	2*	3*	2*	2*	2*
28 Jan 2020	6	3	4	2	3	2	2	2
29 Jan 2020	6	3	4	2	3	2	2	2
30 Jan 2020	6	3	4	2	3	2	2	2
31 Jan 2020	6	3	4	2	3	2	2	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 Jan 2020	3*	3*	4*	2*	2*	2*	2*	2*
02 Jan 2020	2*	2*	4*	2*	2*	2*	2*	2*
03 Jan 2020	2*	2*	4*	2*	2*	2*	2*	2*
04 Jan 2020	2*	2*	4*	2*	2*	2*	2*	2*
05 Jan 2020	2*	2*	4*	2*	2*	2*	2*	2*
06 Jan 2020	2*	2*	4*	2*	2*	2*	2*	2*
07 Jan 2020	2	2	3	2	2	2	2	2
08 Jan 2020	2*	2*	2*	2*	2*	2*	2*	2*
09 Jan 2020	2*	2*	2*	2*	2*	2*	2*	2*
10 Jan 2020	2*	2*	2*	2*	2*	2*	2*	2*
11 Jan 2020	2*	2*	2*	2*	2*	2*	2*	2*
12 Jan 2020	2*	2*	2*	2*	2*	2*	2*	2*
13 Jan 2020	2	2	2	2	2	2	2	2
14 Jan 2020	2	2	2	2	2	2	2	2
15 Jan 2020	2*	2*	2*	2*	2*	2*	2*	2*
16 Jan 2020	2*	2*	2*	2*	2*	2*	2*	2*
17 Jan 2020	2*	2*	2*	2*	2*	2*	2*	2*
18 Jan 2020	2*	2*	2*	2*	2*	2*	2*	2*
19 Jan 2020	2*	2*	2*	2*	2*	2*	2*	2*
20 Jan 2020	2*	2*	2*	2*	2*	2*	2*	2*
21 Jan 2020	2*	3*	2*	2*	2*	2*	2*	2*
22 Jan 2020	2*	3*	2*	2*	2*	2*	2*	2*
23 Jan 2020	2*	3*	2*	2*	2*	2*	2*	2*
24 Jan 2020	2*	3*	2*	2*	2*	2*	2*	2*
25 Jan 2020	2*	3*	2*	2*	2*	2*	2*	2*
26 Jan 2020	2*	3*	2*	2*	2*	2*	2*	2*
27 Jan 2020	2*	3*	2*	2*	2*	2*	2*	2*
28 Jan 2020	3	3	2	2	2	2	2	2
29 Jan 2020	3	3	2	2	2	2	2	2
30 Jan 2020	3	3	2	2	2	2	2	2
31 Jan 2020	3	3	2	2	2	2	2	2

* Geometric mean calculated using n<5

Table 3.4

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

Date	A1	A6	A7	C4	C5	C6	C7	C8
02 Jan 2020	IC							
07 Jan 2020	IC							
13 Jan 2020	IC							
21 Jan 2020	IC							
28 Jan 2020	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 Jan 2020	IC							
07 Jan 2020	IC							
13 Jan 2020	IC							
21 Jan 2020	IC							
28 Jan 2020	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 Jan 2020	IC							
07 Jan 2020	IC							
13 Jan 2020	IC							
21 Jan 2020	IC							
28 Jan 2020	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 Jan 2020	IC							
07 Jan 2020	IC							
13 Jan 2020	IC							
21 Jan 2020	IC							
28 Jan 2020	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 Jan 2020	744	1	<2	<2	<2	1.00	15.0	77.11	7.7	33.28	8.1
A1	02 Jan 2020	744	12	4e	<2	<2	0.50	15.4	81.66	7.6	33.41	8.1
A1	02 Jan 2020	744	18	14e	<2	<2	0.14	15.2	72.56	7.4	33.41	8.1
A1	07 Jan 2020	828	1	<20	<2	<2	0.10	15.1	78.25	7.7	33.36	8.0
A1	07 Jan 2020	828	12	2e	<2	<2	1.00	15.1	79.73	7.4	33.39	8.0
A1	07 Jan 2020	828	18	6e	2e	2e	0.33	14.9	82.89	7.4	33.46	8.0
A1	13 Jan 2020	752	1	10e	<2	6e	0.20	15.3	83.38	7.5	33.52	8.0
A1	13 Jan 2020	752	12	380e	52	<2	0.14	14.1	88.76	6.4	33.56	7.9
A1	13 Jan 2020	752	18	400e	54	4e	0.14	13.9	86.90	6.2	33.57	7.9
A1	21 Jan 2020	943	1	<2	<2	<2	1.00	15.4	88.72	7.8	33.51	8.1
A1	21 Jan 2020	943	12	<2	<2	<2	1.00	15.4	89.24	7.8	33.52	8.1
A1	21 Jan 2020	943	18	<2	<2	<2	1.00	14.6	88.42	7.1	33.60	8.0
A1	28 Jan 2020	824	1	4e	2e	<2	0.50	15.3	83.23	7.6	33.52	8.1
A1	28 Jan 2020	824	12	140e	52	2e	0.37	14.2	80.70	6.6	33.55	8.0
A1	28 Jan 2020	824	18	220e	42	8e	0.19	14.0	82.33	6.5	33.55	8.0
A6	02 Jan 2020	818	1	<2	<2	<2	1.00	15.2	81.46	7.7	33.40	8.1
A6	02 Jan 2020	818	12	<2	<2	<2	1.00	15.2	81.12	7.6	33.40	8.1
A6	02 Jan 2020	818	18	4e	<2	<2	0.50	15.2	76.69	7.6	33.41	8.1
A6	07 Jan 2020	855	1	<2	<2	<2	1.00	15.4	79.23	8.2	33.45	8.1
A6	07 Jan 2020	855	12	<2	<2	<2	1.00	15.3	78.68	7.6	33.45	8.1
A6	07 Jan 2020	855	18	12e	2e	<2	0.17	15.1	82.78	7.1	33.47	8.0
A6	13 Jan 2020	820	1	<2	<2	<2	1.00	15.4	84.69	7.7	33.52	8.1
A6	13 Jan 2020	820	12	20e	8e	2e	0.40	14.9	85.23	7.0	33.54	8.0
A6	13 Jan 2020	820	18	40e	6e	<2	0.15	14.6	84.55	6.6	33.55	8.0
A6	21 Jan 2020	1012	1	<2	<2	<2	1.00	15.4	89.61	7.8	33.50	8.1
A6	21 Jan 2020	1012	12	10e	<2	30e	0.20	15.4	89.86	7.8	33.51	8.1
A6	21 Jan 2020	1012	18	2e	<2	<2	1.00	15.2	87.39	7.6	33.52	8.1
A6	28 Jan 2020	854	1	<2	<2	<2	1.00	15.4	81.78	8.0	33.52	8.1
A6	28 Jan 2020	854	12	6e	4e	<2	0.67	15.2	82.79	7.5	33.53	8.1
A6	28 Jan 2020	854	18	26e	4e	<2	0.15	14.6	81.13	6.9	33.55	8.0
A7	02 Jan 2020	805	1	<2	<2	<2	1.00	15.2	82.86	7.5	33.38	8.1
A7	02 Jan 2020	805	12	<2	<2	<2	1.00	15.3	83.01	7.5	33.40	8.1
A7	02 Jan 2020	805	18	<2	<2	<2	1.00	15.3	78.10	7.3	33.42	8.1
A7	07 Jan 2020	841	1	<2	<2	<2	1.00	15.1	78.94	7.7	33.34	8.1
A7	07 Jan 2020	841	12	<2	<2	2e	1.00	15.1	81.29	7.7	33.39	8.1
A7	07 Jan 2020	841	18	6e	<2	<2	0.33	14.9	85.06	7.1	33.46	8.0

Station	Date	Time	Depth	Total	Fecal	Enteric	F:T	Temp	XMS	DO	Sal	pH
A7	13 Jan 2020	807	1	<200	<2	<2	0.01	15.4	85.36	7.6	33.52	8.1
A7	13 Jan 2020	807	12	40e	2e	<2	0.05	15.1	86.19	7.2	33.55	8.1
A7	13 Jan 2020	807	18	40e	10e	<2	0.25	14.4	88.42	6.6	33.57	8.0
A7	21 Jan 2020	958	1	<2	<2	<2	1.00	15.4	88.61	7.8	33.51	8.1
A7	21 Jan 2020	958	12	12e	2e	<2	0.17	15.4	89.16	7.8	33.51	8.1
A7	21 Jan 2020	958	18	<2	2e	<2	1.00	15.2	88.19	7.5	33.53	8.1
A7	28 Jan 2020	839	1	<2	<2	<2	1.00	15.4	81.78	7.8	33.52	8.1
A7	28 Jan 2020	839	12	140e	22e	2e	0.16	14.3	82.13	6.7	33.55	8.0
A7	28 Jan 2020	839	18	320e	40	4e	0.12	14.1	81.52	6.6	33.55	8.0
C4	02 Jan 2020	924	1	2e	<2	<2	1.00	14.8	78.51	8.1	33.26	8.2
C4	02 Jan 2020	924	3	<2	<2	<2	1.00	14.8	78.61	8.1	33.28	8.2
C4	02 Jan 2020	924	9	<20	<2	2e	0.10	14.8	51.26	7.8	33.33	8.1
C4	07 Jan 2020	1004	1	<2	<2	<2	1.00	15.1	69.70	7.6	33.34	8.1
C4	07 Jan 2020	1004	3	<2	<2	<2	1.00	15.1	73.24	7.7	33.35	8.1
C4	07 Jan 2020	1004	9	20e	2e	<2	0.10	15.1	64.94	6.7	33.43	8.0
C4	13 Jan 2020	930	1	<20	<2	<2	0.10	15.2	80.32	7.4	33.51	8.1
C4	13 Jan 2020	930	3	<2	<2	<2	1.00	15.2	79.98	7.5	33.51	8.1
C4	13 Jan 2020	930	9	<2	<2	<2	1.00	15.2	78.06	7.4	33.51	8.1
C4	21 Jan 2020	1137	1	<20	<2	<2	0.10	15.3	59.85	7.8	33.52	8.1
C4	21 Jan 2020	1137	3	20e	2e	<2	0.10	15.3	57.47	7.8	33.52	8.1
C4	21 Jan 2020	1137	9	<20	<2	<2	0.10	15.2	66.09	7.5	33.54	8.1
C4	28 Jan 2020	1019	1	<2	<2	<2	1.00	15.6	65.24	7.5	33.53	8.0
C4	28 Jan 2020	1019	3	<2	<2	<2	1.00	15.5	66.20	7.4	33.54	8.0
C4	28 Jan 2020	1019	9	4e	<2	<2	0.50	15.4	69.89	7.2	33.54	8.0
C5	02 Jan 2020	914	1	<2	<2	<2	1.00	15.1	64.83	7.5	33.38	8.1
C5	02 Jan 2020	914	3	<2	<2	<2	1.00	15.1	60.44	7.5	33.38	8.1
C5	02 Jan 2020	914	9	<2	<2	<2	1.00	14.8	23.45	7.8	33.40	8.1
C5	07 Jan 2020	955	1	<2	2e	<2	1.00	15.4	43.44	7.1	33.45	8.0
C5	07 Jan 2020	955	3	4e	<2	<2	0.50	15.3	37.36	7.0	33.45	8.0
C5	07 Jan 2020	955	9	<20	<2	<2	0.10	15.2	35.13	6.5	33.45	8.0
C5	13 Jan 2020	917	1	<2	<2	<2	1.00	15.2	80.29	7.4	33.51	8.1
C5	13 Jan 2020	917	3	<2	<2	<2	1.00	15.2	80.51	7.4	33.51	8.1
C5	13 Jan 2020	917	9	2e	<2	2e	1.00	15.1	64.62	7.1	33.51	8.1
C5	21 Jan 2020	1129	1	<20	<2	<2	0.10	15.4	55.97	7.7	33.53	8.1
C5	21 Jan 2020	1129	3	<20	4e	<2	0.20	15.3	55.56	7.7	33.54	8.1
C5	21 Jan 2020	1129	9	60e	20e	<2	0.33	14.9	58.32	6.8	33.57	8.0
C5	28 Jan 2020	1004	1	<2	<2	<2	1.00	15.6	65.27	7.6	33.53	8.0
C5	28 Jan 2020	1004	3	2e	<2	<2	1.00	15.6	66.88	7.4	33.55	8.0
C5	28 Jan 2020	1004	9	<2	<2	<2	1.00	15.4	65.27	7.1	33.53	8.0
C6	02 Jan 2020	905	1	<2	<2	<2	1.00	14.9	49.02	7.5	33.39	8.1
C6	02 Jan 2020	905	3	<2	2e	<2	1.00	14.9	50.00	7.5	33.39	8.1

Station	Date	Time	Depth	Total	Fecal	Enteric	F:T	Temp	XMS	DO	Sal	pH
C6	02 Jan 2020	905	9	<2	<2	<2	1.00	15.0	47.01	7.4	33.39	8.1
C6	07 Jan 2020	942	1	<2	<2	<2	1.00	15.3	60.06	7.2	33.45	8.0
C6	07 Jan 2020	942	3	4e	<2	<2	0.50	15.3	59.48	7.1	33.45	8.0
C6	07 Jan 2020	942	9	2e	<2	<2	1.00	15.2	61.18	7.1	33.45	8.0
C6	13 Jan 2020	906	1	<2	4e	<2	2.00	15.2	70.00	7.6	33.51	8.1
C6	13 Jan 2020	906	3	<20	2e	<2	0.10	15.2	69.00	7.6	33.51	8.1
C6	13 Jan 2020	906	9	20e	<2	<2	0.10	15.2	65.90	7.4	33.51	8.1
C6	21 Jan 2020	1114	1	<2	<2	<2	1.00	15.3	61.20	7.5	33.53	8.1
C6	21 Jan 2020	1114	3	6e	<2	<2	0.33	15.3	60.63	7.3	33.53	8.1
C6	21 Jan 2020	1114	9	<20	<2	<2	0.10	15.2	67.21	7.0	33.54	8.1
C6	28 Jan 2020	952	1	<2	<2	<2	1.00	15.6	72.14	7.5	33.52	8.0
C6	28 Jan 2020	952	3	<2	<2	<2	1.00	15.5	72.33	7.5	33.52	8.0
C6	28 Jan 2020	952	9	<2	<2	<2	1.00	15.4	71.21	7.2	33.52	8.1
C7	02 Jan 2020	832	1	<2	<2	<2	1.00	15.5	86.78	7.8	33.48	8.2
C7	02 Jan 2020	832	12	<2	<2	<2	1.00	15.4	83.75	7.7	33.47	8.2
C7	02 Jan 2020	832	18	<2	<2	<2	1.00	15.3	82.62	7.6	33.46	8.2
C7	07 Jan 2020	912	1	2e	<2	<2	1.00	15.7	84.10	7.7	33.50	8.1
C7	07 Jan 2020	912	12	<2	<2	<2	1.00	15.4	84.50	7.4	33.51	8.1
C7	07 Jan 2020	912	18	12e	<2	2e	0.17	14.8	85.44	6.7	33.56	8.0
C7	13 Jan 2020	834	1	<2	<2	<2	1.00	15.5	83.69	7.7	33.52	8.1
C7	13 Jan 2020	834	12	2e	2e	<2	1.00	15.4	83.75	7.4	33.53	8.1
C7	13 Jan 2020	834	18	<20	8e	2e	0.40	14.9	85.33	7.0	33.54	8.1
C7	21 Jan 2020	1036	1	<2	<2	2e	1.00	15.4	88.27	7.8	33.50	8.1
C7	21 Jan 2020	1036	12	<2	<2	<2	1.00	15.3	87.91	7.8	33.52	8.1
C7	21 Jan 2020	1036	18	22e	<2	<2	0.09	14.7	86.29	7.2	33.63	8.1
C7	28 Jan 2020	914	1	<2	<2	2e	1.00	15.6	83.65	8.0	33.52	8.1
C7	28 Jan 2020	914	12	<2	<2	<2	1.00	15.5	84.37	7.9	33.53	8.1
C7	28 Jan 2020	914	18	<2	<2	<2	1.00	15.4	85.87	7.7	33.54	8.1
C8	02 Jan 2020	843	1	<2	<2	<2	1.00	15.5	85.72	7.8	33.48	8.2
C8	02 Jan 2020	843	12	<2	<2	<2	1.00	15.2	86.10	7.7	33.44	8.2
C8	02 Jan 2020	843	18	<2	<2	<2	1.00	15.2	81.40	7.7	33.44	8.2
C8	07 Jan 2020	926	1	<2	<2	<2	1.00	15.8	84.46	7.7	33.53	8.1
C8	07 Jan 2020	926	12	<2	<2	<2	1.00	15.5	82.23	7.5	33.51	8.1
C8	07 Jan 2020	926	18	4e	<2	<2	0.50	15.3	84.20	7.3	33.53	8.1
C8	13 Jan 2020	845	1	<20	<2	<2	0.10	15.6	83.50	7.7	33.52	8.1
C8	13 Jan 2020	845	12	<20	<2	<2	0.10	15.6	84.70	7.7	33.52	8.1
C8	13 Jan 2020	845	18	<2	2e	2e	1.00	15.6	85.32	7.7	33.53	8.1
C8	21 Jan 2020	1048	1	<2	4e	<2	2.00	15.3	87.81	8.0	33.50	8.1
C8	21 Jan 2020	1048	12	<2	<2	<2	1.00	15.2	85.84	7.8	33.51	8.1
C8	21 Jan 2020	1048	18	6e	<2	<2	0.33	14.9	82.42	7.4	33.55	8.1
C8	28 Jan 2020	934	1	20e	2e	<2	0.10	15.6	74.99	7.9	33.52	8.1

Station	Date	Time	Depth	Total	Fecal	Enter	F:T	Temp	XMS	DO	Sal	pH
C8	28 Jan 2020	934	12	2e	<2	<2	1.00	15.4	78.92	7.8	33.53	8.1
C8	28 Jan 2020	934	18	4e	<2	<2	0.50	15.0	80.62	7.4	33.54	8.1

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 Jan 2020	Depth (m)	18
A1	02 Jan 2020	Arrive Time	744
A1	02 Jan 2020	Depart Time	757
A1	02 Jan 2020	Air Temp (C)	12
A1	02 Jan 2020	Weather	Haze
A1	02 Jan 2020	Visibility (mi)	10
A1	02 Jan 2020	Wind Speed (kts)	12
A1	02 Jan 2020	Wind Dir	NE
A1	02 Jan 2020	Water Color	Brownish-Green
A1	02 Jan 2020	Wave Ht Low (ft)	4
A1	02 Jan 2020	Wave Period (sec)	16
A1	02 Jan 2020	Sea State	Calm
A1	02 Jan 2020	High Tide (ft)	3.23
A1	02 Jan 2020	High Tide Time	1348
A1	02 Jan 2020	Low Tide (ft)	2.5
A1	02 Jan 2020	Low Tide Time	853
A1	02 Jan 2020	Comments	none
A1	07 Jan 2020	Depth (m)	18
A1	07 Jan 2020	Arrive Time	828
A1	07 Jan 2020	Depart Time	834
A1	07 Jan 2020	Air Temp (C)	16
A1	07 Jan 2020	Weather	Partly Cloudy
A1	07 Jan 2020	Visibility (mi)	10
A1	07 Jan 2020	Wind Speed (kts)	3
A1	07 Jan 2020	Wind Dir	NW
A1	07 Jan 2020	Water Color	Green
A1	07 Jan 2020	Wave Ht Low (ft)	3
A1	07 Jan 2020	Wave Period (sec)	13
A1	07 Jan 2020	Sea State	Calm
A1	07 Jan 2020	High Tide (ft)	5.56
A1	07 Jan 2020	High Tide Time	608
A1	07 Jan 2020	Low Tide (ft)	-0.35
A1	07 Jan 2020	Low Tide Time	1329
A1	07 Jan 2020	Comments	none
A1	13 Jan 2020	Depth (m)	18
A1	13 Jan 2020	Arrive Time	752
A1	13 Jan 2020	Depart Time	800
A1	13 Jan 2020	Air Temp (C)	11
A1	13 Jan 2020	Weather	Haze
A1	13 Jan 2020	Visibility (mi)	8
A1	13 Jan 2020	Wind Speed (kts)	9
A1	13 Jan 2020	Wind Dir	NE
A1	13 Jan 2020	Water Color	Green
A1	13 Jan 2020	Wave Ht Low (ft)	3
A1	13 Jan 2020	Wave Period (sec)	9
A1	13 Jan 2020	Sea State	Calm
A1	13 Jan 2020	High Tide (ft)	6.02
A1	13 Jan 2020	High Tide Time	1011
A1	13 Jan 2020	Low Tide (ft)	1.75

Station	Date	Parameter	Value
A1	13 Jan 2020	Low Tide Time	409
A1	13 Jan 2020	Comments	none
A1	21 Jan 2020	Depth (m)	18
A1	21 Jan 2020	Arrive Time	943
A1	21 Jan 2020	Depart Time	948
A1	21 Jan 2020	Air Temp (C)	13
A1	21 Jan 2020	Weather	Overcast
A1	21 Jan 2020	Visibility (mi)	4
A1	21 Jan 2020	Wind Speed (kts)	4
A1	21 Jan 2020	Wind Dir	SE
A1	21 Jan 2020	Water Color	Green
A1	21 Jan 2020	Wave Ht Low (ft)	4
A1	21 Jan 2020	Wave Period (sec)	13
A1	21 Jan 2020	Sea State	Light chop
A1	21 Jan 2020	High Tide (ft)	6.33
A1	21 Jan 2020	High Tide Time	2106
A1	21 Jan 2020	Low Tide (ft)	-0.71
A1	21 Jan 2020	Low Tide Time	405
A1	21 Jan 2020	Comments	Kelp
A1	28 Jan 2020	Depth (m)	18
A1	28 Jan 2020	Arrive Time	824
A1	28 Jan 2020	Depart Time	830
A1	28 Jan 2020	Air Temp (C)	15
A1	28 Jan 2020	Weather	Clear
A1	28 Jan 2020	Visibility (mi)	12
A1	28 Jan 2020	Wind Speed (kts)	1
A1	28 Jan 2020	Wind Dir	N
A1	28 Jan 2020	Water Color	Green
A1	28 Jan 2020	Wave Ht Low (ft)	4
A1	28 Jan 2020	Wave Period (sec)	13
A1	28 Jan 2020	Sea State	Calm
A1	28 Jan 2020	High Tide (ft)	6.33
A1	28 Jan 2020	High Tide Time	2106
A1	28 Jan 2020	Low Tide (ft)	-0.71
A1	28 Jan 2020	Low Tide Time	405
A1	28 Jan 2020	Comments	Kelp; Boats
A6	02 Jan 2020	Depth (m)	18
A6	02 Jan 2020	Arrive Time	818
A6	02 Jan 2020	Depart Time	823
A6	02 Jan 2020	Air Temp (C)	13
A6	02 Jan 2020	Weather	Haze
A6	02 Jan 2020	Visibility (mi)	10
A6	02 Jan 2020	Wind Speed (kts)	8
A6	02 Jan 2020	Wind Dir	E
A6	02 Jan 2020	Water Color	Brownish-Green
A6	02 Jan 2020	Wave Ht Low (ft)	4
A6	02 Jan 2020	Wave Period (sec)	16
A6	02 Jan 2020	Sea State	Calm
A6	02 Jan 2020	High Tide (ft)	3.23
A6	02 Jan 2020	High Tide Time	1348
A6	02 Jan 2020	Low Tide (ft)	2.5
A6	02 Jan 2020	Low Tide Time	853

Station	Date	Parameter	Value
A6	02 Jan 2020	Comments	Lobster floats
A6	07 Jan 2020	Depth (m)	18
A6	07 Jan 2020	Arrive Time	855
A6	07 Jan 2020	Depart Time	902
A6	07 Jan 2020	Air Temp (C)	16
A6	07 Jan 2020	Weather	Partly Cloudy
A6	07 Jan 2020	Visibility (mi)	10
A6	07 Jan 2020	Wind Speed (kts)	2
A6	07 Jan 2020	Wind Dir	SW
A6	07 Jan 2020	Water Color	Green
A6	07 Jan 2020	Wave Ht Low (ft)	3
A6	07 Jan 2020	Wave Period (sec)	13
A6	07 Jan 2020	Sea State	Calm
A6	07 Jan 2020	High Tide (ft)	5.56
A6	07 Jan 2020	High Tide Time	608
A6	07 Jan 2020	Low Tide (ft)	-0.35
A6	07 Jan 2020	Low Tide Time	1329
A6	07 Jan 2020	Comments	none
A6	13 Jan 2020	Depth (m)	18
A6	13 Jan 2020	Arrive Time	820
A6	13 Jan 2020	Depart Time	825
A6	13 Jan 2020	Air Temp (C)	12
A6	13 Jan 2020	Weather	Haze
A6	13 Jan 2020	Visibility (mi)	8
A6	13 Jan 2020	Wind Speed (kts)	9
A6	13 Jan 2020	Wind Dir	NE
A6	13 Jan 2020	Water Color	Green
A6	13 Jan 2020	Wave Ht Low (ft)	3
A6	13 Jan 2020	Wave Period (sec)	9
A6	13 Jan 2020	Sea State	Calm
A6	13 Jan 2020	High Tide (ft)	6.02
A6	13 Jan 2020	High Tide Time	1011
A6	13 Jan 2020	Low Tide (ft)	1.75
A6	13 Jan 2020	Low Tide Time	409
A6	13 Jan 2020	Comments	Lobster floats
A6	21 Jan 2020	Depth (m)	18
A6	21 Jan 2020	Arrive Time	1012
A6	21 Jan 2020	Depart Time	1018
A6	21 Jan 2020	Air Temp (C)	13
A6	21 Jan 2020	Weather	Overcast
A6	21 Jan 2020	Visibility (mi)	4
A6	21 Jan 2020	Wind Speed (kts)	6
A6	21 Jan 2020	Wind Dir	SE
A6	21 Jan 2020	Water Color	Greenish-Blue
A6	21 Jan 2020	Wave Ht Low (ft)	4
A6	21 Jan 2020	Wave Period (sec)	13
A6	21 Jan 2020	Sea State	Light chop
A6	21 Jan 2020	High Tide (ft)	6.33
A6	21 Jan 2020	High Tide Time	2106
A6	21 Jan 2020	Low Tide (ft)	-0.71
A6	21 Jan 2020	Low Tide Time	405
A6	21 Jan 2020	Comments	Kelp debris

Station	Date	Parameter	Value
A6	28 Jan 2020	Depth (m)	20
A6	28 Jan 2020	Arrive Time	854
A6	28 Jan 2020	Depart Time	859
A6	28 Jan 2020	Air Temp (C)	15
A6	28 Jan 2020	Weather	Clear
A6	28 Jan 2020	Visibility (mi)	12
A6	28 Jan 2020	Wind Speed (kts)	9
A6	28 Jan 2020	Wind Dir	N
A6	28 Jan 2020	Water Color	Green
A6	28 Jan 2020	Wave Ht Low (ft)	4
A6	28 Jan 2020	Wave Period (sec)	13
A6	28 Jan 2020	Sea State	Calm
A6	28 Jan 2020	High Tide (ft)	6.33
A6	28 Jan 2020	High Tide Time	2106
A6	28 Jan 2020	Low Tide (ft)	-0.71
A6	28 Jan 2020	Low Tide Time	405
A6	28 Jan 2020	Comments	Kelp; Boats
A7	02 Jan 2020	Depth (m)	18
A7	02 Jan 2020	Arrive Time	805
A7	02 Jan 2020	Depart Time	811
A7	02 Jan 2020	Air Temp (C)	13
A7	02 Jan 2020	Weather	Haze
A7	02 Jan 2020	Visibility (mi)	10
A7	02 Jan 2020	Wind Speed (kts)	8
A7	02 Jan 2020	Wind Dir	NE
A7	02 Jan 2020	Water Color	Brownish-Green
A7	02 Jan 2020	Wave Ht Low (ft)	4
A7	02 Jan 2020	Wave Period (sec)	16
A7	02 Jan 2020	Sea State	Calm
A7	02 Jan 2020	High Tide (ft)	3.23
A7	02 Jan 2020	High Tide Time	1348
A7	02 Jan 2020	Low Tide (ft)	2.5
A7	02 Jan 2020	Low Tide Time	853
A7	02 Jan 2020	Comments	Lobster floats
A7	07 Jan 2020	Depth (m)	18
A7	07 Jan 2020	Arrive Time	841
A7	07 Jan 2020	Depart Time	846
A7	07 Jan 2020	Air Temp (C)	17
A7	07 Jan 2020	Weather	Partly Cloudy
A7	07 Jan 2020	Visibility (mi)	10
A7	07 Jan 2020	Wind Speed (kts)	4
A7	07 Jan 2020	Wind Dir	NW
A7	07 Jan 2020	Water Color	Green
A7	07 Jan 2020	Wave Ht Low (ft)	3
A7	07 Jan 2020	Wave Period (sec)	13
A7	07 Jan 2020	Sea State	Calm
A7	07 Jan 2020	High Tide (ft)	5.56
A7	07 Jan 2020	High Tide Time	608
A7	07 Jan 2020	Low Tide (ft)	-0.35
A7	07 Jan 2020	Low Tide Time	1329
A7	07 Jan 2020	Comments	none

Station	Date	Parameter	Value
A7	13 Jan 2020	Depth (m)	18
A7	13 Jan 2020	Arrive Time	807
A7	13 Jan 2020	Depart Time	811
A7	13 Jan 2020	Air Temp (C)	12
A7	13 Jan 2020	Weather	Haze
A7	13 Jan 2020	Visibility (mi)	8
A7	13 Jan 2020	Wind Speed (kts)	13
A7	13 Jan 2020	Wind Dir	N
A7	13 Jan 2020	Water Color	Green
A7	13 Jan 2020	Wave Ht Low (ft)	3
A7	13 Jan 2020	Wave Period (sec)	9
A7	13 Jan 2020	Sea State	Calm
A7	13 Jan 2020	High Tide (ft)	6.02
A7	13 Jan 2020	High Tide Time	1011
A7	13 Jan 2020	Low Tide (ft)	1.75
A7	13 Jan 2020	Low Tide Time	409
A7	13 Jan 2020	Comments	Lobster floats
A7	21 Jan 2020	Depth (m)	19
A7	21 Jan 2020	Arrive Time	958
A7	21 Jan 2020	Depart Time	1003
A7	21 Jan 2020	Air Temp (C)	13
A7	21 Jan 2020	Weather	Overcast
A7	21 Jan 2020	Visibility (mi)	4
A7	21 Jan 2020	Wind Speed (kts)	7
A7	21 Jan 2020	Wind Dir	SE
A7	21 Jan 2020	Water Color	Green
A7	21 Jan 2020	Wave Ht Low (ft)	4
A7	21 Jan 2020	Wave Period (sec)	13
A7	21 Jan 2020	Sea State	Light chop
A7	21 Jan 2020	High Tide (ft)	6.33
A7	21 Jan 2020	High Tide Time	2106
A7	21 Jan 2020	Low Tide (ft)	-0.71
A7	21 Jan 2020	Low Tide Time	405
A7	21 Jan 2020	Comments	Kelp
A7	28 Jan 2020	Depth (m)	20
A7	28 Jan 2020	Arrive Time	839
A7	28 Jan 2020	Depart Time	848
A7	28 Jan 2020	Air Temp (C)	15
A7	28 Jan 2020	Weather	Clear
A7	28 Jan 2020	Visibility (mi)	12
A7	28 Jan 2020	Wind Speed (kts)	5
A7	28 Jan 2020	Wind Dir	N
A7	28 Jan 2020	Water Color	Green
A7	28 Jan 2020	Wave Ht Low (ft)	4
A7	28 Jan 2020	Wave Period (sec)	13
A7	28 Jan 2020	Sea State	Calm
A7	28 Jan 2020	High Tide (ft)	6.33
A7	28 Jan 2020	High Tide Time	2106
A7	28 Jan 2020	Low Tide (ft)	-0.71
A7	28 Jan 2020	Low Tide Time	405
A7	28 Jan 2020	Comments	Kelp
C4	02 Jan 2020	Depth (m)	10

Station	Date	Parameter	Value
C4	02 Jan 2020	Arrive Time	924
C4	02 Jan 2020	Depart Time	929
C4	02 Jan 2020	Air Temp (C)	14
C4	02 Jan 2020	Weather	Partly Cloudy
C4	02 Jan 2020	Visibility (mi)	10
C4	02 Jan 2020	Wind Speed (kts)	8
C4	02 Jan 2020	Wind Dir	NW
C4	02 Jan 2020	Water Color	Brown
C4	02 Jan 2020	Wave Ht Low (ft)	4
C4	02 Jan 2020	Wave Period (sec)	16
C4	02 Jan 2020	Sea State	Calm
C4	02 Jan 2020	High Tide (ft)	3.23
C4	02 Jan 2020	High Tide Time	1348
C4	02 Jan 2020	Low Tide (ft)	2.5
C4	02 Jan 2020	Low Tide Time	853
C4	02 Jan 2020	Comments	Boats; Kelp
C4	07 Jan 2020	Depth (m)	9
C4	07 Jan 2020	Arrive Time	1004
C4	07 Jan 2020	Depart Time	1010
C4	07 Jan 2020	Air Temp (C)	16
C4	07 Jan 2020	Weather	Partly Cloudy
C4	07 Jan 2020	Visibility (mi)	10
C4	07 Jan 2020	Wind Speed (kts)	2
C4	07 Jan 2020	Wind Dir	S
C4	07 Jan 2020	Water Color	Brownish-Green
C4	07 Jan 2020	Wave Ht Low (ft)	3
C4	07 Jan 2020	Wave Period (sec)	13
C4	07 Jan 2020	Sea State	Calm
C4	07 Jan 2020	High Tide (ft)	5.56
C4	07 Jan 2020	High Tide Time	608
C4	07 Jan 2020	Low Tide (ft)	-0.35
C4	07 Jan 2020	Low Tide Time	1329
C4	07 Jan 2020	Comments	none
C4	13 Jan 2020	Depth (m)	10
C4	13 Jan 2020	Arrive Time	930
C4	13 Jan 2020	Depart Time	956
C4	13 Jan 2020	Air Temp (C)	12
C4	13 Jan 2020	Weather	Haze
C4	13 Jan 2020	Visibility (mi)	8
C4	13 Jan 2020	Wind Speed (kts)	7
C4	13 Jan 2020	Wind Dir	N
C4	13 Jan 2020	Water Color	Brownish-Green
C4	13 Jan 2020	Wave Ht Low (ft)	3
C4	13 Jan 2020	Wave Period (sec)	9
C4	13 Jan 2020	Sea State	Calm
C4	13 Jan 2020	High Tide (ft)	6.02
C4	13 Jan 2020	High Tide Time	1011
C4	13 Jan 2020	Low Tide (ft)	1.75
C4	13 Jan 2020	Low Tide Time	409
C4	13 Jan 2020	Comments	Kelp; Lobster floats
C4	21 Jan 2020	Depth (m)	10
C4	21 Jan 2020	Arrive Time	1137

Station	Date	Parameter	Value
C4	21 Jan 2020	Depart Time	1140
C4	21 Jan 2020	Air Temp (C)	14
C4	21 Jan 2020	Weather	Overcast
C4	21 Jan 2020	Visibility (mi)	10
C4	21 Jan 2020	Wind Speed (kts)	3
C4	21 Jan 2020	Wind Dir	S
C4	21 Jan 2020	Water Color	Greenish-Brown
C4	21 Jan 2020	Wave Ht Low (ft)	4
C4	21 Jan 2020	Wave Period (sec)	13
C4	21 Jan 2020	Sea State	Calm
C4	21 Jan 2020	High Tide (ft)	6.33
C4	21 Jan 2020	High Tide Time	2106
C4	21 Jan 2020	Low Tide (ft)	-0.71
C4	21 Jan 2020	Low Tide Time	405
C4	21 Jan 2020	Comments	Kelp
C4	28 Jan 2020	Depth (m)	11
C4	28 Jan 2020	Arrive Time	1019
C4	28 Jan 2020	Depart Time	1023
C4	28 Jan 2020	Air Temp (C)	17
C4	28 Jan 2020	Weather	Clear
C4	28 Jan 2020	Visibility (mi)	12
C4	28 Jan 2020	Wind Speed (kts)	2
C4	28 Jan 2020	Wind Dir	E
C4	28 Jan 2020	Water Color	Green
C4	28 Jan 2020	Wave Ht Low (ft)	4
C4	28 Jan 2020	Wave Period (sec)	13
C4	28 Jan 2020	Sea State	Calm
C4	28 Jan 2020	High Tide (ft)	6.33
C4	28 Jan 2020	High Tide Time	2106
C4	28 Jan 2020	Low Tide (ft)	-0.71
C4	28 Jan 2020	Low Tide Time	405
C4	28 Jan 2020	Comments	none
C5	02 Jan 2020	Depth (m)	10
C5	02 Jan 2020	Arrive Time	914
C5	02 Jan 2020	Depart Time	920
C5	02 Jan 2020	Air Temp (C)	14
C5	02 Jan 2020	Weather	Partly Cloudy
C5	02 Jan 2020	Visibility (mi)	10
C5	02 Jan 2020	Wind Speed (kts)	8
C5	02 Jan 2020	Wind Dir	W
C5	02 Jan 2020	Water Color	Brown
C5	02 Jan 2020	Wave Ht Low (ft)	4
C5	02 Jan 2020	Wave Period (sec)	16
C5	02 Jan 2020	Sea State	Calm
C5	02 Jan 2020	High Tide (ft)	3.23
C5	02 Jan 2020	High Tide Time	1348
C5	02 Jan 2020	Low Tide (ft)	2.5
C5	02 Jan 2020	Low Tide Time	853
C5	02 Jan 2020	Comments	none
C5	07 Jan 2020	Depth (m)	9
C5	07 Jan 2020	Arrive Time	955
C5	07 Jan 2020	Depart Time	1000

Station	Date	Parameter	Value
C5	07 Jan 2020	Air Temp (C)	17
C5	07 Jan 2020	Weather	Partly Cloudy
C5	07 Jan 2020	Visibility (mi)	10
C5	07 Jan 2020	Wind Speed (kts)	6
C5	07 Jan 2020	Wind Dir	SW
C5	07 Jan 2020	Water Color	Brownish-Green
C5	07 Jan 2020	Wave Ht Low (ft)	3
C5	07 Jan 2020	Wave Period (sec)	13
C5	07 Jan 2020	Sea State	Calm
C5	07 Jan 2020	High Tide (ft)	5.56
C5	07 Jan 2020	High Tide Time	608
C5	07 Jan 2020	Low Tide (ft)	-0.35
C5	07 Jan 2020	Low Tide Time	1329
C5	07 Jan 2020	Comments	none
C5	13 Jan 2020	Depth (m)	10
C5	13 Jan 2020	Arrive Time	917
C5	13 Jan 2020	Depart Time	925
C5	13 Jan 2020	Air Temp (C)	12
C5	13 Jan 2020	Weather	Haze
C5	13 Jan 2020	Visibility (mi)	8
C5	13 Jan 2020	Wind Speed (kts)	13
C5	13 Jan 2020	Wind Dir	N
C5	13 Jan 2020	Water Color	Brownish-Green
C5	13 Jan 2020	Wave Ht Low (ft)	3
C5	13 Jan 2020	Wave Period (sec)	9
C5	13 Jan 2020	Sea State	Calm
C5	13 Jan 2020	High Tide (ft)	6.02
C5	13 Jan 2020	High Tide Time	1011
C5	13 Jan 2020	Low Tide (ft)	1.75
C5	13 Jan 2020	Low Tide Time	409
C5	13 Jan 2020	Comments	Kelp
C5	21 Jan 2020	Depth (m)	11
C5	21 Jan 2020	Arrive Time	1129
C5	21 Jan 2020	Depart Time	1130
C5	21 Jan 2020	Air Temp (C)	14
C5	21 Jan 2020	Weather	Overcast
C5	21 Jan 2020	Visibility (mi)	7
C5	21 Jan 2020	Wind Speed (kts)	3
C5	21 Jan 2020	Wind Dir	S
C5	21 Jan 2020	Water Color	Greenish-Brown
C5	21 Jan 2020	Wave Ht Low (ft)	4
C5	21 Jan 2020	Wave Period (sec)	13
C5	21 Jan 2020	Sea State	Calm
C5	21 Jan 2020	High Tide (ft)	6.33
C5	21 Jan 2020	High Tide Time	2106
C5	21 Jan 2020	Low Tide (ft)	-0.71
C5	21 Jan 2020	Low Tide Time	405
C5	21 Jan 2020	Comments	none
C5	28 Jan 2020	Depth (m)	11
C5	28 Jan 2020	Arrive Time	1004
C5	28 Jan 2020	Depart Time	1010
C5	28 Jan 2020	Air Temp (C)	16

Station	Date	Parameter	Value
C5	28 Jan 2020	Weather	Clear
C5	28 Jan 2020	Visibility (mi)	12
C5	28 Jan 2020	Wind Speed (kts)	3
C5	28 Jan 2020	Wind Dir	W
C5	28 Jan 2020	Water Color	Green
C5	28 Jan 2020	Wave Ht Low (ft)	4
C5	28 Jan 2020	Wave Period (sec)	13
C5	28 Jan 2020	Sea State	Calm
C5	28 Jan 2020	High Tide (ft)	6.33
C5	28 Jan 2020	High Tide Time	2106
C5	28 Jan 2020	Low Tide (ft)	-0.71
C5	28 Jan 2020	Low Tide Time	405
C5	28 Jan 2020	Comments	Kelp
C6	02 Jan 2020	Depth (m)	10
C6	02 Jan 2020	Arrive Time	905
C6	02 Jan 2020	Depart Time	908
C6	02 Jan 2020	Air Temp (C)	13
C6	02 Jan 2020	Weather	Partly Cloudy
C6	02 Jan 2020	Visibility (mi)	10
C6	02 Jan 2020	Wind Speed (kts)	11
C6	02 Jan 2020	Wind Dir	NE
C6	02 Jan 2020	Water Color	Brownish-Green
C6	02 Jan 2020	Wave Ht Low (ft)	4
C6	02 Jan 2020	Wave Period (sec)	16
C6	02 Jan 2020	Sea State	Calm
C6	02 Jan 2020	High Tide (ft)	3.23
C6	02 Jan 2020	High Tide Time	1348
C6	02 Jan 2020	Low Tide (ft)	2.5
C6	02 Jan 2020	Low Tide Time	853
C6	02 Jan 2020	Comments	Lobster floats
C6	07 Jan 2020	Depth (m)	9
C6	07 Jan 2020	Arrive Time	942
C6	07 Jan 2020	Depart Time	950
C6	07 Jan 2020	Air Temp (C)	17
C6	07 Jan 2020	Weather	Partly Cloudy
C6	07 Jan 2020	Visibility (mi)	10
C6	07 Jan 2020	Wind Speed (kts)	3
C6	07 Jan 2020	Wind Dir	W
C6	07 Jan 2020	Water Color	Brownish-Green
C6	07 Jan 2020	Wave Ht Low (ft)	3
C6	07 Jan 2020	Wave Period (sec)	13
C6	07 Jan 2020	Sea State	Calm
C6	07 Jan 2020	High Tide (ft)	5.56
C6	07 Jan 2020	High Tide Time	608
C6	07 Jan 2020	Low Tide (ft)	-0.35
C6	07 Jan 2020	Low Tide Time	1329
C6	07 Jan 2020	Comments	none
C6	13 Jan 2020	Depth (m)	10
C6	13 Jan 2020	Arrive Time	906
C6	13 Jan 2020	Depart Time	912
C6	13 Jan 2020	Air Temp (C)	12
C6	13 Jan 2020	Weather	Haze

Station	Date	Parameter	Value
C6	13 Jan 2020	Visibility (mi)	8
C6	13 Jan 2020	Wind Speed (kts)	10
C6	13 Jan 2020	Wind Dir	E
C6	13 Jan 2020	Water Color	Brownish-Green
C6	13 Jan 2020	Wave Ht Low (ft)	3
C6	13 Jan 2020	Wave Period (sec)	9
C6	13 Jan 2020	Sea State	Calm
C6	13 Jan 2020	High Tide (ft)	6.02
C6	13 Jan 2020	High Tide Time	1011
C6	13 Jan 2020	Low Tide (ft)	1.75
C6	13 Jan 2020	Low Tide Time	409
C6	13 Jan 2020	Comments	Kelp
C6	21 Jan 2020	Depth (m)	8
C6	21 Jan 2020	Arrive Time	1114
C6	21 Jan 2020	Depart Time	1119
C6	21 Jan 2020	Air Temp (C)	14
C6	21 Jan 2020	Weather	Overcast
C6	21 Jan 2020	Visibility (mi)	7
C6	21 Jan 2020	Wind Speed (kts)	4
C6	21 Jan 2020	Wind Dir	S
C6	21 Jan 2020	Water Color	Greenish-Brown
C6	21 Jan 2020	Wave Ht Low (ft)	4
C6	21 Jan 2020	Wave Period (sec)	13
C6	21 Jan 2020	Sea State	Calm
C6	21 Jan 2020	High Tide (ft)	6.33
C6	21 Jan 2020	High Tide Time	2106
C6	21 Jan 2020	Low Tide (ft)	-0.71
C6	21 Jan 2020	Low Tide Time	405
C6	21 Jan 2020	Comments	Kelp; Boats
C6	28 Jan 2020	Depth (m)	11
C6	28 Jan 2020	Arrive Time	952
C6	28 Jan 2020	Depart Time	956
C6	28 Jan 2020	Air Temp (C)	16
C6	28 Jan 2020	Weather	Clear
C6	28 Jan 2020	Visibility (mi)	12
C6	28 Jan 2020	Wind Speed (kts)	2
C6	28 Jan 2020	Wind Dir	NW
C6	28 Jan 2020	Water Color	Green
C6	28 Jan 2020	Wave Ht Low (ft)	4
C6	28 Jan 2020	Wave Period (sec)	13
C6	28 Jan 2020	Sea State	Calm
C6	28 Jan 2020	High Tide (ft)	6.33
C6	28 Jan 2020	High Tide Time	2106
C6	28 Jan 2020	Low Tide (ft)	-0.71
C6	28 Jan 2020	Low Tide Time	405
C6	28 Jan 2020	Comments	Kelp; Seagrass
C7	02 Jan 2020	Depth (m)	18
C7	02 Jan 2020	Arrive Time	832
C7	02 Jan 2020	Depart Time	837
C7	02 Jan 2020	Air Temp (C)	13
C7	02 Jan 2020	Weather	Partly Cloudy
C7	02 Jan 2020	Visibility (mi)	10

Station	Date	Parameter	Value
C7	02 Jan 2020	Wind Speed (kts)	7
C7	02 Jan 2020	Wind Dir	NE
C7	02 Jan 2020	Water Color	Brownish-Green
C7	02 Jan 2020	Wave Ht Low (ft)	4
C7	02 Jan 2020	Wave Period (sec)	16
C7	02 Jan 2020	Sea State	Calm
C7	02 Jan 2020	High Tide (ft)	3.23
C7	02 Jan 2020	High Tide Time	1348
C7	02 Jan 2020	Low Tide (ft)	2.5
C7	02 Jan 2020	Low Tide Time	853
C7	02 Jan 2020	Comments	Lobster floats
C7	07 Jan 2020	Depth (m)	18
C7	07 Jan 2020	Arrive Time	912
C7	07 Jan 2020	Depart Time	918
C7	07 Jan 2020	Air Temp (C)	16
C7	07 Jan 2020	Weather	Partly Cloudy
C7	07 Jan 2020	Visibility (mi)	10
C7	07 Jan 2020	Wind Speed (kts)	1
C7	07 Jan 2020	Wind Dir	NW
C7	07 Jan 2020	Water Color	Green
C7	07 Jan 2020	Wave Ht Low (ft)	3
C7	07 Jan 2020	Wave Period (sec)	13
C7	07 Jan 2020	Sea State	Calm
C7	07 Jan 2020	High Tide (ft)	5.56
C7	07 Jan 2020	High Tide Time	608
C7	07 Jan 2020	Low Tide (ft)	-0.35
C7	07 Jan 2020	Low Tide Time	1329
C7	07 Jan 2020	Comments	none
C7	13 Jan 2020	Depth (m)	18
C7	13 Jan 2020	Arrive Time	834
C7	13 Jan 2020	Depart Time	839
C7	13 Jan 2020	Air Temp (C)	12
C7	13 Jan 2020	Weather	Haze
C7	13 Jan 2020	Visibility (mi)	8
C7	13 Jan 2020	Wind Speed (kts)	8
C7	13 Jan 2020	Wind Dir	NE
C7	13 Jan 2020	Water Color	Green
C7	13 Jan 2020	Wave Ht Low (ft)	3
C7	13 Jan 2020	Wave Period (sec)	9
C7	13 Jan 2020	Sea State	Calm
C7	13 Jan 2020	High Tide (ft)	6.02
C7	13 Jan 2020	High Tide Time	1011
C7	13 Jan 2020	Low Tide (ft)	1.75
C7	13 Jan 2020	Low Tide Time	409
C7	13 Jan 2020	Comments	Lobster floats
C7	21 Jan 2020	Depth (m)	18
C7	21 Jan 2020	Arrive Time	1036
C7	21 Jan 2020	Depart Time	1040
C7	21 Jan 2020	Air Temp (C)	13
C7	21 Jan 2020	Weather	Overcast
C7	21 Jan 2020	Visibility (mi)	4
C7	21 Jan 2020	Wind Speed (kts)	5

Station	Date	Parameter	Value
C7	21 Jan 2020	Wind Dir	S
C7	21 Jan 2020	Water Color	Greenish-Blue
C7	21 Jan 2020	Wave Ht Low (ft)	4
C7	21 Jan 2020	Wave Period (sec)	13
C7	21 Jan 2020	Sea State	Light chop
C7	21 Jan 2020	High Tide (ft)	6.33
C7	21 Jan 2020	High Tide Time	2106
C7	21 Jan 2020	Low Tide (ft)	-0.71
C7	21 Jan 2020	Low Tide Time	405
C7	21 Jan 2020	Comments	Kelp
C7	28 Jan 2020	Depth (m)	18
C7	28 Jan 2020	Arrive Time	914
C7	28 Jan 2020	Depart Time	918
C7	28 Jan 2020	Air Temp (C)	15
C7	28 Jan 2020	Weather	Clear
C7	28 Jan 2020	Visibility (mi)	12
C7	28 Jan 2020	Wind Speed (kts)	3
C7	28 Jan 2020	Wind Dir	NE
C7	28 Jan 2020	Water Color	Green
C7	28 Jan 2020	Wave Ht Low (ft)	4
C7	28 Jan 2020	Wave Period (sec)	13
C7	28 Jan 2020	Sea State	Calm
C7	28 Jan 2020	High Tide (ft)	6.33
C7	28 Jan 2020	High Tide Time	2106
C7	28 Jan 2020	Low Tide (ft)	-0.71
C7	28 Jan 2020	Low Tide Time	405
C7	28 Jan 2020	Comments	Kelp; Kelp debris
C8	02 Jan 2020	Depth (m)	18
C8	02 Jan 2020	Arrive Time	843
C8	02 Jan 2020	Depart Time	847
C8	02 Jan 2020	Air Temp (C)	13
C8	02 Jan 2020	Weather	Partly Cloudy
C8	02 Jan 2020	Visibility (mi)	10
C8	02 Jan 2020	Wind Speed (kts)	6
C8	02 Jan 2020	Wind Dir	NE
C8	02 Jan 2020	Water Color	Brownish-Green
C8	02 Jan 2020	Wave Ht Low (ft)	4
C8	02 Jan 2020	Wave Period (sec)	16
C8	02 Jan 2020	Sea State	Calm
C8	02 Jan 2020	High Tide (ft)	3.23
C8	02 Jan 2020	High Tide Time	1348
C8	02 Jan 2020	Low Tide (ft)	2.5
C8	02 Jan 2020	Low Tide Time	853
C8	02 Jan 2020	Comments	Lobster floats
C8	07 Jan 2020	Depth (m)	18
C8	07 Jan 2020	Arrive Time	926
C8	07 Jan 2020	Depart Time	931
C8	07 Jan 2020	Air Temp (C)	16
C8	07 Jan 2020	Weather	Partly Cloudy
C8	07 Jan 2020	Visibility (mi)	10
C8	07 Jan 2020	Wind Speed (kts)	4
C8	07 Jan 2020	Wind Dir	W

Station	Date	Parameter	Value
C8	07 Jan 2020	Water Color	Green
C8	07 Jan 2020	Wave Ht Low (ft)	3
C8	07 Jan 2020	Wave Period (sec)	13
C8	07 Jan 2020	Sea State	Calm
C8	07 Jan 2020	High Tide (ft)	5.56
C8	07 Jan 2020	High Tide Time	608
C8	07 Jan 2020	Low Tide (ft)	-0.35
C8	07 Jan 2020	Low Tide Time	1329
C8	07 Jan 2020	Comments	none
C8	13 Jan 2020	Depth (m)	18
C8	13 Jan 2020	Arrive Time	845
C8	13 Jan 2020	Depart Time	850
C8	13 Jan 2020	Air Temp (C)	12
C8	13 Jan 2020	Weather	Haze
C8	13 Jan 2020	Visibility (mi)	8
C8	13 Jan 2020	Wind Speed (kts)	10
C8	13 Jan 2020	Wind Dir	NE
C8	13 Jan 2020	Water Color	Green
C8	13 Jan 2020	Wave Ht Low (ft)	3
C8	13 Jan 2020	Wave Period (sec)	9
C8	13 Jan 2020	Sea State	Calm
C8	13 Jan 2020	High Tide (ft)	6.02
C8	13 Jan 2020	High Tide Time	1011
C8	13 Jan 2020	Low Tide (ft)	1.75
C8	13 Jan 2020	Low Tide Time	409
C8	13 Jan 2020	Comments	Lobster floats
C8	21 Jan 2020	Depth (m)	18
C8	21 Jan 2020	Arrive Time	1048
C8	21 Jan 2020	Depart Time	1055
C8	21 Jan 2020	Air Temp (C)	14
C8	21 Jan 2020	Weather	Overcast
C8	21 Jan 2020	Visibility (mi)	4
C8	21 Jan 2020	Wind Speed (kts)	4
C8	21 Jan 2020	Wind Dir	S
C8	21 Jan 2020	Water Color	Green
C8	21 Jan 2020	Wave Ht Low (ft)	4
C8	21 Jan 2020	Wave Period (sec)	13
C8	21 Jan 2020	Sea State	Calm
C8	21 Jan 2020	High Tide (ft)	6.33
C8	21 Jan 2020	High Tide Time	2106
C8	21 Jan 2020	Low Tide (ft)	-0.71
C8	21 Jan 2020	Low Tide Time	405
C8	21 Jan 2020	Comments	Kelp; Kelp debris
C8	28 Jan 2020	Depth (m)	18
C8	28 Jan 2020	Arrive Time	934
C8	28 Jan 2020	Depart Time	935
C8	28 Jan 2020	Air Temp (C)	15
C8	28 Jan 2020	Weather	Clear
C8	28 Jan 2020	Visibility (mi)	12
C8	28 Jan 2020	Wind Speed (kts)	4
C8	28 Jan 2020	Wind Dir	SE
C8	28 Jan 2020	Water Color	Green

Station	Date	Parameter	Value
C8	28 Jan 2020	Wave Ht Low (ft)	4
C8	28 Jan 2020	Wave Period (sec)	13
C8	28 Jan 2020	Sea State	Calm
C8	28 Jan 2020	High Tide (ft)	6.33
C8	28 Jan 2020	High Tide Time	2106
C8	28 Jan 2020	Low Tide (ft)	-0.71
C8	28 Jan 2020	Low Tide Time	405
C8	28 Jan 2020	Comments	none

Table 3.10

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

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
A1	02 Jan 2020	1	15.01	77.11	7.7	33.28	8.1	24.6	1.70
A1	02 Jan 2020	2	15.06	77.67	7.7	33.30	8.1	24.7	1.78
A1	02 Jan 2020	3	15.08	77.98	7.7	33.31	8.1	24.6	1.79
A1	02 Jan 2020	4	15.06	78.28	7.7	33.31	8.1	24.7	1.76
A1	02 Jan 2020	5	15.13	78.33	7.6	33.30	8.1	24.6	1.89
A1	02 Jan 2020	6	15.18	79.26	7.7	33.34	8.1	24.7	1.85
A1	02 Jan 2020	7	15.24	79.92	7.7	33.34	8.1	24.6	1.81
A1	02 Jan 2020	8	15.25	80.35	7.6	33.36	8.1	24.7	1.83
A1	02 Jan 2020	9	15.26	80.66	7.6	33.36	8.1	24.7	1.76
A1	02 Jan 2020	10	15.30	81.34	7.6	33.37	8.1	24.6	1.66
A1	02 Jan 2020	11	15.38	81.67	7.6	33.39	8.1	24.6	1.69
A1	02 Jan 2020	12	15.39	81.66	7.6	33.41	8.1	24.7	1.62
A1	02 Jan 2020	13	15.38	80.26	7.6	33.42	8.1	24.7	1.60
A1	02 Jan 2020	14	15.37	79.65	7.6	33.43	8.1	24.7	1.45
A1	02 Jan 2020	15	15.37	79.48	7.5	33.44	8.1	24.7	1.38
A1	02 Jan 2020	16	15.35	78.73	7.5	33.43	8.1	24.7	1.23
A1	02 Jan 2020	17	15.25	76.16	7.4	33.43	8.1	24.7	1.22
A1	02 Jan 2020	18	15.18	72.56	7.4	33.41	8.1	24.7	1.18
A1	02 Jan 2020	19	15.08	66.65	7.3	33.41	8.1	24.7	1.05
A1	07 Jan 2020	1	15.07	78.25	7.7	33.36	8.0	24.7	2.08
A1	07 Jan 2020	2	15.07	77.98	7.8	33.36	8.0	24.7	2.07
A1	07 Jan 2020	3	15.07	78.21	7.7	33.36	8.0	24.7	2.23
A1	07 Jan 2020	4	15.06	78.04	7.7	33.36	8.0	24.7	2.28
A1	07 Jan 2020	5	15.05	78.17	7.6	33.36	8.0	24.7	2.21
A1	07 Jan 2020	6	15.05	78.30	7.5	33.37	8.0	24.7	2.16
A1	07 Jan 2020	7	15.05	78.50	7.5	33.37	8.0	24.7	2.00
A1	07 Jan 2020	8	15.05	78.69	7.5	33.37	8.0	24.7	2.00
A1	07 Jan 2020	9	15.05	78.53	7.5	33.37	8.0	24.7	1.98
A1	07 Jan 2020	10	15.04	78.84	7.4	33.38	8.0	24.7	1.84
A1	07 Jan 2020	11	15.04	79.12	7.4	33.38	8.0	24.7	1.85
A1	07 Jan 2020	12	15.05	79.73	7.4	33.39	8.0	24.7	1.72
A1	07 Jan 2020	13	15.05	79.93	7.4	33.40	8.0	24.7	1.72
A1	07 Jan 2020	14	15.05	80.42	7.4	33.41	8.0	24.7	1.64
A1	07 Jan 2020	15	15.05	80.55	7.4	33.41	8.0	24.7	1.57
A1	07 Jan 2020	16	15.04	81.17	7.5	33.41	8.0	24.7	1.53
A1	07 Jan 2020	17	15.04	82.05	7.5	33.42	8.0	24.7	1.55
A1	07 Jan 2020	18	14.94	82.89	7.4	33.46	8.0	24.8	1.50
A1	07 Jan 2020	19	14.76	84.64	7.2	33.49	8.0	24.9	1.41
A1	13 Jan 2020	1	15.30	83.38	7.5	33.52	8.0	24.8	1.19
A1	13 Jan 2020	2	15.30	82.83	7.5	33.53	8.0	24.8	1.22
A1	13 Jan 2020	3	15.28	86.20	7.5	33.53	8.0	24.8	1.24
A1	13 Jan 2020	4	15.28	86.40	7.5	33.53	8.0	24.8	1.25
A1	13 Jan 2020	5	15.21	86.40	7.3	33.54	8.0	24.8	1.29
A1	13 Jan 2020	6	14.69	86.69	7.0	33.62	8.0	25.0	1.24
A1	13 Jan 2020	7	14.42	88.41	6.8	33.56	8.0	25.0	1.12
A1	13 Jan 2020	8	14.31	89.27	6.7	33.56	8.0	25.0	0.91
A1	13 Jan 2020	9	14.20	89.21	6.6	33.56	8.0	25.0	0.77
A1	13 Jan 2020	10	14.13	89.05	6.5	33.56	8.0	25.1	0.72

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (µg/L)
A1	13 Jan 2020	11	14.08	88.73	6.4	33.56	7.9	25.1	0.67
A1	13 Jan 2020	12	14.08	88.76	6.4	33.56	7.9	25.1	0.66
A1	13 Jan 2020	13	14.03	88.75	6.4	33.57	7.9	25.1	0.65
A1	13 Jan 2020	14	13.97	88.57	6.3	33.58	7.9	25.1	0.62
A1	13 Jan 2020	15	13.92	87.89	6.3	33.57	7.9	25.1	0.63
A1	13 Jan 2020	16	13.93	87.51	6.2	33.57	7.9	25.1	0.59
A1	13 Jan 2020	17	13.94	87.31	6.2	33.57	7.9	25.1	0.57
A1	13 Jan 2020	18	13.95	86.90	6.2	33.57	7.9	25.1	0.59
A1	21 Jan 2020	1	15.41	88.72	7.8	33.51	8.1	24.7	0.58
A1	21 Jan 2020	2	15.41	88.38	7.8	33.51	8.1	24.7	0.56
A1	21 Jan 2020	3	15.40	88.10	7.8	33.51	8.1	24.7	0.55
A1	21 Jan 2020	4	15.40	88.65	7.8	33.51	8.1	24.7	0.58
A1	21 Jan 2020	5	15.40	88.89	7.8	33.51	8.1	24.7	0.63
A1	21 Jan 2020	6	15.40	89.01	7.8	33.51	8.1	24.7	0.65
A1	21 Jan 2020	7	15.40	88.99	7.8	33.51	8.1	24.7	0.67
A1	21 Jan 2020	8	15.40	89.06	7.8	33.52	8.1	24.7	0.69
A1	21 Jan 2020	9	15.40	89.11	7.8	33.52	8.1	24.7	0.74
A1	21 Jan 2020	10	15.39	89.18	7.8	33.52	8.1	24.7	0.73
A1	21 Jan 2020	11	15.40	89.21	7.8	33.52	8.1	24.7	0.76
A1	21 Jan 2020	12	15.39	89.24	7.8	33.52	8.1	24.7	0.77
A1	21 Jan 2020	13	15.39	89.20	7.8	33.52	8.1	24.7	0.77
A1	21 Jan 2020	14	15.36	89.29	7.7	33.52	8.1	24.8	0.78
A1	21 Jan 2020	15	15.28	89.24	7.7	33.52	8.1	24.8	0.82
A1	21 Jan 2020	16	15.19	89.20	7.6	33.53	8.1	24.8	0.82
A1	21 Jan 2020	17	15.06	88.91	7.4	33.53	8.1	24.8	0.85
A1	21 Jan 2020	18	14.59	88.42	7.1	33.60	8.0	25.0	0.88
A1	28 Jan 2020	1	15.33	83.23	7.6	33.52	8.1	24.8	1.11
A1	28 Jan 2020	2	15.25	83.17	7.6	33.55	8.1	24.8	1.20
A1	28 Jan 2020	3	15.27	83.74	7.6	33.53	8.1	24.8	1.20
A1	28 Jan 2020	4	14.82	84.89	7.3	33.61	8.0	24.9	1.17
A1	28 Jan 2020	5	14.70	85.06	7.1	33.56	8.0	24.9	1.11
A1	28 Jan 2020	6	14.78	84.59	7.1	33.53	8.0	24.9	1.03
A1	28 Jan 2020	7	14.57	84.06	7.0	33.57	8.0	25.0	0.90
A1	28 Jan 2020	8	14.46	83.08	6.9	33.56	8.0	25.0	0.82
A1	28 Jan 2020	9	14.44	81.70	6.8	33.55	8.0	25.0	0.79
A1	28 Jan 2020	10	14.31	81.59	6.8	33.58	8.0	25.0	0.72
A1	28 Jan 2020	11	14.23	81.05	6.7	33.56	8.0	25.0	0.75
A1	28 Jan 2020	12	14.19	80.70	6.6	33.55	8.0	25.0	0.75
A1	28 Jan 2020	13	14.26	80.86	6.7	33.53	8.0	25.0	0.75
A1	28 Jan 2020	14	14.14	80.88	6.6	33.57	8.0	25.1	0.75
A1	28 Jan 2020	15	14.06	80.73	6.6	33.55	8.0	25.1	0.74
A1	28 Jan 2020	16	14.06	81.74	6.6	33.55	8.0	25.1	0.74
A1	28 Jan 2020	17	14.03	82.19	6.5	33.55	8.0	25.1	0.74
A1	28 Jan 2020	18	14.04	82.33	6.5	33.55	8.0	25.1	0.82
A6	02 Jan 2020	1	15.19	81.46	7.7	33.40	8.1	24.7	0.76
A6	02 Jan 2020	2	15.19	81.41	7.7	33.40	8.1	24.7	0.81
A6	02 Jan 2020	3	15.19	81.30	7.6	33.40	8.1	24.7	0.80
A6	02 Jan 2020	4	15.19	81.45	7.6	33.40	8.1	24.7	0.86
A6	02 Jan 2020	5	15.20	81.09	7.6	33.40	8.1	24.7	0.87
A6	02 Jan 2020	6	15.20	81.15	7.6	33.40	8.1	24.7	0.87
A6	02 Jan 2020	7	15.20	81.65	7.6	33.40	8.1	24.7	0.88
A6	02 Jan 2020	8	15.20	81.69	7.6	33.40	8.1	24.7	0.89

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
A6	02 Jan 2020	9	15.20	81.39	7.6	33.40	8.1	24.7	0.93
A6	02 Jan 2020	10	15.20	80.94	7.6	33.40	8.1	24.7	0.86
A6	02 Jan 2020	11	15.20	81.20	7.6	33.40	8.1	24.7	0.84
A6	02 Jan 2020	12	15.20	81.12	7.6	33.40	8.1	24.7	0.84
A6	02 Jan 2020	13	15.19	80.45	7.6	33.40	8.1	24.7	0.82
A6	02 Jan 2020	14	15.20	80.56	7.6	33.40	8.1	24.7	0.83
A6	02 Jan 2020	15	15.20	80.64	7.6	33.41	8.1	24.7	0.83
A6	02 Jan 2020	16	15.21	80.43	7.6	33.41	8.1	24.7	0.82
A6	02 Jan 2020	17	15.21	79.38	7.6	33.41	8.1	24.7	0.81
A6	02 Jan 2020	18	15.21	76.69	7.6	33.41	8.1	24.7	0.83
A6	07 Jan 2020	1	15.40	79.23	8.2	33.45	8.1	24.7	1.43
A6	07 Jan 2020	2	15.39	79.23	8.2	33.45	8.1	24.7	1.45
A6	07 Jan 2020	3	15.37	79.04	8.1	33.45	8.1	24.7	1.54
A6	07 Jan 2020	4	15.36	78.86	7.9	33.45	8.1	24.7	1.54
A6	07 Jan 2020	5	15.36	77.27	7.8	33.45	8.1	24.7	1.54
A6	07 Jan 2020	6	15.36	78.21	7.8	33.45	8.1	24.7	1.47
A6	07 Jan 2020	7	15.35	78.51	7.7	33.45	8.1	24.7	1.44
A6	07 Jan 2020	8	15.35	78.60	7.7	33.45	8.1	24.7	1.41
A6	07 Jan 2020	9	15.34	78.52	7.6	33.45	8.1	24.7	1.37
A6	07 Jan 2020	10	15.34	78.53	7.6	33.45	8.1	24.7	1.26
A6	07 Jan 2020	11	15.34	78.56	7.6	33.45	8.1	24.7	1.17
A6	07 Jan 2020	12	15.33	78.68	7.6	33.45	8.1	24.7	1.15
A6	07 Jan 2020	13	15.27	78.82	7.4	33.47	8.1	24.7	1.13
A6	07 Jan 2020	14	15.23	79.88	7.3	33.47	8.1	24.7	1.00
A6	07 Jan 2020	15	15.21	81.92	7.2	33.47	8.0	24.7	0.92
A6	07 Jan 2020	16	15.20	82.17	7.2	33.47	8.0	24.7	0.84
A6	07 Jan 2020	17	15.17	82.57	7.1	33.47	8.0	24.8	0.81
A6	07 Jan 2020	18	15.14	82.78	7.1	33.47	8.0	24.8	0.85
A6	07 Jan 2020	19	15.06	83.11	7.1	33.48	8.0	24.8	0.79
A6	13 Jan 2020	1	15.40	84.69	7.7	33.52	8.1	24.7	1.07
A6	13 Jan 2020	2	15.39	84.87	7.7	33.52	8.1	24.7	1.10
A6	13 Jan 2020	3	15.39	84.93	7.6	33.52	8.1	24.7	1.11
A6	13 Jan 2020	4	15.39	84.94	7.6	33.52	8.1	24.7	1.18
A6	13 Jan 2020	5	15.39	84.93	7.6	33.52	8.1	24.7	1.29
A6	13 Jan 2020	6	15.37	84.94	7.6	33.52	8.1	24.7	1.33
A6	13 Jan 2020	7	15.33	85.08	7.5	33.53	8.1	24.8	1.37
A6	13 Jan 2020	8	15.13	84.42	7.3	33.55	8.1	24.8	1.40
A6	13 Jan 2020	9	15.11	84.72	7.2	33.53	8.1	24.8	1.21
A6	13 Jan 2020	10	15.02	85.23	7.1	33.54	8.1	24.8	1.13
A6	13 Jan 2020	11	14.98	85.24	7.0	33.54	8.1	24.8	1.06
A6	13 Jan 2020	12	14.95	85.23	7.0	33.54	8.0	24.9	1.02
A6	13 Jan 2020	13	14.86	85.24	6.9	33.55	8.0	24.9	1.02
A6	13 Jan 2020	14	14.78	85.21	6.8	33.55	8.0	24.9	0.96
A6	13 Jan 2020	15	14.82	85.23	6.9	33.54	8.0	24.9	0.94
A6	13 Jan 2020	16	14.68	84.96	6.8	33.56	8.0	24.9	0.92
A6	13 Jan 2020	17	14.65	84.54	6.7	33.55	8.0	24.9	0.90
A6	13 Jan 2020	18	14.61	84.55	6.6	33.55	8.0	24.9	0.86
A6	21 Jan 2020	1	15.41	89.61	7.8	33.50	8.1	24.7	0.78
A6	21 Jan 2020	2	15.42	89.52	7.8	33.50	8.1	24.7	0.77
A6	21 Jan 2020	3	15.41	89.46	7.8	33.50	8.1	24.7	0.76
A6	21 Jan 2020	4	15.41	89.57	7.8	33.51	8.1	24.7	0.74
A6	21 Jan 2020	5	15.41	89.57	7.8	33.51	8.1	24.7	0.77

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (µg/L)
A6	21 Jan 2020	6	15.41	89.70	7.8	33.51	8.1	24.7	0.77
A6	21 Jan 2020	7	15.40	89.77	7.8	33.51	8.1	24.7	0.81
A6	21 Jan 2020	8	15.40	89.92	7.8	33.51	8.1	24.7	0.79
A6	21 Jan 2020	9	15.40	89.92	7.8	33.51	8.1	24.7	0.79
A6	21 Jan 2020	10	15.40	89.95	7.8	33.51	8.1	24.7	0.83
A6	21 Jan 2020	11	15.39	89.92	7.8	33.51	8.1	24.7	0.83
A6	21 Jan 2020	12	15.38	89.86	7.8	33.51	8.1	24.7	0.91
A6	21 Jan 2020	13	15.34	89.69	7.8	33.51	8.1	24.8	0.93
A6	21 Jan 2020	14	15.31	89.14	7.7	33.52	8.1	24.8	0.96
A6	21 Jan 2020	15	15.27	88.96	7.7	33.52	8.1	24.8	0.93
A6	21 Jan 2020	16	15.21	88.59	7.6	33.52	8.1	24.8	0.94
A6	21 Jan 2020	17	15.19	87.65	7.6	33.52	8.1	24.8	0.85
A6	21 Jan 2020	18	15.20	87.39	7.6	33.52	8.1	24.8	0.81
A6	21 Jan 2020	19	15.18	87.08	7.5	33.52	8.1	24.8	0.81
A6	21 Jan 2020	20	15.18	86.65	7.5	33.52	8.1	24.8	0.76
A6	28 Jan 2020	1	15.45	81.78	8.0	33.52	8.1	24.7	1.03
A6	28 Jan 2020	2	15.44	81.93	8.0	33.52	8.1	24.7	1.07
A6	28 Jan 2020	3	15.44	81.83	8.0	33.52	8.1	24.7	1.10
A6	28 Jan 2020	4	15.44	81.84	8.0	33.52	8.1	24.7	1.16
A6	28 Jan 2020	5	15.44	81.96	8.0	33.52	8.1	24.7	1.28
A6	28 Jan 2020	6	15.43	82.05	8.0	33.52	8.1	24.7	1.38
A6	28 Jan 2020	7	15.43	82.02	7.9	33.51	8.1	24.7	1.46
A6	28 Jan 2020	8	15.41	82.10	7.8	33.52	8.1	24.7	1.50
A6	28 Jan 2020	9	15.42	82.29	7.8	33.52	8.1	24.7	1.52
A6	28 Jan 2020	10	15.40	82.30	7.8	33.52	8.1	24.7	1.48
A6	28 Jan 2020	11	15.29	82.62	7.6	33.54	8.1	24.8	1.51
A6	28 Jan 2020	12	15.23	82.79	7.5	33.53	8.1	24.8	1.37
A6	28 Jan 2020	13	15.12	82.61	7.3	33.55	8.1	24.8	1.22
A6	28 Jan 2020	14	15.07	82.28	7.3	33.53	8.1	24.8	1.06
A6	28 Jan 2020	15	14.97	82.17	7.2	33.54	8.0	24.9	0.97
A6	28 Jan 2020	16	14.89	81.89	7.1	33.55	8.0	24.9	0.94
A6	28 Jan 2020	17	14.73	81.58	7.0	33.56	8.0	24.9	0.95
A6	28 Jan 2020	18	14.62	81.13	6.9	33.55	8.0	24.9	0.97
A6	28 Jan 2020	19	14.58	80.05	6.9	33.55	8.0	24.9	0.97
A6	28 Jan 2020	20	14.57	80.39	6.9	33.55	8.0	24.9	0.89
A6	28 Jan 2020	21	14.48	79.04	6.8	33.55	8.0	25.0	0.87
A7	02 Jan 2020	1	15.24	82.86	7.5	33.38	8.1	24.7	1.02
A7	02 Jan 2020	2	15.24	83.16	7.5	33.38	8.1	24.7	1.05
A7	02 Jan 2020	3	15.24	83.20	7.5	33.38	8.1	24.7	1.08
A7	02 Jan 2020	4	15.26	83.09	7.5	33.38	8.1	24.7	1.09
A7	02 Jan 2020	5	15.26	83.07	7.4	33.38	8.1	24.7	1.12
A7	02 Jan 2020	6	15.26	82.99	7.5	33.38	8.1	24.7	1.07
A7	02 Jan 2020	7	15.27	83.01	7.5	33.39	8.1	24.7	1.16
A7	02 Jan 2020	8	15.27	82.63	7.5	33.39	8.1	24.7	1.13
A7	02 Jan 2020	9	15.28	82.51	7.5	33.39	8.1	24.7	1.18
A7	02 Jan 2020	10	15.29	82.69	7.4	33.39	8.1	24.7	1.11
A7	02 Jan 2020	11	15.31	82.83	7.4	33.40	8.1	24.7	1.08
A7	02 Jan 2020	12	15.31	83.01	7.5	33.40	8.1	24.7	1.06
A7	02 Jan 2020	13	15.30	82.39	7.4	33.40	8.1	24.7	1.11
A7	02 Jan 2020	14	15.30	81.62	7.4	33.40	8.1	24.7	1.02
A7	02 Jan 2020	15	15.31	80.79	7.4	33.41	8.1	24.7	0.96
A7	02 Jan 2020	16	15.30	80.12	7.4	33.42	8.1	24.7	0.94
A7	02 Jan 2020	17	15.28	78.64	7.3	33.43	8.1	24.7	0.85

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (µg/L)
A7	02 Jan 2020	18	15.28	78.10	7.3	33.42	8.1	24.7	0.76
A7	07 Jan 2020	1	15.07	78.94	7.7	33.34	8.1	24.7	2.02
A7	07 Jan 2020	2	15.07	78.84	7.7	33.35	8.1	24.7	2.00
A7	07 Jan 2020	3	15.08	78.97	7.7	33.35	8.1	24.7	2.09
A7	07 Jan 2020	4	15.09	79.04	7.7	33.35	8.1	24.7	2.15
A7	07 Jan 2020	5	15.09	79.19	7.7	33.35	8.1	24.7	2.21
A7	07 Jan 2020	6	15.08	79.44	7.7	33.35	8.1	24.7	2.29
A7	07 Jan 2020	7	15.10	79.51	7.7	33.36	8.1	24.7	2.26
A7	07 Jan 2020	8	15.12	79.89	7.7	33.37	8.1	24.7	2.20
A7	07 Jan 2020	9	15.13	80.03	7.7	33.38	8.1	24.7	2.19
A7	07 Jan 2020	10	15.15	80.26	7.7	33.39	8.1	24.7	2.24
A7	07 Jan 2020	11	15.15	80.70	7.7	33.39	8.1	24.7	2.18
A7	07 Jan 2020	12	15.14	81.29	7.7	33.39	8.1	24.7	2.15
A7	07 Jan 2020	13	15.15	81.13	7.7	33.39	8.1	24.7	2.06
A7	07 Jan 2020	14	15.14	81.25	7.7	33.39	8.1	24.7	2.04
A7	07 Jan 2020	15	15.12	81.33	7.6	33.40	8.1	24.7	2.02
A7	07 Jan 2020	16	15.06	82.38	7.4	33.42	8.1	24.7	2.00
A7	07 Jan 2020	17	15.06	84.42	7.3	33.41	8.0	24.7	1.54
A7	07 Jan 2020	18	14.94	85.06	7.1	33.46	8.0	24.8	1.28
A7	13 Jan 2020	1	15.44	85.36	7.6	33.52	8.1	24.7	1.25
A7	13 Jan 2020	2	15.44	85.67	7.6	33.52	8.1	24.7	1.21
A7	13 Jan 2020	3	15.44	85.99	7.6	33.52	8.1	24.7	1.25
A7	13 Jan 2020	4	15.44	86.02	7.6	33.52	8.1	24.7	1.23
A7	13 Jan 2020	5	15.44	86.02	7.6	33.52	8.1	24.7	1.30
A7	13 Jan 2020	6	15.44	86.02	7.6	33.52	8.1	24.7	1.37
A7	13 Jan 2020	7	15.42	86.03	7.6	33.53	8.1	24.7	1.45
A7	13 Jan 2020	8	15.35	86.01	7.5	33.53	8.1	24.8	1.50
A7	13 Jan 2020	9	15.34	86.08	7.4	33.53	8.1	24.8	1.47
A7	13 Jan 2020	10	15.27	86.06	7.4	33.53	8.1	24.8	1.43
A7	13 Jan 2020	11	15.24	86.14	7.3	33.53	8.1	24.8	1.40
A7	13 Jan 2020	12	15.07	86.19	7.2	33.55	8.1	24.8	1.34
A7	13 Jan 2020	13	15.11	86.22	7.2	33.53	8.0	24.8	1.28
A7	13 Jan 2020	14	14.99	86.28	7.1	33.55	8.0	24.9	1.18
A7	13 Jan 2020	15	14.87	86.06	6.9	33.56	8.0	24.9	1.18
A7	13 Jan 2020	16	14.57	86.20	6.8	33.58	8.0	25.0	1.12
A7	13 Jan 2020	17	14.54	88.10	6.7	33.55	8.0	25.0	0.97
A7	13 Jan 2020	18	14.40	88.42	6.6	33.57	8.0	25.0	0.90
A7	13 Jan 2020	19	14.30	87.71	6.5	33.56	8.0	25.0	0.87
A7	21 Jan 2020	1	15.38	88.61	7.8	33.51	8.1	24.7	0.61
A7	21 Jan 2020	2	15.38	88.59	7.8	33.51	8.1	24.7	0.62
A7	21 Jan 2020	3	15.38	88.66	7.8	33.51	8.1	24.7	0.61
A7	21 Jan 2020	4	15.38	88.72	7.8	33.51	8.1	24.7	0.62
A7	21 Jan 2020	5	15.39	88.82	7.8	33.51	8.1	24.7	0.65
A7	21 Jan 2020	6	15.39	88.87	7.8	33.51	8.1	24.7	0.69
A7	21 Jan 2020	7	15.38	88.96	7.8	33.51	8.1	24.7	0.72
A7	21 Jan 2020	8	15.38	88.99	7.8	33.51	8.1	24.7	0.75
A7	21 Jan 2020	9	15.38	89.03	7.8	33.51	8.1	24.7	0.76
A7	21 Jan 2020	10	15.38	89.08	7.8	33.51	8.1	24.7	0.78
A7	21 Jan 2020	11	15.38	89.16	7.8	33.51	8.1	24.7	0.79
A7	21 Jan 2020	12	15.38	89.16	7.8	33.51	8.1	24.7	0.81
A7	21 Jan 2020	13	15.38	89.19	7.8	33.51	8.1	24.7	0.83
A7	21 Jan 2020	14	15.37	89.18	7.8	33.51	8.1	24.7	0.84

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (µg/L)
A7	21 Jan 2020	15	15.36	89.14	7.7	33.51	8.1	24.7	0.85
A7	21 Jan 2020	16	15.34	88.94	7.7	33.51	8.1	24.8	0.87
A7	21 Jan 2020	17	15.29	88.58	7.6	33.52	8.1	24.8	0.90
A7	21 Jan 2020	18	15.21	88.19	7.5	33.53	8.1	24.8	0.86
A7	21 Jan 2020	19	15.13	87.42	7.3	33.54	8.1	24.8	0.80
A7	21 Jan 2020	20	14.56	86.56	7.0	33.62	8.0	25.0	0.74
A7	28 Jan 2020	1	15.41	81.78	7.8	33.52	8.1	24.7	1.06
A7	28 Jan 2020	2	15.41	81.85	7.8	33.52	8.1	24.7	1.05
A7	28 Jan 2020	3	15.40	81.80	7.7	33.52	8.1	24.7	1.08
A7	28 Jan 2020	4	15.38	81.88	7.7	33.52	8.1	24.8	1.12
A7	28 Jan 2020	5	15.30	82.01	7.6	33.54	8.1	24.8	1.21
A7	28 Jan 2020	6	15.23	82.48	7.5	33.54	8.1	24.8	1.20
A7	28 Jan 2020	7	15.17	82.79	7.5	33.53	8.1	24.8	1.14
A7	28 Jan 2020	8	14.98	82.92	7.2	33.56	8.0	24.9	1.08
A7	28 Jan 2020	9	14.86	82.82	7.2	33.54	8.0	24.9	0.99
A7	28 Jan 2020	10	14.76	83.14	7.0	33.58	8.0	24.9	0.91
A7	28 Jan 2020	11	14.35	82.77	6.8	33.59	8.0	25.0	0.88
A7	28 Jan 2020	12	14.32	82.13	6.7	33.55	8.0	25.0	0.83
A7	28 Jan 2020	13	14.31	82.45	6.7	33.55	8.0	25.0	0.74
A7	28 Jan 2020	14	14.23	82.44	6.6	33.55	8.0	25.0	0.72
A7	28 Jan 2020	15	14.18	82.22	6.6	33.55	8.0	25.0	0.75
A7	28 Jan 2020	16	14.17	81.57	6.6	33.55	8.0	25.0	0.75
A7	28 Jan 2020	17	14.18	81.78	6.6	33.55	8.0	25.0	0.70
A7	28 Jan 2020	18	14.14	81.52	6.6	33.55	8.0	25.0	0.72
A7	28 Jan 2020	19	14.14	81.11	6.5	33.55	8.0	25.0	0.71
A7	28 Jan 2020	20	14.15	81.23	6.5	33.54	8.0	25.0	0.74
C4	02 Jan 2020	1	14.81	78.51	8.1	33.26	8.2	24.7	1.42
C4	02 Jan 2020	2	14.80	78.83	8.1	33.26	8.2	24.7	1.47
C4	02 Jan 2020	3	14.79	78.61	8.1	33.28	8.2	24.7	1.60
C4	02 Jan 2020	4	14.73	71.79	8.0	33.31	8.2	24.7	1.31
C4	02 Jan 2020	5	14.73	65.14	7.9	33.31	8.1	24.7	1.06
C4	02 Jan 2020	6	14.74	61.78	7.8	33.32	8.1	24.7	0.85
C4	02 Jan 2020	7	14.74	57.18	7.8	33.32	8.1	24.7	0.77
C4	02 Jan 2020	8	14.74	54.19	7.8	33.33	8.1	24.7	0.72
C4	02 Jan 2020	9	14.75	51.26	7.8	33.33	8.1	24.7	0.66
C4	02 Jan 2020	10	14.75	49.89	7.8	33.33	8.1	24.7	0.64
C4	02 Jan 2020	11	14.75	46.58	7.8	33.33	8.1	24.7	0.66
C4	07 Jan 2020	1	15.09	69.70	7.6	33.34	8.1	24.7	1.07
C4	07 Jan 2020	2	15.09	71.45	7.6	33.34	8.1	24.7	1.08
C4	07 Jan 2020	3	15.09	73.24	7.7	33.35	8.1	24.7	1.17
C4	07 Jan 2020	4	15.09	73.61	7.7	33.37	8.1	24.7	1.41
C4	07 Jan 2020	5	15.08	73.77	7.6	33.37	8.1	24.7	1.55
C4	07 Jan 2020	6	15.07	73.48	7.3	33.39	8.1	24.7	1.59
C4	07 Jan 2020	7	15.06	72.26	7.2	33.41	8.1	24.7	1.40
C4	07 Jan 2020	8	15.06	68.32	7.0	33.42	8.0	24.7	1.18
C4	07 Jan 2020	9	15.07	64.94	6.7	33.43	8.0	24.7	0.84
C4	07 Jan 2020	10	15.07	57.66	6.6	33.43	8.0	24.7	0.72
C4	07 Jan 2020	11	15.07	56.14	6.4	33.44	8.0	24.8	0.69
C4	13 Jan 2020	1	15.25	80.32	7.4	33.51	8.1	24.8	0.68
C4	13 Jan 2020	2	15.25	80.21	7.4	33.51	8.1	24.8	0.69
C4	13 Jan 2020	3	15.24	79.98	7.5	33.51	8.1	24.8	0.73

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (µg/L)
C4	13 Jan 2020	4	15.24	78.74	7.5	33.51	8.1	24.8	0.80
C4	13 Jan 2020	5	15.23	76.85	7.4	33.51	8.1	24.8	0.83
C4	13 Jan 2020	6	15.23	78.64	7.4	33.51	8.1	24.8	0.93
C4	13 Jan 2020	7	15.23	79.52	7.4	33.51	8.1	24.8	0.97
C4	13 Jan 2020	8	15.23	79.21	7.4	33.51	8.1	24.8	0.97
C4	13 Jan 2020	9	15.23	78.06	7.4	33.51	8.1	24.8	0.96
C4	13 Jan 2020	10	15.23	78.18	7.4	33.51	8.1	24.8	0.93
C4	13 Jan 2020	11	15.23	76.31	7.4	33.51	8.1	24.8	0.92
C4	21 Jan 2020	1	15.33	59.85	7.8	33.52	8.1	24.8	0.73
C4	21 Jan 2020	2	15.32	58.93	7.8	33.52	8.1	24.8	0.71
C4	21 Jan 2020	3	15.30	57.47	7.8	33.52	8.1	24.8	0.71
C4	21 Jan 2020	4	15.29	55.56	7.8	33.52	8.1	24.8	0.74
C4	21 Jan 2020	5	15.28	56.16	7.8	33.52	8.1	24.8	0.80
C4	21 Jan 2020	6	15.26	56.63	7.7	33.53	8.1	24.8	0.88
C4	21 Jan 2020	7	15.24	57.97	7.7	33.53	8.1	24.8	0.91
C4	21 Jan 2020	8	15.19	60.23	7.6	33.54	8.1	24.8	0.89
C4	21 Jan 2020	9	15.16	66.09	7.5	33.54	8.1	24.8	0.90
C4	21 Jan 2020	10	15.14	68.91	7.3	33.54	8.1	24.8	0.83
C4	28 Jan 2020	1	15.59	65.24	7.5	33.53	8.0	24.7	0.50
C4	28 Jan 2020	2	15.59	65.48	7.4	33.53	8.0	24.7	0.50
C4	28 Jan 2020	3	15.46	66.20	7.4	33.54	8.0	24.7	0.53
C4	28 Jan 2020	4	15.44	69.10	7.4	33.54	8.0	24.8	0.56
C4	28 Jan 2020	5	15.41	70.66	7.3	33.54	8.0	24.8	0.63
C4	28 Jan 2020	6	15.40	71.25	7.3	33.54	8.0	24.8	0.65
C4	28 Jan 2020	7	15.39	71.70	7.3	33.54	8.0	24.8	0.70
C4	28 Jan 2020	8	15.38	70.29	7.3	33.54	8.0	24.8	0.70
C4	28 Jan 2020	9	15.39	69.89	7.2	33.54	8.0	24.8	0.67
C4	28 Jan 2020	10	15.38	68.24	7.2	33.54	8.0	24.8	0.66
C4	28 Jan 2020	11	15.38	68.53	7.2	33.54	8.0	24.8	0.67
C4	28 Jan 2020	12	15.38	67.39	7.2	33.54	8.0	24.8	0.61
C5	02 Jan 2020	1	15.08	64.83	7.5	33.38	8.1	24.7	0.53
C5	02 Jan 2020	2	15.08	59.83	7.5	33.38	8.1	24.7	0.53
C5	02 Jan 2020	3	15.07	60.44	7.5	33.38	8.1	24.7	0.61
C5	02 Jan 2020	4	15.07	60.73	7.5	33.38	8.1	24.7	0.75
C5	02 Jan 2020	5	15.04	55.28	7.5	33.38	8.1	24.7	0.78
C5	02 Jan 2020	6	14.96	50.00	7.6	33.40	8.1	24.7	0.78
C5	02 Jan 2020	7	14.82	41.33	7.7	33.40	8.1	24.8	0.76
C5	02 Jan 2020	8	14.80	35.13	7.8	33.40	8.1	24.8	0.75
C5	02 Jan 2020	9	14.79	23.45	7.8	33.40	8.1	24.8	0.75
C5	02 Jan 2020	10	14.79	20.42	7.8	33.40	8.1	24.8	0.78
C5	02 Jan 2020	11	14.79	20.95	7.7	33.40	8.1	24.8	0.81
C5	07 Jan 2020	1	15.38	43.44	7.1	33.45	8.0	24.7	0.61
C5	07 Jan 2020	2	15.33	42.46	7.0	33.46	8.0	24.7	0.63
C5	07 Jan 2020	3	15.30	37.36	7.0	33.45	8.0	24.7	0.74
C5	07 Jan 2020	4	15.28	33.41	6.9	33.46	8.0	24.7	0.83
C5	07 Jan 2020	5	15.25	31.88	6.9	33.46	8.0	24.7	0.82
C5	07 Jan 2020	6	15.23	40.41	6.8	33.46	8.0	24.7	0.69
C5	07 Jan 2020	7	15.22	44.89	6.5	33.45	8.0	24.7	0.61
C5	07 Jan 2020	8	15.23	41.09	6.4	33.45	8.0	24.7	0.64
C5	07 Jan 2020	9	15.24	35.13	6.5	33.45	8.0	24.7	0.70
C5	07 Jan 2020	10	15.23	27.42	6.5	33.45	8.0	24.7	0.81

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (µg/L)
C5	13 Jan 2020	1	15.23	80.29	7.4	33.51	8.1	24.8	0.72
	13 Jan 2020	2	15.23	80.37	7.4	33.51	8.1	24.8	0.72
	13 Jan 2020	3	15.23	80.51	7.4	33.51	8.1	24.8	0.74
	13 Jan 2020	4	15.23	80.49	7.4	33.51	8.1	24.8	0.75
	13 Jan 2020	5	15.22	80.50	7.4	33.52	8.1	24.8	0.80
	13 Jan 2020	6	15.17	78.20	7.3	33.52	8.1	24.8	0.84
	13 Jan 2020	7	15.15	74.84	7.3	33.51	8.1	24.8	0.87
	13 Jan 2020	8	15.13	69.22	7.2	33.51	8.1	24.8	0.87
	13 Jan 2020	9	15.13	64.62	7.1	33.51	8.1	24.8	0.83
	13 Jan 2020	10	15.13	62.60	7.1	33.51	8.1	24.8	0.79
	13 Jan 2020	11	15.13	60.58	7.0	33.51	8.1	24.8	0.77
C5	21 Jan 2020	1	15.40	55.97	7.7	33.53	8.1	24.8	0.61
	21 Jan 2020	2	15.37	55.87	7.7	33.54	8.1	24.8	0.62
	21 Jan 2020	3	15.35	55.56	7.7	33.54	8.1	24.8	0.64
	21 Jan 2020	4	15.33	55.04	7.7	33.54	8.1	24.8	0.70
	21 Jan 2020	5	15.29	53.89	7.5	33.54	8.1	24.8	0.65
	21 Jan 2020	6	15.25	52.97	7.4	33.54	8.1	24.8	0.77
	21 Jan 2020	7	15.17	53.91	7.2	33.55	8.1	24.8	0.71
	21 Jan 2020	8	15.02	56.21	6.9	33.58	8.0	24.9	0.70
	21 Jan 2020	9	14.88	58.32	6.8	33.57	8.0	24.9	0.72
	21 Jan 2020	10	14.63	60.10	6.6	33.61	8.0	25.0	0.66
	21 Jan 2020	11	14.42	59.21	6.5	33.59	8.0	25.0	0.66
C5	28 Jan 2020	1	15.65	65.27	7.6	33.53	8.0	24.7	0.52
	28 Jan 2020	2	15.66	66.15	7.5	33.53	8.0	24.7	0.53
	28 Jan 2020	3	15.56	66.88	7.4	33.55	8.0	24.7	0.52
	28 Jan 2020	4	15.41	65.46	7.3	33.54	8.0	24.8	0.57
	28 Jan 2020	5	15.41	64.57	7.2	33.53	8.0	24.8	0.66
	28 Jan 2020	6	15.39	64.33	7.2	33.53	8.0	24.8	0.69
	28 Jan 2020	7	15.39	65.15	7.1	33.53	8.0	24.8	0.68
	28 Jan 2020	8	15.38	65.21	7.1	33.53	8.0	24.8	0.71
	28 Jan 2020	9	15.39	65.27	7.1	33.53	8.0	24.8	0.65
	28 Jan 2020	10	15.34	65.05	7.1	33.54	8.0	24.8	0.65
	28 Jan 2020	11	15.22	61.05	6.9	33.54	8.0	24.8	0.67
C6	02 Jan 2020	1	14.95	49.02	7.5	33.39	8.1	24.7	0.58
	02 Jan 2020	2	14.93	50.97	7.5	33.39	8.1	24.8	0.68
	02 Jan 2020	3	14.94	50.00	7.5	33.39	8.1	24.7	0.74
	02 Jan 2020	4	14.95	48.75	7.4	33.39	8.1	24.7	0.72
	02 Jan 2020	5	14.94	46.51	7.4	33.39	8.1	24.7	0.76
	02 Jan 2020	6	14.95	47.01	7.4	33.39	8.1	24.7	0.74
	02 Jan 2020	7	14.95	45.82	7.4	33.39	8.1	24.7	0.73
	02 Jan 2020	8	14.95	48.17	7.4	33.39	8.1	24.7	0.73
	02 Jan 2020	9	14.96	47.01	7.4	33.39	8.1	24.7	0.72
C6	07 Jan 2020	1	15.33	60.06	7.2	33.45	8.0	24.7	0.57
	07 Jan 2020	2	15.30	56.43	7.2	33.45	8.0	24.7	0.58
	07 Jan 2020	3	15.28	59.48	7.1	33.45	8.0	24.7	0.62
	07 Jan 2020	4	15.26	60.80	7.0	33.45	8.0	24.7	0.66
	07 Jan 2020	5	15.24	62.88	7.0	33.46	8.0	24.7	0.67
	07 Jan 2020	6	15.23	63.17	7.1	33.45	8.0	24.7	0.67
	07 Jan 2020	7	15.23	62.73	7.1	33.46	8.0	24.7	0.65
	07 Jan 2020	8	15.20	61.36	7.1	33.45	8.0	24.7	0.67

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (µg/L)
C6	07 Jan 2020	9	15.20	61.18	7.1	33.45	8.0	24.7	0.66
C6	07 Jan 2020	10	15.20	59.68	7.1	33.45	8.0	24.7	0.66
C6	13 Jan 2020	1	15.22	70.00	7.6	33.51	8.1	24.8	0.64
C6	13 Jan 2020	2	15.22	69.34	7.5	33.51	8.1	24.8	0.65
C6	13 Jan 2020	3	15.23	69.00	7.6	33.51	8.1	24.8	0.67
C6	13 Jan 2020	4	15.22	69.35	7.5	33.51	8.1	24.8	0.72
C6	13 Jan 2020	5	15.21	69.27	7.5	33.51	8.1	24.8	0.76
C6	13 Jan 2020	6	15.21	68.84	7.5	33.51	8.1	24.8	0.84
C6	13 Jan 2020	7	15.21	68.15	7.5	33.51	8.1	24.8	0.84
C6	13 Jan 2020	8	15.20	67.65	7.5	33.51	8.1	24.8	0.78
C6	13 Jan 2020	9	15.19	65.90	7.4	33.51	8.1	24.8	0.80
C6	13 Jan 2020	10	15.19	64.98	7.5	33.51	8.1	24.8	0.79
C6	21 Jan 2020	1	15.34	61.20	7.5	33.53	8.1	24.8	0.58
C6	21 Jan 2020	2	15.30	60.85	7.4	33.53	8.1	24.8	0.60
C6	21 Jan 2020	3	15.27	60.63	7.3	33.53	8.1	24.8	0.66
C6	21 Jan 2020	4	15.24	60.93	7.2	33.53	8.1	24.8	0.67
C6	21 Jan 2020	5	15.22	63.26	7.2	33.53	8.1	24.8	0.65
C6	21 Jan 2020	6	15.20	65.30	7.1	33.54	8.1	24.8	0.67
C6	21 Jan 2020	7	15.19	65.97	7.1	33.54	8.1	24.8	0.62
C6	21 Jan 2020	8	15.18	66.56	7.0	33.54	8.1	24.8	0.62
C6	21 Jan 2020	9	15.17	67.21	7.0	33.54	8.1	24.8	0.60
C6	21 Jan 2020	10	15.18	67.42	7.0	33.54	8.1	24.8	0.64
C6	28 Jan 2020	1	15.55	72.14	7.5	33.52	8.0	24.7	0.51
C6	28 Jan 2020	2	15.55	71.89	7.5	33.52	8.0	24.7	0.52
C6	28 Jan 2020	3	15.53	72.33	7.5	33.52	8.0	24.7	0.54
C6	28 Jan 2020	4	15.50	71.41	7.4	33.52	8.0	24.7	0.57
C6	28 Jan 2020	5	15.48	69.83	7.3	33.52	8.0	24.7	0.61
C6	28 Jan 2020	6	15.47	69.25	7.3	33.53	8.0	24.7	0.63
C6	28 Jan 2020	7	15.43	68.29	7.2	33.53	8.0	24.7	0.64
C6	28 Jan 2020	8	15.43	70.43	7.2	33.52	8.1	24.7	0.65
C6	28 Jan 2020	9	15.41	71.21	7.2	33.52	8.1	24.7	0.61
C6	28 Jan 2020	10	15.40	69.53	7.2	33.52	8.1	24.7	0.62
C6	28 Jan 2020	11	15.40	67.76	7.1	33.52	8.1	24.7	0.64
C7	02 Jan 2020	1	15.47	86.78	7.8	33.48	8.2	24.7	1.03
C7	02 Jan 2020	2	15.51	86.78	7.8	33.48	8.2	24.7	1.09
C7	02 Jan 2020	3	15.50	86.91	7.8	33.48	8.2	24.7	1.16
C7	02 Jan 2020	4	15.47	86.80	7.8	33.48	8.2	24.7	1.26
C7	02 Jan 2020	5	15.45	86.57	7.8	33.48	8.2	24.7	1.38
C7	02 Jan 2020	6	15.44	85.92	7.8	33.47	8.2	24.7	1.42
C7	02 Jan 2020	7	15.44	86.02	7.8	33.47	8.2	24.7	1.48
C7	02 Jan 2020	8	15.43	85.87	7.8	33.47	8.2	24.7	1.50
C7	02 Jan 2020	9	15.41	85.49	7.7	33.47	8.2	24.7	1.48
C7	02 Jan 2020	10	15.42	84.42	7.7	33.47	8.2	24.7	1.34
C7	02 Jan 2020	11	15.41	83.81	7.7	33.47	8.2	24.7	1.34
C7	02 Jan 2020	12	15.41	83.75	7.7	33.47	8.2	24.7	1.32
C7	02 Jan 2020	13	15.42	83.84	7.7	33.47	8.2	24.7	1.30
C7	02 Jan 2020	14	15.42	83.83	7.7	33.47	8.2	24.7	1.34
C7	02 Jan 2020	15	15.41	84.17	7.7	33.47	8.2	24.7	1.34
C7	02 Jan 2020	16	15.41	84.11	7.7	33.47	8.2	24.7	1.32
C7	02 Jan 2020	17	15.34	83.71	7.6	33.47	8.2	24.7	1.23
C7	02 Jan 2020	18	15.32	82.62	7.6	33.46	8.2	24.7	1.04

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (µg/L)
C7	07 Jan 2020	1	15.70	84.10	7.7	33.50	8.1	24.7	1.00
C7	07 Jan 2020	2	15.70	84.36	7.7	33.50	8.1	24.7	1.04
C7	07 Jan 2020	3	15.70	84.44	7.7	33.50	8.1	24.7	1.01
C7	07 Jan 2020	4	15.64	84.38	7.7	33.50	8.1	24.7	1.02
C7	07 Jan 2020	5	15.61	83.77	7.6	33.49	8.1	24.7	1.10
C7	07 Jan 2020	6	15.56	83.30	7.6	33.49	8.1	24.7	1.20
C7	07 Jan 2020	7	15.52	83.08	7.5	33.49	8.1	24.7	1.23
C7	07 Jan 2020	8	15.49	83.13	7.5	33.50	8.1	24.7	1.29
C7	07 Jan 2020	9	15.48	83.30	7.5	33.50	8.1	24.7	1.29
C7	07 Jan 2020	10	15.46	83.36	7.4	33.50	8.1	24.7	1.26
C7	07 Jan 2020	11	15.43	83.63	7.4	33.50	8.1	24.7	1.26
C7	07 Jan 2020	12	15.38	84.50	7.4	33.51	8.1	24.7	1.23
C7	07 Jan 2020	13	15.31	85.24	7.3	33.52	8.1	24.8	1.13
C7	07 Jan 2020	14	15.22	85.76	7.2	33.52	8.1	24.8	1.07
C7	07 Jan 2020	15	15.17	85.97	7.2	33.52	8.1	24.8	1.01
C7	07 Jan 2020	16	15.17	85.87	7.2	33.52	8.1	24.8	0.98
C7	07 Jan 2020	17	15.00	85.72	6.9	33.53	8.0	24.8	0.96
C7	07 Jan 2020	18	14.77	85.44	6.7	33.56	8.0	24.9	0.94
C7	13 Jan 2020	1	15.53	83.69	7.7	33.52	8.1	24.7	1.08
C7	13 Jan 2020	2	15.53	83.85	7.7	33.52	8.1	24.7	1.09
C7	13 Jan 2020	3	15.53	83.83	7.7	33.52	8.1	24.7	1.12
C7	13 Jan 2020	4	15.53	83.89	7.7	33.52	8.1	24.7	1.19
C7	13 Jan 2020	5	15.53	83.66	7.7	33.52	8.1	24.7	1.26
C7	13 Jan 2020	6	15.53	83.72	7.7	33.52	8.1	24.7	1.38
C7	13 Jan 2020	7	15.51	83.69	7.7	33.52	8.1	24.7	1.40
C7	13 Jan 2020	8	15.48	83.82	7.6	33.53	8.1	24.7	1.42
C7	13 Jan 2020	9	15.45	84.00	7.5	33.53	8.1	24.7	1.40
C7	13 Jan 2020	10	15.44	84.07	7.4	33.53	8.1	24.7	1.28
C7	13 Jan 2020	11	15.40	83.91	7.4	33.53	8.1	24.8	1.18
C7	13 Jan 2020	12	15.36	83.75	7.4	33.53	8.1	24.8	1.17
C7	13 Jan 2020	13	15.31	83.68	7.3	33.54	8.1	24.8	1.14
C7	13 Jan 2020	14	15.29	84.09	7.3	33.53	8.1	24.8	1.12
C7	13 Jan 2020	15	15.18	84.92	7.2	33.55	8.1	24.8	1.16
C7	13 Jan 2020	16	15.03	85.09	7.1	33.56	8.1	24.9	1.13
C7	13 Jan 2020	17	14.93	85.52	7.0	33.55	8.1	24.9	1.09
C7	13 Jan 2020	18	14.92	85.33	7.0	33.54	8.1	24.9	1.04
C7	13 Jan 2020	19	14.92	85.27	7.0	33.54	8.1	24.9	0.96
C7	21 Jan 2020	1	15.37	88.27	7.8	33.50	8.1	24.7	0.85
C7	21 Jan 2020	2	15.36	88.28	7.8	33.50	8.1	24.7	0.87
C7	21 Jan 2020	3	15.36	88.23	7.8	33.50	8.1	24.7	0.89
C7	21 Jan 2020	4	15.34	88.23	7.8	33.50	8.1	24.7	0.97
C7	21 Jan 2020	5	15.34	88.14	7.8	33.50	8.1	24.7	1.09
C7	21 Jan 2020	6	15.34	87.95	7.8	33.50	8.1	24.7	1.08
C7	21 Jan 2020	7	15.34	87.85	7.8	33.50	8.1	24.7	1.12
C7	21 Jan 2020	8	15.34	87.91	7.9	33.50	8.1	24.7	1.17
C7	21 Jan 2020	9	15.33	87.90	7.8	33.50	8.1	24.7	1.19
C7	21 Jan 2020	10	15.32	87.94	7.8	33.51	8.1	24.8	1.22
C7	21 Jan 2020	11	15.31	88.00	7.8	33.52	8.1	24.8	1.31
C7	21 Jan 2020	12	15.30	87.91	7.8	33.52	8.1	24.8	1.20
C7	21 Jan 2020	13	15.29	87.70	7.8	33.53	8.1	24.8	1.20
C7	21 Jan 2020	14	15.27	87.72	7.7	33.53	8.1	24.8	1.22
C7	21 Jan 2020	15	15.23	87.60	7.6	33.54	8.1	24.8	1.20

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (µg/L)
C7	21 Jan 2020	16	15.19	87.43	7.5	33.54	8.1	24.8	1.08
C7	21 Jan 2020	17	15.08	86.59	7.3	33.56	8.1	24.8	0.92
C7	21 Jan 2020	18	14.72	86.29	7.2	33.63	8.1	25.0	0.87
C7	28 Jan 2020	1	15.57	83.65	8.0	33.52	8.1	24.7	0.82
C7	28 Jan 2020	2	15.57	83.65	7.9	33.52	8.1	24.7	0.81
C7	28 Jan 2020	3	15.56	83.43	8.0	33.52	8.1	24.7	0.82
C7	28 Jan 2020	4	15.55	83.44	7.9	33.52	8.1	24.7	0.83
C7	28 Jan 2020	5	15.54	83.38	7.9	33.52	8.1	24.7	0.89
C7	28 Jan 2020	6	15.54	83.19	7.9	33.51	8.1	24.7	1.00
C7	28 Jan 2020	7	15.54	83.18	7.9	33.51	8.1	24.7	1.09
C7	28 Jan 2020	8	15.53	83.12	7.9	33.51	8.1	24.7	1.13
C7	28 Jan 2020	9	15.53	83.16	7.9	33.52	8.1	24.7	1.23
C7	28 Jan 2020	10	15.53	83.33	7.9	33.52	8.1	24.7	1.28
C7	28 Jan 2020	11	15.54	83.77	7.9	33.52	8.1	24.7	1.34
C7	28 Jan 2020	12	15.54	84.37	7.9	33.53	8.1	24.7	1.38
C7	28 Jan 2020	13	15.53	85.22	7.8	33.53	8.1	24.7	1.41
C7	28 Jan 2020	14	15.52	86.03	7.8	33.53	8.1	24.7	1.42
C7	28 Jan 2020	15	15.50	85.86	7.8	33.53	8.1	24.7	1.46
C7	28 Jan 2020	16	15.49	85.67	7.8	33.53	8.1	24.7	1.46
C7	28 Jan 2020	17	15.47	85.71	7.8	33.53	8.1	24.7	1.48
C7	28 Jan 2020	18	15.44	85.87	7.7	33.54	8.1	24.7	1.39
C8	02 Jan 2020	1	15.51	85.72	7.8	33.48	8.2	24.7	0.90
C8	02 Jan 2020	2	15.51	86.91	7.8	33.48	8.2	24.7	0.93
C8	02 Jan 2020	3	15.51	87.20	7.8	33.48	8.2	24.7	0.98
C8	02 Jan 2020	4	15.49	87.13	7.8	33.48	8.2	24.7	1.05
C8	02 Jan 2020	5	15.45	86.01	7.8	33.47	8.2	24.7	1.15
C8	02 Jan 2020	6	15.42	85.08	7.7	33.47	8.2	24.7	1.17
C8	02 Jan 2020	7	15.38	84.63	7.7	33.47	8.2	24.7	1.16
C8	02 Jan 2020	8	15.34	84.33	7.7	33.46	8.2	24.7	1.29
C8	02 Jan 2020	9	15.28	85.11	7.7	33.45	8.2	24.7	1.32
C8	02 Jan 2020	10	15.27	85.94	7.7	33.45	8.2	24.7	1.36
C8	02 Jan 2020	11	15.29	86.02	7.7	33.45	8.2	24.7	1.45
C8	02 Jan 2020	12	15.23	86.10	7.7	33.44	8.2	24.7	1.43
C8	02 Jan 2020	13	15.23	85.58	7.7	33.44	8.2	24.7	1.41
C8	02 Jan 2020	14	15.23	84.83	7.7	33.44	8.2	24.7	1.35
C8	02 Jan 2020	15	15.23	83.75	7.7	33.44	8.2	24.7	1.34
C8	02 Jan 2020	16	15.23	83.78	7.7	33.44	8.2	24.7	1.33
C8	02 Jan 2020	17	15.23	83.37	7.7	33.44	8.2	24.7	1.38
C8	02 Jan 2020	18	15.24	81.40	7.7	33.44	8.2	24.7	1.33
C8	02 Jan 2020	19	15.26	79.32	7.7	33.44	8.2	24.7	1.35
C8	07 Jan 2020	1	15.77	84.46	7.7	33.53	8.1	24.7	0.62
C8	07 Jan 2020	2	15.77	80.49	7.8	33.53	8.1	24.7	0.61
C8	07 Jan 2020	3	15.77	84.74	7.8	33.53	8.1	24.7	0.61
C8	07 Jan 2020	4	15.77	87.30	7.8	33.53	8.1	24.7	0.59
C8	07 Jan 2020	5	15.76	87.64	7.8	33.53	8.1	24.7	0.58
C8	07 Jan 2020	6	15.76	87.59	7.8	33.53	8.1	24.7	0.61
C8	07 Jan 2020	7	15.73	87.38	7.7	33.53	8.1	24.7	0.69
C8	07 Jan 2020	8	15.70	86.74	7.7	33.52	8.1	24.7	0.75
C8	07 Jan 2020	9	15.64	86.23	7.6	33.53	8.1	24.7	0.88
C8	07 Jan 2020	10	15.57	84.17	7.6	33.51	8.1	24.7	0.96
C8	07 Jan 2020	11	15.53	83.03	7.6	33.52	8.1	24.7	1.12
C8	07 Jan 2020	12	15.48	82.23	7.5	33.51	8.1	24.7	1.17

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (µg/L)
C8	07 Jan 2020	13	15.48	82.48	7.5	33.51	8.1	24.7	1.25
C8	07 Jan 2020	14	15.47	82.58	7.5	33.51	8.1	24.7	1.26
C8	07 Jan 2020	15	15.45	82.51	7.4	33.51	8.1	24.7	1.27
C8	07 Jan 2020	16	15.44	82.96	7.4	33.51	8.1	24.7	1.32
C8	07 Jan 2020	17	15.41	83.61	7.4	33.51	8.1	24.7	1.29
C8	07 Jan 2020	18	15.35	84.20	7.3	33.53	8.1	24.8	1.25
C8	07 Jan 2020	19	15.10	84.04	7.1	33.54	8.1	24.8	1.15
C8	07 Jan 2020	20	15.06	83.04	6.9	33.52	8.1	24.8	1.03
C8	13 Jan 2020	1	15.62	83.50	7.7	33.52	8.1	24.7	0.91
C8	13 Jan 2020	2	15.62	83.44	7.7	33.52	8.1	24.7	0.90
C8	13 Jan 2020	3	15.62	83.81	7.8	33.52	8.1	24.7	0.89
C8	13 Jan 2020	4	15.63	83.85	7.7	33.52	8.1	24.7	0.94
C8	13 Jan 2020	5	15.63	83.73	7.7	33.52	8.1	24.7	1.01
C8	13 Jan 2020	6	15.63	83.71	7.7	33.52	8.1	24.7	1.13
C8	13 Jan 2020	7	15.63	83.70	7.7	33.52	8.1	24.7	1.24
C8	13 Jan 2020	8	15.64	83.88	7.7	33.52	8.1	24.7	1.32
C8	13 Jan 2020	9	15.64	84.32	7.7	33.52	8.1	24.7	1.37
C8	13 Jan 2020	10	15.64	84.46	7.7	33.52	8.1	24.7	1.37
C8	13 Jan 2020	11	15.63	84.43	7.7	33.52	8.1	24.7	1.42
C8	13 Jan 2020	12	15.63	84.70	7.7	33.52	8.1	24.7	1.42
C8	13 Jan 2020	13	15.63	84.93	7.7	33.52	8.1	24.7	1.40
C8	13 Jan 2020	14	15.63	85.11	7.7	33.52	8.1	24.7	1.37
C8	13 Jan 2020	15	15.63	85.01	7.7	33.52	8.1	24.7	1.37
C8	13 Jan 2020	16	15.63	85.04	7.7	33.52	8.1	24.7	1.33
C8	13 Jan 2020	17	15.63	85.05	7.7	33.52	8.1	24.7	1.34
C8	13 Jan 2020	18	15.63	85.32	7.7	33.53	8.1	24.7	1.33
C8	13 Jan 2020	19	15.63	85.33	7.7	33.53	8.1	24.7	1.29
C8	13 Jan 2020	20	15.63	85.32	7.6	33.53	8.1	24.7	1.29
C8	21 Jan 2020	1	15.35	87.81	8.0	33.50	8.1	24.7	0.89
C8	21 Jan 2020	2	15.34	87.80	7.9	33.51	8.1	24.7	0.89
C8	21 Jan 2020	3	15.33	87.78	7.9	33.50	8.1	24.7	0.93
C8	21 Jan 2020	4	15.33	87.72	7.9	33.51	8.1	24.7	0.97
C8	21 Jan 2020	5	15.31	87.55	7.9	33.51	8.1	24.8	1.04
C8	21 Jan 2020	6	15.31	87.31	7.9	33.50	8.1	24.8	1.14
C8	21 Jan 2020	7	15.30	87.04	7.9	33.50	8.1	24.8	1.24
C8	21 Jan 2020	8	15.29	86.79	7.9	33.50	8.1	24.8	1.30
C8	21 Jan 2020	9	15.27	86.56	7.9	33.50	8.1	24.8	1.33
C8	21 Jan 2020	10	15.27	86.32	7.8	33.51	8.1	24.8	1.36
C8	21 Jan 2020	11	15.25	85.99	7.8	33.51	8.1	24.8	1.40
C8	21 Jan 2020	12	15.23	85.84	7.8	33.51	8.1	24.8	1.39
C8	21 Jan 2020	13	15.22	85.55	7.7	33.51	8.1	24.8	1.40
C8	21 Jan 2020	14	15.21	85.04	7.7	33.51	8.1	24.8	1.36
C8	21 Jan 2020	15	15.19	84.59	7.7	33.51	8.1	24.8	1.31
C8	21 Jan 2020	16	15.15	83.70	7.7	33.52	8.1	24.8	1.29
C8	21 Jan 2020	17	15.08	83.21	7.6	33.54	8.1	24.8	1.39
C8	21 Jan 2020	18	14.91	82.42	7.4	33.55	8.1	24.9	1.35
C8	21 Jan 2020	19	14.90	78.61	7.3	33.53	8.1	24.9	1.34
C8	28 Jan 2020	1	15.57	74.99	7.9	33.52	8.1	24.7	0.84
C8	28 Jan 2020	2	15.57	75.32	8.0	33.52	8.1	24.7	0.87
C8	28 Jan 2020	3	15.54	75.47	7.9	33.52	8.1	24.7	0.86
C8	28 Jan 2020	4	15.51	75.97	7.9	33.53	8.1	24.7	0.93
C8	28 Jan 2020	5	15.50	77.66	8.0	33.52	8.1	24.7	1.08

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (µg/L)
C8	28 Jan 2020	6	15.49	78.16	8.0	33.52	8.1	24.7	1.26
C8	28 Jan 2020	7	15.48	78.10	8.0	33.53	8.1	24.7	1.32
C8	28 Jan 2020	8	15.45	77.74	7.9	33.53	8.1	24.7	1.42
C8	28 Jan 2020	9	15.43	76.84	7.9	33.53	8.1	24.7	1.51
C8	28 Jan 2020	10	15.42	77.50	7.8	33.53	8.1	24.7	1.54
C8	28 Jan 2020	11	15.42	78.41	7.9	33.53	8.1	24.7	1.54
C8	28 Jan 2020	12	15.41	78.92	7.8	33.53	8.1	24.8	1.67
C8	28 Jan 2020	13	15.36	79.93	7.8	33.54	8.1	24.8	1.63
C8	28 Jan 2020	14	15.25	81.05	7.7	33.54	8.1	24.8	1.56
C8	28 Jan 2020	15	15.14	81.88	7.5	33.55	8.1	24.8	1.47
C8	28 Jan 2020	16	15.10	81.80	7.5	33.53	8.1	24.8	1.41
C8	28 Jan 2020	17	15.07	81.80	7.4	33.54	8.1	24.8	1.39
C8	28 Jan 2020	18	15.01	80.62	7.4	33.54	8.1	24.8	1.36
C8	28 Jan 2020	19	14.99	80.23	7.3	33.54	8.1	24.8	1.35
C8	28 Jan 2020	20	14.98	79.20	7.3	33.53	8.1	24.8	1.34

NA = not available

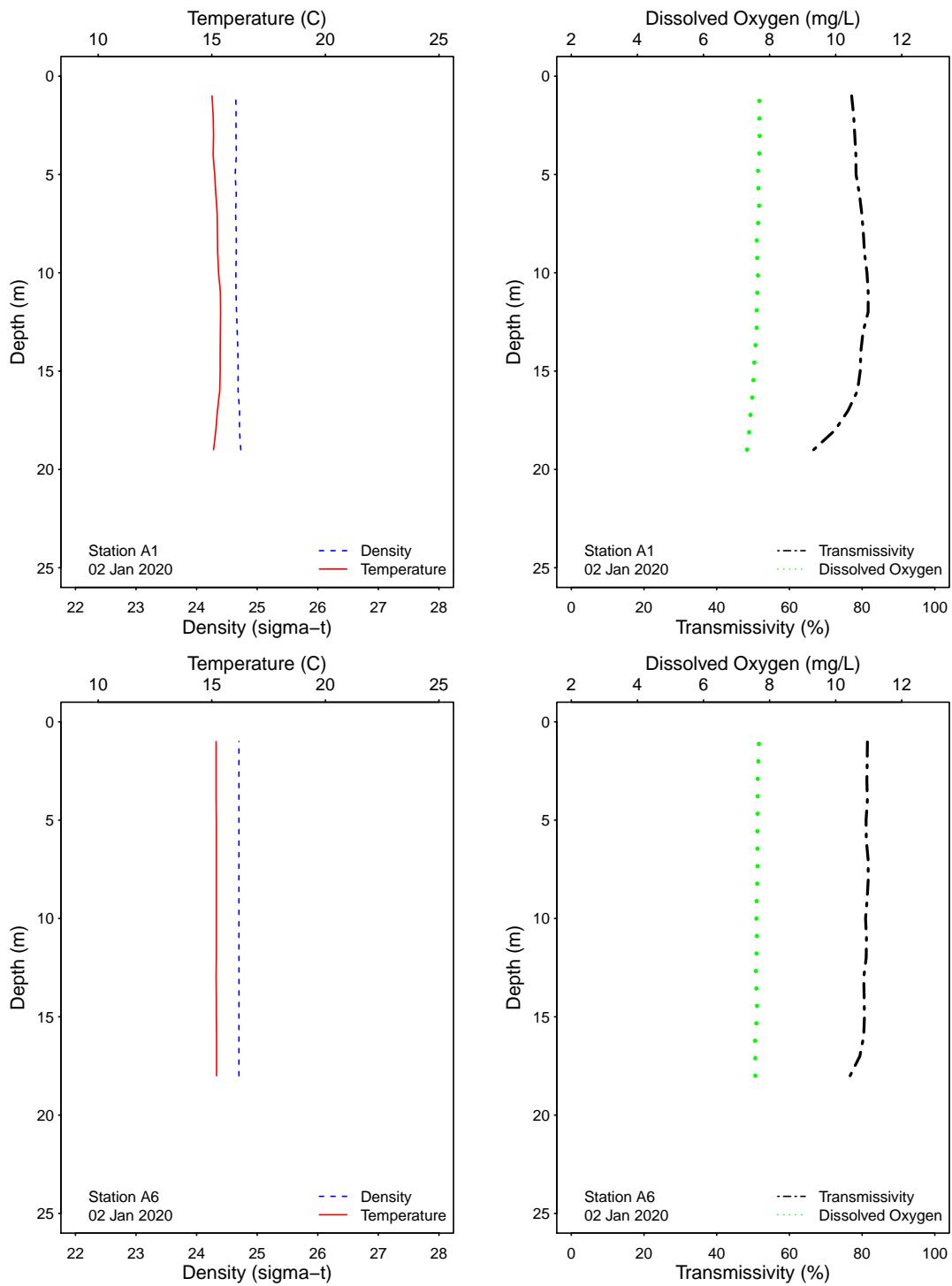


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

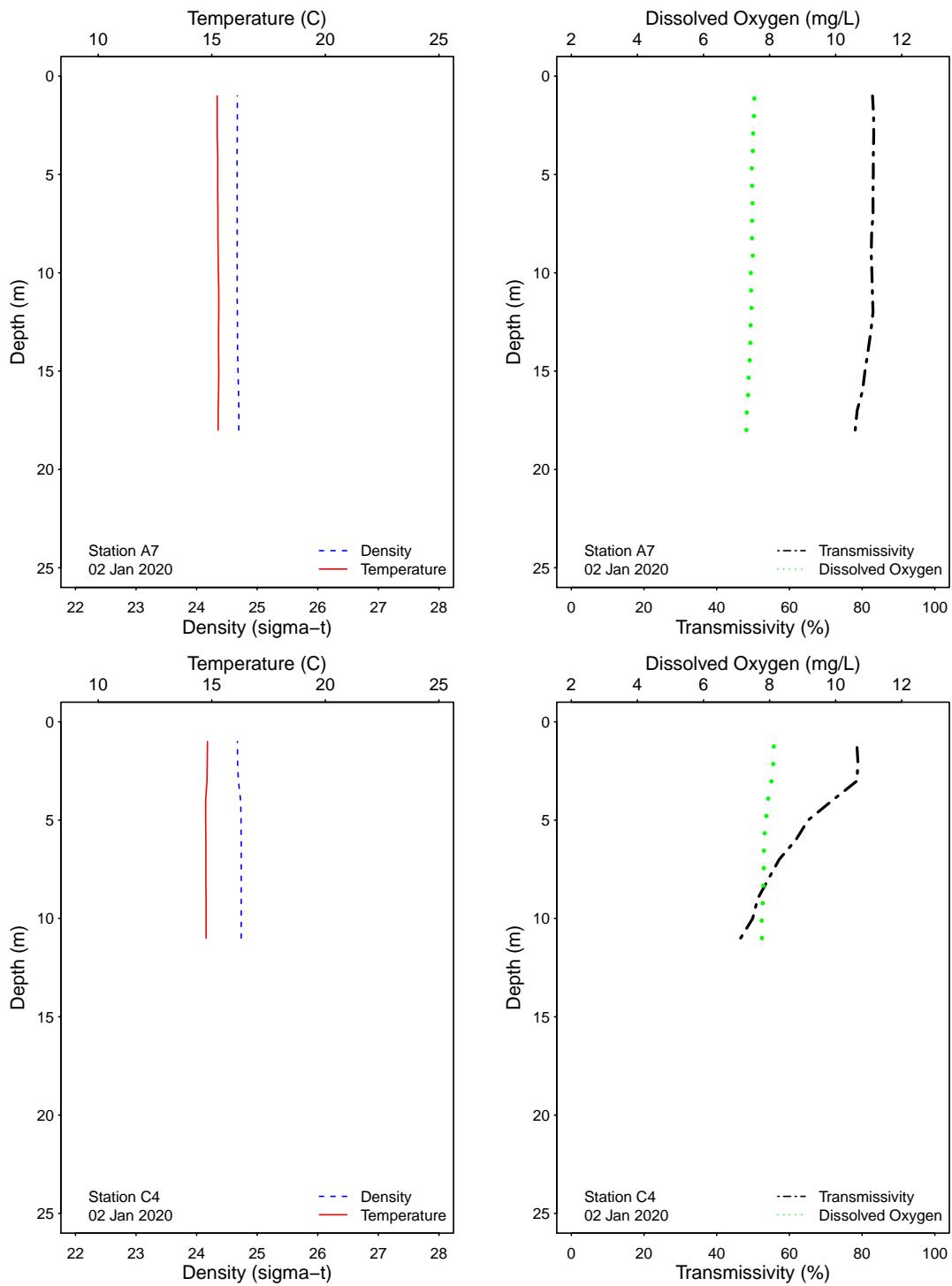


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

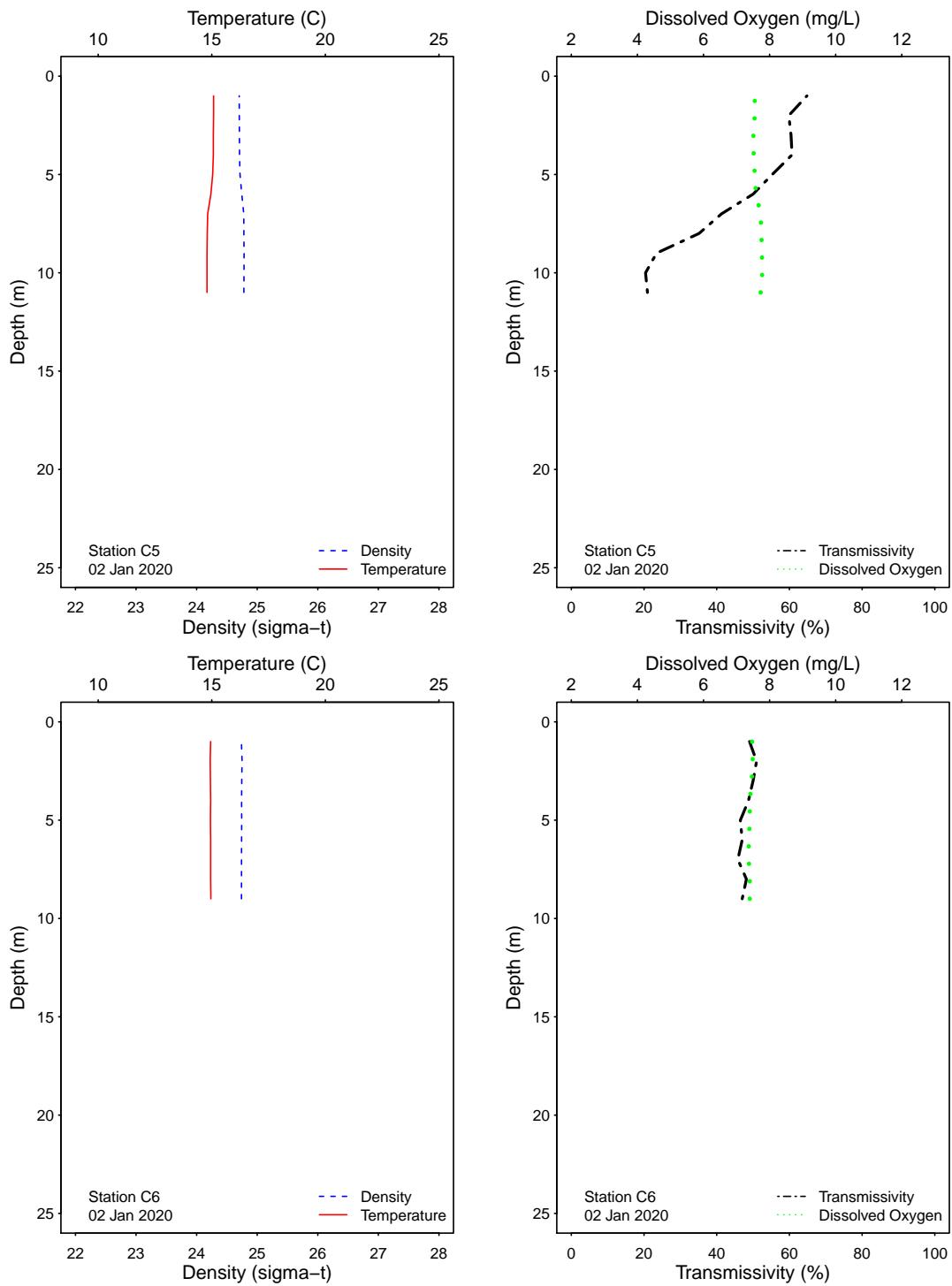


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

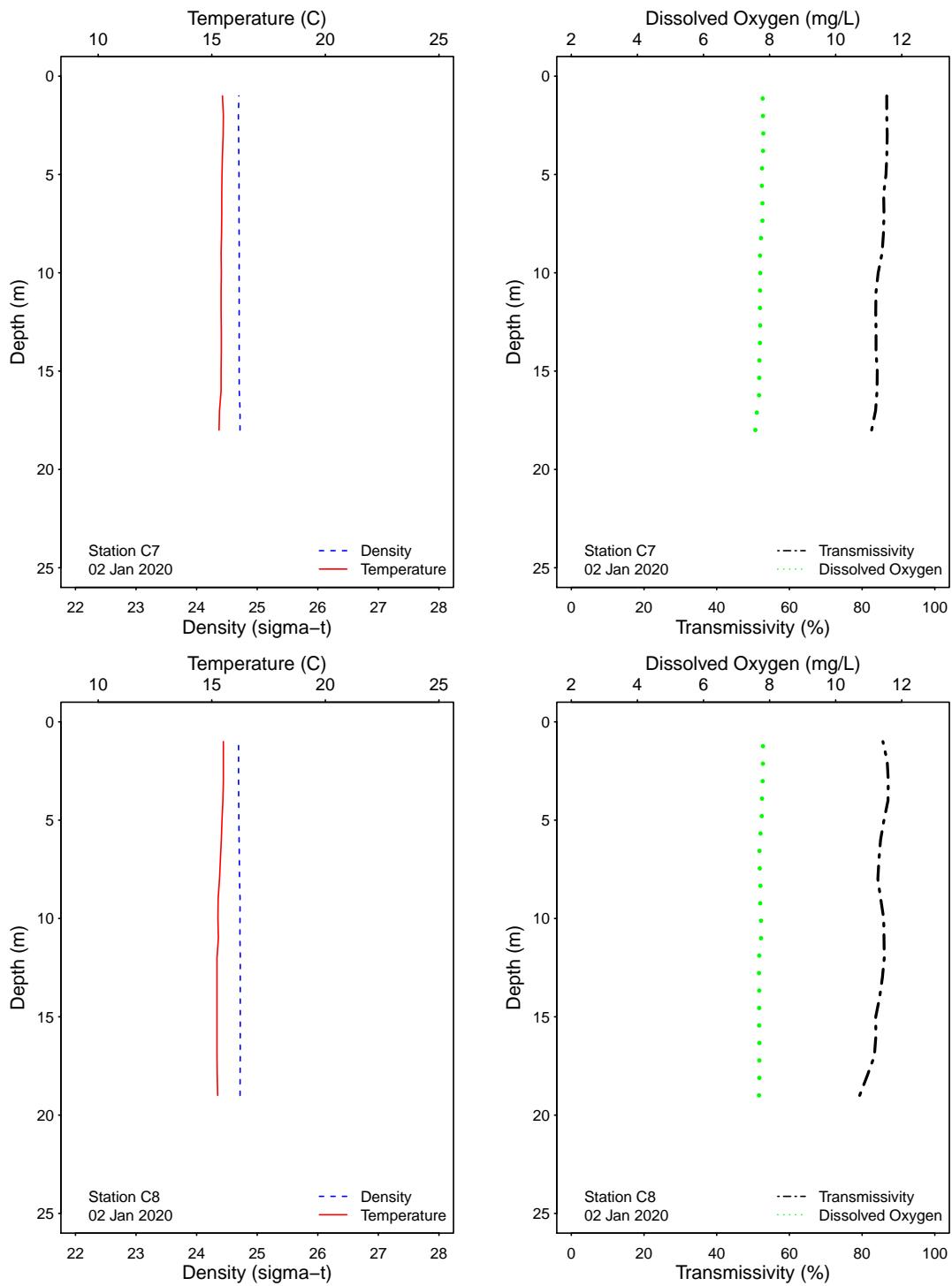


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

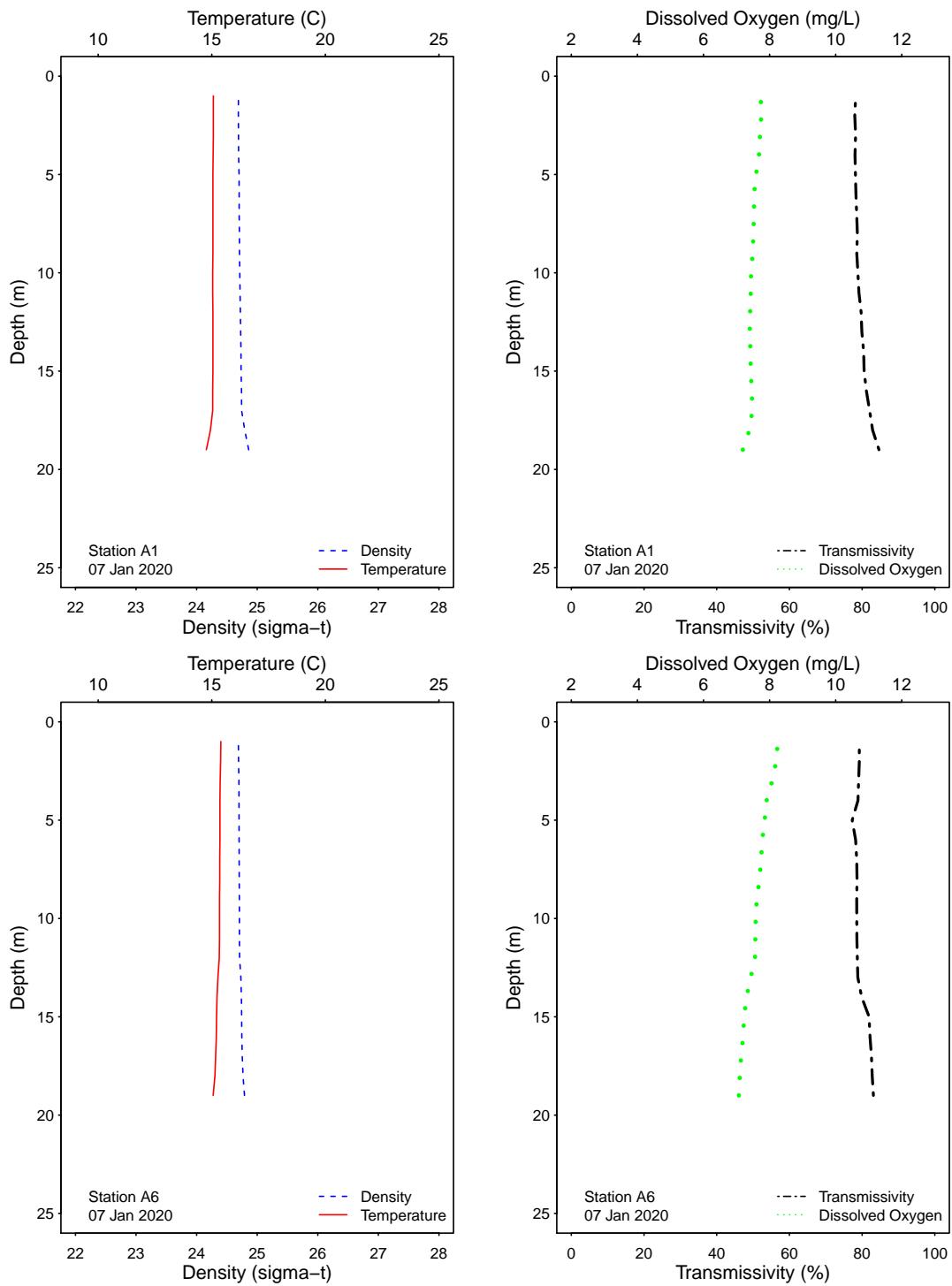


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

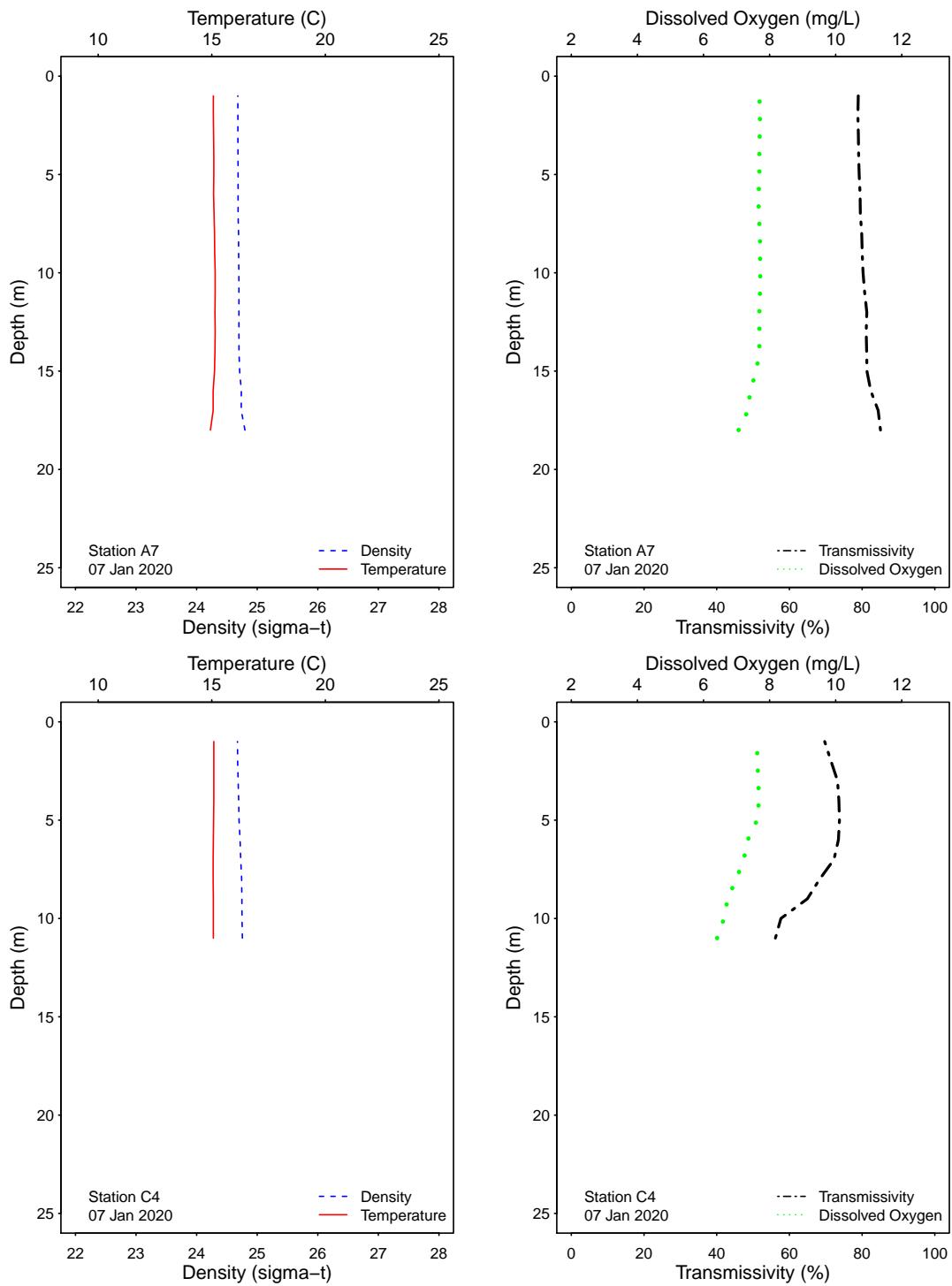


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

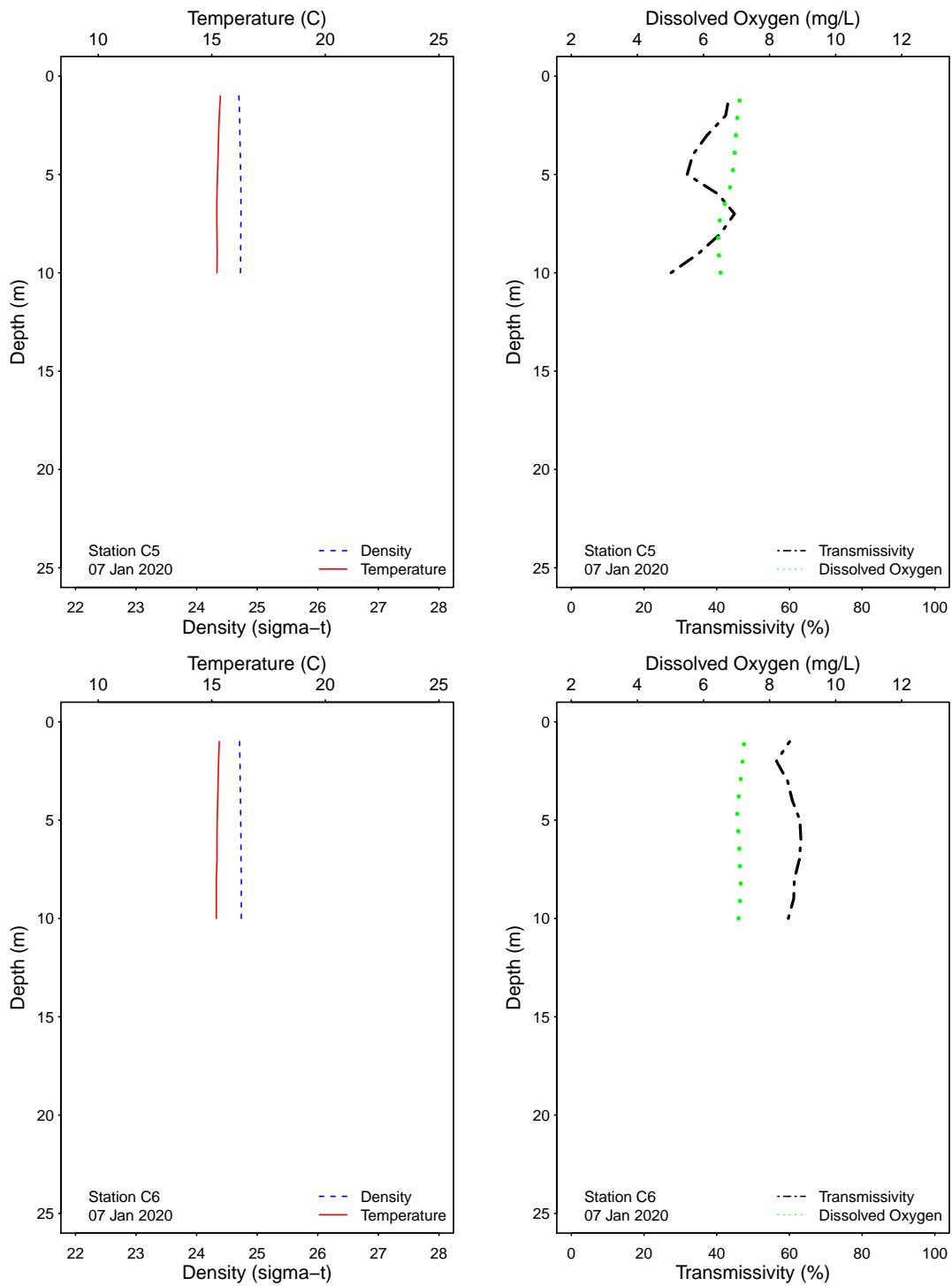


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

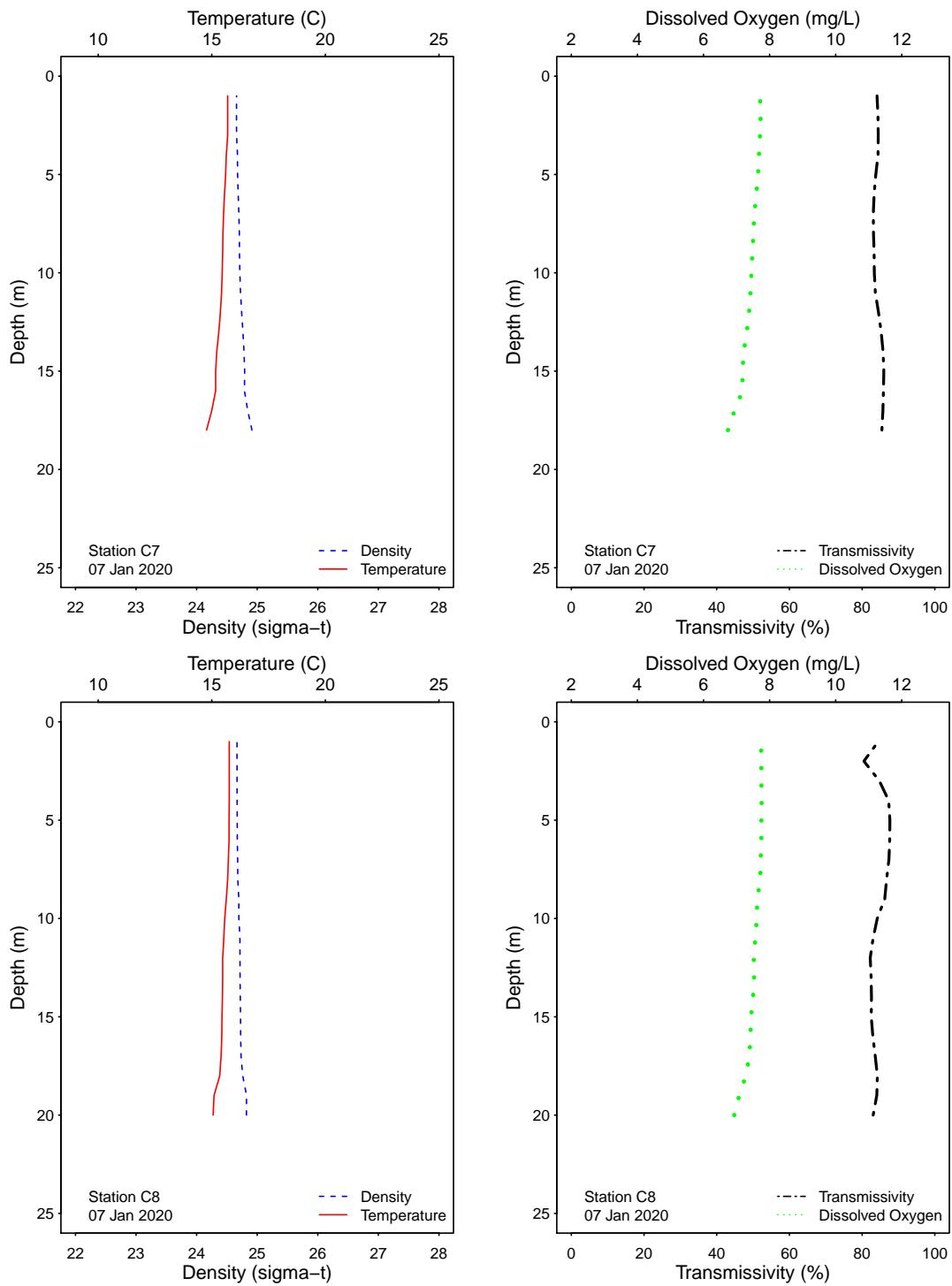


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

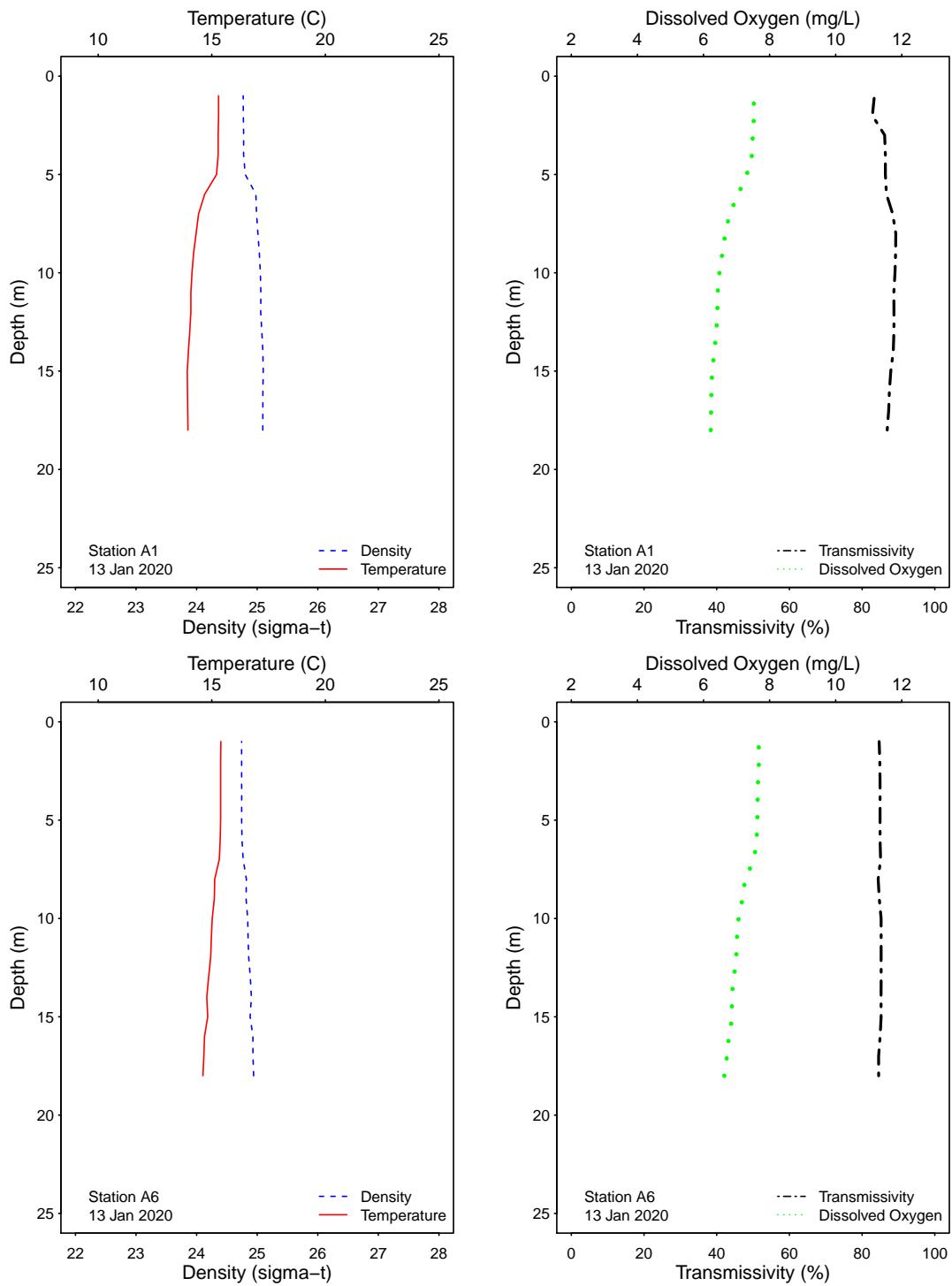


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

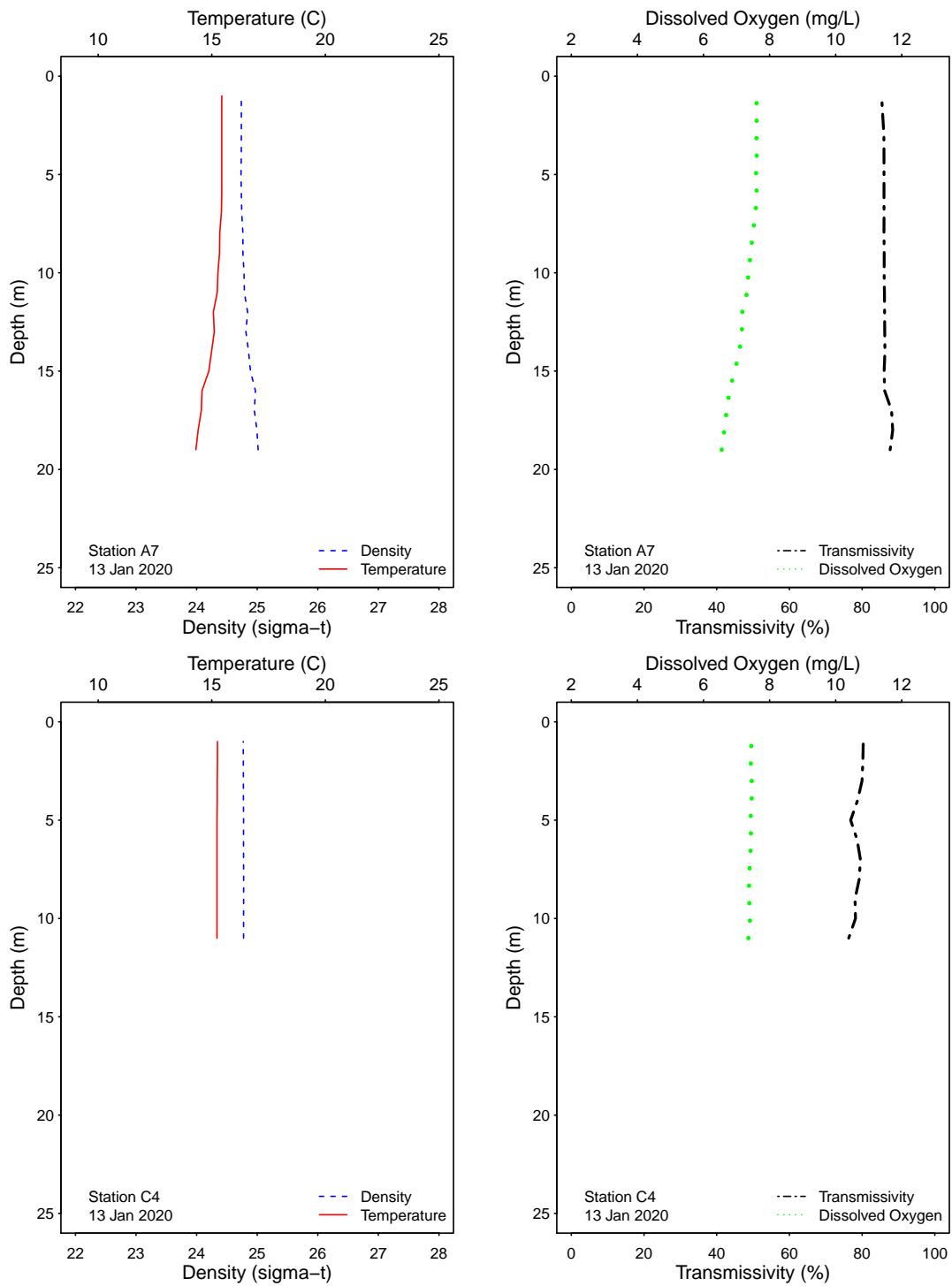


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

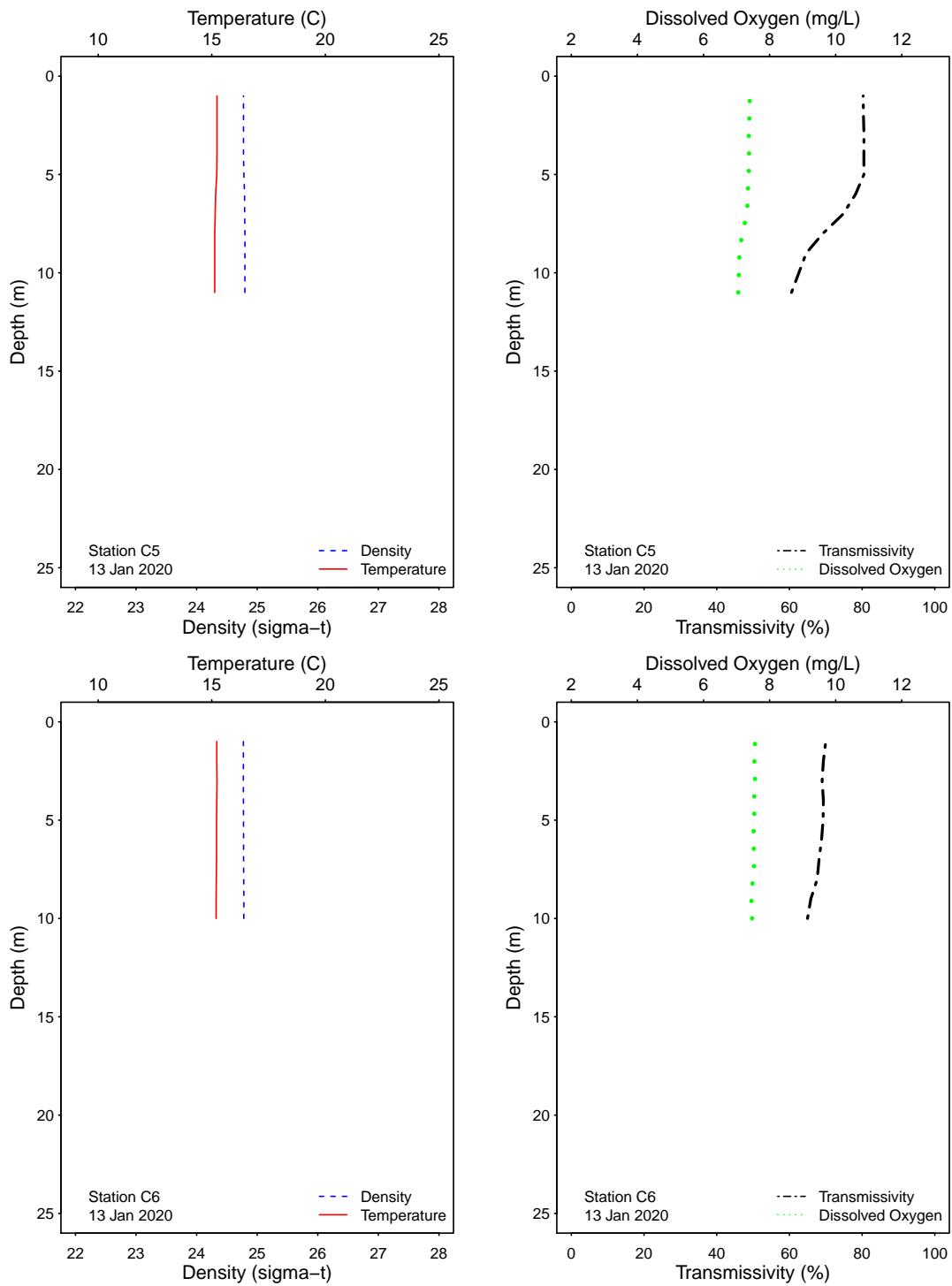


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

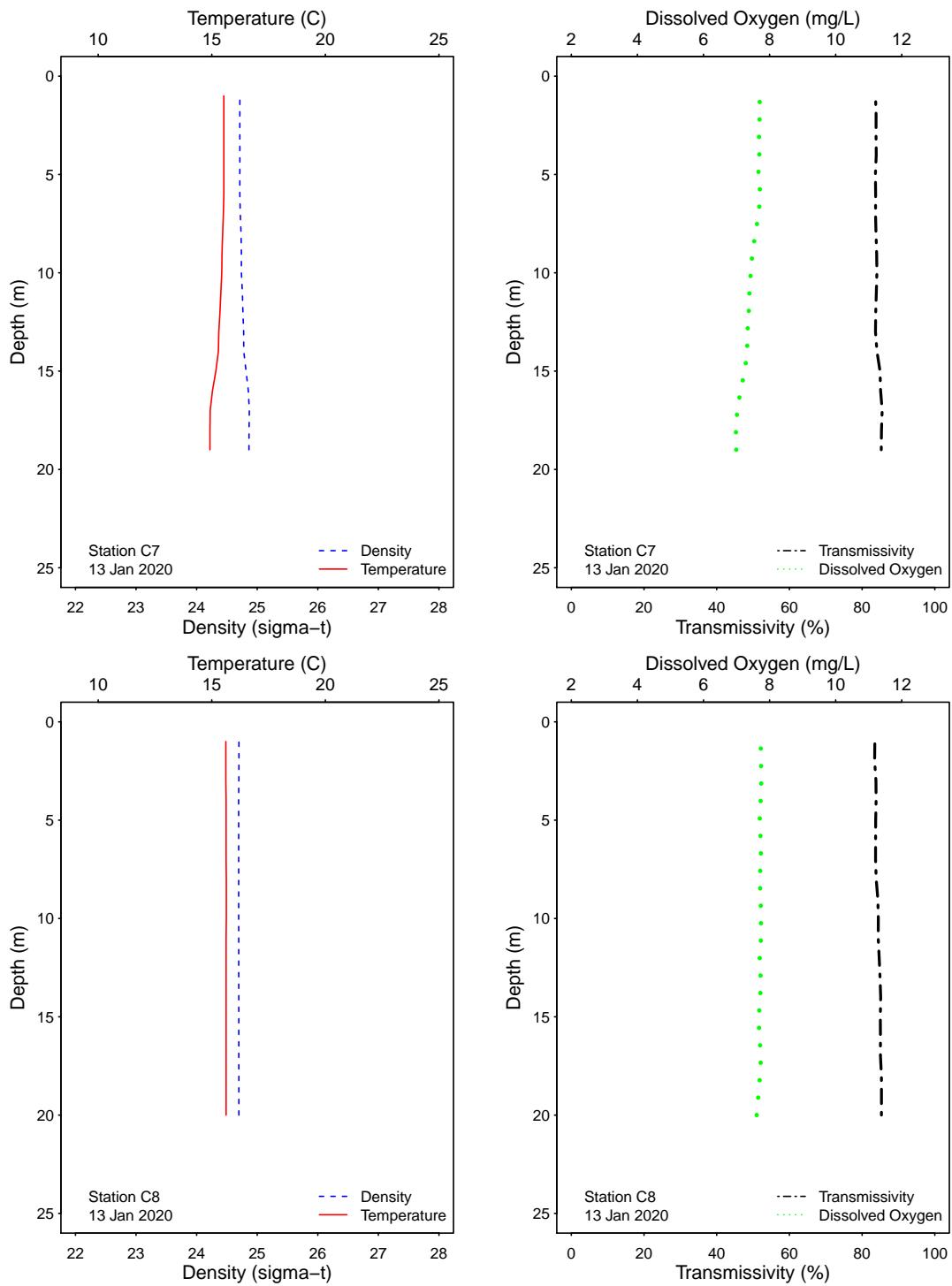


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

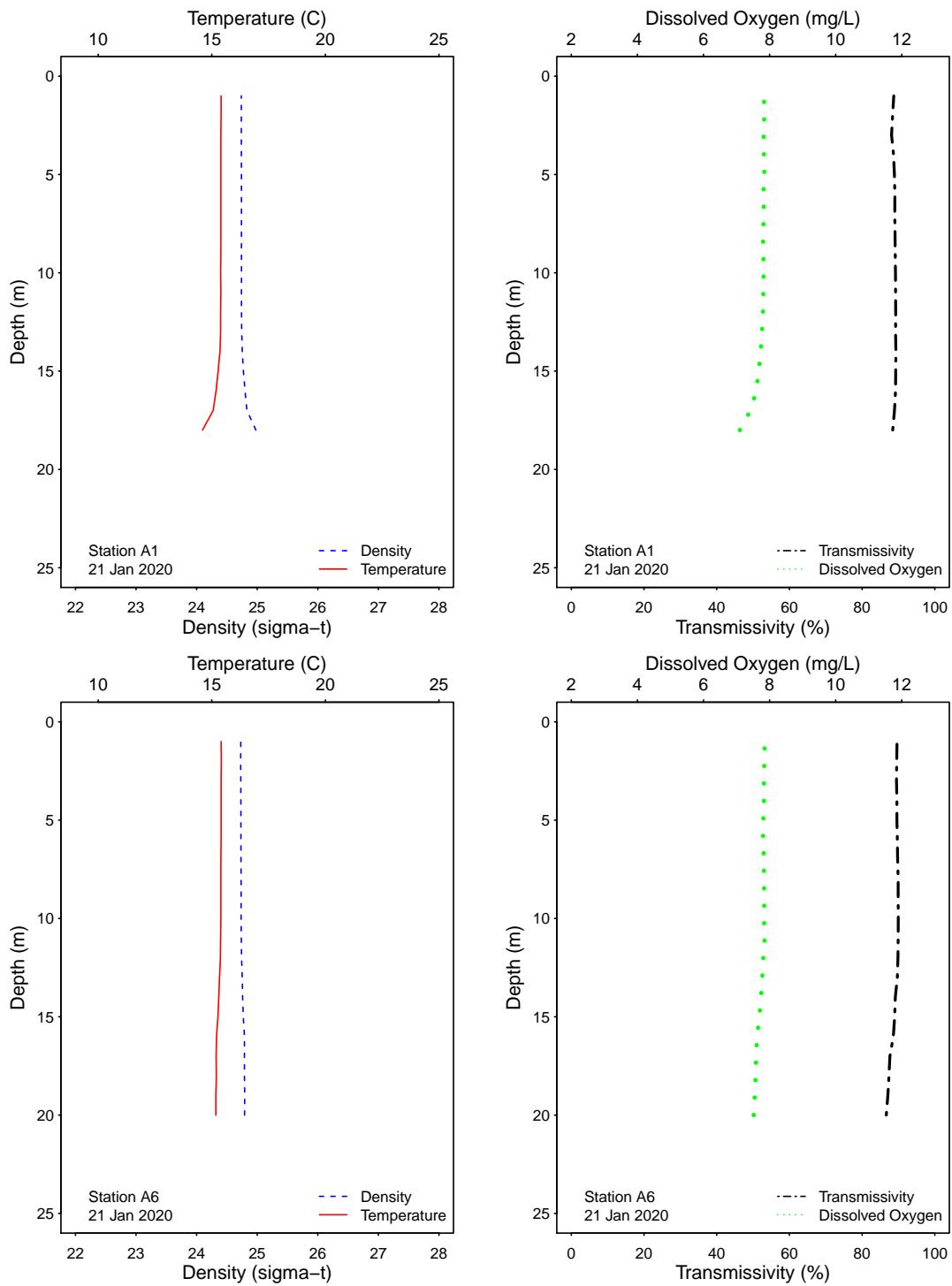


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

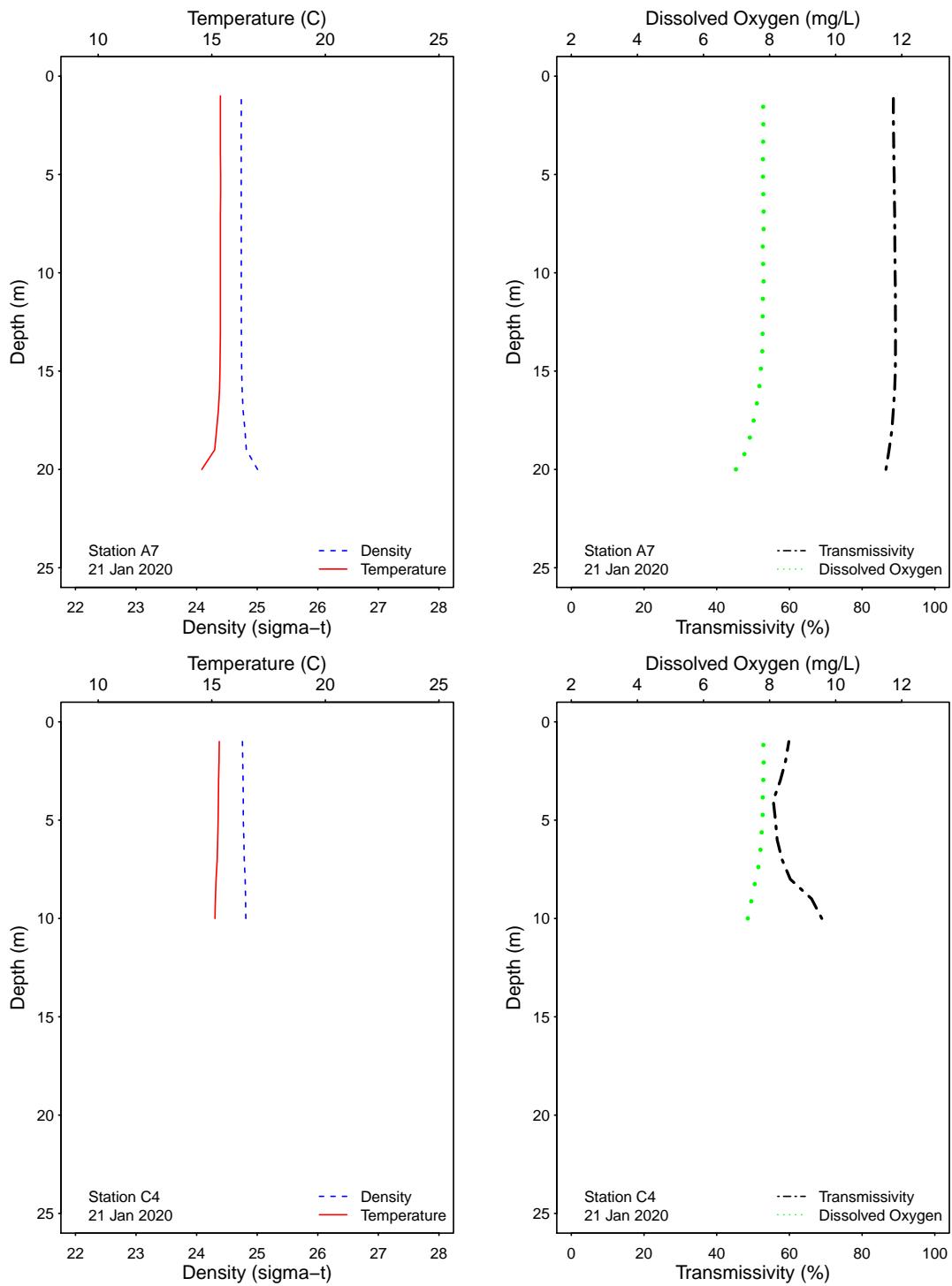


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

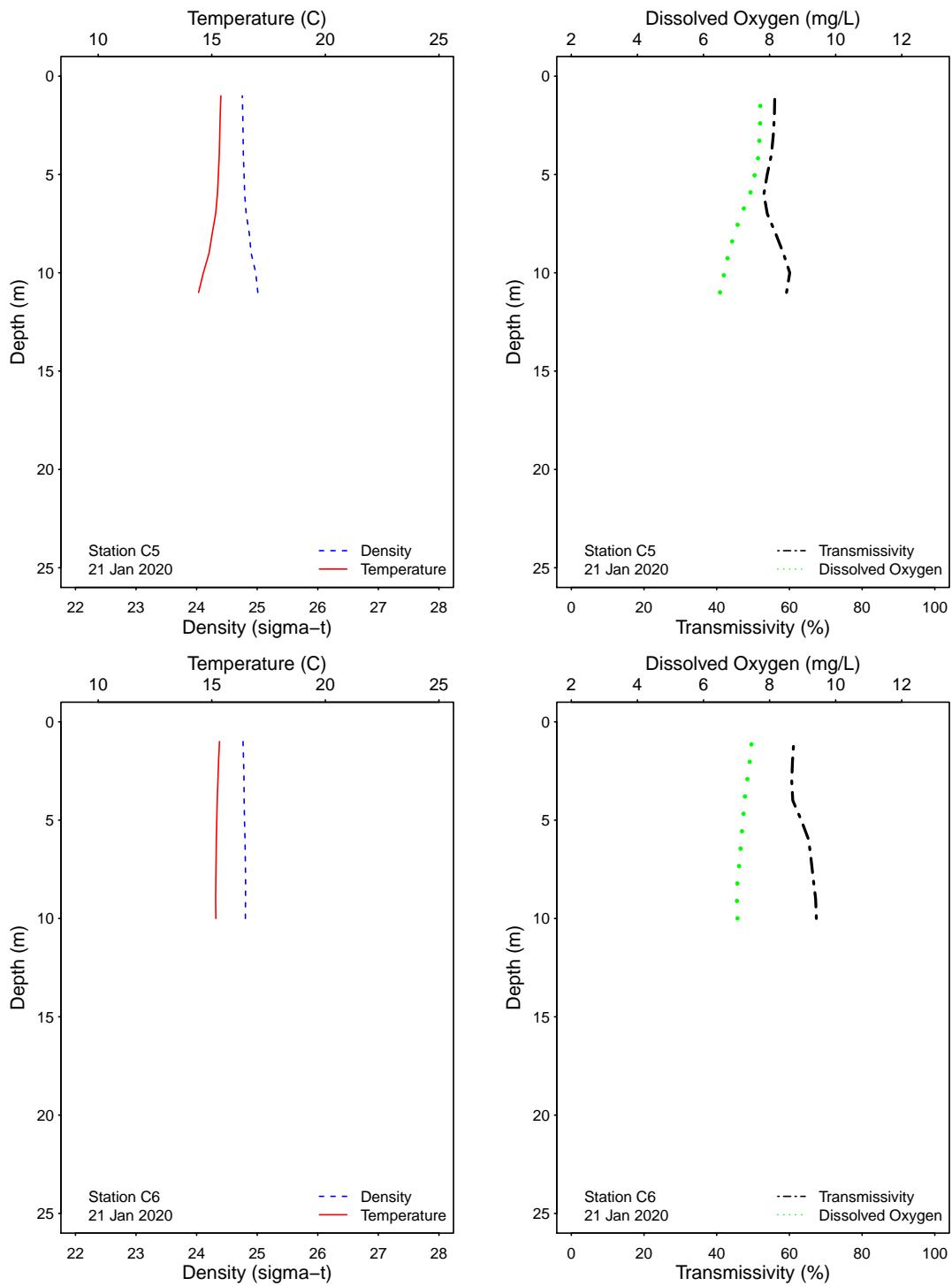


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

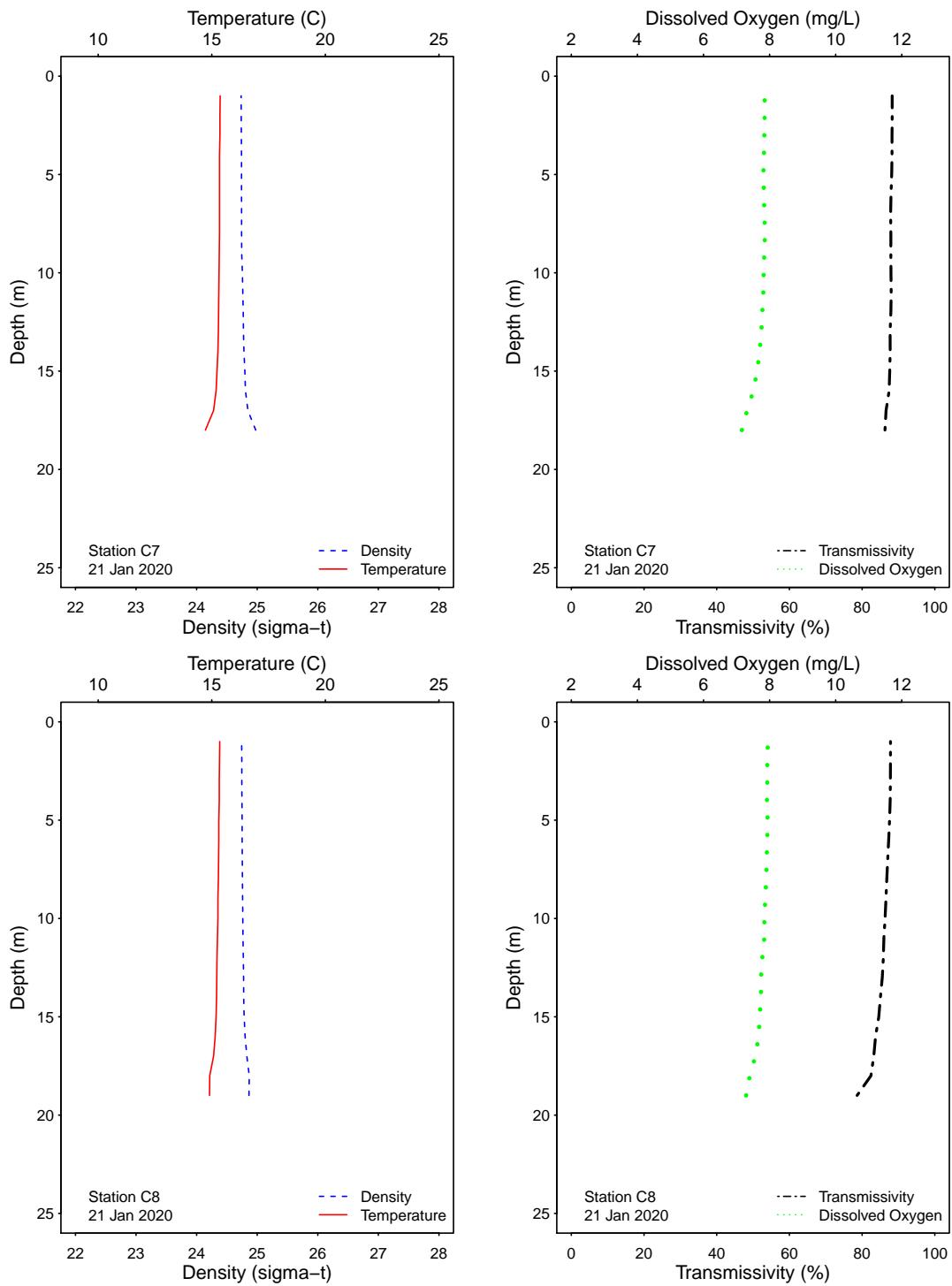


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

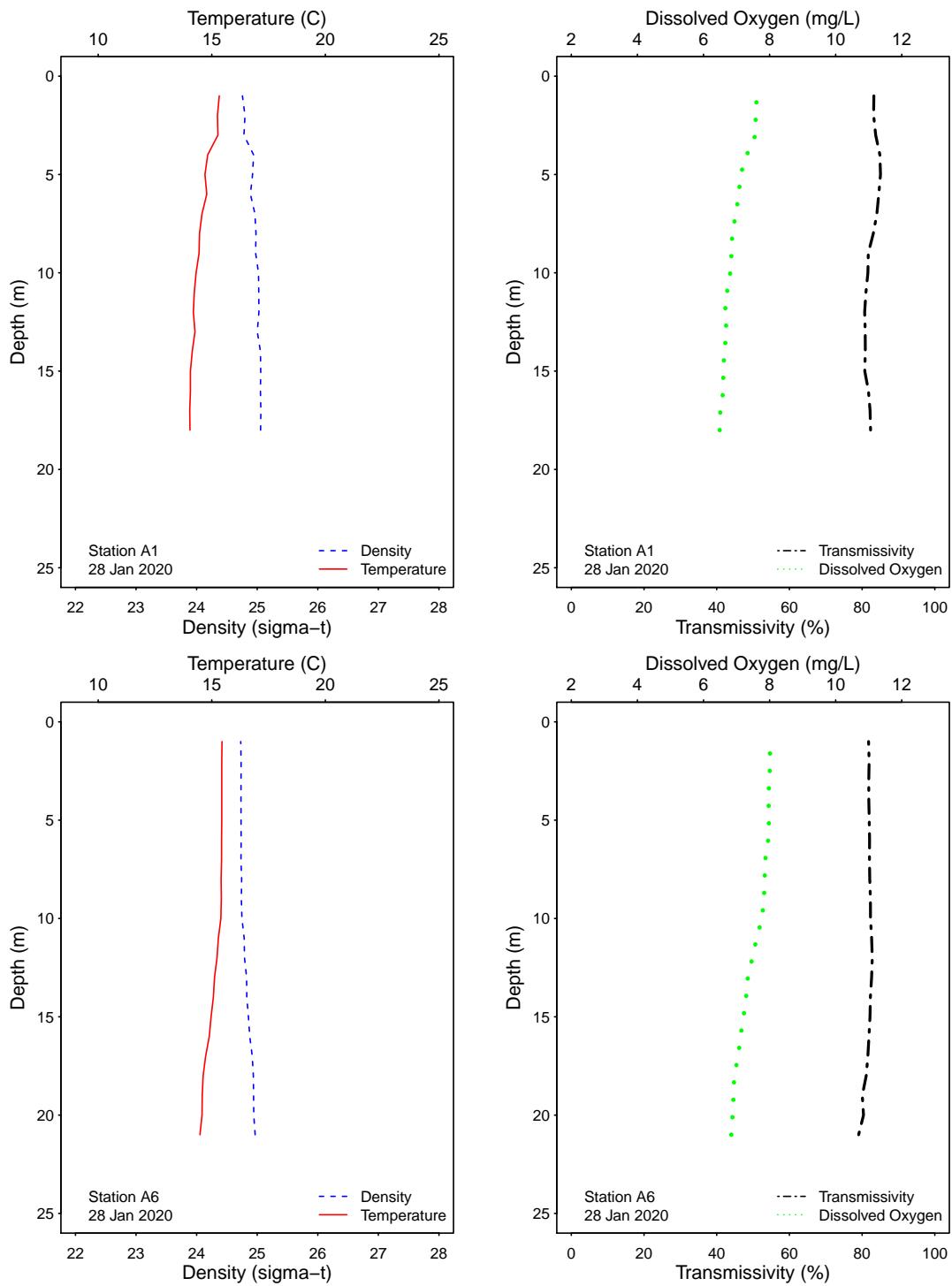


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

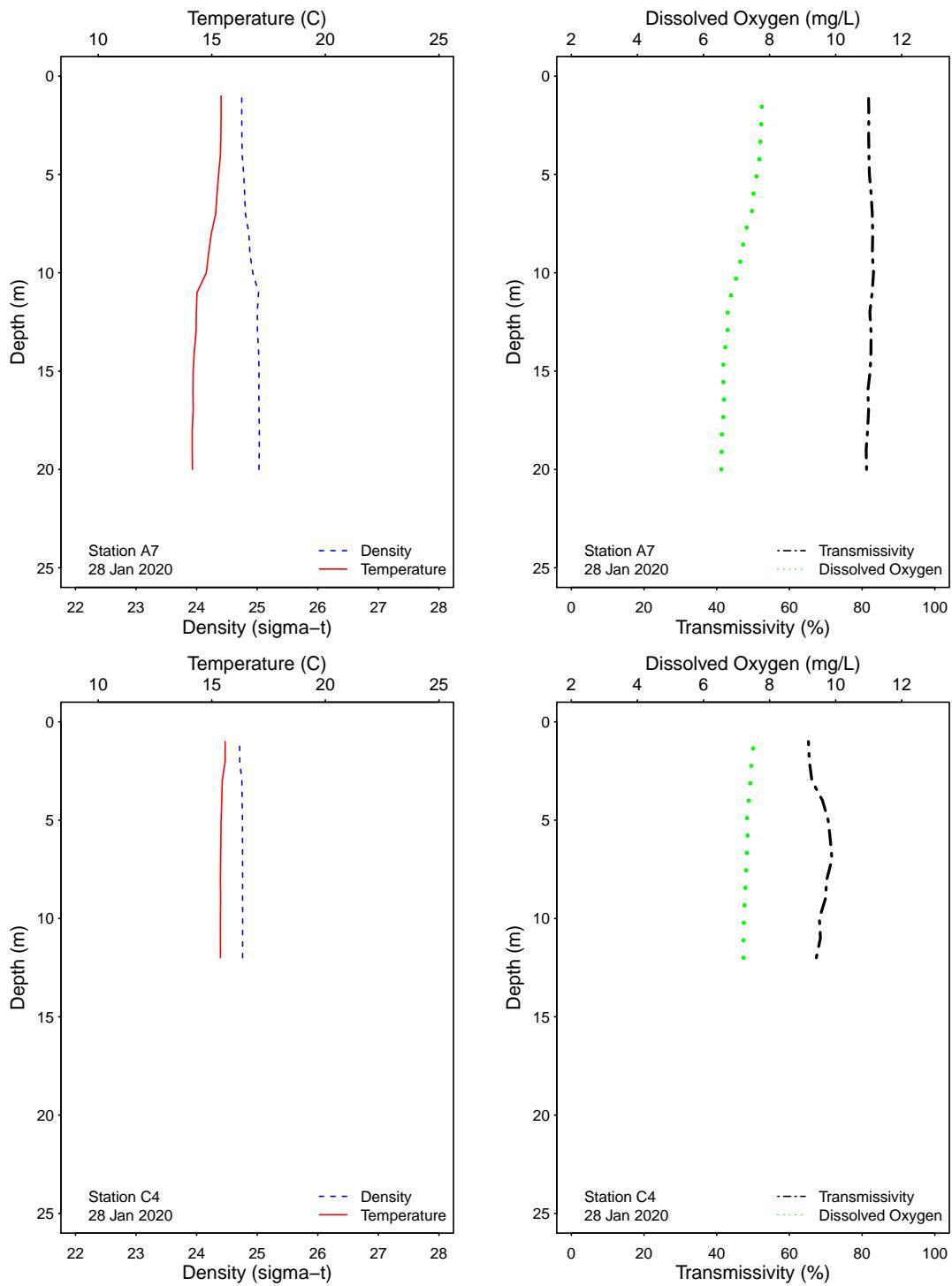


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

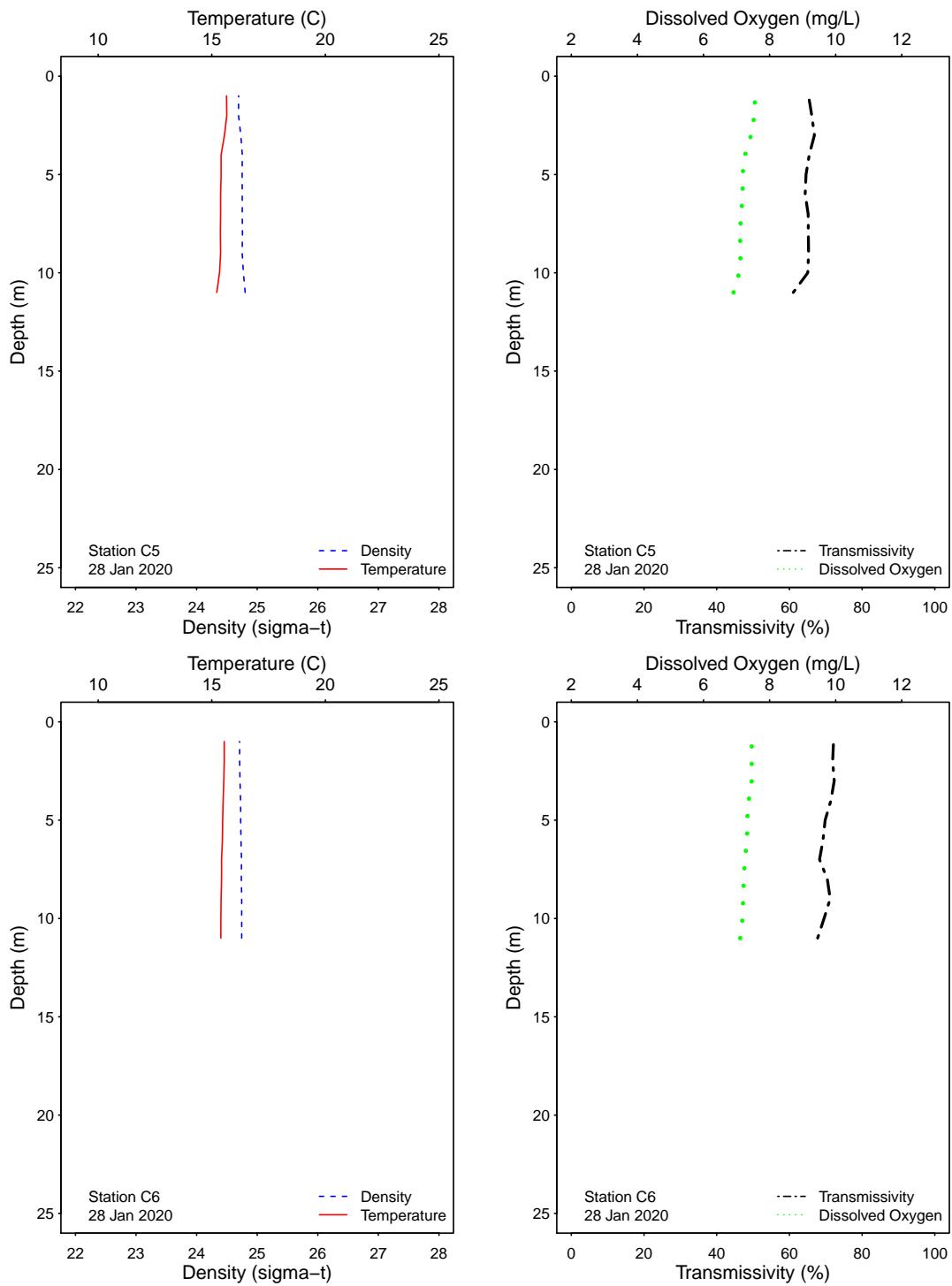


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

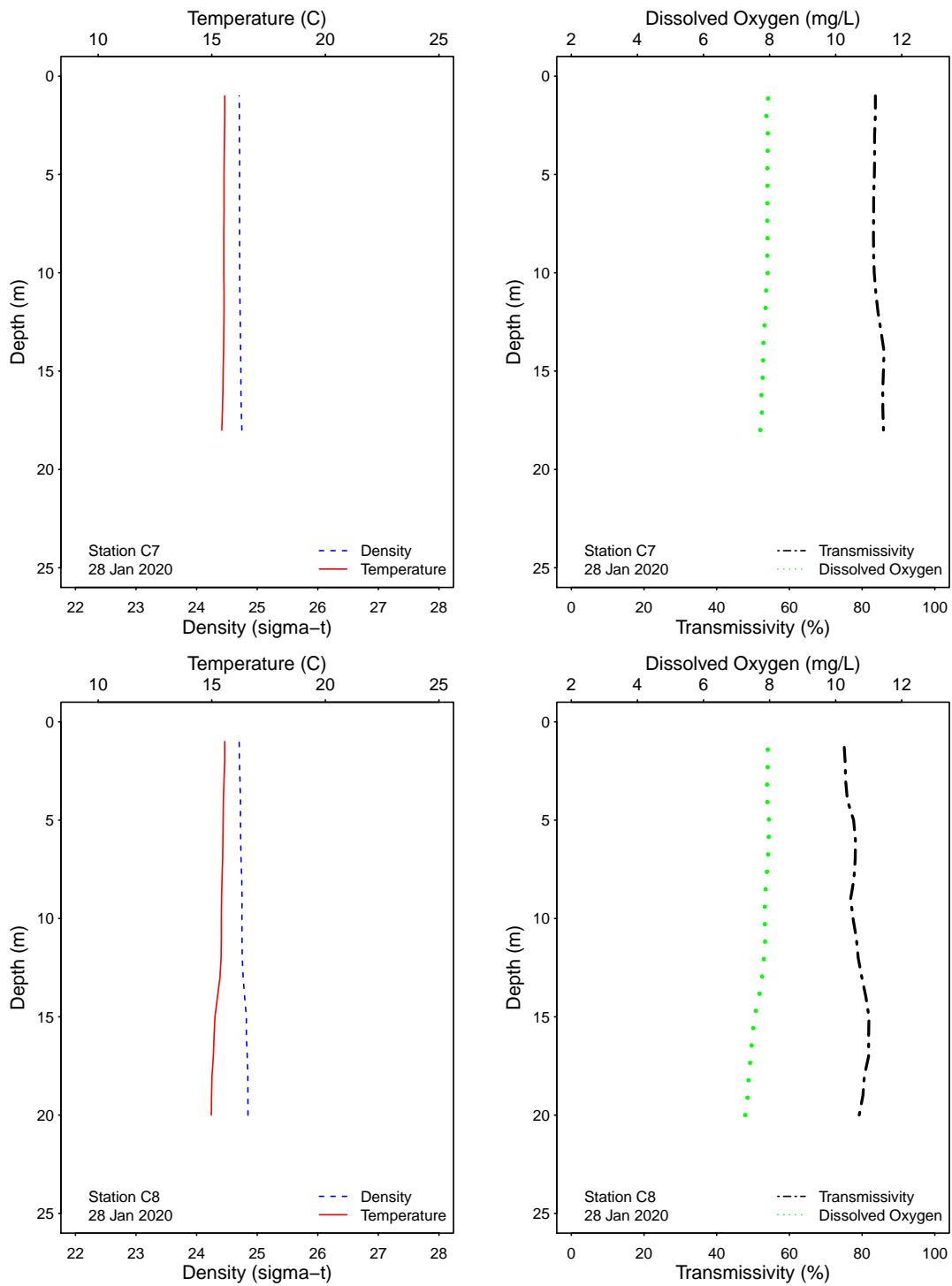


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

APPENDIX A

Quality Assurance

Table A.1

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

Station	Date	Depth	Analyst	Procedure	Total	Fecal	Enter
A7	02 Jan 2020	18	JF	LAB DUPLICATE	2e	<2	<2
A7	07 Jan 2020	18	BS	LAB DUPLICATE	12e	4e	<2
A7	13 Jan 2020	18	JF	LAB DUPLICATE	20e	8e	<2
A7	21 Jan 2020	18	LMA	LAB DUPLICATE	4e	<2	<2
A7	28 Jan 2020	18	AE	LAB DUPLICATE	200e	60	ns
A7	28 Jan 2020	18	AR	LAB DUPLICATE	ns	ns	4e
C7	02 Jan 2020	18	BS	LAB DUPLICATE	<20	<2	2e
C7	07 Jan 2020	18	BS	LAB DUPLICATE	10e	<2	<2
C7	13 Jan 2020	18	BS	LAB DUPLICATE	<200	<2	2e
C7	21 Jan 2020	18	LMA	LAB DUPLICATE	12e	2e	<2
C7	28 Jan 2020	18	BS	LAB DUPLICATE	<2	2e	<2
C8	02 Jan 2020	12	BS	LAB DUPLICATE	<2	<2	<2
C8	07 Jan 2020	12	JF	LAB DUPLICATE	<2	<2	<2
C8	13 Jan 2020	12	BS	LAB DUPLICATE	<20	2e	<2
C8	21 Jan 2020	12	LMA	LAB DUPLICATE	<2	<2	<2
C8	28 Jan 2020	12	BS	LAB DUPLICATE	<2	<2	<2
D12	02 Jan 2020		BS	FIELD DUPLICATE	<200	<2	<2
D12	02 Jan 2020		BS	LAB DUPLICATE	<2	<2	<2
D12	08 Jan 2020		MF	FIELD DUPLICATE	<2	4e	<2
D12	08 Jan 2020		MF	LAB DUPLICATE	2e	2e	<2
D12	15 Jan 2020		JF	FIELD DUPLICATE	<2	<2	<2
D12	15 Jan 2020		JF	LAB DUPLICATE	<2	2e	<2
D12	22 Jan 2020		BS	FIELD DUPLICATE	<20	6e	14e
D12	22 Jan 2020		BS	LAB DUPLICATE	6e	8e	18e
D12	29 Jan 2020		BS	FIELD DUPLICATE	<2	<2	2e
D12	29 Jan 2020		BS	LAB DUPLICATE	2e	4e	2e

ns = not sampled

ND = no data

