

# **POINT LOMA OCEAN OUTFALL MONTHLY RECEIVING WATERS MONITORING REPORT**

## **POINT LOMA WASTEWATER TREATMENT PLANT**

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

# **JUNE 2019**

Environmental Monitoring and Technical Services  
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July 31, 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

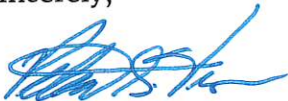
Dear Mr. Gibson:

Enclosed is the June 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



# REPORT OUTLINE

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## 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  $\geq 4$  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)<sup>1</sup>. 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

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<sup>1</sup> 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, 1987<sup>2</sup>) 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***

- The eight shore stations (D4, D5, D7, D8-B, D9, D10, D11, D12) were sampled on June 3, 10, 17, and 24.
- During June, each of the shore stations was in compliance with California Ocean Plan (Ocean Plan) water contact standards.
- Notable observations included a sewage-like odor at station D5 on June 17 and 24.
- Over the years, elevated bacteria levels at shore and kelp bed stations have tended to be associated with rainfall events, heavy recreational use, or the presence of seabirds or decaying kelp and surf grass. See the City of San Diego's most recent *Biennial Receiving Waters Monitoring and Assessment Report for the Point Loma and South Bay Ocean Outfalls* for details (<https://www.sandiego.gov/public-utilities/sustainability/ocean-monitoring/reports>).

### ***Kelp Bed Stations***

- The eight kelp bed water quality stations (A1, A6, A7, C4, C5, C6, C7, C8) were sampled on June 2, 9, 16, 23, and 30.
- During June, each of the kelp bed stations was in compliance with the various Ocean Plan water contact standards.
- Water column temperatures ranged from 10.87 to 20.27°C. The difference between surface and bottom waters ranged from 1.57 to 8.20°C.
- Chlorophyll *a* concentrations ranged from 0.57 to 6.5 µg/L.
- Nothing of sewage origin was observed at any of the kelp stations.

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

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# TABLES AND FIGURES



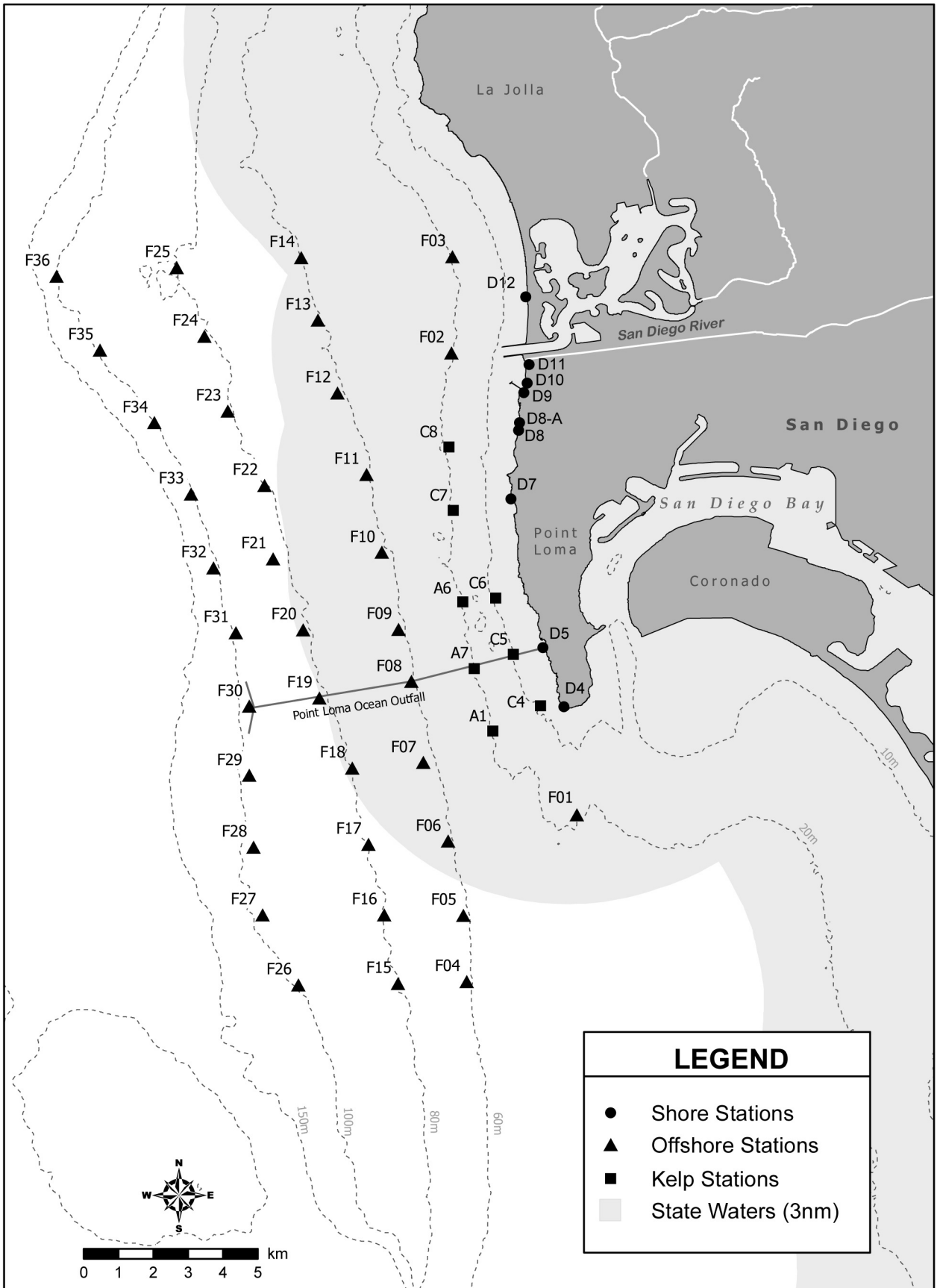


Figure 1.1 Station Map



# 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 Jun 2020	20*	36*	31*	24*	31*	23*	42*	6*
02 Jun 2020	20*	36*	31*	24*	31*	23*	42*	6*
03 Jun 2020	20	32	29	23	29	30	36	8
04 Jun 2020	20	32	29	23	29	30	36	8
05 Jun 2020	11*	20*	18*	16*	18*	33*	42*	6*
06 Jun 2020	11*	20*	18*	16*	18*	33*	42*	6*
07 Jun 2020	11*	20*	18*	16*	18*	33*	42*	6*
08 Jun 2020	11*	20*	18*	16*	18*	33*	42*	6*
09 Jun 2020	11*	20*	18*	16*	18*	33*	42*	6*
10 Jun 2020	8	20	18	17	21	30	36	6
11 Jun 2020	8	20	18	17	21	30	36	6
12 Jun 2020	6*	20*	18*	16*	18*	33*	24*	8*
13 Jun 2020	6*	20*	18*	16*	18*	33*	24*	8*
14 Jun 2020	6*	20*	18*	16*	18*	33*	24*	8*
15 Jun 2020	6*	20*	18*	16*	18*	33*	24*	8*
16 Jun 2020	6*	20*	18*	16*	18*	33*	24*	8*
17 Jun 2020	8	20	18	17	29	34	29	10
18 Jun 2020	8	20	18	17	29	34	29	10
19 Jun 2020	6*	20*	18*	16*	31*	33*	26*	8*
20 Jun 2020	6*	20*	18*	16*	31*	33*	26*	8*
21 Jun 2020	6*	20*	18*	16*	31*	33*	26*	8*
22 Jun 2020	6*	20*	18*	16*	31*	33*	26*	8*
23 Jun 2020	6*	20*	18*	16*	31*	33*	26*	8*
24 Jun 2020	8	20	18	17	29	30	29	7
25 Jun 2020	8	20	18	17	29	30	29	7
26 Jun 2020	11*	20*	20*	20*	42*	34*	31*	10*
27 Jun 2020	11*	20*	20*	20*	42*	34*	31*	10*
28 Jun 2020	11*	20*	20*	20*	42*	34*	31*	10*
29 Jun 2020	11*	20*	20*	20*	42*	34*	31*	10*
30 Jun 2020	11*	20*	20*	20*	42*	34*	31*	10*

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

\* Geometric mean calculated using  $n < 5$

ns = not sampled

**Table 2.4**

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

<b>Date</b>	<b>D4</b>	<b>D5</b>	<b>D7</b>	<b>D8-B</b>	<b>D9</b>	<b>D10</b>	<b>D11</b>	<b>D12</b>
03 Jun 2020	IC	IC	IC	IC	IC	IC	IC	IC
10 Jun 2020	IC	IC	IC	IC	IC	IC	IC	IC
17 Jun 2020	IC	IC	IC	IC	IC	IC	IC	IC
24 Jun 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.

<b>Date</b>	<b>D4</b>	<b>D5</b>	<b>D7</b>	<b>D8-B</b>	<b>D9</b>	<b>D10</b>	<b>D11</b>	<b>D12</b>
03 Jun 2020	IC	IC	IC	IC	IC	IC	IC	IC
10 Jun 2020	IC	IC	IC	IC	IC	IC	IC	IC
17 Jun 2020	IC	IC	IC	IC	IC	IC	IC	IC
24 Jun 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.

<b>Date</b>	<b>D4</b>	<b>D5</b>	<b>D7</b>	<b>D8-B</b>	<b>D9</b>	<b>D10</b>	<b>D11</b>	<b>D12</b>
03 Jun 2020	IC	IC	IC	IC	IC	IC	IC	IC
10 Jun 2020	IC	IC	IC	IC	IC	IC	IC	IC
17 Jun 2020	IC	IC	IC	IC	IC	IC	IC	IC
24 Jun 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.

<b>Date</b>	<b>D4</b>	<b>D5</b>	<b>D7</b>	<b>D8-B</b>	<b>D9</b>	<b>D10</b>	<b>D11</b>	<b>D12</b>
03 Jun 2020	IC	IC	IC	IC	IC	IC	IC	IC
10 Jun 2020	IC	IC	IC	IC	IC	IC	IC	IC
17 Jun 2020	IC	IC	IC	IC	IC	IC	IC	IC
24 Jun 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* (Entero) are reported as CFU/100 mL. The fecal:total coliform ratio (F:T) is unitless. Comments follow the data summary.

Station	Date	Time	Total	Fecal	Entero	F:T
D4	03 Jun 2020	1007	<20	2e	<2	0.10
D4	10 Jun 2020	809	<2	<2	<2	1.00
D4	17 Jun 2020	801	20e	<2	<2	0.10
D4	24 Jun 2020	819	<20	<2	<2	0.10
D5	03 Jun 2020	941	<20	2e	<2	0.10
D5	10 Jun 2020	758	<20	<2	<2	0.10
D5	17 Jun 2020	812	20e	40	2e	2.00
D5	24 Jun 2020	808	<20	<2	<2	0.10
D7	03 Jun 2020	917	<20	2e	<2	0.10
D7	10 Jun 2020	839	<20	<2	4e	0.10
D7	17 Jun 2020	848	<20	<2	<2	0.10
D7	24 Jun 2020	844	<20	6e	<2	0.30
D8-B	03 Jun 2020	903	<20	4e	4e	0.20
D8-B	10 Jun 2020	858	<20	<2	<2	0.10
D8-B	17 Jun 2020	907	<20	2e	2e	0.10
D8-B	24 Jun 2020	901	<20	8e	<2	0.40
D9	03 Jun 2020	851	20e	2e	<2	0.10
D9	10 Jun 2020	932	40e	14e	<2	0.35
D9	17 Jun 2020	922	200e	26e	<2	0.13
D9	24 Jun 2020	913	<20	2e	<2	0.10
D10	03 Jun 2020	838	80e	6e	4e	0.07
D10	10 Jun 2020	953	20e	20e	<2	1.00
D10	17 Jun 2020	936	40e	10e	<2	0.25
D10	24 Jun 2020	932	<20	6e	16e	0.30
D11	03 Jun 2020	824	20e	6e	2e	0.30
D11	10 Jun 2020	1003	<20	22e	4e	1.10
D11	17 Jun 2020	954	60e	6e	<2	0.10
D11	24 Jun 2020	1035	40	4e	4e	0.10
D12	03 Jun 2020	739	<20	2e	2e	0.10
D12	10 Jun 2020	1058	6e	2e	6e	0.33
D12	17 Jun 2020	1025	<20	2e	2e	0.10
D12	24 Jun 2020	1059	4e	2e	2e	0.50

ns = not sampled



**Table 2.9**

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

Station	Date	Parameter	Value
D4	03 Jun 2020	Arrive Time	1007
D4	03 Jun 2020	Weather	Partly Cloudy
D4	03 Jun 2020	Wind Speed (kts)	4.4
D4	03 Jun 2020	Wind Dir	W
D4	03 Jun 2020	Animal Life	3 Pelicans; 1 Seagull
D4	03 Jun 2020	Floatables	None
D4	03 Jun 2020	Water Color	Green
D4	03 Jun 2020	Current Direction	S
D4	03 Jun 2020	Water Temp (C)	22.3
D4	03 Jun 2020	Wave Height Low (ft)	3
D4	03 Jun 2020	High Tide (ft)	4.1
D4	03 Jun 2020	High Tide Time	814
D4	03 Jun 2020	Low Tide (ft)	0.9
D4	03 Jun 2020	Low Tide Time	1346
D4	03 Jun 2020	Comments	Kelp; Seagrass; Algae; Water clear
D4	10 Jun 2020	Arrive Time	809
D4	10 Jun 2020	Weather	Sunny
D4	10 Jun 2020	Wind Speed (kts)	0.7
D4	10 Jun 2020	Wind Dir	S
D4	10 Jun 2020	Animal Life	2 Pelicans; 30 Terns
D4	10 Jun 2020	Floatables	None
D4	10 Jun 2020	Water Color	Green
D4	10 Jun 2020	Current Direction	S
D4	10 Jun 2020	Water Temp (C)	21
D4	10 Jun 2020	Wave Height Low (ft)	1
D4	10 Jun 2020	High Tide (ft)	3.6
D4	10 Jun 2020	High Tide Time	1451
D4	10 Jun 2020	Low Tide (ft)	-0.2
D4	10 Jun 2020	Low Tide Time	751
D4	10 Jun 2020	Comments	Kelp; Seagrass; Algae; 1 Boat; Water clear
D4	17 Jun 2020	Arrive Time	801
D4	17 Jun 2020	Weather	Overcast
D4	17 Jun 2020	Wind Speed (kts)	6.3
D4	17 Jun 2020	Wind Dir	SW
D4	17 Jun 2020	Animal Life	2 Cormorants; 2 Pelicans; 6 Seagulls
D4	17 Jun 2020	Floatables	None
D4	17 Jun 2020	Water Color	Green
D4	17 Jun 2020	Current Direction	N
D4	17 Jun 2020	Water Temp (C)	20.2
D4	17 Jun 2020	Wave Height Low (ft)	3
D4	17 Jun 2020	High Tide (ft)	3.4
D4	17 Jun 2020	High Tide Time	758
D4	17 Jun 2020	Low Tide (ft)	1.7
D4	17 Jun 2020	Low Tide Time	1309
D4	17 Jun 2020	Comments	Algae; 1 Boat; Water clear
D4	24 Jun 2020	Arrive Time	819
D4	24 Jun 2020	Weather	Drizzle
D4	24 Jun 2020	Wind Speed (kts)	1.7

Station	Date	Parameter	Value
D4	24 Jun 2020	Wind Dir	W
D4	24 Jun 2020	Animal Life	3 Cormorants; 4 Terns
D4	24 Jun 2020	Floatables	None
D4	24 Jun 2020	Water Color	Blue
D4	24 Jun 2020	Current Direction	N
D4	24 Jun 2020	Water Temp (C)	20
D4	24 Jun 2020	Wave Height Low (ft)	1
D4	24 Jun 2020	High Tide (ft)	3.7
D4	24 Jun 2020	High Tide Time	1305
D4	24 Jun 2020	Low Tide (ft)	-0.7
D4	24 Jun 2020	Low Tide Time	627
D4	24 Jun 2020	Comments	Kelp; Seagrass; Algae; Water clear
D5	03 Jun 2020	Arrive Time	941
D5	03 Jun 2020	Weather	Partly Cloudy
D5	03 Jun 2020	Wind Speed (kts)	1.3
D5	03 Jun 2020	Wind Dir	E
D5	03 Jun 2020	Animal Life	1 Cormorant; 3 Seagulls
D5	03 Jun 2020	Floatables	Foam; Film
D5	03 Jun 2020	Water Color	Green
D5	03 Jun 2020	Current Direction	N
D5	03 Jun 2020	Water Temp (C)	20.9
D5	03 Jun 2020	Wave Height Low (ft)	1
D5	03 Jun 2020	High Tide (ft)	4.1
D5	03 Jun 2020	High Tide Time	814
D5	03 Jun 2020	Low Tide (ft)	0.9
D5	03 Jun 2020	Low Tide Time	1346
D5	03 Jun 2020	Comments	Kelp; Seagrass; Algae; 1 Boat; Water clear
D5	10 Jun 2020	Arrive Time	758
D5	10 Jun 2020	Weather	Sunny
D5	10 Jun 2020	Wind Speed (kts)	0
D5	10 Jun 2020	Wind Dir	
D5	10 Jun 2020	Animal Life	2 Seagulls; 25 Terns
D5	10 Jun 2020	Floatables	None
D5	10 Jun 2020	Water Color	Green
D5	10 Jun 2020	Current Direction	
D5	10 Jun 2020	Water Temp (C)	18.8
D5	10 Jun 2020	Wave Height Low (ft)	1
D5	10 Jun 2020	High Tide (ft)	3.6
D5	10 Jun 2020	High Tide Time	1451
D5	10 Jun 2020	Low Tide (ft)	-0.2
D5	10 Jun 2020	Low Tide Time	751
D5	10 Jun 2020	Comments	Kelp; Seagrass; Algae; Water clear
D5	17 Jun 2020	Arrive Time	812
D5	17 Jun 2020	Weather	Overcast
D5	17 Jun 2020	Wind Speed (kts)	4
D5	17 Jun 2020	Wind Dir	SW
D5	17 Jun 2020	Animal Life	1 Cormorant
D5	17 Jun 2020	Floatables	Foam
D5	17 Jun 2020	Water Color	Green
D5	17 Jun 2020	Current Direction	N
D5	17 Jun 2020	Water Temp (C)	21.1
D5	17 Jun 2020	Wave Height Low (ft)	2

Station	Date	Parameter	Value
D5	17 Jun 2020	High Tide (ft)	3.4
D5	17 Jun 2020	High Tide Time	758
D5	17 Jun 2020	Low Tide (ft)	1.7
D5	17 Jun 2020	Low Tide Time	1309
D5	17 Jun 2020	Comments	Sewage-like odor; Water clear
D5	24 Jun 2020	Arrive Time	808
D5	24 Jun 2020	Weather	Drizzle
D5	24 Jun 2020	Wind Speed (kts)	1.7
D5	24 Jun 2020	Wind Dir	W
D5	24 Jun 2020	Animal Life	4 Cormorants; 2 Seagulls
D5	24 Jun 2020	Floatables	None
D5	24 Jun 2020	Water Color	Green
D5	24 Jun 2020	Current Direction	N
D5	24 Jun 2020	Water Temp (C)	20.6
D5	24 Jun 2020	Wave Height Low (ft)	1
D5	24 Jun 2020	High Tide (ft)	3.7
D5	24 Jun 2020	High Tide Time	1305
D5	24 Jun 2020	Low Tide (ft)	-0.7
D5	24 Jun 2020	Low Tide Time	627
D5	24 Jun 2020	Comments	Kelp; Seagrass; Algae; Sewage-like odor; Water clear
D7	03 Jun 2020	Arrive Time	917
D7	03 Jun 2020	Weather	Sunny
D7	03 Jun 2020	Wind Speed (kts)	0.1
D7	03 Jun 2020	Wind Dir	W
D7	03 Jun 2020	Animal Life	None
D7	03 Jun 2020	Floatables	Foam; Film
D7	03 Jun 2020	Water Color	Green
D7	03 Jun 2020	Current Direction	W
D7	03 Jun 2020	Water Temp (C)	20.1
D7	03 Jun 2020	Wave Height Low (ft)	2
D7	03 Jun 2020	High Tide (ft)	4.1
D7	03 Jun 2020	High Tide Time	814
D7	03 Jun 2020	Low Tide (ft)	0.9
D7	03 Jun 2020	Low Tide Time	1346
D7	03 Jun 2020	Comments	Kelp; Seagrass; Algae; 5 Surfers; 1 Boat; Water clear
D7	10 Jun 2020	Arrive Time	839
D7	10 Jun 2020	Weather	Sunny
D7	10 Jun 2020	Wind Speed (kts)	1.1
D7	10 Jun 2020	Wind Dir	W
D7	10 Jun 2020	Animal Life	2 Shorebirds; 2 Seagulls; 5 Terns
D7	10 Jun 2020	Floatables	None
D7	10 Jun 2020	Water Color	Green
D7	10 Jun 2020	Current Direction	S
D7	10 Jun 2020	Water Temp (C)	20.5
D7	10 Jun 2020	Wave Height Low (ft)	3
D7	10 Jun 2020	High Tide (ft)	3.6
D7	10 Jun 2020	High Tide Time	1451
D7	10 Jun 2020	Low Tide (ft)	-0.2
D7	10 Jun 2020	Low Tide Time	751
D7	10 Jun 2020	Comments	Kelp; Seagrass; Algae; 25 Surfers; Water clear
D7	17 Jun 2020	Arrive Time	848

Station	Date	Parameter	Value
D7	17 Jun 2020	Weather	Overcast
D7	17 Jun 2020	Wind Speed (kts)	6.4
D7	17 Jun 2020	Wind Dir	SW
D7	17 Jun 2020	Animal Life	1 Cormorant
D7	17 Jun 2020	Floatables	Film
D7	17 Jun 2020	Water Color	Green
D7	17 Jun 2020	Current Direction	N
D7	17 Jun 2020	Water Temp (C)	21.8
D7	17 Jun 2020	Wave Height Low (ft)	2
D7	17 Jun 2020	High Tide (ft)	3.4
D7	17 Jun 2020	High Tide Time	758
D7	17 Jun 2020	Low Tide (ft)	1.7
D7	17 Jun 2020	Low Tide Time	1309
D7	17 Jun 2020	Comments	Algae; Water clear
D7	24 Jun 2020	Arrive Time	844
D7	24 Jun 2020	Weather	Cloudy
D7	24 Jun 2020	Wind Speed (kts)	0
D7	24 Jun 2020	Wind Dir	
D7	24 Jun 2020	Animal Life	1 Seagull
D7	24 Jun 2020	Floatables	None
D7	24 Jun 2020	Water Color	Blue
D7	24 Jun 2020	Current Direction	
D7	24 Jun 2020	Water Temp (C)	21.2
D7	24 Jun 2020	Wave Height Low (ft)	1
D7	24 Jun 2020	High Tide (ft)	3.7
D7	24 Jun 2020	High Tide Time	1305
D7	24 Jun 2020	Low Tide (ft)	-0.7
D7	24 Jun 2020	Low Tide Time	627
D7	24 Jun 2020	Comments	Kelp; Seagrass; Algae; 24 Surfers; Water clear
D8-B	03 Jun 2020	Arrive Time	903
D8-B	03 Jun 2020	Weather	Sunny
D8-B	03 Jun 2020	Wind Speed (kts)	2.5
D8-B	03 Jun 2020	Wind Dir	SW
D8-B	03 Jun 2020	Animal Life	None
D8-B	03 Jun 2020	Floatables	Foam
D8-B	03 Jun 2020	Water Color	Green
D8-B	03 Jun 2020	Current Direction	S
D8-B	03 Jun 2020	Water Temp (C)	21.1
D8-B	03 Jun 2020	Wave Height Low (ft)	2
D8-B	03 Jun 2020	High Tide (ft)	4.1
D8-B	03 Jun 2020	High Tide Time	814
D8-B	03 Jun 2020	Low Tide (ft)	0.9
D8-B	03 Jun 2020	Low Tide Time	1346
D8-B	03 Jun 2020	Comments	Algae; Water clear
D8-B	10 Jun 2020	Arrive Time	858
D8-B	10 Jun 2020	Weather	Sunny
D8-B	10 Jun 2020	Wind Speed (kts)	0.5
D8-B	10 Jun 2020	Wind Dir	W
D8-B	10 Jun 2020	Animal Life	1 Pelican; 3 Seagulls; 8 Terns
D8-B	10 Jun 2020	Floatables	None
D8-B	10 Jun 2020	Water Color	Brown
D8-B	10 Jun 2020	Current Direction	S

Station	Date	Parameter	Value
D8-B	10 Jun 2020	Water Temp (C)	20.5
D8-B	10 Jun 2020	Wave Height Low (ft)	2
D8-B	10 Jun 2020	High Tide (ft)	3.6
D8-B	10 Jun 2020	High Tide Time	1451
D8-B	10 Jun 2020	Low Tide (ft)	-0.2
D8-B	10 Jun 2020	Low Tide Time	751
D8-B	10 Jun 2020	Comments	Seagrass; Algae; 7 Surfers; 1 Boat; Water turbid
D8-B	17 Jun 2020	Arrive Time	907
D8-B	17 Jun 2020	Weather	Overcast
D8-B	17 Jun 2020	Wind Speed (kts)	5.4
D8-B	17 Jun 2020	Wind Dir	SW
D8-B	17 Jun 2020	Animal Life	None
D8-B	17 Jun 2020	Floatables	Foam
D8-B	17 Jun 2020	Water Color	Green
D8-B	17 Jun 2020	Current Direction	N
D8-B	17 Jun 2020	Water Temp (C)	21.8
D8-B	17 Jun 2020	Wave Height Low (ft)	3
D8-B	17 Jun 2020	High Tide (ft)	3.4
D8-B	17 Jun 2020	High Tide Time	758
D8-B	17 Jun 2020	Low Tide (ft)	1.7
D8-B	17 Jun 2020	Low Tide Time	1309
D8-B	17 Jun 2020	Comments	2 Persons; Water clear
D8-B	24 Jun 2020	Arrive Time	901
D8-B	24 Jun 2020	Weather	Cloudy
D8-B	24 Jun 2020	Wind Speed (kts)	1.1
D8-B	24 Jun 2020	Wind Dir	W
D8-B	24 Jun 2020	Animal Life	1 Seagull
D8-B	24 Jun 2020	Floatables	None
D8-B	24 Jun 2020	Water Color	Grey
D8-B	24 Jun 2020	Current Direction	
D8-B	24 Jun 2020	Water Temp (C)	21.3
D8-B	24 Jun 2020	Wave Height Low (ft)	1
D8-B	24 Jun 2020	High Tide (ft)	3.7
D8-B	24 Jun 2020	High Tide Time	1305
D8-B	24 Jun 2020	Low Tide (ft)	-0.7
D8-B	24 Jun 2020	Low Tide Time	627
D8-B	24 Jun 2020	Comments	Seagrass; Algae; 1 Person; 4 Surfers; Water clear
D9	03 Jun 2020	Arrive Time	851
D9	03 Jun 2020	Weather	Sunny
D9	03 Jun 2020	Wind Speed (kts)	1.9
D9	03 Jun 2020	Wind Dir	W
D9	03 Jun 2020	Animal Life	1 Seagull
D9	03 Jun 2020	Floatables	Foam; Film
D9	03 Jun 2020	Water Color	Green
D9	03 Jun 2020	Current Direction	N
D9	03 Jun 2020	Water Temp (C)	21
D9	03 Jun 2020	Wave Height Low (ft)	2
D9	03 Jun 2020	High Tide (ft)	4.1
D9	03 Jun 2020	High Tide Time	814
D9	03 Jun 2020	Low Tide (ft)	0.9
D9	03 Jun 2020	Low Tide Time	1346
D9	03 Jun 2020	Comments	Seagrass; Algae; 2 Boats; Water clear

Station	Date	Parameter	Value
D9	10 Jun 2020	Arrive Time	946
D9	10 Jun 2020	Weather	Sunny
D9	10 Jun 2020	Wind Speed (kts)	1.3
D9	10 Jun 2020	Wind Dir	NE
D9	10 Jun 2020	Animal Life	2 Shorebirds; 1 Dog; 1 Seagull; 2 Terns
D9	10 Jun 2020	Floatables	None
D9	10 Jun 2020	Water Color	Green
D9	10 Jun 2020	Current Direction	
D9	10 Jun 2020	Water Temp (C)	22
D9	10 Jun 2020	Wave Height Low (ft)	2
D9	10 Jun 2020	High Tide (ft)	3.6
D9	10 Jun 2020	High Tide Time	1451
D9	10 Jun 2020	Low Tide (ft)	-0.2
D9	10 Jun 2020	Low Tide Time	751
D9	10 Jun 2020	Comments	Kelp; Seagrass; 62 Persons; 49 Surfers; Water turbid; Not applicable
D9	17 Jun 2020	Arrive Time	922
D9	17 Jun 2020	Weather	Overcast
D9	17 Jun 2020	Wind Speed (kts)	1.7
D9	17 Jun 2020	Wind Dir	W
D9	17 Jun 2020	Animal Life	1 Seagull
D9	17 Jun 2020	Floatables	Foam; Film
D9	17 Jun 2020	Water Color	Green
D9	17 Jun 2020	Current Direction	N
D9	17 Jun 2020	Water Temp (C)	21.7
D9	17 Jun 2020	Wave Height Low (ft)	3
D9	17 Jun 2020	High Tide (ft)	3.4
D9	17 Jun 2020	High Tide Time	758
D9	17 Jun 2020	Low Tide (ft)	1.7
D9	17 Jun 2020	Low Tide Time	1309
D9	17 Jun 2020	Comments	Algae; Debris; 1 Person; Water clear
D9	24 Jun 2020	Arrive Time	913
D9	24 Jun 2020	Weather	Cloudy
D9	24 Jun 2020	Wind Speed (kts)	3.4
D9	24 Jun 2020	Wind Dir	W
D9	24 Jun 2020	Animal Life	2 Shorebirds; 2 Seagulls
D9	24 Jun 2020	Floatables	None
D9	24 Jun 2020	Water Color	Grey
D9	24 Jun 2020	Current Direction	N
D9	24 Jun 2020	Water Temp (C)	21
D9	24 Jun 2020	Wave Height Low (ft)	1
D9	24 Jun 2020	High Tide (ft)	3.7
D9	24 Jun 2020	High Tide Time	1305
D9	24 Jun 2020	Low Tide (ft)	-0.7
D9	24 Jun 2020	Low Tide Time	627
D9	24 Jun 2020	Comments	Seagrass; Algae; 3 Surfers; Water clear
D10	03 Jun 2020	Arrive Time	838
D10	03 Jun 2020	Weather	Sunny
D10	03 Jun 2020	Wind Speed (kts)	2.7
D10	03 Jun 2020	Wind Dir	W
D10	03 Jun 2020	Animal Life	3 Dogs

Station	Date	Parameter	Value
D10	03 Jun 2020	Floatables	Foam; Film
D10	03 Jun 2020	Water Color	Green
D10	03 Jun 2020	Current Direction	N
D10	03 Jun 2020	Water Temp (C)	21.1
D10	03 Jun 2020	Wave Height Low (ft)	3
D10	03 Jun 2020	High Tide (ft)	4.1
D10	03 Jun 2020	High Tide Time	814
D10	03 Jun 2020	Low Tide (ft)	0.9
D10	03 Jun 2020	Low Tide Time	1346
D10	03 Jun 2020	Comments	Kelp; Seagrass; 24 Persons; 21 Surfers; 4 Swimmers; Water clear
D10	10 Jun 2020	Arrive Time	953
D10	10 Jun 2020	Weather	Sunny
D10	10 Jun 2020	Wind Speed (kts)	1.3
D10	10 Jun 2020	Wind Dir	SW
D10	10 Jun 2020	Animal Life	2 Shorebirds; 1 Dog; 1 Seagull; 2 Terns
D10	10 Jun 2020	Floatables	None
D10	10 Jun 2020	Water Color	Brown
D10	10 Jun 2020	Current Direction	S
D10	10 Jun 2020	Water Temp (C)	22
D10	10 Jun 2020	Wave Height Low (ft)	2
D10	10 Jun 2020	High Tide (ft)	3.6
D10	10 Jun 2020	High Tide Time	1451
D10	10 Jun 2020	Low Tide (ft)	-0.2
D10	10 Jun 2020	Low Tide Time	751
D10	10 Jun 2020	Comments	Seagrass; Algae; 62 Persons; 49 Surfers; Water turbid
D10	17 Jun 2020	Arrive Time	936
D10	17 Jun 2020	Weather	Partly Cloudy
D10	17 Jun 2020	Wind Speed (kts)	4.4
D10	17 Jun 2020	Wind Dir	W
D10	17 Jun 2020	Animal Life	1 Seagull
D10	17 Jun 2020	Floatables	Foam; Film
D10	17 Jun 2020	Water Color	Green
D10	17 Jun 2020	Current Direction	N
D10	17 Jun 2020	Water Temp (C)	22.3
D10	17 Jun 2020	Wave Height Low (ft)	4
D10	17 Jun 2020	High Tide (ft)	3.4
D10	17 Jun 2020	High Tide Time	758
D10	17 Jun 2020	Low Tide (ft)	1.7
D10	17 Jun 2020	Low Tide Time	1309
D10	17 Jun 2020	Comments	Kelp; Seagrass; 9 Persons; 18 Surfers; 1 Swimmer; Water clear
D10	24 Jun 2020	Arrive Time	932
D10	24 Jun 2020	Weather	Cloudy
D10	24 Jun 2020	Wind Speed (kts)	2.3
D10	24 Jun 2020	Wind Dir	N
D10	24 Jun 2020	Animal Life	1 Seagull
D10	24 Jun 2020	Floatables	None
D10	24 Jun 2020	Water Color	Grey
D10	24 Jun 2020	Current Direction	N
D10	24 Jun 2020	Water Temp (C)	20.7
D10	24 Jun 2020	Wave Height Low (ft)	2
D10	24 Jun 2020	High Tide (ft)	3.7
D10	24 Jun 2020	High Tide Time	1305

Station	Date	Parameter	Value
D10	24 Jun 2020	Low Tide (ft)	-0.7
D10	24 Jun 2020	Low Tide Time	627
D10	24 Jun 2020	Comments	Kelp; Seagrass; 1 Jogger; 32 Persons; 45 Surfers; Water clear
D11	03 Jun 2020	Arrive Time	824
D11	03 Jun 2020	Weather	Sunny
D11	03 Jun 2020	Wind Speed (kts)	0
D11	03 Jun 2020	Wind Dir	
D11	03 Jun 2020	Animal Life	2 Dogs
D11	03 Jun 2020	Floatables	None
D11	03 Jun 2020	Water Color	Green
D11	03 Jun 2020	Current Direction	S
D11	03 Jun 2020	Water Temp (C)	21.1
D11	03 Jun 2020	Wave Height Low (ft)	2
D11	03 Jun 2020	High Tide (ft)	4.1
D11	03 Jun 2020	High Tide Time	814
D11	03 Jun 2020	Low Tide (ft)	0.9
D11	03 Jun 2020	Low Tide Time	1346
D11	03 Jun 2020	Comments	Kelp; Seagrass; 5 Persons; 18 Surfers; 1 Fisherman; Water clear
D11	10 Jun 2020	Arrive Time	1003
D11	10 Jun 2020	Weather	Sunny
D11	10 Jun 2020	Wind Speed (kts)	2.9
D11	10 Jun 2020	Wind Dir	NW
D11	10 Jun 2020	Animal Life	19 Dogs; 1 Tern
D11	10 Jun 2020	Floatables	None
D11	10 Jun 2020	Water Color	Green
D11	10 Jun 2020	Current Direction	S
D11	10 Jun 2020	Water Temp (C)	20.7
D11	10 Jun 2020	Wave Height Low (ft)	3
D11	10 Jun 2020	High Tide (ft)	3.6
D11	10 Jun 2020	High Tide Time	1451
D11	10 Jun 2020	Low Tide (ft)	-0.2
D11	10 Jun 2020	Low Tide Time	751
D11	10 Jun 2020	Comments	Kelp; Seagrass; 1 Jogger; 75 Persons; 36 Surfers; Water clear
D11	17 Jun 2020	Arrive Time	954
D11	17 Jun 2020	Weather	Partly Cloudy
D11	17 Jun 2020	Wind Speed (kts)	5
D11	17 Jun 2020	Wind Dir	W
D11	17 Jun 2020	Animal Life	2 Dogs
D11	17 Jun 2020	Floatables	Foam; Film
D11	17 Jun 2020	Water Color	Green
D11	17 Jun 2020	Current Direction	N
D11	17 Jun 2020	Water Temp (C)	22.5
D11	17 Jun 2020	Wave Height Low (ft)	4
D11	17 Jun 2020	High Tide (ft)	3.4
D11	17 Jun 2020	High Tide Time	758
D11	17 Jun 2020	Low Tide (ft)	1.7
D11	17 Jun 2020	Low Tide Time	1309
D11	17 Jun 2020	Comments	Kelp; Seagrass; 1 Jogger; 12 Persons; 8 Surfers; Water clear
D11	24 Jun 2020	Arrive Time	1035
D11	24 Jun 2020	Weather	Cloudy
D11	24 Jun 2020	Wind Speed (kts)	1.3



Station	Date	Parameter	Value
D11	24 Jun 2020	Wind Dir	W
D11	24 Jun 2020	Animal Life	2 Dogs; 4 Seagulls
D11	24 Jun 2020	Floatables	None
D11	24 Jun 2020	Water Color	Green
D11	24 Jun 2020	Current Direction	N
D11	24 Jun 2020	Water Temp (C)	20.9
D11	24 Jun 2020	Wave Height Low (ft)	2
D11	24 Jun 2020	High Tide (ft)	3.7
D11	24 Jun 2020	High Tide Time	1305
D11	24 Jun 2020	Low Tide (ft)	-0.7
D11	24 Jun 2020	Low Tide Time	627
D11	24 Jun 2020	Comments	Kelp; 1 Jogger; 38 Persons; 36 Surfers; Water clear
D12	03 Jun 2020	Arrive Time	739
D12	03 Jun 2020	Weather	Sunny
D12	03 Jun 2020	Wind Speed (kts)	3.8
D12	03 Jun 2020	Wind Dir	W
D12	03 Jun 2020	Animal Life	1 Dolphin; 12 Seagulls
D12	03 Jun 2020	Floatables	Foam
D12	03 Jun 2020	Water Color	Green
D12	03 Jun 2020	Current Direction	S
D12	03 Jun 2020	Water Temp (C)	21.5
D12	03 Jun 2020	Wave Height Low (ft)	2
D12	03 Jun 2020	High Tide (ft)	4.1
D12	03 Jun 2020	High Tide Time	814
D12	03 Jun 2020	Low Tide (ft)	-0.5
D12	03 Jun 2020	Low Tide Time	217
D12	03 Jun 2020	Comments	Kelp; Seagrass; 20 Persons; 7 Surfers; 1 Swimmer; Water clear; 4 Kayak
D12	10 Jun 2020	Arrive Time	1058
D12	10 Jun 2020	Weather	Sunny
D12	10 Jun 2020	Wind Speed (kts)	2.9
D12	10 Jun 2020	Wind Dir	W
D12	10 Jun 2020	Animal Life	5 Seagulls; 1 Tern
D12	10 Jun 2020	Floatables	None
D12	10 Jun 2020	Water Color	Green
D12	10 Jun 2020	Current Direction	S
D12	10 Jun 2020	Water Temp (C)	21.8
D12	10 Jun 2020	Wave Height Low (ft)	2
D12	10 Jun 2020	High Tide (ft)	3.6
D12	10 Jun 2020	High Tide Time	1451
D12	10 Jun 2020	Low Tide (ft)	-0.2
D12	10 Jun 2020	Low Tide Time	751
D12	10 Jun 2020	Comments	Kelp; 115 Persons; 4 Surfers; Water clear
D12	17 Jun 2020	Arrive Time	1025
D12	17 Jun 2020	Weather	Overcast
D12	17 Jun 2020	Wind Speed (kts)	6.4
D12	17 Jun 2020	Wind Dir	SW
D12	17 Jun 2020	Animal Life	5 Godwits; 1 Seagull; 1 Egret
D12	17 Jun 2020	Floatables	Foam
D12	17 Jun 2020	Water Color	Green
D12	17 Jun 2020	Current Direction	N
D12	17 Jun 2020	Water Temp (C)	22.7

Station	Date	Parameter	Value
D12	17 Jun 2020	Wave Height Low (ft)	2
D12	17 Jun 2020	High Tide (ft)	3.4
D12	17 Jun 2020	High Tide Time	758
D12	17 Jun 2020	Low Tide (ft)	1.7
D12	17 Jun 2020	Low Tide Time	1309
D12	17 Jun 2020	Comments	Kelp; Seagrass; 10 Persons; 1 Surfer; 2 Swimmers; Water clear
D12	24 Jun 2020	Arrive Time	1059
D12	24 Jun 2020	Weather	Cloudy
D12	24 Jun 2020	Wind Speed (kts)	3.4
D12	24 Jun 2020	Wind Dir	W
D12	24 Jun 2020	Animal Life	1 Pelican; 12 Seagulls
D12	24 Jun 2020	Floatables	None
D12	24 Jun 2020	Water Color	Green
D12	24 Jun 2020	Current Direction	N
D12	24 Jun 2020	Water Temp (C)	21.3
D12	24 Jun 2020	Wave Height Low (ft)	2
D12	24 Jun 2020	High Tide (ft)	3.7
D12	24 Jun 2020	High Tide Time	1305
D12	24 Jun 2020	Low Tide (ft)	-0.7
D12	24 Jun 2020	Low Tide Time	627
D12	24 Jun 2020	Comments	Kelp; 40 Persons; 5 Surfers; Water clear

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

\* Geometric mean calculated using n<5

**Table 3.2**

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

Date	A1	A6	A7	C4	C5	C6	C7	C8
01 Jun 2020	2*	3*	3*	2*	2*	2*	2*	2*
02 Jun 2020	2	3	2	2	2	2	2	2
03 Jun 2020	2	3	2	2	2	2	2	2
04 Jun 2020	2*	2*	2*	2*	2*	2*	2*	2*
05 Jun 2020	2*	2*	2*	2*	2*	2*	2*	2*
06 Jun 2020	2*	2*	2*	2*	2*	2*	2*	2*
07 Jun 2020	2*	2*	2*	2*	2*	2*	2*	2*
08 Jun 2020	2*	2*	2*	2*	2*	2*	2*	2*
09 Jun 2020	4	3	3	2	2	2	2	2
10 Jun 2020	4	3	3	2	2	2	2	2
11 Jun 2020	4*	4*	3*	2*	2*	2*	2*	2*
12 Jun 2020	4*	4*	3*	2*	2*	2*	2*	2*
13 Jun 2020	4*	4*	3*	2*	2*	2*	2*	2*
14 Jun 2020	4*	4*	3*	2*	2*	2*	2*	2*
15 Jun 2020	4*	4*	3*	2*	2*	2*	2*	2*
16 Jun 2020	4	3	3	2	2	2	2	3
17 Jun 2020	5*	4*	3*	2*	2*	2*	2*	3*
18 Jun 2020	5*	4*	3*	2*	2*	2*	2*	3*
19 Jun 2020	5*	4*	3*	2*	2*	2*	2*	3*
20 Jun 2020	5*	4*	3*	2*	2*	2*	2*	3*
21 Jun 2020	5*	4*	3*	2*	2*	2*	2*	3*
22 Jun 2020	5*	4*	3*	2*	2*	2*	2*	3*
23 Jun 2020	4	3	3	2	2	2	2	3
24 Jun 2020	4	3	3	2	2	2	2	3
25 Jun 2020	5*	4*	3*	2*	2*	2*	2*	3*
26 Jun 2020	5*	4*	3*	2*	2*	2*	2*	3*
27 Jun 2020	5*	4*	3*	2*	2*	2*	2*	3*
28 Jun 2020	5*	4*	3*	2*	2*	2*	2*	3*
29 Jun 2020	5*	4*	3*	2*	2*	2*	2*	3*
30 Jun 2020	4	3	3	2	2	2	2	3

\* Geometric mean calculated using n<5

**Table 3.3**

Summary of compliance with the Ocean Plan's 30-day Geometric Mean standard for *Enterococcus* at the PLOO kelp stations. Data are based on the geometric mean of the five most recent samples from each site over the previous 30 days unless otherwise noted (\*). Values >35 CFU/100 mL exceed the standard.

Date	A1	A6	A7	C4	C5	C6	C7	C8
01 Jun 2020	2*	2*	2*	2*	2*	2*	2*	2*
02 Jun 2020	2	2	2	2	2	2	2	2
03 Jun 2020	2	2	2	2	2	2	2	2
04 Jun 2020	2*	2*	2*	2*	2*	2*	2*	2*
05 Jun 2020	2*	2*	2*	2*	2*	2*	2*	2*
06 Jun 2020	2*	2*	2*	2*	2*	2*	2*	2*
07 Jun 2020	2*	2*	2*	2*	2*	2*	2*	2*
08 Jun 2020	2*	2*	2*	2*	2*	2*	2*	2*
09 Jun 2020	2	2	2	2	2	2	2	2
10 Jun 2020	2	2	2	2	2	2	2	2
11 Jun 2020	2*	2*	2*	2*	2*	2*	2*	2*
12 Jun 2020	2*	2*	2*	2*	2*	2*	2*	2*
13 Jun 2020	2*	2*	2*	2*	2*	2*	2*	2*
14 Jun 2020	2*	2*	2*	2*	2*	2*	2*	2*
15 Jun 2020	2*	2*	2*	2*	2*	2*	2*	2*
16 Jun 2020	2	2	2	2	2	2	2	2
17 Jun 2020	2*	2*	2*	2*	2*	2*	2*	3*
18 Jun 2020	2*	2*	2*	2*	2*	2*	2*	3*
19 Jun 2020	2*	2*	2*	2*	2*	2*	2*	3*
20 Jun 2020	2*	2*	2*	2*	2*	2*	2*	3*
21 Jun 2020	2*	2*	2*	2*	2*	2*	2*	3*
22 Jun 2020	2*	2*	2*	2*	2*	2*	2*	3*
23 Jun 2020	2	2	2	2	2	2	2	2
24 Jun 2020	2	2	2	2	2	2	2	2
25 Jun 2020	2*	2*	2*	2*	2*	2*	2*	3*
26 Jun 2020	2*	2*	2*	2*	2*	2*	2*	3*
27 Jun 2020	2*	2*	2*	2*	2*	2*	2*	3*
28 Jun 2020	2*	2*	2*	2*	2*	2*	2*	3*
29 Jun 2020	2*	2*	2*	2*	2*	2*	2*	3*
30 Jun 2020	2	2	2	2	2	2	2	2

\* Geometric mean calculated using n<5

**Table 3.4**

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

<b>Date</b>	<b>A1</b>	<b>A6</b>	<b>A7</b>	<b>C4</b>	<b>C5</b>	<b>C6</b>	<b>C7</b>	<b>C8</b>
02 Jun 2020	IC	IC	IC	IC	IC	IC	IC	IC
09 Jun 2020	IC	IC	IC	IC	IC	IC	IC	IC
16 Jun 2020	IC	IC	IC	IC	IC	IC	IC	IC
23 Jun 2020	IC	IC	IC	IC	IC	IC	IC	IC
30 Jun 2020	IC	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data



**Table 3.5**

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

<b>Date</b>	<b>A1</b>	<b>A6</b>	<b>A7</b>	<b>C4</b>	<b>C5</b>	<b>C6</b>	<b>C7</b>	<b>C8</b>
02 Jun 2020	IC	IC	IC	IC	IC	IC	IC	IC
09 Jun 2020	IC	IC	IC	IC	IC	IC	IC	IC
16 Jun 2020	IC	IC	IC	IC	IC	IC	IC	IC
23 Jun 2020	IC	IC	IC	IC	IC	IC	IC	IC
30 Jun 2020	IC	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

**Table 3.6**

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

<b>Date</b>	<b>A1</b>	<b>A6</b>	<b>A7</b>	<b>C4</b>	<b>C5</b>	<b>C6</b>	<b>C7</b>	<b>C8</b>
02 Jun 2020	IC	IC	IC	IC	IC	IC	IC	IC
09 Jun 2020	IC	IC	IC	IC	IC	IC	IC	IC
16 Jun 2020	IC	IC	IC	IC	IC	IC	IC	IC
23 Jun 2020	IC	IC	IC	IC	IC	IC	IC	IC
30 Jun 2020	IC	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

**Table 3.7**

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

<b>Date</b>	<b>A1</b>	<b>A6</b>	<b>A7</b>	<b>C4</b>	<b>C5</b>	<b>C6</b>	<b>C7</b>	<b>C8</b>
02 Jun 2020	IC	IC	IC	IC	IC	IC	IC	IC
09 Jun 2020	IC	IC	IC	IC	IC	IC	IC	IC
16 Jun 2020	IC	IC	IC	IC	IC	IC	IC	IC
23 Jun 2020	IC	IC	IC	IC	IC	IC	IC	IC
30 Jun 2020	IC	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

**Table 3.8**

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

Station	Date	Time	Depth	Total	Fecal	Entero	F:T	Temp	XMS	DO	Sal	pH
A1	02 Jun 2020	752	1	<2	<2	<2	1.00	17.8	76.88	7.1	33.68	8.1
A1	02 Jun 2020	752	12	2e	<2	<2	1.00	14.6	80.37	6.2	33.75	8.0
A1	02 Jun 2020	752	18	50	8e	4e	0.16	11.0	89.57	4.3	33.80	7.8
A1	09 Jun 2020	846	1	2e	<2	<2	1.00	17.3	78.12	7.5	33.60	8.0
A1	09 Jun 2020	846	12	40e	18e	<2	0.45	12.3	86.68	5.3	33.70	7.8
A1	09 Jun 2020	846	18	100e	44	2e	0.44	11.4	86.86	4.3	33.76	7.8
A1	16 Jun 2020	948	1	4e	4e	<2	1.00	19.6	83.30	8.0	33.68	8.2
A1	16 Jun 2020	948	12	<2	<2	<2	1.00	17.6	75.88	8.5	33.70	8.1
A1	16 Jun 2020	948	18	2e	<2	<2	1.00	15.3	76.91	7.5	33.82	8.1
A1	23 Jun 2020	754	1	<2	<2	<2	1.00	18.5	83.51	7.3	33.72	8.1
A1	23 Jun 2020	754	12	<2	<2	<2	1.00	12.0	87.16	5.2	33.71	7.9
A1	23 Jun 2020	754	18	4e	<2	<2	0.50	11.4	89.13	4.7	33.71	7.8
A1	30 Jun 2020	800	1	<2	<2	2e	1.00	18.1	77.96	8.6	33.66	8.2
A1	30 Jun 2020	800	12	<2	<2	<2	1.00	15.4	79.10	7.0	33.75	8.0
A1	30 Jun 2020	800	18	<2	<2	<2	1.00	12.8	80.39	5.9	33.72	7.9
A6	02 Jun 2020	823	1	<20	<2	<2	0.10	18.2	75.16	7.6	33.66	8.1
A6	02 Jun 2020	823	12	2e	<2	<2	1.00	12.6	85.90	5.4	33.76	7.9
A6	02 Jun 2020	823	18	40e	2e	<2	0.05	11.2	89.19	4.3	33.77	7.8
A6	09 Jun 2020	921	1	<2	<2	<2	1.00	18.1	76.99	8.2	33.62	8.1
A6	09 Jun 2020	921	12	42	6e	2e	0.14	13.2	86.21	5.5	33.69	7.9
A6	09 Jun 2020	921	18	300e	58	4e	0.19	11.9	85.03	4.7	33.79	7.8
A6	16 Jun 2020	828	1	<2	<2	<2	1.00	20.2	85.75	7.6	33.67	8.2
A6	16 Jun 2020	828	12	<2	<2	<2	1.00	16.0	78.48	7.2	33.82	8.1
A6	16 Jun 2020	828	18	<2	<2	<2	1.00	13.4	85.16	5.9	33.79	7.9
A6	23 Jun 2020	819	1	<2	<2	<2	1.00	19.3	75.16	7.5	33.69	8.2
A6	23 Jun 2020	819	12	2e	<2	<2	1.00	11.4	89.59	4.7	33.77	7.8
A6	23 Jun 2020	819	18	6e	4e	4e	0.67	11.1	88.79	4.3	33.75	7.8
A6	30 Jun 2020	833	1	<2	<2	<2	1.00	19.1	79.74	8.1	33.69	8.2
A6	30 Jun 2020	833	12	<2	<2	<2	1.00	16.8	74.29	8.2	33.69	8.1
A6	30 Jun 2020	833	18	2e	<2	<2	1.00	14.3	78.68	7.2	33.69	8.0
A7	02 Jun 2020	807	1	<2	<2	<2	1.00	18.1	75.41	7.5	33.67	8.1
A7	02 Jun 2020	807	12	2e	<2	<2	1.00	14.0	80.26	6.1	33.86	8.0
A7	02 Jun 2020	807	18	20e	<2	<2	0.10	11.0	89.41	4.2	33.81	7.8
A7	09 Jun 2020	903	1	<2	<2	<2	1.00	17.9	77.82	7.6	33.62	8.1
A7	09 Jun 2020	903	12	80e	16e	2e	0.20	13.0	86.19	5.5	33.69	7.9
A7	09 Jun 2020	903	18	190	16e	<4	0.08	11.7	85.89	4.4	33.75	7.8

Station	Date	Time	Depth	Total	Fecal	Entero	F:T	Temp	XMS	DO	Sal	pH
A7	16 Jun 2020	817	1	<2	<2	<2	1.00	20.1	84.67	7.7	33.67	8.1
A7	16 Jun 2020	817	12	<2	<2	<2	1.00	14.9	76.10	7.3	33.71	8.0
A7	16 Jun 2020	817	18	<2	<2	<2	1.00	12.7	83.25	5.9	33.75	7.9
A7	23 Jun 2020	807	1	<2	<2	<2	1.00	19.4	85.21	7.5	33.67	8.1
A7	23 Jun 2020	807	12	<2	<2	<2	1.00	12.0	88.54	4.9	33.74	7.9
A7	23 Jun 2020	807	18	<2	<2	<2	1.00	11.5	89.26	4.4	33.72	7.8
A7	30 Jun 2020	819	1	<2	<2	<2	1.00	18.6	80.48	8.3	33.67	8.2
A7	30 Jun 2020	819	12	2e	<2	<2	1.00	16.1	78.51	7.7	33.76	8.1
A7	30 Jun 2020	819	18	<2	<2	<2	1.00	12.8	81.08	6.3	33.78	7.9
C4	02 Jun 2020	945	1	<2	<2	<2	1.00	18.0	72.31	7.6	33.66	8.1
C4	02 Jun 2020	945	3	20e	2e	<2	0.10	17.6	63.95	7.3	33.71	8.1
C4	02 Jun 2020	945	9	<20	2e	<2	0.10	12.6	82.75	4.8	33.73	7.9
C4	09 Jun 2020	1059	1	<2	<2	2e	1.00	18.1	77.42	7.5	33.65	8.1
C4	09 Jun 2020	1059	3	<2	<2	<2	1.00	17.5	76.33	7.5	33.66	8.1
C4	09 Jun 2020	1059	9	<2	<2	<2	1.00	14.1	80.99	5.8	33.80	7.9
C4	16 Jun 2020	939	1	2e	<2	<2	1.00	20.0	84.78	7.8	33.66	8.2
C4	16 Jun 2020	939	3	<2	<2	<2	1.00	20.0	84.85	7.7	33.67	8.2
C4	16 Jun 2020	939	9	<2	<2	<2	1.00	16.5	82.70	6.4	33.84	8.0
C4	23 Jun 2020	949	1	<2	<2	<2	1.00	19.3	80.04	7.7	33.69	8.2
C4	23 Jun 2020	949	3	<2	<2	<2	1.00	19.3	83.20	7.7	33.70	8.2
C4	23 Jun 2020	949	9	<2	<2	<2	1.00	12.7	83.64	4.1	33.74	7.8
C4	30 Jun 2020	936	1	<20	2e	<2	0.10	18.2	69.34	7.7	33.67	8.1
C4	30 Jun 2020	936	3	<20	2e	<2	0.10	17.8	66.05	8.0	33.67	8.1
C4	30 Jun 2020	936	9	<20	<2	<2	0.10	17.4	71.82	7.6	33.68	8.1
C5	02 Jun 2020	931	1	<20	<2	<2	0.10	18.0	73.97	7.4	33.67	8.1
C5	02 Jun 2020	931	3	<20	<2	<2	0.10	17.3	73.94	7.0	33.69	8.1
C5	02 Jun 2020	931	9	4e	<2	<2	0.50	12.9	75.76	5.2	33.67	7.9
C5	09 Jun 2020	1046	1	<2	<2	<2	1.00	17.9	75.79	7.6	33.65	8.1
C5	09 Jun 2020	1046	3	<2	<2	<2	1.00	17.2	75.24	7.1	33.71	8.1
C5	09 Jun 2020	1046	9	2e	2e	<2	1.00	13.3	73.46	5.2	33.70	7.9
C5	16 Jun 2020	928	1	<2	<2	<2	1.00	20.1	85.42	7.9	33.66	8.2
C5	16 Jun 2020	928	3	<2	<2	<2	1.00	20.1	85.42	7.9	33.67	8.2
C5	16 Jun 2020	928	9	2e	<2	<2	1.00	15.8	84.97	6.6	33.83	8.0
C5	23 Jun 2020	934	1	<2	<2	<2	1.00	19.4	80.40	7.7	33.64	8.2
C5	23 Jun 2020	934	3	<2	<2	<2	1.00	19.3	82.40	7.6	33.71	8.2
C5	23 Jun 2020	934	9	<2	<2	<2	1.00	13.3	85.46	5.6	33.81	7.9
C5	30 Jun 2020	927	1	4e	2e	<2	0.50	18.7	78.42	8.1	33.68	8.2
C5	30 Jun 2020	927	3	<2	<2	<2	1.00	18.5	77.87	8.2	33.68	8.2
C5	30 Jun 2020	927	9	<2	<2	<2	1.00	15.0	81.86	6.5	33.74	8.0
C6	02 Jun 2020	921	1	<20	<2	<2	0.10	18.4	74.61	7.4	33.57	8.1
C6	02 Jun 2020	921	3	<20	<2	<2	0.10	17.8	73.59	7.0	33.71	8.1

Station	Date	Time	Depth	Total	Fecal	Entero	F:T	Temp	XMS	DO	Sal	pH
C6	02 Jun 2020	921	9	<20	<2	<2	0.10	13.1	81.64	5.4	33.69	7.9
C6	09 Jun 2020	1031	1	<2	<2	<2	1.00	18.2	72.70	7.8	33.62	8.1
C6	09 Jun 2020	1031	3	2e	<2	<2	1.00	17.6	73.94	7.2	33.67	8.1
C6	09 Jun 2020	1031	9	8e	2e	<2	0.25	13.0	82.76	5.3	33.72	7.9
C6	16 Jun 2020	915	1	<2	2e	<2	1.00	20.2	84.28	8.0	33.67	8.2
C6	16 Jun 2020	915	3	<2	<2	<2	1.00	20.2	84.24	7.9	33.67	8.2
C6	16 Jun 2020	915	9	<20	<2	<2	0.10	16.3	81.68	7.3	34.03	8.1
C6	23 Jun 2020	912	1	<2	<2	<2	1.00	19.4	82.19	7.6	33.67	8.2
C6	23 Jun 2020	912	3	<200	<2	<2	0.01	19.3	79.66	7.5	33.70	8.2
C6	23 Jun 2020	912	9	<2	<2	<2	1.00	14.4	85.63	5.6	33.80	7.9
C6	30 Jun 2020	916	1	<2	<2	<2	1.00	18.6	78.87	8.0	33.67	8.2
C6	30 Jun 2020	916	3	<20	<2	<2	0.10	18.4	79.18	8.1	33.70	8.2
C6	30 Jun 2020	916	9	<2	<2	<2	1.00	15.2	79.27	6.8	33.86	8.0
C7	02 Jun 2020	839	1	<2	<2	<2	1.00	18.4	68.52	7.1	33.65	8.1
C7	02 Jun 2020	839	12	<2	<2	<2	1.00	12.2	88.82	5.4	33.66	7.9
C7	02 Jun 2020	839	18	<20	2e	<2	0.10	11.2	89.12	4.3	33.76	7.8
C7	09 Jun 2020	944	1	<2	<2	<2	1.00	17.9	73.61	7.6	33.64	8.1
C7	09 Jun 2020	944	12	2e	<2	<2	1.00	14.0	85.05	6.4	33.65	8.0
C7	09 Jun 2020	944	18	8e	<2	<2	0.25	13.0	86.49	5.8	33.67	7.9
C7	16 Jun 2020	843	1	<2	<2	<2	1.00	20.3	83.78	7.8	33.67	8.2
C7	16 Jun 2020	843	12	<2	<2	<2	1.00	15.8	77.50	8.1	33.70	8.1
C7	16 Jun 2020	843	18	<2	<2	<2	1.00	12.2	87.84	5.5	33.77	7.9
C7	23 Jun 2020	836	1	<2	<2	<2	1.00	19.6	78.97	7.7	33.70	8.2
C7	23 Jun 2020	836	12	<2	<2	<2	1.00	13.3	82.53	6.3	33.80	8.0
C7	23 Jun 2020	836	18	<2	<2	<2	1.00	12.0	88.65	5.0	33.70	7.9
C7	30 Jun 2020	848	1	<2	<2	<2	1.00	19.1	77.40	8.4	33.72	8.2
C7	30 Jun 2020	848	12	<2	<2	<2	1.00	15.8	73.85	8.1	33.67	8.1
C7	30 Jun 2020	848	18	<2	<2	<2	1.00	13.3	83.49	5.4	33.75	7.9
C8	02 Jun 2020	857	1	<2	<2	<2	1.00	18.2	58.24	7.3	33.63	8.1
C8	02 Jun 2020	857	12	<2	2e	<2	1.00	12.4	87.47	5.4	33.66	7.9
C8	02 Jun 2020	857	18	8e	2e	<2	0.25	11.2	89.21	4.3	33.76	7.8
C8	09 Jun 2020	1007	1	<2	<2	<2	1.00	18.4	76.80	7.6	33.66	8.1
C8	09 Jun 2020	1007	12	<2	<2	<2	1.00	13.6	85.92	6.1	33.66	8.0
C8	09 Jun 2020	1007	18	6e	<2	<2	0.33	12.3	86.07	5.2	33.76	7.9
C8	16 Jun 2020	853	1	56	24e	12e	0.43	20.2	87.75	7.6	33.66	8.2
C8	16 Jun 2020	853	12	<2	2e	<2	1.00	14.3	76.12	6.8	33.86	8.1
C8	16 Jun 2020	853	18	2e	<2	2e	1.00	12.0	87.14	5.2	33.74	7.9
C8	23 Jun 2020	851	1	<20	<2	<2	0.10	19.7	74.86	7.5	33.71	8.2
C8	23 Jun 2020	851	12	<20	<2	<2	0.10	14.5	77.52	6.5	33.74	8.0
C8	23 Jun 2020	851	18	2e	2e	<2	1.00	12.1	88.03	4.8	33.75	7.9
C8	30 Jun 2020	900	1	<2	<2	<2	1.00	19.3	79.76	8.1	33.69	8.2

Station	Date	Time	Depth	Total	Fecal	Enterococci	F:T	Temp	XMS	DO	Sal	pH
C8	30 Jun 2020	900	12	<2	<2	<2	1.00	15.3	73.94	8.0	33.67	8.1
C8	30 Jun 2020	900	18	<2	<2	<2	1.00	13.8	76.17	6.8	33.80	8.0

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 Jun 2020	Depth (m)	18
A1	02 Jun 2020	Arrive Time	752
A1	02 Jun 2020	Depart Time	758
A1	02 Jun 2020	Air Temp (C)	18
A1	02 Jun 2020	Weather	Partly Cloudy
A1	02 Jun 2020	Visibility (mi)	5
A1	02 Jun 2020	Wind Speed (kts)	2
A1	02 Jun 2020	Wind Dir	SW
A1	02 Jun 2020	Water Color	Green
A1	02 Jun 2020	Wave Ht Low (ft)	3
A1	02 Jun 2020	Wave Period (sec)	9
A1	02 Jun 2020	Sea State	Calm
A1	02 Jun 2020	High Tide (ft)	4.07
A1	02 Jun 2020	High Tide Time	715
A1	02 Jun 2020	Low Tide (ft)	0.64
A1	02 Jun 2020	Low Tide Time	1303
A1	02 Jun 2020	Comments	Kelp; Sea lion on station
A1	09 Jun 2020	Depth (m)	20
A1	09 Jun 2020	Arrive Time	846
A1	09 Jun 2020	Depart Time	851
A1	09 Jun 2020	Air Temp (C)	20
A1	09 Jun 2020	Weather	Clear
A1	09 Jun 2020	Visibility (mi)	12
A1	09 Jun 2020	Wind Speed (kts)	4
A1	09 Jun 2020	Wind Dir	NE
A1	09 Jun 2020	Water Color	Green
A1	09 Jun 2020	Wave Ht Low (ft)	5
A1	09 Jun 2020	Wave Period (sec)	16
A1	09 Jun 2020	Sea State	Calm
A1	09 Jun 2020	High Tide (ft)	3.56
A1	09 Jun 2020	High Tide Time	1345
A1	09 Jun 2020	Low Tide (ft)	-0.63
A1	09 Jun 2020	Low Tide Time	659
A1	09 Jun 2020	Comments	Boats; Kelp debris
A1	16 Jun 2020	Depth (m)	18
A1	16 Jun 2020	Arrive Time	948
A1	16 Jun 2020	Depart Time	950
A1	16 Jun 2020	Air Temp (C)	17
A1	16 Jun 2020	Weather	Continuous layer of clouds
A1	16 Jun 2020	Visibility (mi)	6
A1	16 Jun 2020	Wind Speed (kts)	8
A1	16 Jun 2020	Wind Dir	SE
A1	16 Jun 2020	Water Color	Green
A1	16 Jun 2020	Wave Ht Low (ft)	2
A1	16 Jun 2020	Wave Period (sec)	9
A1	16 Jun 2020	Sea State	Confused swell
A1	16 Jun 2020	High Tide (ft)	3.31
A1	16 Jun 2020	High Tide Time	708
A1	16 Jun 2020	Low Tide (ft)	1.5



Station	Date	Parameter	Value
A1	16 Jun 2020	Low Tide Time	1234
A1	16 Jun 2020	Comments	Kelp
A1	23 Jun 2020	Depth (m)	19
A1	23 Jun 2020	Arrive Time	754
A1	23 Jun 2020	Depart Time	757
A1	23 Jun 2020	Air Temp (C)	18
A1	23 Jun 2020	Weather	Fog
A1	23 Jun 2020	Visibility (mi)	1
A1	23 Jun 2020	Wind Speed (kts)	9
A1	23 Jun 2020	Wind Dir	W
A1	23 Jun 2020	Water Color	Green
A1	23 Jun 2020	Wave Ht Low (ft)	4
A1	23 Jun 2020	Wave Period (sec)	13
A1	23 Jun 2020	Sea State	Calm
A1	23 Jun 2020	High Tide (ft)	3.6
A1	23 Jun 2020	High Tide Time	1215
A1	23 Jun 2020	Low Tide (ft)	-0.88
A1	23 Jun 2020	Low Tide Time	544
A1	23 Jun 2020	Comments	Kelp; Boats
A6	02 Jun 2020	Depth (m)	8
A6	02 Jun 2020	Arrive Time	823
A6	02 Jun 2020	Depart Time	826
A6	02 Jun 2020	Air Temp (C)	18
A6	02 Jun 2020	Weather	Partly Cloudy
A6	02 Jun 2020	Visibility (mi)	5
A6	02 Jun 2020	Wind Speed (kts)	3
A6	02 Jun 2020	Wind Dir	SW
A6	02 Jun 2020	Water Color	Green
A6	02 Jun 2020	Wave Ht Low (ft)	3
A6	02 Jun 2020	Wave Period (sec)	9
A6	02 Jun 2020	Sea State	Calm
A6	02 Jun 2020	High Tide (ft)	4.07
A6	02 Jun 2020	High Tide Time	715
A6	02 Jun 2020	Low Tide (ft)	0.64
A6	02 Jun 2020	Low Tide Time	1303
A6	02 Jun 2020	Comments	Kelp
A6	09 Jun 2020	Depth (m)	18
A6	09 Jun 2020	Arrive Time	921
A6	09 Jun 2020	Depart Time	925
A6	09 Jun 2020	Air Temp (C)	20
A6	09 Jun 2020	Weather	Clear
A6	09 Jun 2020	Visibility (mi)	12
A6	09 Jun 2020	Wind Speed (kts)	3
A6	09 Jun 2020	Wind Dir	N
A6	09 Jun 2020	Water Color	Green
A6	09 Jun 2020	Wave Ht Low (ft)	5
A6	09 Jun 2020	Wave Period (sec)	16
A6	09 Jun 2020	Sea State	Calm
A6	09 Jun 2020	High Tide (ft)	3.56
A6	09 Jun 2020	High Tide Time	1345
A6	09 Jun 2020	Low Tide (ft)	-0.63
A6	09 Jun 2020	Low Tide Time	659

Station	Date	Parameter	Value
A6	09 Jun 2020	Comments	Kelp
A6	16 Jun 2020	Depth (m)	18
A6	16 Jun 2020	Arrive Time	828
A6	16 Jun 2020	Depart Time	831
A6	16 Jun 2020	Air Temp (C)	17
A6	16 Jun 2020	Weather	Continuous layer of clouds
A6	16 Jun 2020	Visibility (mi)	7
A6	16 Jun 2020	Wind Speed (kts)	10
A6	16 Jun 2020	Wind Dir	SE
A6	16 Jun 2020	Water Color	Greenish-Blue
A6	16 Jun 2020	Wave Ht Low (ft)	2
A6	16 Jun 2020	Wave Period (sec)	9
A6	16 Jun 2020	Sea State	Confused swell
A6	16 Jun 2020	High Tide (ft)	3.31
A6	16 Jun 2020	High Tide Time	708
A6	16 Jun 2020	Low Tide (ft)	1.5
A6	16 Jun 2020	Low Tide Time	1234
A6	16 Jun 2020	Comments	Kelp; Kelp debris
A6	23 Jun 2020	Depth (m)	18
A6	23 Jun 2020	Arrive Time	819
A6	23 Jun 2020	Depart Time	826
A6	23 Jun 2020	Air Temp (C)	18
A6	23 Jun 2020	Weather	Fog
A6	23 Jun 2020	Visibility (mi)	2
A6	23 Jun 2020	Wind Speed (kts)	8
A6	23 Jun 2020	Wind Dir	NW
A6	23 Jun 2020	Water Color	Green
A6	23 Jun 2020	Wave Ht Low (ft)	4
A6	23 Jun 2020	Wave Period (sec)	13
A6	23 Jun 2020	Sea State	Calm
A6	23 Jun 2020	High Tide (ft)	3.6
A6	23 Jun 2020	High Tide Time	1215
A6	23 Jun 2020	Low Tide (ft)	-0.88
A6	23 Jun 2020	Low Tide Time	544
A6	23 Jun 2020	Comments	Kelp; Boats
A7	02 Jun 2020	Depth (m)	19
A7	02 Jun 2020	Arrive Time	807
A7	02 Jun 2020	Depart Time	813
A7	02 Jun 2020	Air Temp (C)	18
A7	02 Jun 2020	Weather	Partly Cloudy
A7	02 Jun 2020	Visibility (mi)	5
A7	02 Jun 2020	Wind Speed (kts)	2
A7	02 Jun 2020	Wind Dir	SW
A7	02 Jun 2020	Water Color	Green
A7	02 Jun 2020	Wave Ht Low (ft)	3
A7	02 Jun 2020	Wave Period (sec)	9
A7	02 Jun 2020	Sea State	Calm
A7	02 Jun 2020	High Tide (ft)	4.07
A7	02 Jun 2020	High Tide Time	715
A7	02 Jun 2020	Low Tide (ft)	0.64
A7	02 Jun 2020	Low Tide Time	1303
A7	02 Jun 2020	Comments	Kelp

Station	Date	Parameter	Value
A7	09 Jun 2020	Depth (m)	19
A7	09 Jun 2020	Arrive Time	903
A7	09 Jun 2020	Depart Time	908
A7	09 Jun 2020	Air Temp (C)	20
A7	09 Jun 2020	Weather	Clear
A7	09 Jun 2020	Visibility (mi)	12
A7	09 Jun 2020	Wind Speed (kts)	1
A7	09 Jun 2020	Wind Dir	SW
A7	09 Jun 2020	Water Color	Green
A7	09 Jun 2020	Wave Ht Low (ft)	5
A7	09 Jun 2020	Wave Period (sec)	16
A7	09 Jun 2020	Sea State	Calm
A7	09 Jun 2020	High Tide (ft)	3.56
A7	09 Jun 2020	High Tide Time	1345
A7	09 Jun 2020	Low Tide (ft)	-0.63
A7	09 Jun 2020	Low Tide Time	659
A7	09 Jun 2020	Comments	Boats; Kelp
A7	16 Jun 2020	Depth (m)	19
A7	16 Jun 2020	Arrive Time	817
A7	16 Jun 2020	Depart Time	821
A7	16 Jun 2020	Air Temp (C)	17
A7	16 Jun 2020	Weather	Continuous layer of clouds
A7	16 Jun 2020	Visibility (mi)	7
A7	16 Jun 2020	Wind Speed (kts)	9
A7	16 Jun 2020	Wind Dir	SE
A7	16 Jun 2020	Water Color	Greenish-Blue
A7	16 Jun 2020	Wave Ht Low (ft)	2
A7	16 Jun 2020	Wave Period (sec)	9
A7	16 Jun 2020	Sea State	Confused swell
A7	16 Jun 2020	High Tide (ft)	3.31
A7	16 Jun 2020	High Tide Time	708
A7	16 Jun 2020	Low Tide (ft)	1.5
A7	16 Jun 2020	Low Tide Time	1234
A7	16 Jun 2020	Comments	Kelp; Sport fishing boat on station; Kelp debris
A7	23 Jun 2020	Depth (m)	19
A7	23 Jun 2020	Arrive Time	807
A7	23 Jun 2020	Depart Time	810
A7	23 Jun 2020	Air Temp (C)	18
A7	23 Jun 2020	Weather	Fog
A7	23 Jun 2020	Visibility (mi)	2
A7	23 Jun 2020	Wind Speed (kts)	7
A7	23 Jun 2020	Wind Dir	NW
A7	23 Jun 2020	Water Color	Green
A7	23 Jun 2020	Wave Ht Low (ft)	4
A7	23 Jun 2020	Wave Period (sec)	13
A7	23 Jun 2020	Sea State	Calm
A7	23 Jun 2020	High Tide (ft)	3.6
A7	23 Jun 2020	High Tide Time	1215
A7	23 Jun 2020	Low Tide (ft)	-0.88
A7	23 Jun 2020	Low Tide Time	544
A7	23 Jun 2020	Comments	Kelp

Station	Date	Parameter	Value
C4	02 Jun 2020	Depth (m)	10
C4	02 Jun 2020	Arrive Time	945
C4	02 Jun 2020	Depart Time	952
C4	02 Jun 2020	Air Temp (C)	18
C4	02 Jun 2020	Weather	Partly Cloudy
C4	02 Jun 2020	Visibility (mi)	7
C4	02 Jun 2020	Wind Speed (kts)	3
C4	02 Jun 2020	Wind Dir	SW
C4	02 Jun 2020	Water Color	Green
C4	02 Jun 2020	Wave Ht Low (ft)	3
C4	02 Jun 2020	Wave Period (sec)	9
C4	02 Jun 2020	Sea State	Calm
C4	02 Jun 2020	High Tide (ft)	4.07
C4	02 Jun 2020	High Tide Time	715
C4	02 Jun 2020	Low Tide (ft)	0.64
C4	02 Jun 2020	Low Tide Time	1303
C4	02 Jun 2020	Comments	Boats; Kelp debris
C4	09 Jun 2020	Depth (m)	9
C4	09 Jun 2020	Arrive Time	1059
C4	09 Jun 2020	Depart Time	1101
C4	09 Jun 2020	Air Temp (C)	20
C4	09 Jun 2020	Weather	Clear
C4	09 Jun 2020	Visibility (mi)	12
C4	09 Jun 2020	Wind Speed (kts)	7
C4	09 Jun 2020	Wind Dir	NW
C4	09 Jun 2020	Water Color	Green
C4	09 Jun 2020	Wave Ht Low (ft)	5
C4	09 Jun 2020	Wave Period (sec)	16
C4	09 Jun 2020	Sea State	Calm
C4	09 Jun 2020	High Tide (ft)	3.56
C4	09 Jun 2020	High Tide Time	1345
C4	09 Jun 2020	Low Tide (ft)	-0.63
C4	09 Jun 2020	Low Tide Time	659
C4	09 Jun 2020	Comments	Boats
C4	16 Jun 2020	Depth (m)	10
C4	16 Jun 2020	Arrive Time	939
C4	16 Jun 2020	Depart Time	942
C4	16 Jun 2020	Air Temp (C)	17
C4	16 Jun 2020	Weather	Continuous layer of clouds
C4	16 Jun 2020	Visibility (mi)	6
C4	16 Jun 2020	Wind Speed (kts)	6
C4	16 Jun 2020	Wind Dir	SE
C4	16 Jun 2020	Water Color	Green
C4	16 Jun 2020	Wave Ht Low (ft)	2
C4	16 Jun 2020	Wave Period (sec)	9
C4	16 Jun 2020	Sea State	Confused swell
C4	16 Jun 2020	High Tide (ft)	3.31
C4	16 Jun 2020	High Tide Time	708
C4	16 Jun 2020	Low Tide (ft)	1.5
C4	16 Jun 2020	Low Tide Time	1234
C4	16 Jun 2020	Comments	Kelp
C4	23 Jun 2020	Depth (m)	11

Station	Date	Parameter	Value
C4	23 Jun 2020	Arrive Time	949
C4	23 Jun 2020	Depart Time	952
C4	23 Jun 2020	Air Temp (C)	18
C4	23 Jun 2020	Weather	Partly Cloudy
C4	23 Jun 2020	Visibility (mi)	7
C4	23 Jun 2020	Wind Speed (kts)	8
C4	23 Jun 2020	Wind Dir	NW
C4	23 Jun 2020	Water Color	Green
C4	23 Jun 2020	Wave Ht Low (ft)	4
C4	23 Jun 2020	Wave Period (sec)	13
C4	23 Jun 2020	Sea State	Calm
C4	23 Jun 2020	High Tide (ft)	3.6
C4	23 Jun 2020	High Tide Time	1215
C4	23 Jun 2020	Low Tide (ft)	-0.88
C4	23 Jun 2020	Low Tide Time	544
C4	23 Jun 2020	Comments	Kelp debris
C5	02 Jun 2020	Depth (m)	10
C5	02 Jun 2020	Arrive Time	931
C5	02 Jun 2020	Depart Time	935
C5	02 Jun 2020	Air Temp (C)	18
C5	02 Jun 2020	Weather	Partly Cloudy
C5	02 Jun 2020	Visibility (mi)	7
C5	02 Jun 2020	Wind Speed (kts)	1
C5	02 Jun 2020	Wind Dir	S
C5	02 Jun 2020	Water Color	Green
C5	02 Jun 2020	Wave Ht Low (ft)	3
C5	02 Jun 2020	Wave Period (sec)	9
C5	02 Jun 2020	Sea State	Calm
C5	02 Jun 2020	High Tide (ft)	4.07
C5	02 Jun 2020	High Tide Time	715
C5	02 Jun 2020	Low Tide (ft)	0.64
C5	02 Jun 2020	Low Tide Time	1303
C5	02 Jun 2020	Comments	Kelp
C5	09 Jun 2020	Depth (m)	10
C5	09 Jun 2020	Arrive Time	1046
C5	09 Jun 2020	Depart Time	1051
C5	09 Jun 2020	Air Temp (C)	20
C5	09 Jun 2020	Weather	Clear
C5	09 Jun 2020	Visibility (mi)	12
C5	09 Jun 2020	Wind Speed (kts)	7
C5	09 Jun 2020	Wind Dir	N
C5	09 Jun 2020	Water Color	Green
C5	09 Jun 2020	Wave Ht Low (ft)	5
C5	09 Jun 2020	Wave Period (sec)	16
C5	09 Jun 2020	Sea State	Calm
C5	09 Jun 2020	High Tide (ft)	3.56
C5	09 Jun 2020	High Tide Time	1345
C5	09 Jun 2020	Low Tide (ft)	-0.63
C5	09 Jun 2020	Low Tide Time	659
C5	09 Jun 2020	Comments	Kelp
C5	16 Jun 2020	Depth (m)	10
C5	16 Jun 2020	Arrive Time	928

Station	Date	Parameter	Value
C5	16 Jun 2020	Depart Time	929
C5	16 Jun 2020	Air Temp (C)	17
C5	16 Jun 2020	Weather	Continuous layer of clouds
C5	16 Jun 2020	Visibility (mi)	6
C5	16 Jun 2020	Wind Speed (kts)	10
C5	16 Jun 2020	Wind Dir	SE
C5	16 Jun 2020	Water Color	Green
C5	16 Jun 2020	Wave Ht Low (ft)	2
C5	16 Jun 2020	Wave Period (sec)	9
C5	16 Jun 2020	Sea State	Confused swell
C5	16 Jun 2020	High Tide (ft)	3.31
C5	16 Jun 2020	High Tide Time	708
C5	16 Jun 2020	Low Tide (ft)	1.5
C5	16 Jun 2020	Low Tide Time	1234
C5	16 Jun 2020	Comments	Kelp; Kelp debris
C5	23 Jun 2020	Depth (m)	11
C5	23 Jun 2020	Arrive Time	934
C5	23 Jun 2020	Depart Time	937
C5	23 Jun 2020	Air Temp (C)	18
C5	23 Jun 2020	Weather	Partly Cloudy
C5	23 Jun 2020	Visibility (mi)	7
C5	23 Jun 2020	Wind Speed (kts)	7
C5	23 Jun 2020	Wind Dir	NW
C5	23 Jun 2020	Water Color	Green
C5	23 Jun 2020	Wave Ht Low (ft)	4
C5	23 Jun 2020	Wave Period (sec)	13
C5	23 Jun 2020	Sea State	Calm
C5	23 Jun 2020	High Tide (ft)	3.6
C5	23 Jun 2020	High Tide Time	1215
C5	23 Jun 2020	Low Tide (ft)	-0.88
C5	23 Jun 2020	Low Tide Time	544
C5	23 Jun 2020	Comments	none
C6	02 Jun 2020	Depth (m)	9
C6	02 Jun 2020	Arrive Time	921
C6	02 Jun 2020	Depart Time	923
C6	02 Jun 2020	Air Temp (C)	18
C6	02 Jun 2020	Weather	Partly Cloudy
C6	02 Jun 2020	Visibility (mi)	7
C6	02 Jun 2020	Wind Speed (kts)	2
C6	02 Jun 2020	Wind Dir	W
C6	02 Jun 2020	Water Color	Green
C6	02 Jun 2020	Wave Ht Low (ft)	3
C6	02 Jun 2020	Wave Period (sec)	9
C6	02 Jun 2020	Sea State	Calm
C6	02 Jun 2020	High Tide (ft)	4.07
C6	02 Jun 2020	High Tide Time	715
C6	02 Jun 2020	Low Tide (ft)	0.64
C6	02 Jun 2020	Low Tide Time	1303
C6	02 Jun 2020	Comments	Kelp debris; Kelp
C6	09 Jun 2020	Depth (m)	10
C6	09 Jun 2020	Arrive Time	1031
C6	09 Jun 2020	Depart Time	1036

Station	Date	Parameter	Value
C6	09 Jun 2020	Air Temp (C)	20
C6	09 Jun 2020	Weather	Clear
C6	09 Jun 2020	Visibility (mi)	12
C6	09 Jun 2020	Wind Speed (kts)	7
C6	09 Jun 2020	Wind Dir	N
C6	09 Jun 2020	Water Color	Green
C6	09 Jun 2020	Wave Ht Low (ft)	5
C6	09 Jun 2020	Wave Period (sec)	16
C6	09 Jun 2020	Sea State	Calm
C6	09 Jun 2020	High Tide (ft)	3.56
C6	09 Jun 2020	High Tide Time	1345
C6	09 Jun 2020	Low Tide (ft)	-0.63
C6	09 Jun 2020	Low Tide Time	659
C6	09 Jun 2020	Comments	Kelp; Boats
C6	16 Jun 2020	Depth (m)	9
C6	16 Jun 2020	Arrive Time	915
C6	16 Jun 2020	Depart Time	916
C6	16 Jun 2020	Air Temp (C)	17
C6	16 Jun 2020	Weather	Continuous layer of clouds
C6	16 Jun 2020	Visibility (mi)	7
C6	16 Jun 2020	Wind Speed (kts)	12
C6	16 Jun 2020	Wind Dir	S
C6	16 Jun 2020	Water Color	Green
C6	16 Jun 2020	Wave Ht Low (ft)	2
C6	16 Jun 2020	Wave Period (sec)	9
C6	16 Jun 2020	Sea State	Confused swell
C6	16 Jun 2020	High Tide (ft)	3.31
C6	16 Jun 2020	High Tide Time	708
C6	16 Jun 2020	Low Tide (ft)	1.5
C6	16 Jun 2020	Low Tide Time	1234
C6	16 Jun 2020	Comments	Kelp; Kelp debris
C6	23 Jun 2020	Depth (m)	9
C6	23 Jun 2020	Arrive Time	912
C6	23 Jun 2020	Depart Time	924
C6	23 Jun 2020	Air Temp (C)	18
C6	23 Jun 2020	Weather	Partly Cloudy
C6	23 Jun 2020	Visibility (mi)	5
C6	23 Jun 2020	Wind Speed (kts)	7
C6	23 Jun 2020	Wind Dir	NW
C6	23 Jun 2020	Water Color	Green
C6	23 Jun 2020	Wave Ht Low (ft)	4
C6	23 Jun 2020	Wave Period (sec)	13
C6	23 Jun 2020	Sea State	Calm
C6	23 Jun 2020	High Tide (ft)	3.6
C6	23 Jun 2020	High Tide Time	1215
C6	23 Jun 2020	Low Tide (ft)	-0.88
C6	23 Jun 2020	Low Tide Time	544
C6	23 Jun 2020	Comments	Kelp debris
C7	02 Jun 2020	Depth (m)	19
C7	02 Jun 2020	Arrive Time	839
C7	02 Jun 2020	Depart Time	848
C7	02 Jun 2020	Air Temp (C)	18

Station	Date	Parameter	Value
C7	02 Jun 2020	Weather	Partly Cloudy
C7	02 Jun 2020	Visibility (mi)	5
C7	02 Jun 2020	Wind Speed (kts)	4
C7	02 Jun 2020	Wind Dir	S
C7	02 Jun 2020	Water Color	Green
C7	02 Jun 2020	Wave Ht Low (ft)	3
C7	02 Jun 2020	Wave Period (sec)	9
C7	02 Jun 2020	Sea State	Calm
C7	02 Jun 2020	High Tide (ft)	4.07
C7	02 Jun 2020	High Tide Time	715
C7	02 Jun 2020	Low Tide (ft)	0.64
C7	02 Jun 2020	Low Tide Time	1303
C7	02 Jun 2020	Comments	Kelp
C7	09 Jun 2020	Depth (m)	19
C7	09 Jun 2020	Arrive Time	944
C7	09 Jun 2020	Depart Time	955
C7	09 Jun 2020	Air Temp (C)	20
C7	09 Jun 2020	Weather	Clear
C7	09 Jun 2020	Visibility (mi)	12
C7	09 Jun 2020	Wind Speed (kts)	1
C7	09 Jun 2020	Wind Dir	NW
C7	09 Jun 2020	Water Color	Green
C7	09 Jun 2020	Wave Ht Low (ft)	5
C7	09 Jun 2020	Wave Period (sec)	16
C7	09 Jun 2020	Sea State	Calm
C7	09 Jun 2020	High Tide (ft)	3.56
C7	09 Jun 2020	High Tide Time	1345
C7	09 Jun 2020	Low Tide (ft)	-0.63
C7	09 Jun 2020	Low Tide Time	659
C7	09 Jun 2020	Comments	Kelp
C7	16 Jun 2020	Depth (m)	18
C7	16 Jun 2020	Arrive Time	843
C7	16 Jun 2020	Depart Time	845
C7	16 Jun 2020	Air Temp (C)	17
C7	16 Jun 2020	Weather	Continuous layer of clouds
C7	16 Jun 2020	Visibility (mi)	7
C7	16 Jun 2020	Wind Speed (kts)	11
C7	16 Jun 2020	Wind Dir	S
C7	16 Jun 2020	Water Color	Greenish-Blue
C7	16 Jun 2020	Wave Ht Low (ft)	2
C7	16 Jun 2020	Wave Period (sec)	9
C7	16 Jun 2020	Sea State	Confused swell
C7	16 Jun 2020	High Tide (ft)	3.31
C7	16 Jun 2020	High Tide Time	708
C7	16 Jun 2020	Low Tide (ft)	1.5
C7	16 Jun 2020	Low Tide Time	1234
C7	16 Jun 2020	Comments	Kelp; Kelp debris
C7	23 Jun 2020	Depth (m)	18
C7	23 Jun 2020	Arrive Time	836
C7	23 Jun 2020	Depart Time	842
C7	23 Jun 2020	Air Temp (C)	18
C7	23 Jun 2020	Weather	Partly Cloudy



Station	Date	Parameter	Value
C7	23 Jun 2020	Visibility (mi)	5
C7	23 Jun 2020	Wind Speed (kts)	7
C7	23 Jun 2020	Wind Dir	NW
C7	23 Jun 2020	Water Color	Green
C7	23 Jun 2020	Wave Ht Low (ft)	4
C7	23 Jun 2020	Wave Period (sec)	13
C7	23 Jun 2020	Sea State	Calm
C7	23 Jun 2020	High Tide (ft)	3.6
C7	23 Jun 2020	High Tide Time	1215
C7	23 Jun 2020	Low Tide (ft)	-0.88
C7	23 Jun 2020	Low Tide Time	544
C7	23 Jun 2020	Comments	Kelp
C8	02 Jun 2020	Depth (m)	19
C8	02 Jun 2020	Arrive Time	857
C8	02 Jun 2020	Depart Time	903
C8	02 Jun 2020	Air Temp (C)	18
C8	02 Jun 2020	Weather	Partly Cloudy
C8	02 Jun 2020	Visibility (mi)	6
C8	02 Jun 2020	Wind Speed (kts)	3
C8	02 Jun 2020	Wind Dir	S
C8	02 Jun 2020	Water Color	Green
C8	02 Jun 2020	Wave Ht Low (ft)	3
C8	02 Jun 2020	Wave Period (sec)	9
C8	02 Jun 2020	Sea State	Calm
C8	02 Jun 2020	High Tide (ft)	4.07
C8	02 Jun 2020	High Tide Time	715
C8	02 Jun 2020	Low Tide (ft)	0.64
C8	02 Jun 2020	Low Tide Time	1303
C8	02 Jun 2020	Comments	Kelp
C8	09 Jun 2020	Depth (m)	19
C8	09 Jun 2020	Arrive Time	1007
C8	09 Jun 2020	Depart Time	1010
C8	09 Jun 2020	Air Temp (C)	20
C8	09 Jun 2020	Weather	Clear
C8	09 Jun 2020	Visibility (mi)	12
C8	09 Jun 2020	Wind Speed (kts)	0
C8	09 Jun 2020	Wind Dir	
C8	09 Jun 2020	Water Color	Green
C8	09 Jun 2020	Wave Ht Low (ft)	5
C8	09 Jun 2020	Wave Period (sec)	16
C8	09 Jun 2020	Sea State	Calm
C8	09 Jun 2020	High Tide (ft)	3.56
C8	09 Jun 2020	High Tide Time	1345
C8	09 Jun 2020	Low Tide (ft)	-0.63
C8	09 Jun 2020	Low Tide Time	659
C8	09 Jun 2020	Comments	Sea lion on station
C8	16 Jun 2020	Depth (m)	19
C8	16 Jun 2020	Arrive Time	853
C8	16 Jun 2020	Depart Time	856
C8	16 Jun 2020	Air Temp (C)	17
C8	16 Jun 2020	Weather	Continuous layer of clouds
C8	16 Jun 2020	Visibility (mi)	7

Station	Date	Parameter	Value
C8	16 Jun 2020	Wind Speed (kts)	9
C8	16 Jun 2020	Wind Dir	S
C8	16 Jun 2020	Water Color	Greenish-Blue
C8	16 Jun 2020	Wave Ht Low (ft)	2
C8	16 Jun 2020	Wave Period (sec)	9
C8	16 Jun 2020	Sea State	Confused swell
C8	16 Jun 2020	High Tide (ft)	3.31
C8	16 Jun 2020	High Tide Time	708
C8	16 Jun 2020	Low Tide (ft)	1.5
C8	16 Jun 2020	Low Tide Time	1234
C8	16 Jun 2020	Comments	Kelp
C8	23 Jun 2020	Depth (m)	18
C8	23 Jun 2020	Arrive Time	851
C8	23 Jun 2020	Depart Time	854
C8	23 Jun 2020	Air Temp (C)	18
C8	23 Jun 2020	Weather	Partly Cloudy
C8	23 Jun 2020	Visibility (mi)	5
C8	23 Jun 2020	Wind Speed (kts)	5
C8	23 Jun 2020	Wind Dir	NW
C8	23 Jun 2020	Water Color	Green
C8	23 Jun 2020	Wave Ht Low (ft)	4
C8	23 Jun 2020	Wave Period (sec)	13
C8	23 Jun 2020	Sea State	Calm
C8	23 Jun 2020	High Tide (ft)	3.6
C8	23 Jun 2020	High Tide Time	1215
C8	23 Jun 2020	Low Tide (ft)	-0.88
C8	23 Jun 2020	Low Tide Time	544
C8	23 Jun 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 ( $\sigma$ -t)	Chlor ( $\mu$ g/L)
A1	02 Jun 2020	1	17.80	76.88	7.1	33.68	8.1	24.3	2.31
A1	02 Jun 2020	2	17.85	76.62	7.2	33.67	8.1	24.3	2.37
A1	02 Jun 2020	3	17.75	76.79	7.1	33.69	8.1	24.3	2.54
A1	02 Jun 2020	4	17.52	77.02	7.0	33.68	8.1	24.4	3.03
A1	02 Jun 2020	5	17.43	77.46	6.8	33.68	8.1	24.4	3.34
A1	02 Jun 2020	6	17.08	77.60	6.8	33.70	8.1	24.5	3.52
A1	02 Jun 2020	7	16.81	77.60	6.9	33.68	8.1	24.5	3.65
A1	02 Jun 2020	8	16.77	77.76	6.9	33.67	8.1	24.5	3.80
A1	02 Jun 2020	9	16.76	77.73	6.8	33.67	8.1	24.5	3.91
A1	02 Jun 2020	10	16.20	77.68	6.7	33.73	8.1	24.7	3.97
A1	02 Jun 2020	11	16.06	78.47	6.5	33.64	8.0	24.7	3.89
A1	02 Jun 2020	12	14.57	80.37	6.2	33.75	8.0	25.1	3.64
A1	02 Jun 2020	13	13.95	83.35	5.8	33.80	8.0	25.3	3.11
A1	02 Jun 2020	14	12.46	85.84	5.3	33.78	7.9	25.6	2.67
A1	02 Jun 2020	15	11.49	88.39	4.8	33.80	7.9	25.8	1.98
A1	02 Jun 2020	16	11.75	89.41	4.7	33.70	7.8	25.6	1.28
A1	02 Jun 2020	17	11.15	89.58	4.5	33.80	7.8	25.8	0.99
A1	02 Jun 2020	18	10.99	89.57	4.3	33.80	7.8	25.8	0.80
A1	09 Jun 2020	1	17.32	78.12	7.5	33.60	8.0	24.4	1.61
A1	09 Jun 2020	2	17.16	78.12	7.3	33.67	8.0	24.5	1.58
A1	09 Jun 2020	3	15.47	78.45	7.0	33.77	8.0	24.9	1.61
A1	09 Jun 2020	4	14.22	80.01	6.6	33.72	8.0	25.1	1.52
A1	09 Jun 2020	5	13.74	82.58	6.4	33.65	7.9	25.2	1.36
A1	09 Jun 2020	6	13.63	83.91	6.3	33.63	7.9	25.2	1.38
A1	09 Jun 2020	7	13.55	84.81	6.2	33.63	7.9	25.2	1.33
A1	09 Jun 2020	8	13.46	85.74	6.1	33.64	7.9	25.2	1.33
A1	09 Jun 2020	9	13.27	85.93	6.0	33.65	7.9	25.3	1.41
A1	09 Jun 2020	10	13.21	86.08	5.8	33.65	7.9	25.3	1.43
A1	09 Jun 2020	11	12.56	86.01	5.5	33.72	7.9	25.5	1.46
A1	09 Jun 2020	12	12.34	86.68	5.3	33.70	7.8	25.5	1.43
A1	09 Jun 2020	13	12.28	87.18	5.1	33.69	7.8	25.5	1.23
A1	09 Jun 2020	14	11.89	87.58	4.9	33.74	7.8	25.6	1.16
A1	09 Jun 2020	15	11.72	87.76	4.7	33.74	7.8	25.7	1.08
A1	09 Jun 2020	16	11.43	87.67	4.5	33.77	7.8	25.7	1.00
A1	09 Jun 2020	17	11.41	87.15	4.4	33.76	7.8	25.7	0.78
A1	09 Jun 2020	18	11.39	86.86	4.3	33.76	7.8	25.7	0.75
A1	09 Jun 2020	19	11.29	86.28	4.2	33.78	7.8	25.8	0.68
A1	09 Jun 2020	20	11.21	85.45	4.1	33.78	7.7	25.8	0.61
A1	16 Jun 2020	1	19.58	83.30	8.0	33.68	8.2	23.9	2.12
A1	16 Jun 2020	2	19.53	83.29	8.0	33.69	8.2	23.9	2.10
A1	16 Jun 2020	3	19.41	83.31	8.0	33.70	8.2	23.9	2.16
A1	16 Jun 2020	4	19.29	82.71	8.1	33.69	8.2	23.9	2.22
A1	16 Jun 2020	5	19.21	81.99	8.1	33.69	8.2	24.0	2.50
A1	16 Jun 2020	6	19.15	81.64	8.1	33.69	8.2	24.0	2.56
A1	16 Jun 2020	7	19.00	81.19	8.1	33.70	8.2	24.0	2.75
A1	16 Jun 2020	8	18.80	80.52	8.2	33.72	8.2	24.1	2.83
A1	16 Jun 2020	9	18.29	79.25	8.3	33.74	8.2	24.2	2.98
A1	16 Jun 2020	10	18.15	77.65	8.4	33.70	8.2	24.2	3.26

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ( $\sigma$ -t)	Chlor ( $\mu$ g/L)
A1	16 Jun 2020	11	17.81	76.95	8.5	33.72	8.2	24.3	3.48
A1	16 Jun 2020	12	17.65	75.88	8.5	33.70	8.1	24.4	3.71
A1	16 Jun 2020	13	17.52	75.38	8.4	33.69	8.1	24.4	3.85
A1	16 Jun 2020	14	17.46	75.01	8.4	33.68	8.1	24.4	3.98
A1	16 Jun 2020	15	17.28	74.91	8.4	33.71	8.1	24.5	4.02
A1	16 Jun 2020	16	16.99	74.65	8.3	33.72	8.1	24.5	4.15
A1	16 Jun 2020	17	16.61	74.79	8.0	33.72	8.1	24.6	4.13
A1	16 Jun 2020	18	15.35	76.91	7.5	33.82	8.1	25.0	4.30
A1	23 Jun 2020	1	18.52	83.51	7.3	33.72	8.1	24.2	2.27
A1	23 Jun 2020	2	17.94	83.29	7.1	33.74	8.1	24.3	2.40
A1	23 Jun 2020	3	16.51	82.29	6.8	33.83	8.1	24.7	2.65
A1	23 Jun 2020	4	15.63	82.19	6.5	33.82	8.0	24.9	3.08
A1	23 Jun 2020	5	14.72	82.85	6.3	33.78	8.0	25.1	3.43
A1	23 Jun 2020	6	13.89	83.25	6.0	33.88	8.0	25.3	3.54
A1	23 Jun 2020	7	12.93	83.90	5.7	33.80	7.9	25.5	3.48
A1	23 Jun 2020	8	12.59	84.88	5.5	33.77	7.9	25.5	3.31
A1	23 Jun 2020	9	12.25	85.80	5.3	33.76	7.9	25.6	3.25
A1	23 Jun 2020	10	12.13	86.91	5.3	33.72	7.9	25.6	2.80
A1	23 Jun 2020	11	12.06	86.92	5.3	33.72	7.9	25.6	2.85
A1	23 Jun 2020	12	11.97	87.16	5.2	33.71	7.9	25.6	3.53
A1	23 Jun 2020	13	11.85	86.98	5.0	33.73	7.9	25.6	2.68
A1	23 Jun 2020	14	11.59	87.81	4.9	33.75	7.8	25.7	2.76
A1	23 Jun 2020	15	11.50	89.20	4.8	33.73	7.8	25.7	2.85
A1	23 Jun 2020	16	11.48	89.72	4.9	33.72	7.8	25.7	1.95
A1	23 Jun 2020	17	11.43	89.60	4.8	33.72	7.8	25.7	1.71
A1	23 Jun 2020	18	11.45	89.13	4.7	33.71	7.8	25.7	1.58
A1	30 Jun 2020	1	18.05	77.96	8.6	33.66	8.2	24.2	3.50
A1	30 Jun 2020	2	17.99	77.65	8.7	33.67	8.2	24.3	3.65
A1	30 Jun 2020	3	17.96	77.23	8.7	33.66	8.2	24.3	4.02
A1	30 Jun 2020	4	17.94	75.85	8.7	33.66	8.2	24.3	4.31
A1	30 Jun 2020	5	17.81	75.13	8.6	33.68	8.2	24.3	4.35
A1	30 Jun 2020	6	17.51	74.50	8.4	33.69	8.2	24.4	4.71
A1	30 Jun 2020	7	17.39	75.56	8.3	33.67	8.1	24.4	4.63
A1	30 Jun 2020	8	17.34	77.03	8.2	33.67	8.1	24.4	4.40
A1	30 Jun 2020	9	17.14	77.64	8.0	33.69	8.1	24.5	4.22
A1	30 Jun 2020	10	16.66	78.09	7.9	33.71	8.1	24.6	4.03
A1	30 Jun 2020	11	16.05	78.71	7.5	33.73	8.1	24.8	3.95
A1	30 Jun 2020	12	15.40	79.10	7.0	33.75	8.0	24.9	3.81
A1	30 Jun 2020	13	14.61	80.67	6.7	33.75	8.0	25.1	3.55
A1	30 Jun 2020	14	14.23	81.57	6.6	33.70	8.0	25.1	3.18
A1	30 Jun 2020	15	13.99	81.50	6.6	33.70	8.0	25.2	3.18
A1	30 Jun 2020	16	13.45	80.59	6.5	33.73	8.0	25.3	3.49
A1	30 Jun 2020	17	13.11	79.41	6.2	33.70	7.9	25.4	3.85
A1	30 Jun 2020	18	12.78	80.39	5.9	33.72	7.9	25.4	3.92
A6	02 Jun 2020	1	18.22	75.16	7.6	33.66	8.1	24.2	2.45
A6	02 Jun 2020	2	18.23	75.35	7.6	33.67	8.1	24.2	2.46
A6	02 Jun 2020	3	18.22	75.72	7.6	33.67	8.1	24.2	2.49
A6	02 Jun 2020	4	17.98	75.59	7.6	33.68	8.1	24.3	2.63
A6	02 Jun 2020	5	17.81	75.32	7.5	33.69	8.1	24.3	2.94
A6	02 Jun 2020	6	17.56	75.26	7.5	33.68	8.1	24.4	3.36
A6	02 Jun 2020	7	17.30	75.07	7.3	33.71	8.1	24.5	3.78
A6	02 Jun 2020	8	16.17	74.76	7.1	33.81	8.1	24.8	3.94

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ( $\sigma$ -t)	Chlor ( $\mu$ g/L)
A6	02 Jun 2020	9	16.15	75.61	6.8	33.66	8.1	24.7	4.42
A6	02 Jun 2020	10	14.26	78.38	6.1	33.93	8.0	25.3	4.69
A6	02 Jun 2020	11	13.16	82.43	5.7	33.83	8.0	25.5	4.44
A6	02 Jun 2020	12	12.58	85.90	5.4	33.76	7.9	25.5	3.66
A6	02 Jun 2020	13	12.66	88.13	5.2	33.74	7.9	25.5	2.50
A6	02 Jun 2020	14	11.66	88.61	4.9	33.79	7.9	25.7	2.23
A6	02 Jun 2020	15	11.34	89.26	4.7	33.79	7.9	25.8	1.86
A6	02 Jun 2020	16	11.38	89.28	4.5	33.75	7.8	25.7	1.40
A6	02 Jun 2020	17	11.12	89.22	4.4	33.79	7.8	25.8	1.11
A6	02 Jun 2020	18	11.18	89.19	4.3	33.77	7.8	25.8	0.89
A6	02 Jun 2020	19	11.08	89.04	4.2	33.78	7.8	25.8	0.75
A6	09 Jun 2020	1	18.06	76.99	8.2	33.62	8.1	24.2	1.78
A6	09 Jun 2020	2	17.97	77.38	8.0	33.64	8.1	24.2	1.83
A6	09 Jun 2020	3	17.60	77.50	7.7	33.66	8.1	24.3	1.86
A6	09 Jun 2020	4	16.68	77.48	7.2	33.76	8.1	24.6	1.97
A6	09 Jun 2020	5	15.39	77.84	6.8	33.77	8.0	24.9	2.14
A6	09 Jun 2020	6	14.59	79.73	6.4	33.73	8.0	25.1	2.27
A6	09 Jun 2020	7	14.22	82.34	6.2	33.70	8.0	25.1	2.18
A6	09 Jun 2020	8	13.82	83.48	6.0	33.70	7.9	25.2	1.88
A6	09 Jun 2020	9	13.56	84.59	5.8	33.69	7.9	25.3	1.72
A6	09 Jun 2020	10	13.34	85.27	5.6	33.69	7.9	25.3	1.66
A6	09 Jun 2020	11	13.28	85.89	5.5	33.68	7.9	25.3	1.55
A6	09 Jun 2020	12	13.18	86.21	5.5	33.69	7.9	25.3	1.40
A6	09 Jun 2020	13	12.99	86.26	5.3	33.72	7.9	25.4	1.31
A6	09 Jun 2020	14	12.40	86.23	5.0	33.75	7.9	25.5	1.29
A6	09 Jun 2020	15	12.33	84.80	5.0	33.75	7.8	25.6	1.22
A6	09 Jun 2020	16	12.31	83.82	4.9	33.73	7.8	25.5	1.16
A6	09 Jun 2020	17	12.12	84.90	4.8	33.83	7.8	25.7	1.07
A6	09 Jun 2020	18	11.91	85.03	4.7	33.79	7.8	25.7	1.08
A6	09 Jun 2020	19	11.86	85.01	4.7	33.78	7.8	25.7	1.01
A6	16 Jun 2020	1	20.17	85.75	7.6	33.67	8.2	23.7	1.97
A6	16 Jun 2020	2	20.17	85.90	7.8	33.67	8.2	23.7	1.71
A6	16 Jun 2020	3	20.17	85.55	7.7	33.68	8.2	23.7	1.61
A6	16 Jun 2020	4	20.16	84.95	7.8	33.68	8.2	23.7	1.54
A6	16 Jun 2020	5	20.15	84.95	7.8	33.68	8.2	23.7	1.55
A6	16 Jun 2020	6	20.06	84.68	7.9	33.69	8.2	23.7	1.63
A6	16 Jun 2020	7	19.85	83.74	7.8	33.73	8.2	23.8	1.68
A6	16 Jun 2020	8	18.81	82.75	7.8	33.88	8.2	24.2	1.90
A6	16 Jun 2020	9	17.75	79.98	7.8	33.86	8.1	24.5	2.17
A6	16 Jun 2020	10	17.30	77.94	7.7	33.78	8.1	24.5	3.17
A6	16 Jun 2020	11	16.69	77.52	7.4	33.82	8.1	24.7	3.95
A6	16 Jun 2020	12	16.02	78.48	7.2	33.82	8.1	24.8	4.76
A6	16 Jun 2020	13	15.67	80.53	6.9	33.78	8.1	24.9	5.16
A6	16 Jun 2020	14	15.06	82.44	6.7	33.80	8.0	25.0	4.89
A6	16 Jun 2020	15	14.68	84.53	6.4	33.77	8.0	25.1	4.15
A6	16 Jun 2020	16	14.22	85.06	6.3	33.77	8.0	25.2	3.64
A6	16 Jun 2020	17	13.90	85.07	6.2	33.76	8.0	25.3	3.18
A6	16 Jun 2020	18	13.37	85.16	5.9	33.79	7.9	25.4	2.96
A6	16 Jun 2020	19	12.77	86.51	5.5	33.79	7.9	25.5	2.84
A6	16 Jun 2020	20	12.86	87.50	5.4	33.66	7.9	25.4	2.69
A6	23 Jun 2020	1	19.30	75.16	7.5	33.69	8.2	23.9	2.30
A6	23 Jun 2020	2	19.30	81.67	7.4	33.69	8.2	23.9	2.42

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ( $\sigma$ -t)	Chlor ( $\mu$ g/L)
A6	23 Jun 2020	3	18.69	83.37	7.1	33.82	8.2	24.2	2.46
A6	23 Jun 2020	4	16.61	81.20	6.8	33.91	8.1	24.8	2.54
A6	23 Jun 2020	5	16.17	80.86	6.5	33.68	8.0	24.7	3.35
A6	23 Jun 2020	6	14.46	82.98	6.2	33.94	8.0	25.3	4.00
A6	23 Jun 2020	7	14.21	84.01	5.9	33.73	8.0	25.2	3.99
A6	23 Jun 2020	8	14.23	85.67	5.7	33.76	8.0	25.2	3.43
A6	23 Jun 2020	9	13.33	87.00	5.4	33.87	7.9	25.5	3.02
A6	23 Jun 2020	10	12.22	87.92	5.0	33.88	7.9	25.7	2.65
A6	23 Jun 2020	11	11.55	89.05	4.8	33.81	7.9	25.7	2.31
A6	23 Jun 2020	12	11.44	89.59	4.7	33.77	7.8	25.7	1.82
A6	23 Jun 2020	13	11.40	89.86	4.6	33.76	7.8	25.7	1.44
A6	23 Jun 2020	14	11.38	90.03	4.6	33.74	7.8	25.7	1.19
A6	23 Jun 2020	15	11.31	89.90	4.5	33.74	7.8	25.7	1.11
A6	23 Jun 2020	16	11.21	89.58	4.4	33.76	7.8	25.8	1.03
A6	23 Jun 2020	17	11.13	88.98	4.3	33.76	7.8	25.8	0.96
A6	23 Jun 2020	18	11.10	88.79	4.3	33.75	7.8	25.8	0.85
A6	23 Jun 2020	19	11.15	88.65	4.3	33.74	7.8	25.8	0.77
A6	30 Jun 2020	1	19.14	79.74	8.1	33.69	8.2	24.0	2.08
A6	30 Jun 2020	2	19.14	79.90	8.1	33.69	8.2	24.0	2.03
A6	30 Jun 2020	3	18.81	79.79	8.2	33.72	8.2	24.1	2.13
A6	30 Jun 2020	4	18.61	79.15	8.2	33.71	8.2	24.1	2.29
A6	30 Jun 2020	5	18.46	78.96	8.2	33.70	8.2	24.2	2.59
A6	30 Jun 2020	6	18.20	78.97	8.3	33.70	8.2	24.2	2.94
A6	30 Jun 2020	7	17.73	78.51	8.3	33.73	8.2	24.4	3.02
A6	30 Jun 2020	8	17.49	76.35	8.3	33.68	8.2	24.4	3.55
A6	30 Jun 2020	9	17.34	74.92	8.4	33.69	8.1	24.4	4.15
A6	30 Jun 2020	10	17.15	74.59	8.4	33.67	8.1	24.5	4.67
A6	30 Jun 2020	11	16.99	74.48	8.3	33.68	8.1	24.5	5.02
A6	30 Jun 2020	12	16.80	74.29	8.2	33.69	8.1	24.6	5.34
A6	30 Jun 2020	13	16.71	75.18	8.2	33.69	8.1	24.6	5.18
A6	30 Jun 2020	14	16.08	75.92	7.9	33.72	8.1	24.7	4.88
A6	30 Jun 2020	15	15.55	77.41	7.6	33.73	8.1	24.9	4.67
A6	30 Jun 2020	16	14.61	78.40	7.3	33.75	8.1	25.1	4.38
A6	30 Jun 2020	17	14.31	78.68	7.2	33.67	8.0	25.1	4.14
A6	30 Jun 2020	18	14.34	78.68	7.2	33.69	8.0	25.1	3.72
A7	02 Jun 2020	1	18.10	75.41	7.5	33.67	8.1	24.2	2.36
A7	02 Jun 2020	2	18.01	75.58	7.5	33.68	8.1	24.3	2.37
A7	02 Jun 2020	3	17.99	75.61	7.4	33.67	8.1	24.3	2.71
A7	02 Jun 2020	4	18.03	75.77	7.4	33.67	8.1	24.2	2.84
A7	02 Jun 2020	5	18.03	76.06	7.4	33.67	8.1	24.2	3.10
A7	02 Jun 2020	6	17.90	75.97	7.4	33.68	8.1	24.3	3.21
A7	02 Jun 2020	7	17.78	76.04	7.3	33.70	8.1	24.3	3.39
A7	02 Jun 2020	8	17.40	75.83	7.3	33.67	8.1	24.4	3.56
A7	02 Jun 2020	9	17.53	75.94	7.2	33.67	8.1	24.4	3.92
A7	02 Jun 2020	10	17.13	75.66	7.2	33.67	8.1	24.5	3.98
A7	02 Jun 2020	11	16.03	76.67	6.7	33.81	8.1	24.8	4.05
A7	02 Jun 2020	12	14.01	80.26	6.1	33.86	8.0	25.3	3.81
A7	02 Jun 2020	13	14.08	85.34	5.7	33.68	8.0	25.2	3.00
A7	02 Jun 2020	14	12.68	87.07	5.2	33.70	7.9	25.4	2.36
A7	02 Jun 2020	15	12.18	88.54	4.9	33.81	7.9	25.6	1.72
A7	02 Jun 2020	16	11.26	89.11	4.5	33.82	7.8	25.8	1.38
A7	02 Jun 2020	17	11.17	89.38	4.3	33.78	7.8	25.8	1.04
A7	02 Jun 2020	18	10.98	89.41	4.2	33.81	7.8	25.9	0.81

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ( $\sigma$ -t)	Chlor ( $\mu$ g/L)
A7	02 Jun 2020	19	10.88	89.26	4.1	33.81	7.8	25.9	0.61
A7	02 Jun 2020	20	10.87	88.86	4.0	33.81	7.8	25.9	0.60
A7	09 Jun 2020	1	17.92	77.82	7.6	33.62	8.1	24.2	1.27
A7	09 Jun 2020	2	17.86	77.36	7.6	33.64	8.1	24.3	1.29
A7	09 Jun 2020	3	17.55	76.24	7.5	33.69	8.1	24.4	1.30
A7	09 Jun 2020	4	16.65	76.75	7.3	33.75	8.1	24.6	1.44
A7	09 Jun 2020	5	15.65	79.05	6.9	33.79	8.0	24.9	1.72
A7	09 Jun 2020	6	14.38	81.16	6.7	33.83	8.0	25.2	1.87
A7	09 Jun 2020	7	13.88	83.29	6.4	33.72	8.0	25.2	1.93
A7	09 Jun 2020	8	13.74	84.73	6.2	33.68	7.9	25.2	1.85
A7	09 Jun 2020	9	13.51	85.18	6.0	33.69	7.9	25.3	1.75
A7	09 Jun 2020	10	13.29	85.51	5.8	33.69	7.9	25.3	1.70
A7	09 Jun 2020	11	13.06	85.96	5.7	33.70	7.9	25.4	1.78
A7	09 Jun 2020	12	12.99	86.19	5.5	33.69	7.9	25.4	1.65
A7	09 Jun 2020	13	12.86	86.45	5.4	33.69	7.9	25.4	1.56
A7	09 Jun 2020	14	12.74	86.49	5.2	33.70	7.9	25.4	1.39
A7	09 Jun 2020	15	12.69	86.38	5.0	33.68	7.8	25.4	1.29
A7	09 Jun 2020	16	12.44	85.97	5.0	33.77	7.8	25.5	0.97
A7	09 Jun 2020	17	11.74	85.96	4.8	33.78	7.8	25.7	1.04
A7	09 Jun 2020	18	11.68	85.89	4.4	33.75	7.8	25.7	1.01
A7	09 Jun 2020	19	11.69	85.47	4.5	33.74	7.8	25.7	0.87
A7	16 Jun 2020	1	20.11	84.67	7.7	33.67	8.1	23.7	1.61
A7	16 Jun 2020	2	20.11	84.65	7.7	33.67	8.1	23.7	1.61
A7	16 Jun 2020	3	20.11	84.68	7.7	33.67	8.1	23.7	1.68
A7	16 Jun 2020	4	20.11	84.74	7.7	33.67	8.1	23.7	1.71
A7	16 Jun 2020	5	19.85	84.61	7.6	33.74	8.1	23.8	1.75
A7	16 Jun 2020	6	18.20	83.33	8.0	33.85	8.1	24.3	1.90
A7	16 Jun 2020	7	17.94	79.09	8.3	33.69	8.1	24.3	2.73
A7	16 Jun 2020	8	17.12	76.61	8.2	33.84	8.1	24.6	3.38
A7	16 Jun 2020	9	15.95	74.38	8.2	33.75	8.1	24.8	3.74
A7	16 Jun 2020	10	15.73	74.24	7.9	33.71	8.1	24.8	4.37
A7	16 Jun 2020	11	15.38	74.81	7.6	33.72	8.1	24.9	5.19
A7	16 Jun 2020	12	14.93	76.10	7.3	33.71	8.0	25.0	5.58
A7	16 Jun 2020	13	14.91	77.27	7.2	33.68	8.0	25.0	5.89
A7	16 Jun 2020	14	14.79	78.00	7.0	33.69	8.0	25.0	5.73
A7	16 Jun 2020	15	14.71	78.73	6.9	33.68	8.0	25.0	5.55
A7	16 Jun 2020	16	14.23	79.35	6.7	33.72	8.0	25.1	5.33
A7	16 Jun 2020	17	13.78	80.89	6.3	33.78	8.0	25.3	5.14
A7	16 Jun 2020	18	12.70	83.25	5.9	33.75	7.9	25.5	5.11
A7	16 Jun 2020	19	12.72	85.59	5.7	33.70	7.9	25.4	4.15
A7	23 Jun 2020	1	19.38	85.21	7.5	33.67	8.1	23.9	1.89
A7	23 Jun 2020	2	19.34	85.18	7.5	33.69	8.1	23.9	1.91
A7	23 Jun 2020	3	19.19	84.55	7.5	33.69	8.1	24.0	2.04
A7	23 Jun 2020	4	18.72	84.68	7.2	33.76	8.1	24.1	2.22
A7	23 Jun 2020	5	16.42	83.46	6.6	34.06	8.1	24.9	2.34
A7	23 Jun 2020	6	14.04	83.00	6.3	33.94	8.0	25.4	2.64
A7	23 Jun 2020	7	13.54	83.86	5.9	33.80	8.0	25.4	2.96
A7	23 Jun 2020	8	13.42	85.68	5.6	33.73	7.9	25.3	2.92
A7	23 Jun 2020	9	13.38	87.23	5.4	33.72	7.9	25.3	2.37
A7	23 Jun 2020	10	12.73	87.62	5.2	33.80	7.9	25.5	1.83
A7	23 Jun 2020	11	12.13	87.81	5.1	33.77	7.9	25.6	1.50
A7	23 Jun 2020	12	11.98	88.54	4.9	33.74	7.9	25.6	1.41

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ( $\sigma$ -t)	Chlor ( $\mu$ g/L)
A7	23 Jun 2020	13	11.89	88.74	4.7	33.73	7.8	25.6	1.25
A7	23 Jun 2020	14	11.87	88.41	4.7	33.73	7.8	25.6	1.17
A7	23 Jun 2020	15	11.67	88.72	4.6	33.73	7.8	25.7	1.20
A7	23 Jun 2020	16	11.57	88.99	4.5	33.73	7.8	25.7	1.17
A7	23 Jun 2020	17	11.52	89.17	4.4	33.73	7.8	25.7	1.11
A7	23 Jun 2020	18	11.54	89.26	4.4	33.72	7.8	25.7	0.97
A7	30 Jun 2020	1	18.62	80.48	8.3	33.67	8.2	24.1	2.16
A7	30 Jun 2020	2	18.61	80.50	8.3	33.68	8.2	24.1	2.21
A7	30 Jun 2020	3	18.43	80.47	8.3	33.70	8.2	24.2	2.30
A7	30 Jun 2020	4	18.31	80.29	8.3	33.68	8.2	24.2	2.42
A7	30 Jun 2020	5	18.07	79.94	8.4	33.71	8.2	24.3	2.65
A7	30 Jun 2020	6	17.76	78.65	8.5	33.68	8.2	24.3	2.89
A7	30 Jun 2020	7	17.72	77.20	8.5	33.67	8.1	24.3	3.24
A7	30 Jun 2020	8	17.64	76.50	8.5	33.68	8.1	24.3	3.62
A7	30 Jun 2020	9	17.52	76.04	8.4	33.68	8.1	24.4	3.77
A7	30 Jun 2020	10	17.34	75.76	8.4	33.68	8.1	24.4	4.06
A7	30 Jun 2020	11	16.79	76.06	8.1	33.75	8.1	24.6	4.18
A7	30 Jun 2020	12	16.11	78.51	7.7	33.76	8.1	24.8	4.14
A7	30 Jun 2020	13	15.40	80.89	7.4	33.74	8.1	24.9	3.63
A7	30 Jun 2020	14	14.87	81.78	7.1	33.76	8.0	25.0	3.04
A7	30 Jun 2020	15	14.15	81.84	6.9	33.76	8.0	25.2	2.68
A7	30 Jun 2020	16	13.81	81.41	6.7	33.71	8.0	25.2	2.59
A7	30 Jun 2020	17	13.52	81.20	6.5	33.74	8.0	25.3	2.63
A7	30 Jun 2020	18	12.85	81.08	6.3	33.78	7.9	25.5	2.73
C4	02 Jun 2020	1	17.96	72.31	7.6	33.66	8.1	24.3	1.49
C4	02 Jun 2020	2	17.96	72.83	7.5	33.68	8.1	24.3	1.55
C4	02 Jun 2020	3	17.58	63.95	7.3	33.71	8.1	24.4	1.57
C4	02 Jun 2020	4	16.71	62.73	6.9	33.75	8.1	24.6	1.54
C4	02 Jun 2020	5	15.47	70.05	6.3	33.82	8.0	25.0	1.74
C4	02 Jun 2020	6	14.89	77.21	6.1	33.66	8.0	25.0	1.93
C4	02 Jun 2020	7	13.77	78.49	5.7	33.89	8.0	25.4	1.84
C4	02 Jun 2020	8	12.93	82.69	5.2	33.75	7.9	25.4	1.71
C4	02 Jun 2020	9	12.64	82.75	4.8	33.73	7.9	25.5	1.43
C4	02 Jun 2020	10	12.47	80.98	4.6	33.72	7.9	25.5	1.25
C4	09 Jun 2020	1	18.13	77.42	7.5	33.65	8.1	24.2	0.81
C4	09 Jun 2020	2	17.72	76.90	7.6	33.70	8.1	24.3	0.80
C4	09 Jun 2020	3	17.52	76.33	7.5	33.66	8.1	24.4	0.84
C4	09 Jun 2020	4	17.49	75.60	7.5	33.65	8.1	24.4	1.01
C4	09 Jun 2020	5	17.40	74.70	7.4	33.66	8.1	24.4	1.27
C4	09 Jun 2020	6	17.23	72.87	7.1	33.70	8.1	24.5	1.46
C4	09 Jun 2020	7	15.97	71.15	6.6	33.91	8.0	24.9	1.50
C4	09 Jun 2020	8	14.73	75.10	6.2	33.83	8.0	25.1	1.40
C4	09 Jun 2020	9	14.09	80.99	5.8	33.80	7.9	25.2	1.22
C4	09 Jun 2020	10	13.59	79.92	5.4	33.75	7.9	25.3	1.00
C4	09 Jun 2020	11	13.70	77.30	5.4	33.65	7.9	25.2	0.81
C4	16 Jun 2020	1	19.97	84.78	7.8	33.66	8.2	23.7	1.59
C4	16 Jun 2020	2	19.98	84.78	7.8	33.66	8.2	23.7	1.62
C4	16 Jun 2020	3	19.97	84.85	7.7	33.67	8.2	23.8	1.65
C4	16 Jun 2020	4	19.95	85.01	7.8	33.67	8.2	23.8	1.66
C4	16 Jun 2020	5	19.70	84.93	7.7	33.72	8.2	23.9	1.71
C4	16 Jun 2020	6	19.16	84.41	7.5	33.76	8.1	24.0	1.81



Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ( $\sigma$ -t)	Chlor ( $\mu$ g/L)
C4	16 Jun 2020	7	18.12	83.38	7.2	33.84	8.1	24.4	1.96
C4	16 Jun 2020	8	17.26	82.24	6.8	33.79	8.1	24.5	2.03
C4	16 Jun 2020	9	16.47	82.70	6.4	33.84	8.0	24.7	1.90
C4	16 Jun 2020	10	14.79	81.47	5.9	33.75	7.9	25.1	1.76
C4	23 Jun 2020	1	19.27	80.04	7.7	33.69	8.2	24.0	2.23
C4	23 Jun 2020	2	19.27	81.66	7.7	33.69	8.2	24.0	2.32
C4	23 Jun 2020	3	19.26	83.20	7.7	33.70	8.2	24.0	2.34
C4	23 Jun 2020	4	19.19	83.03	7.5	33.70	8.2	24.0	2.42
C4	23 Jun 2020	5	18.24	82.97	6.9	33.86	8.1	24.3	2.54
C4	23 Jun 2020	6	15.17	83.50	6.0	34.08	8.0	25.2	2.51
C4	23 Jun 2020	7	13.39	85.04	5.1	33.91	7.9	25.5	2.34
C4	23 Jun 2020	8	12.86	85.90	4.5	33.81	7.8	25.5	1.90
C4	23 Jun 2020	9	12.68	83.64	4.1	33.74	7.8	25.5	1.41
C4	23 Jun 2020	10	12.66	78.48	4.0	33.71	7.8	25.5	1.02
C4	23 Jun 2020	11	12.72	76.95	3.9	33.71	7.8	25.4	0.83
C4	30 Jun 2020	1	18.25	69.34	7.7	33.67	8.1	24.2	1.66
C4	30 Jun 2020	2	18.01	68.80	7.8	33.69	8.1	24.3	1.71
C4	30 Jun 2020	3	17.84	66.05	8.0	33.67	8.1	24.3	2.45
C4	30 Jun 2020	4	17.77	66.12	8.0	33.66	8.1	24.3	3.56
C4	30 Jun 2020	5	17.72	69.39	8.0	33.66	8.1	24.3	4.19
C4	30 Jun 2020	6	17.70	70.44	8.0	33.66	8.1	24.3	4.84
C4	30 Jun 2020	7	17.66	71.24	7.9	33.66	8.1	24.3	5.12
C4	30 Jun 2020	8	17.60	71.47	7.8	33.66	8.1	24.3	5.26
C4	30 Jun 2020	9	17.41	71.82	7.6	33.68	8.1	24.4	4.39
C4	30 Jun 2020	10	16.94	72.45	7.4	33.72	8.1	24.5	3.17
C4	30 Jun 2020	11	16.68	71.68	7.2	33.68	8.0	24.6	2.03
C5	02 Jun 2020	1	17.97	73.97	7.4	33.67	8.1	24.3	1.55
C5	02 Jun 2020	2	17.55	73.87	7.3	33.69	8.1	24.4	1.68
C5	02 Jun 2020	3	17.28	73.94	7.0	33.69	8.1	24.4	1.87
C5	02 Jun 2020	4	15.19	71.43	6.5	33.82	8.0	25.0	2.13
C5	02 Jun 2020	5	14.72	74.36	6.1	33.75	8.0	25.1	1.94
C5	02 Jun 2020	6	13.40	76.31	5.7	33.74	8.0	25.3	1.75
C5	02 Jun 2020	7	13.05	79.08	5.5	33.71	7.9	25.4	1.53
C5	02 Jun 2020	8	12.87	80.71	5.3	33.69	7.9	25.4	1.29
C5	02 Jun 2020	9	12.87	75.76	5.2	33.67	7.9	25.4	1.04
C5	09 Jun 2020	1	17.89	75.79	7.6	33.65	8.1	24.3	0.95
C5	09 Jun 2020	2	17.76	74.47	7.6	33.67	8.1	24.3	0.97
C5	09 Jun 2020	3	17.25	75.24	7.1	33.71	8.1	24.5	1.06
C5	09 Jun 2020	4	16.51	73.53	6.8	33.70	8.0	24.6	1.07
C5	09 Jun 2020	5	16.05	73.97	6.2	33.77	8.0	24.8	0.97
C5	09 Jun 2020	6	14.51	73.24	5.7	33.81	7.9	25.2	0.87
C5	09 Jun 2020	7	13.97	75.59	5.5	33.73	7.9	25.2	0.74
C5	09 Jun 2020	8	13.65	80.94	5.4	33.70	7.9	25.3	0.65
C5	09 Jun 2020	9	13.28	73.46	5.2	33.70	7.9	25.3	0.57
C5	16 Jun 2020	1	20.14	85.42	7.9	33.66	8.2	23.7	1.25
C5	16 Jun 2020	2	20.14	85.37	7.8	33.66	8.2	23.7	1.29
C5	16 Jun 2020	3	20.13	85.42	7.9	33.67	8.2	23.7	1.29
C5	16 Jun 2020	4	20.10	85.50	7.8	33.68	8.2	23.7	1.36
C5	16 Jun 2020	5	19.85	84.97	7.8	33.69	8.2	23.8	1.43
C5	16 Jun 2020	6	19.55	84.06	7.7	33.73	8.1	23.9	1.56

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ( $\sigma$ -t)	Chlor ( $\mu$ g/L)
C5	16 Jun 2020	7	18.43	82.92	7.4	33.85	8.1	24.3	1.91
C5	16 Jun 2020	8	16.93	83.00	7.1	33.92	8.1	24.7	2.19
C5	16 Jun 2020	9	15.82	84.97	6.6	33.83	8.0	24.9	2.25
C5	16 Jun 2020	10	14.27	83.82	6.3	33.80	8.0	25.2	1.74
C5	16 Jun 2020	11	14.69	81.15	6.4	33.57	8.0	24.9	1.31
C5	23 Jun 2020	1	19.38	80.40	7.7	33.64	8.2	23.9	2.70
C5	23 Jun 2020	2	19.40	82.40	7.7	33.68	8.2	23.9	2.62
C5	23 Jun 2020	3	19.27	82.40	7.6	33.71	8.2	24.0	2.72
C5	23 Jun 2020	4	18.72	82.03	7.2	33.78	8.2	24.2	2.84
C5	23 Jun 2020	5	17.38	82.42	6.7	33.89	8.1	24.6	2.95
C5	23 Jun 2020	6	16.32	83.38	6.5	33.83	8.1	24.8	2.89
C5	23 Jun 2020	7	15.35	83.63	6.2	33.90	8.0	25.0	2.34
C5	23 Jun 2020	8	13.89	84.58	5.8	33.87	8.0	25.3	1.82
C5	23 Jun 2020	9	13.27	85.46	5.6	33.81	7.9	25.4	1.50
C5	23 Jun 2020	10	13.25	86.04	5.3	33.74	7.9	25.4	1.18
C5	23 Jun 2020	11	12.79	83.68	5.0	33.75	7.9	25.5	0.95
C5	30 Jun 2020	1	18.71	78.42	8.1	33.68	8.2	24.1	1.45
C5	30 Jun 2020	2	18.59	78.39	8.2	33.69	8.2	24.1	1.47
C5	30 Jun 2020	3	18.51	77.87	8.2	33.68	8.2	24.1	1.58
C5	30 Jun 2020	4	18.24	77.90	8.2	33.72	8.2	24.2	1.76
C5	30 Jun 2020	5	17.65	79.15	7.9	33.76	8.1	24.4	2.05
C5	30 Jun 2020	6	16.69	79.63	7.5	33.80	8.1	24.7	2.53
C5	30 Jun 2020	7	16.02	80.00	7.1	33.76	8.1	24.8	2.85
C5	30 Jun 2020	8	15.47	81.00	6.8	33.77	8.0	24.9	2.94
C5	30 Jun 2020	9	15.04	81.86	6.5	33.74	8.0	25.0	2.80
C5	30 Jun 2020	10	14.66	81.69	6.5	33.73	8.0	25.1	2.26
C5	30 Jun 2020	11	14.50	75.71	6.6	33.69	8.0	25.1	1.62
C6	02 Jun 2020	1	18.36	74.61	7.4	33.57	8.1	24.1	1.37
C6	02 Jun 2020	2	18.17	72.83	7.3	33.70	8.1	24.2	1.31
C6	02 Jun 2020	3	17.78	73.59	7.0	33.71	8.1	24.3	1.36
C6	02 Jun 2020	4	16.19	73.27	6.6	33.92	8.1	24.9	1.55
C6	02 Jun 2020	5	14.74	76.73	6.3	33.77	8.0	25.1	1.83
C6	02 Jun 2020	6	14.64	82.04	6.0	33.76	8.0	25.1	1.99
C6	02 Jun 2020	7	13.38	83.26	5.6	33.76	8.0	25.4	1.98
C6	02 Jun 2020	8	13.34	83.70	5.4	33.69	7.9	25.3	1.67
C6	02 Jun 2020	9	13.11	81.64	5.4	33.69	7.9	25.4	1.31
C6	09 Jun 2020	1	18.23	72.70	7.8	33.62	8.1	24.2	1.05
C6	09 Jun 2020	2	18.01	74.30	7.6	33.66	8.1	24.2	1.09
C6	09 Jun 2020	3	17.62	73.94	7.2	33.67	8.1	24.3	1.21
C6	09 Jun 2020	4	16.64	71.61	6.8	33.71	8.0	24.6	1.24
C6	09 Jun 2020	5	15.74	69.21	6.7	33.71	8.0	24.8	1.10
C6	09 Jun 2020	6	15.04	75.41	6.5	33.68	8.0	24.9	1.32
C6	09 Jun 2020	7	14.53	81.61	6.0	33.69	8.0	25.1	1.37
C6	09 Jun 2020	8	13.70	83.42	5.5	33.73	7.9	25.3	1.17
C6	09 Jun 2020	9	13.01	82.76	5.3	33.72	7.9	25.4	0.88
C6	16 Jun 2020	1	20.25	84.28	8.0	33.67	8.2	23.7	1.47
C6	16 Jun 2020	2	20.25	84.21	8.0	33.67	8.2	23.7	1.46
C6	16 Jun 2020	3	20.25	84.24	7.9	33.67	8.2	23.7	1.49
C6	16 Jun 2020	4	20.25	84.20	7.9	33.67	8.2	23.7	1.56
C6	16 Jun 2020	5	20.25	84.14	8.0	33.68	8.2	23.7	1.57

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ( $\sigma$ -t)	Chlor ( $\mu$ g/L)
C6	16 Jun 2020	6	20.21	83.83	7.9	33.68	8.2	23.7	1.61
C6	16 Jun 2020	7	19.70	83.30	7.7	33.79	8.2	23.9	1.74
C6	16 Jun 2020	8	18.33	83.28	7.6	33.86	8.1	24.3	1.87
C6	16 Jun 2020	9	16.33	81.68	7.3	34.03	8.1	24.9	1.89
C6	23 Jun 2020	1	19.38	82.19	7.6	33.67	8.2	23.9	2.81
C6	23 Jun 2020	2	19.39	76.24	7.6	33.68	8.2	23.9	2.81
C6	23 Jun 2020	3	19.34	79.66	7.5	33.70	8.2	23.9	2.84
C6	23 Jun 2020	4	18.89	82.01	7.2	33.75	8.2	24.1	2.89
C6	23 Jun 2020	5	18.11	82.29	7.2	33.80	8.1	24.3	2.84
C6	23 Jun 2020	6	16.93	80.97	7.0	33.84	8.1	24.6	3.05
C6	23 Jun 2020	7	15.84	79.38	6.6	33.82	8.1	24.9	3.53
C6	23 Jun 2020	8	15.12	82.74	6.0	33.81	8.0	25.0	3.93
C6	23 Jun 2020	9	14.41	85.63	5.6	33.80	7.9	25.2	3.74
C6	23 Jun 2020	10	14.56	84.55	5.6	33.44	7.9	24.9	2.77
C6	30 Jun 2020	1	18.60	78.87	8.0	33.67	8.2	24.1	1.39
C6	30 Jun 2020	2	18.57	78.92	8.0	33.69	8.2	24.1	1.41
C6	30 Jun 2020	3	18.42	79.18	8.1	33.70	8.2	24.2	1.40
C6	30 Jun 2020	4	18.06	79.06	8.3	33.71	8.2	24.3	1.58
C6	30 Jun 2020	5	17.96	77.79	8.4	33.68	8.2	24.3	2.32
C6	30 Jun 2020	6	17.43	76.77	8.2	33.75	8.2	24.5	3.20
C6	30 Jun 2020	7	16.93	76.16	8.0	33.72	8.1	24.6	3.97
C6	30 Jun 2020	8	16.62	77.01	7.7	33.74	8.1	24.6	4.74
C6	30 Jun 2020	9	15.19	79.27	6.8	33.86	8.0	25.1	5.04
C7	02 Jun 2020	1	18.44	68.52	7.1	33.65	8.1	24.1	2.04
C7	02 Jun 2020	2	18.37	62.29	7.1	33.68	8.1	24.2	2.03
C7	02 Jun 2020	3	17.48	72.68	7.1	33.78	8.1	24.5	2.25
C7	02 Jun 2020	4	16.15	72.46	7.0	33.80	8.1	24.8	2.82
C7	02 Jun 2020	5	15.24	75.24	6.7	33.77	8.0	25.0	4.01
C7	02 Jun 2020	6	14.19	79.63	6.3	33.74	8.0	25.2	4.41
C7	02 Jun 2020	7	13.58	82.60	6.0	33.72	8.0	25.3	4.15
C7	02 Jun 2020	8	13.47	84.34	5.9	33.63	8.0	25.2	3.38
C7	02 Jun 2020	9	13.28	84.99	5.8	33.73	8.0	25.4	2.85
C7	02 Jun 2020	10	12.65	85.42	5.6	33.72	7.9	25.5	2.85
C7	02 Jun 2020	11	12.23	87.59	5.5	33.69	7.9	25.5	2.45
C7	02 Jun 2020	12	12.22	88.82	5.4	33.66	7.9	25.5	1.94
C7	02 Jun 2020	13	11.93	89.44	5.3	33.68	7.9	25.6	1.61
C7	02 Jun 2020	14	11.77	89.66	5.1	33.70	7.9	25.6	1.37
C7	02 Jun 2020	15	11.49	89.94	4.8	33.75	7.9	25.7	1.19
C7	02 Jun 2020	16	11.28	89.95	4.6	33.74	7.8	25.7	1.00
C7	02 Jun 2020	17	11.27	89.68	4.5	33.76	7.8	25.8	0.83
C7	02 Jun 2020	18	11.16	89.12	4.3	33.76	7.8	25.8	0.77
C7	09 Jun 2020	1	17.94	73.61	7.6	33.64	8.1	24.2	1.53
C7	09 Jun 2020	2	17.76	74.12	7.5	33.66	8.1	24.3	1.59
C7	09 Jun 2020	3	16.62	74.40	7.2	33.80	8.1	24.7	1.60
C7	09 Jun 2020	4	15.17	75.28	7.1	33.75	8.0	25.0	1.57
C7	09 Jun 2020	5	14.71	79.16	6.9	33.67	8.0	25.0	1.50
C7	09 Jun 2020	6	14.52	82.83	6.8	33.66	8.0	25.0	1.43
C7	09 Jun 2020	7	14.47	83.93	6.7	33.64	8.0	25.0	1.39
C7	09 Jun 2020	8	14.41	84.71	6.7	33.63	8.0	25.0	1.44
C7	09 Jun 2020	9	14.36	84.90	6.6	33.64	8.0	25.1	1.55
C7	09 Jun 2020	10	14.19	84.89	6.6	33.64	8.0	25.1	1.59

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ( $\sigma$ -t)	Chlor ( $\mu$ g/L)
C7	09 Jun 2020	11	14.13	84.91	6.5	33.63	8.0	25.1	1.62
C7	09 Jun 2020	12	14.03	85.05	6.4	33.65	8.0	25.1	1.70
C7	09 Jun 2020	13	13.77	85.29	6.3	33.67	8.0	25.2	1.83
C7	09 Jun 2020	14	13.62	86.02	6.2	33.66	8.0	25.2	1.84
C7	09 Jun 2020	15	13.46	86.19	6.2	33.67	8.0	25.3	1.88
C7	09 Jun 2020	16	13.18	86.22	6.0	33.69	7.9	25.3	1.83
C7	09 Jun 2020	17	12.98	86.49	5.8	33.67	7.9	25.4	1.78
C7	16 Jun 2020	1	20.27	83.78	7.8	33.67	8.2	23.7	1.36
C7	16 Jun 2020	2	20.27	83.75	7.8	33.67	8.2	23.7	1.33
C7	16 Jun 2020	3	20.27	83.86	7.8	33.67	8.2	23.7	1.36
C7	16 Jun 2020	4	20.24	84.07	7.7	33.68	8.2	23.7	1.36
C7	16 Jun 2020	5	20.15	85.07	7.7	33.67	8.2	23.7	1.41
C7	16 Jun 2020	6	20.07	85.30	7.8	33.67	8.2	23.7	1.43
C7	16 Jun 2020	7	19.42	83.30	8.1	33.76	8.2	24.0	1.57
C7	16 Jun 2020	8	19.11	81.04	8.2	33.70	8.2	24.0	2.03
C7	16 Jun 2020	9	18.12	80.18	8.3	33.81	8.2	24.3	2.56
C7	16 Jun 2020	10	17.53	79.66	8.2	33.74	8.1	24.4	2.87
C7	16 Jun 2020	11	16.28	79.14	8.2	33.83	8.1	24.8	3.25
C7	16 Jun 2020	12	15.85	77.50	8.1	33.70	8.1	24.8	3.51
C7	16 Jun 2020	13	15.65	76.44	7.9	33.72	8.1	24.8	3.95
C7	16 Jun 2020	14	15.22	76.62	7.3	33.73	8.1	24.9	4.33
C7	16 Jun 2020	15	14.52	79.12	6.6	33.85	8.0	25.2	4.78
C7	16 Jun 2020	16	13.30	82.36	6.2	33.89	8.0	25.5	5.18
C7	16 Jun 2020	17	12.63	84.55	5.8	33.83	7.9	25.6	4.96
C7	16 Jun 2020	18	12.24	87.84	5.5	33.77	7.9	25.6	4.47
C7	23 Jun 2020	1	19.56	78.97	7.7	33.70	8.2	23.9	3.00
C7	23 Jun 2020	2	19.56	78.09	7.7	33.70	8.2	23.9	3.17
C7	23 Jun 2020	3	19.55	79.00	7.7	33.70	8.2	23.9	3.18
C7	23 Jun 2020	4	19.50	78.84	7.7	33.71	8.2	23.9	3.29
C7	23 Jun 2020	5	19.28	78.79	7.7	33.71	8.2	24.0	3.42
C7	23 Jun 2020	6	19.17	79.42	7.7	33.69	8.2	24.0	3.58
C7	23 Jun 2020	7	18.66	79.64	7.4	33.82	8.2	24.2	3.67
C7	23 Jun 2020	8	16.51	79.23	7.2	33.94	8.1	24.8	3.73
C7	23 Jun 2020	9	15.47	77.73	7.0	33.80	8.1	24.9	4.20
C7	23 Jun 2020	10	15.23	78.10	6.8	33.74	8.1	25.0	5.28
C7	23 Jun 2020	11	14.08	79.83	6.5	33.82	8.0	25.3	5.78
C7	23 Jun 2020	12	13.27	82.53	6.3	33.80	8.0	25.4	5.96
C7	23 Jun 2020	13	12.93	84.79	6.1	33.73	8.0	25.4	5.38
C7	23 Jun 2020	14	12.67	86.10	5.7	33.73	8.0	25.5	4.58
C7	23 Jun 2020	15	12.12	87.61	5.4	33.79	7.9	25.6	3.85
C7	23 Jun 2020	16	12.10	88.54	5.2	33.72	7.9	25.6	2.94
C7	23 Jun 2020	17	12.00	88.71	5.1	33.72	7.9	25.6	2.11
C7	23 Jun 2020	18	12.03	88.65	5.0	33.70	7.9	25.6	1.73
C7	30 Jun 2020	1	19.05	77.40	8.4	33.72	8.2	24.0	2.24
C7	30 Jun 2020	2	18.71	77.14	8.4	33.70	8.2	24.1	2.69
C7	30 Jun 2020	3	18.56	76.39	8.3	33.69	8.2	24.1	3.24
C7	30 Jun 2020	4	18.47	77.79	8.2	33.69	8.2	24.2	3.43
C7	30 Jun 2020	5	18.40	78.68	8.2	33.69	8.2	24.2	3.40
C7	30 Jun 2020	6	17.64	78.84	8.2	33.76	8.2	24.4	3.37
C7	30 Jun 2020	7	17.00	76.21	8.3	33.70	8.1	24.5	4.00
C7	30 Jun 2020	8	16.90	74.17	8.4	33.67	8.1	24.5	4.77
C7	30 Jun 2020	9	16.86	73.56	8.4	33.67	8.1	24.5	5.51

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ( $\sigma$ -t)	Chlor ( $\mu$ g/L)
C7	30 Jun 2020	10	16.61	73.22	8.3	33.70	8.1	24.6	5.84
C7	30 Jun 2020	11	15.87	73.83	8.2	33.69	8.1	24.8	5.92
C7	30 Jun 2020	12	15.81	73.85	8.1	33.67	8.1	24.8	5.93
C7	30 Jun 2020	13	15.72	74.23	7.9	33.67	8.1	24.8	5.96
C7	30 Jun 2020	14	15.67	74.95	7.7	33.67	8.1	24.8	5.95
C7	30 Jun 2020	15	15.39	75.68	7.2	33.70	8.1	24.9	6.04
C7	30 Jun 2020	16	14.51	76.33	6.5	33.80	8.0	25.2	5.95
C7	30 Jun 2020	17	14.20	81.40	5.9	33.70	7.9	25.1	5.02
C7	30 Jun 2020	18	13.34	83.49	5.4	33.75	7.9	25.4	3.81
C8	02 Jun 2020	1	18.25	58.24	7.3	33.63	8.1	24.2	1.48
C8	02 Jun 2020	2	17.96	72.32	7.1	33.68	8.1	24.3	1.58
C8	02 Jun 2020	3	17.66	76.49	6.9	33.69	8.1	24.3	1.77
C8	02 Jun 2020	4	15.92	78.38	7.1	33.79	8.1	24.8	2.11
C8	02 Jun 2020	5	15.70	77.02	6.9	33.68	8.0	24.8	2.99
C8	02 Jun 2020	6	14.21	78.45	6.4	33.77	8.0	25.2	3.83
C8	02 Jun 2020	7	13.63	81.34	6.1	33.72	8.0	25.3	3.90
C8	02 Jun 2020	8	13.28	83.22	5.9	33.68	8.0	25.3	3.57
C8	02 Jun 2020	9	12.93	85.29	5.8	33.66	7.9	25.4	3.03
C8	02 Jun 2020	10	12.83	86.30	5.6	33.66	7.9	25.4	2.56
C8	02 Jun 2020	11	12.39	86.72	5.5	33.68	7.9	25.5	2.39
C8	02 Jun 2020	12	12.36	87.47	5.4	33.66	7.9	25.5	2.01
C8	02 Jun 2020	13	12.04	88.17	5.3	33.68	7.9	25.6	1.77
C8	02 Jun 2020	14	12.00	88.81	5.3	33.67	7.9	25.6	1.51
C8	02 Jun 2020	15	11.87	89.31	5.2	33.68	7.9	25.6	1.33
C8	02 Jun 2020	16	11.64	89.68	4.9	33.74	7.9	25.7	1.22
C8	02 Jun 2020	17	11.18	89.32	4.5	33.77	7.8	25.8	1.13
C8	02 Jun 2020	18	11.16	89.21	4.3	33.76	7.8	25.8	0.97
C8	02 Jun 2020	19	11.17	89.13	4.2	33.75	7.8	25.8	0.82
C8	09 Jun 2020	1	18.41	76.80	7.6	33.66	8.1	24.1	1.10
C8	09 Jun 2020	2	17.47	76.87	7.3	33.82	8.1	24.5	1.15
C8	09 Jun 2020	3	16.16	77.13	7.1	33.73	8.0	24.7	1.20
C8	09 Jun 2020	4	15.96	79.06	7.0	33.67	8.0	24.7	1.26
C8	09 Jun 2020	5	15.49	80.39	7.0	33.71	8.0	24.9	1.34
C8	09 Jun 2020	6	14.76	82.28	6.7	33.73	8.0	25.0	1.38
C8	09 Jun 2020	7	14.09	83.38	6.5	33.72	8.0	25.2	1.42
C8	09 Jun 2020	8	13.97	84.40	6.3	33.67	8.0	25.2	1.44
C8	09 Jun 2020	9	13.84	85.23	6.3	33.66	8.0	25.2	1.42
C8	09 Jun 2020	10	13.78	85.71	6.2	33.67	8.0	25.2	1.55
C8	09 Jun 2020	11	13.62	85.88	6.1	33.66	8.0	25.2	1.58
C8	09 Jun 2020	12	13.57	85.92	6.1	33.66	8.0	25.2	1.58
C8	09 Jun 2020	13	13.55	85.98	6.1	33.66	7.9	25.2	1.69
C8	09 Jun 2020	14	13.44	85.86	6.0	33.66	7.9	25.3	1.77
C8	09 Jun 2020	15	13.26	85.92	5.9	33.67	7.9	25.3	1.79
C8	09 Jun 2020	16	13.29	86.11	5.9	33.64	7.9	25.3	1.72
C8	09 Jun 2020	17	13.03	86.34	5.6	33.75	7.9	25.4	1.74
C8	09 Jun 2020	18	12.26	86.07	5.2	33.76	7.9	25.6	1.63
C8	09 Jun 2020	19	12.19	85.50	5.0	33.71	7.8	25.5	1.62
C8	16 Jun 2020	1	20.19	87.75	7.6	33.66	8.2	23.7	1.01
C8	16 Jun 2020	2	20.19	87.78	7.6	33.66	8.2	23.7	1.05
C8	16 Jun 2020	3	20.19	87.82	7.6	33.66	8.2	23.7	1.00
C8	16 Jun 2020	4	20.19	87.83	7.6	33.66	8.2	23.7	1.03
C8	16 Jun 2020	5	20.19	87.81	7.6	33.67	8.2	23.7	1.06

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ( $\sigma$ -t)	Chlor ( $\mu$ g/L)
C8	16 Jun 2020	6	20.17	87.53	7.6	33.67	8.2	23.7	1.07
C8	16 Jun 2020	7	20.14	87.56	7.6	33.67	8.2	23.7	1.08
C8	16 Jun 2020	8	19.90	86.94	7.7	33.70	8.2	23.8	1.16
C8	16 Jun 2020	9	18.81	83.71	7.8	33.85	8.2	24.2	1.45
C8	16 Jun 2020	10	16.24	79.98	8.2	33.87	8.1	24.8	2.08
C8	16 Jun 2020	11	15.45	77.84	7.7	33.79	8.1	24.9	2.90
C8	16 Jun 2020	12	14.35	76.12	6.8	33.86	8.1	25.2	3.89
C8	16 Jun 2020	13	13.22	78.41	6.2	33.82	8.0	25.4	4.72
C8	16 Jun 2020	14	12.89	82.63	5.8	33.73	7.9	25.4	4.54
C8	16 Jun 2020	15	12.78	85.42	5.7	33.71	7.9	25.4	4.05
C8	16 Jun 2020	16	12.69	86.29	5.5	33.70	7.9	25.4	3.27
C8	16 Jun 2020	17	12.40	86.80	5.3	33.75	7.9	25.5	2.33
C8	16 Jun 2020	18	12.03	87.14	5.2	33.74	7.9	25.6	2.18
C8	16 Jun 2020	19	12.14	87.50	5.3	33.66	7.9	25.5	1.85
C8	23 Jun 2020	1	19.72	74.86	7.5	33.71	8.2	23.9	3.73
C8	23 Jun 2020	2	19.72	74.90	7.5	33.71	8.2	23.9	3.86
C8	23 Jun 2020	3	19.49	75.03	7.5	33.74	8.2	23.9	3.93
C8	23 Jun 2020	4	19.19	75.65	7.5	33.73	8.2	24.0	4.13
C8	23 Jun 2020	5	19.04	75.47	7.5	33.72	8.2	24.0	4.55
C8	23 Jun 2020	6	18.76	76.13	7.3	33.76	8.2	24.1	4.85
C8	23 Jun 2020	7	18.08	76.23	7.3	33.78	8.1	24.3	4.95
C8	23 Jun 2020	8	17.54	77.11	7.3	33.76	8.1	24.4	5.01
C8	23 Jun 2020	9	16.58	77.10	7.1	33.80	8.1	24.7	5.31
C8	23 Jun 2020	10	15.57	76.39	6.9	33.82	8.1	24.9	5.70
C8	23 Jun 2020	11	14.96	76.54	6.7	33.77	8.1	25.0	6.32
C8	23 Jun 2020	12	14.50	77.52	6.5	33.74	8.0	25.1	6.46
C8	23 Jun 2020	13	13.99	79.43	6.3	33.77	8.0	25.2	6.50
C8	23 Jun 2020	14	13.16	82.94	6.1	33.79	8.0	25.4	6.15
C8	23 Jun 2020	15	12.57	85.98	6.0	33.76	8.0	25.5	5.09
C8	23 Jun 2020	16	12.32	87.65	5.6	33.75	7.9	25.6	3.95
C8	23 Jun 2020	17	12.14	88.00	5.1	33.75	7.9	25.6	3.22
C8	23 Jun 2020	18	12.13	88.03	4.8	33.75	7.9	25.6	2.43
C8	23 Jun 2020	19	11.70	87.58	4.6	33.76	7.9	25.7	1.78
C8	30 Jun 2020	1	19.31	79.76	8.1	33.69	8.2	23.9	1.80
C8	30 Jun 2020	2	19.26	79.59	8.2	33.70	8.2	24.0	1.88
C8	30 Jun 2020	3	19.00	77.28	8.4	33.70	8.2	24.0	2.22
C8	30 Jun 2020	4	18.66	75.42	8.6	33.73	8.2	24.1	3.14
C8	30 Jun 2020	5	18.31	75.19	8.8	33.72	8.2	24.2	3.86
C8	30 Jun 2020	6	18.13	74.99	8.7	33.70	8.2	24.2	4.46
C8	30 Jun 2020	7	17.90	75.40	8.5	33.70	8.2	24.3	4.72
C8	30 Jun 2020	8	17.52	76.15	8.3	33.73	8.2	24.4	4.84
C8	30 Jun 2020	9	16.65	76.34	8.2	33.82	8.2	24.7	4.52
C8	30 Jun 2020	10	15.53	75.46	8.2	33.76	8.1	24.9	4.83
C8	30 Jun 2020	11	15.35	74.13	8.1	33.69	8.1	24.9	5.30
C8	30 Jun 2020	12	15.32	73.94	8.0	33.67	8.1	24.9	5.74
C8	30 Jun 2020	13	15.31	73.92	8.0	33.66	8.1	24.9	6.15
C8	30 Jun 2020	14	15.28	73.99	8.0	33.66	8.1	24.9	6.25
C8	30 Jun 2020	15	15.24	74.02	7.9	33.66	8.1	24.9	6.27
C8	30 Jun 2020	16	15.14	74.28	7.7	33.67	8.1	24.9	6.21
C8	30 Jun 2020	17	14.70	74.66	7.3	33.74	8.1	25.1	6.36
C8	30 Jun 2020	18	13.81	76.17	6.8	33.80	8.0	25.3	6.04
C8	30 Jun 2020	19	13.36	77.47	6.6	33.76	8.0	25.4	5.77

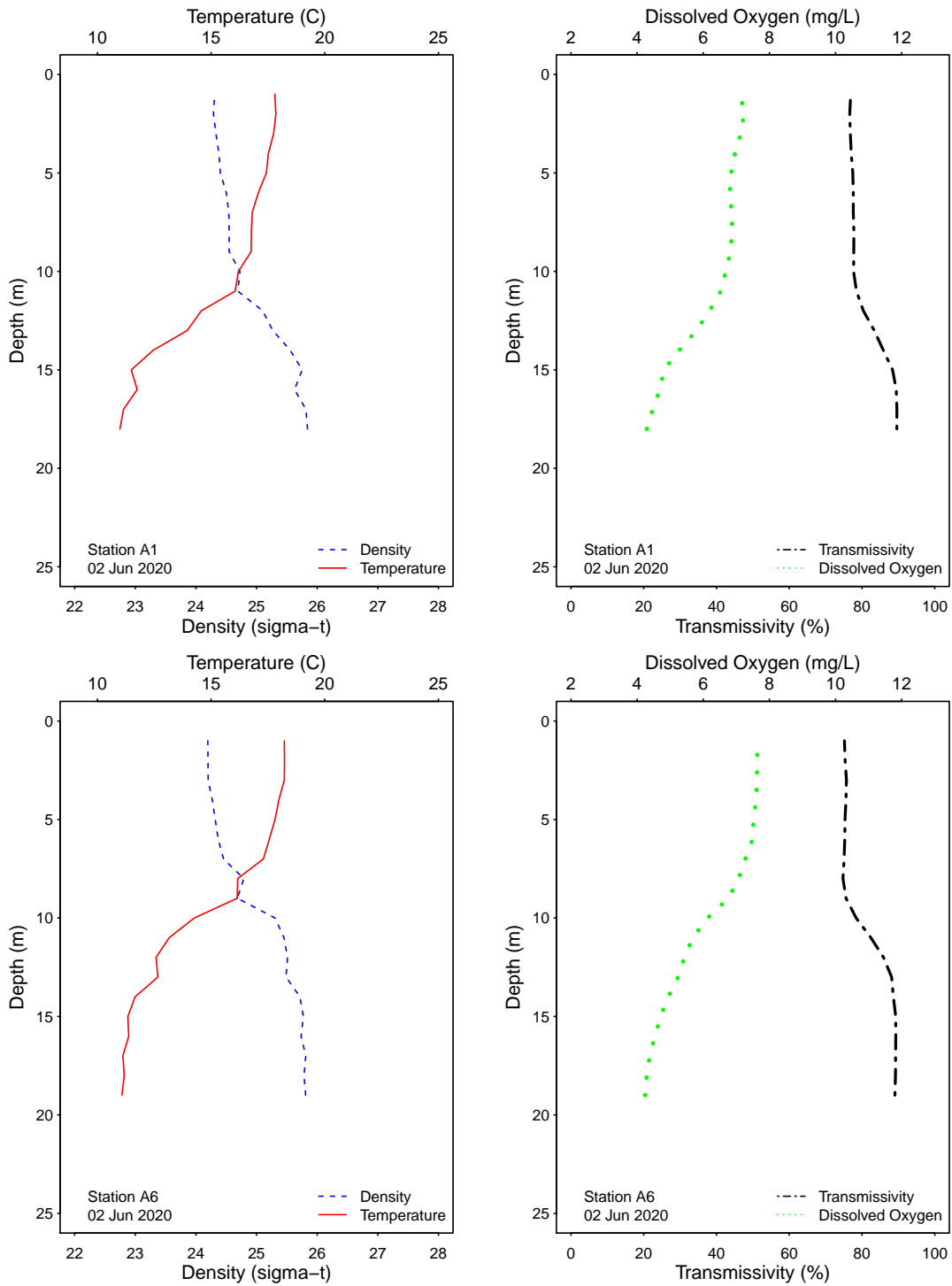


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

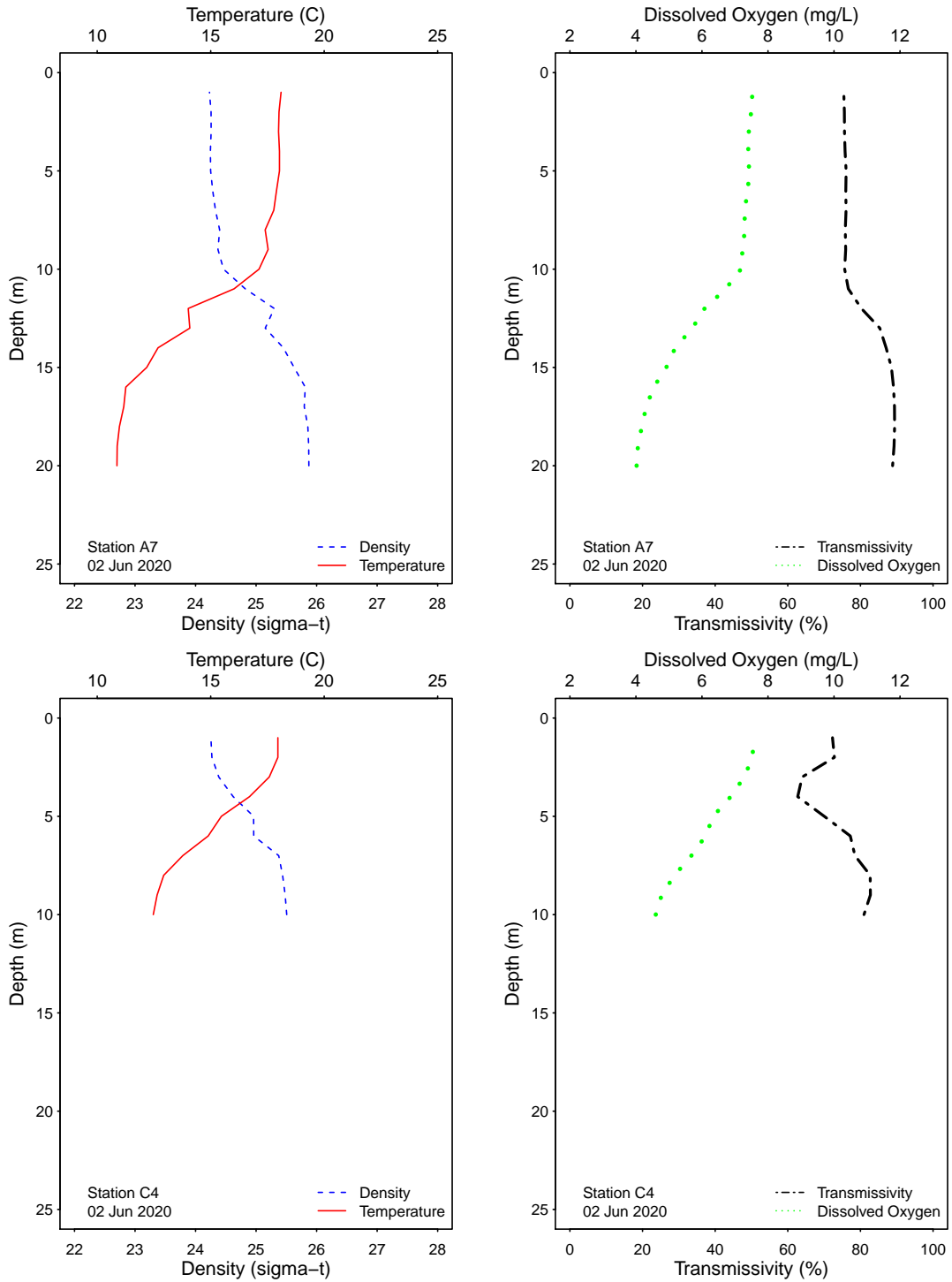


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.



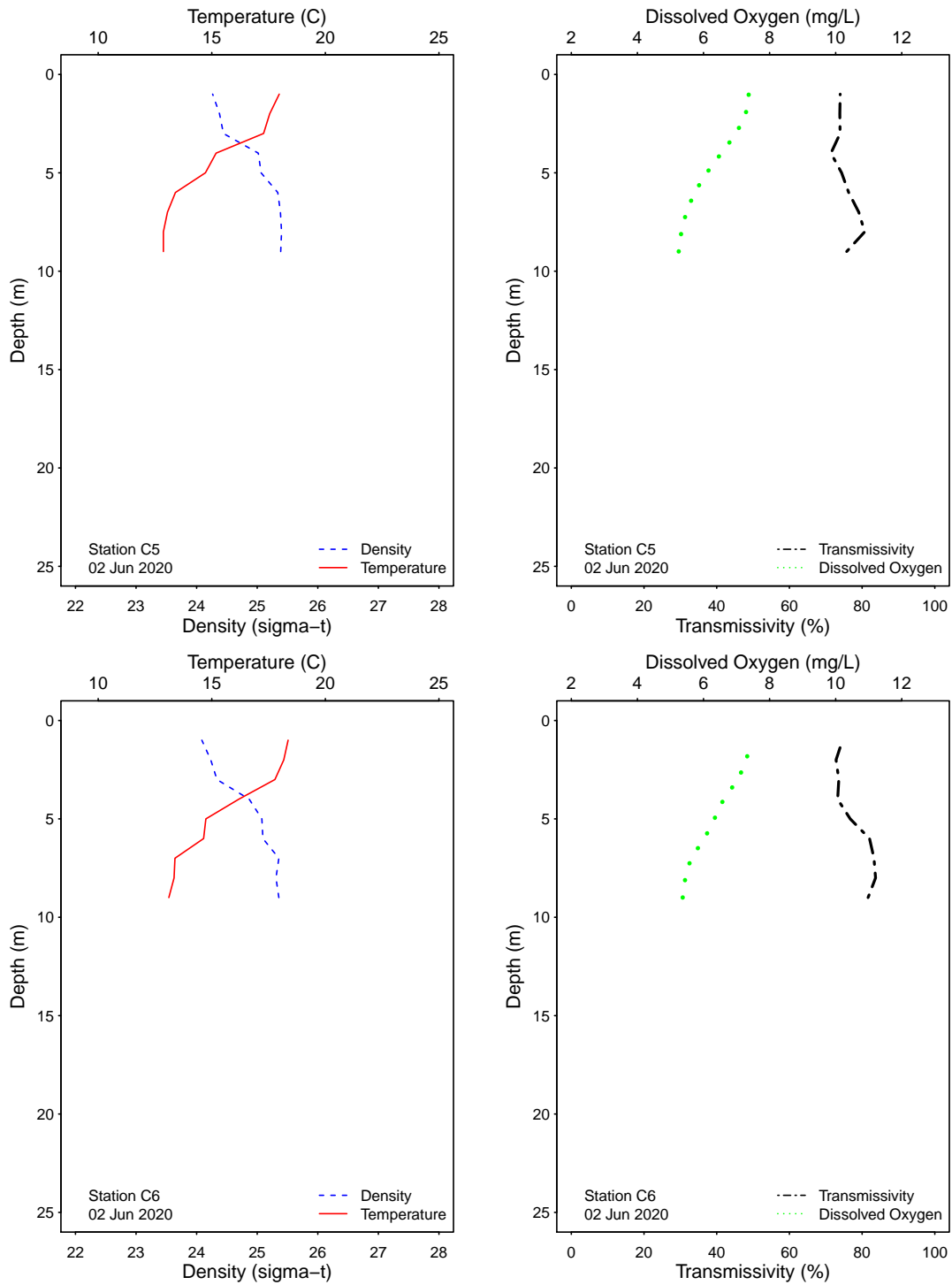


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

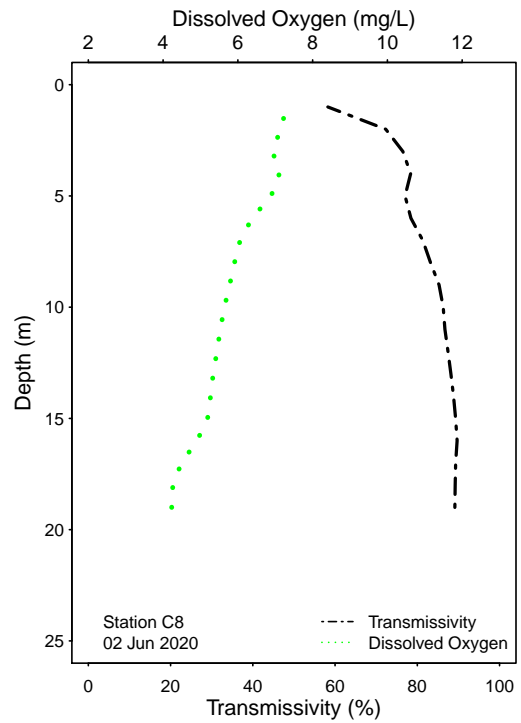
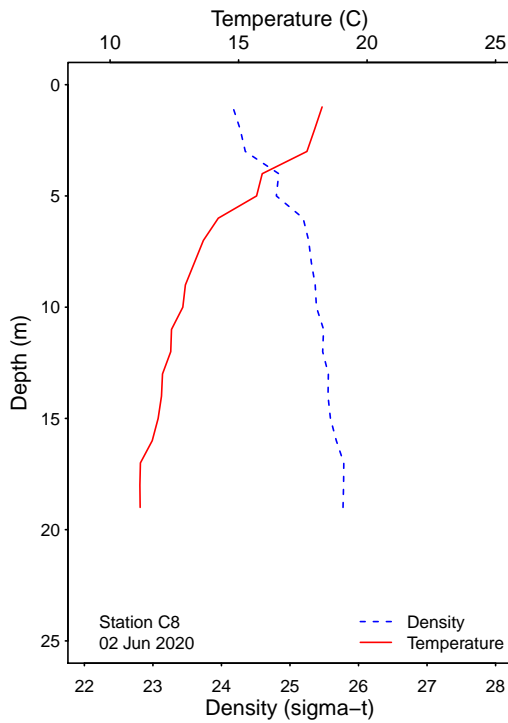
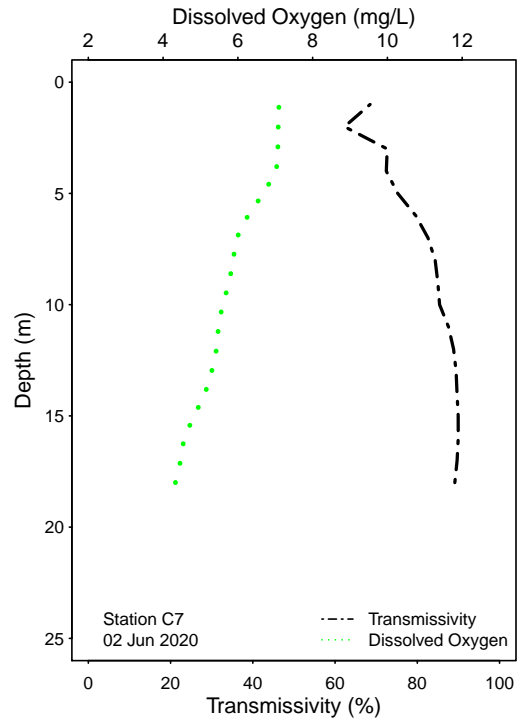
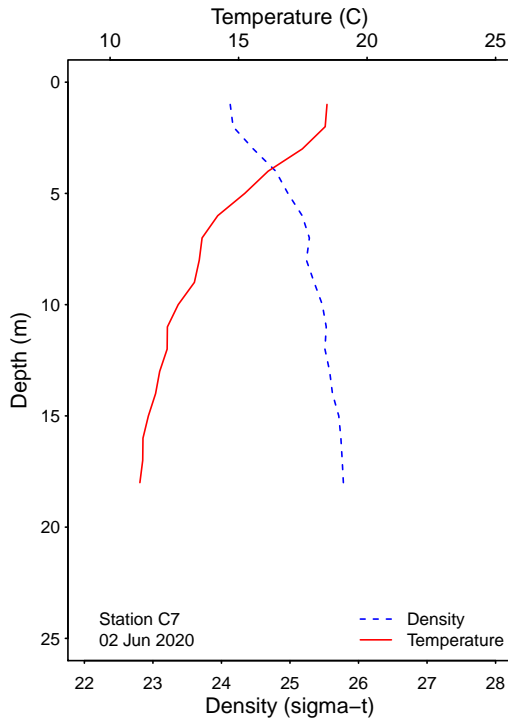


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

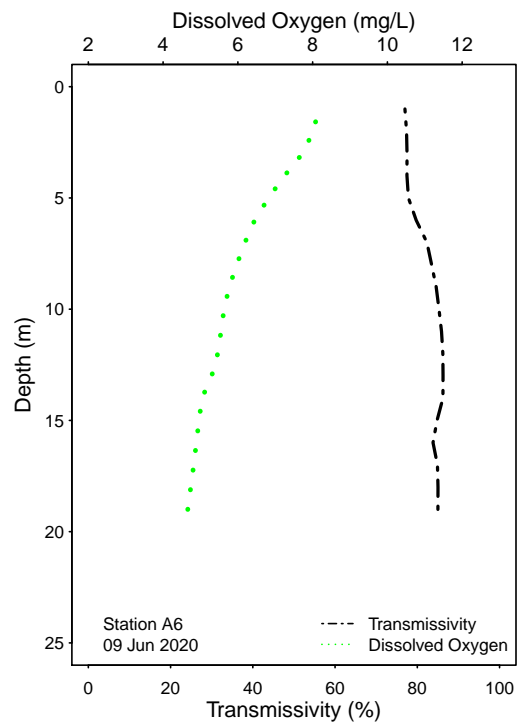
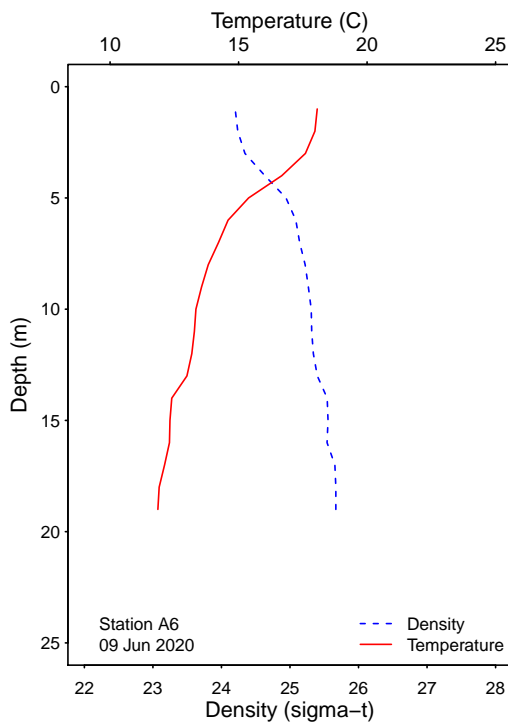
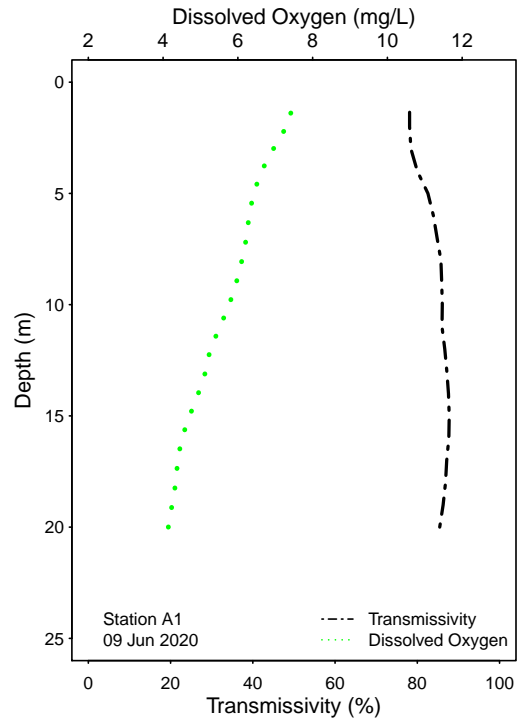
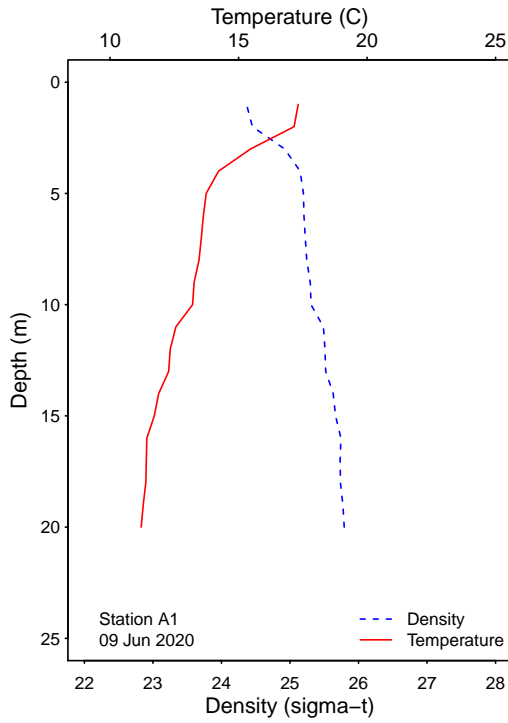


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

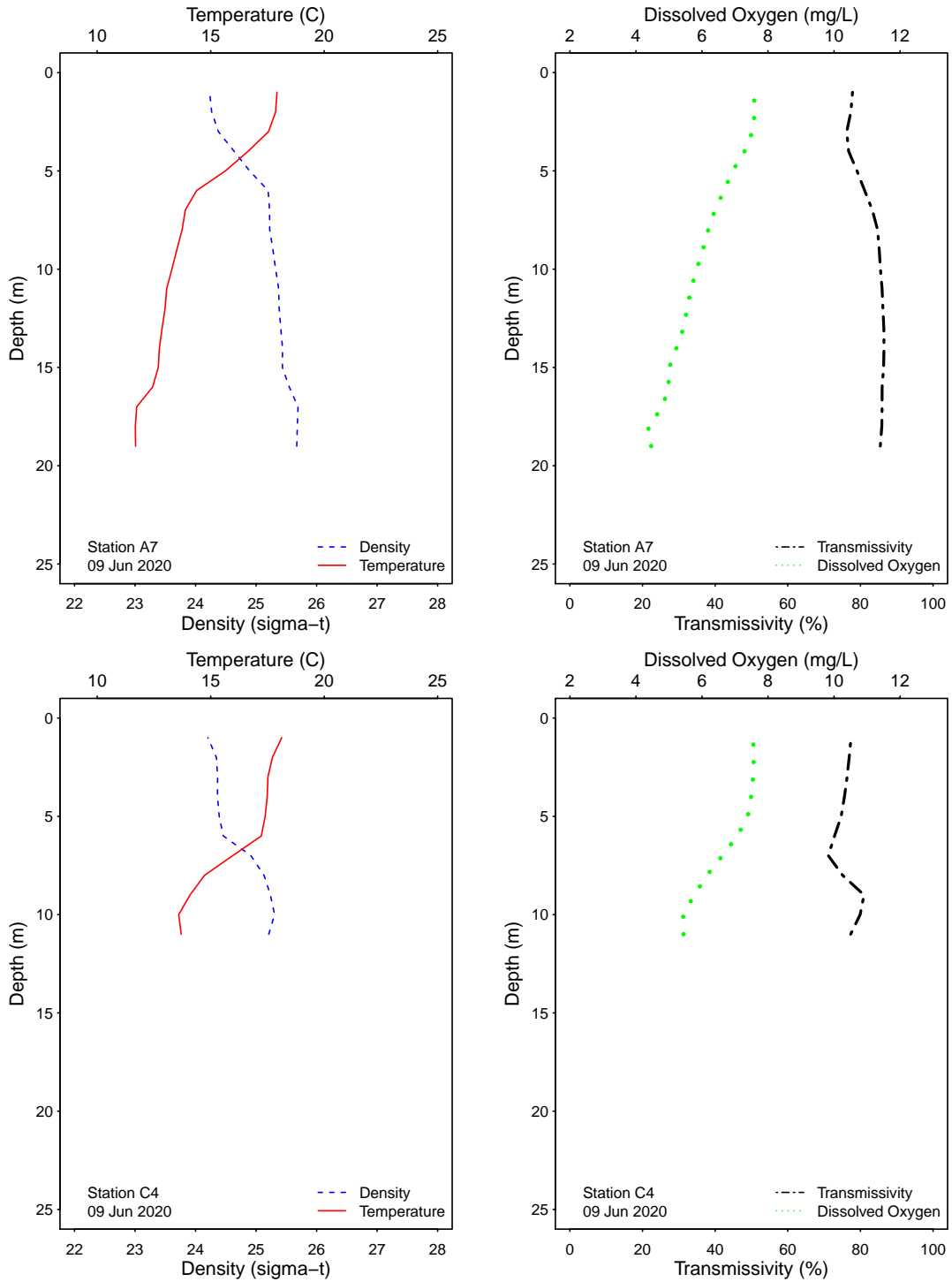


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

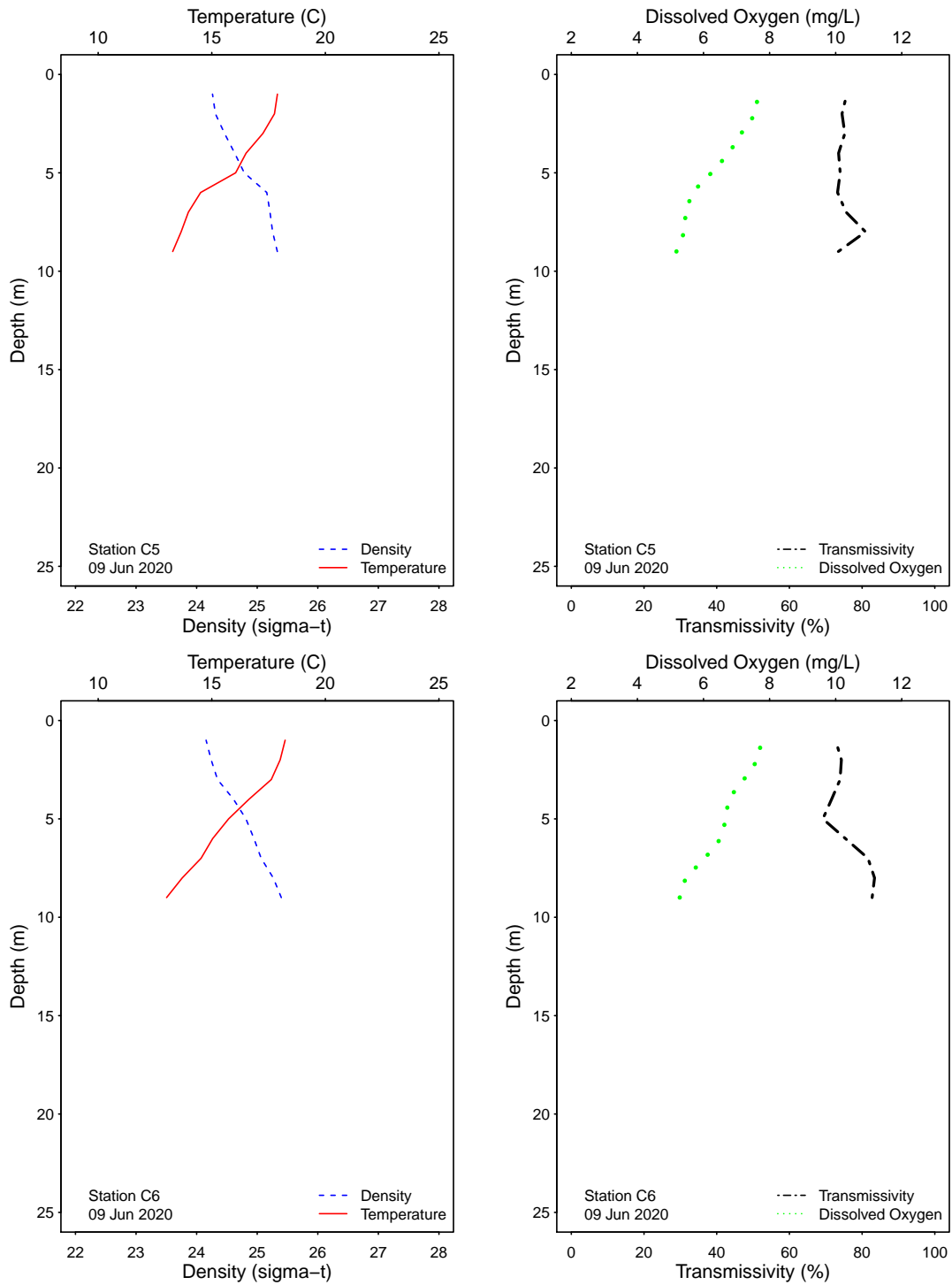


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

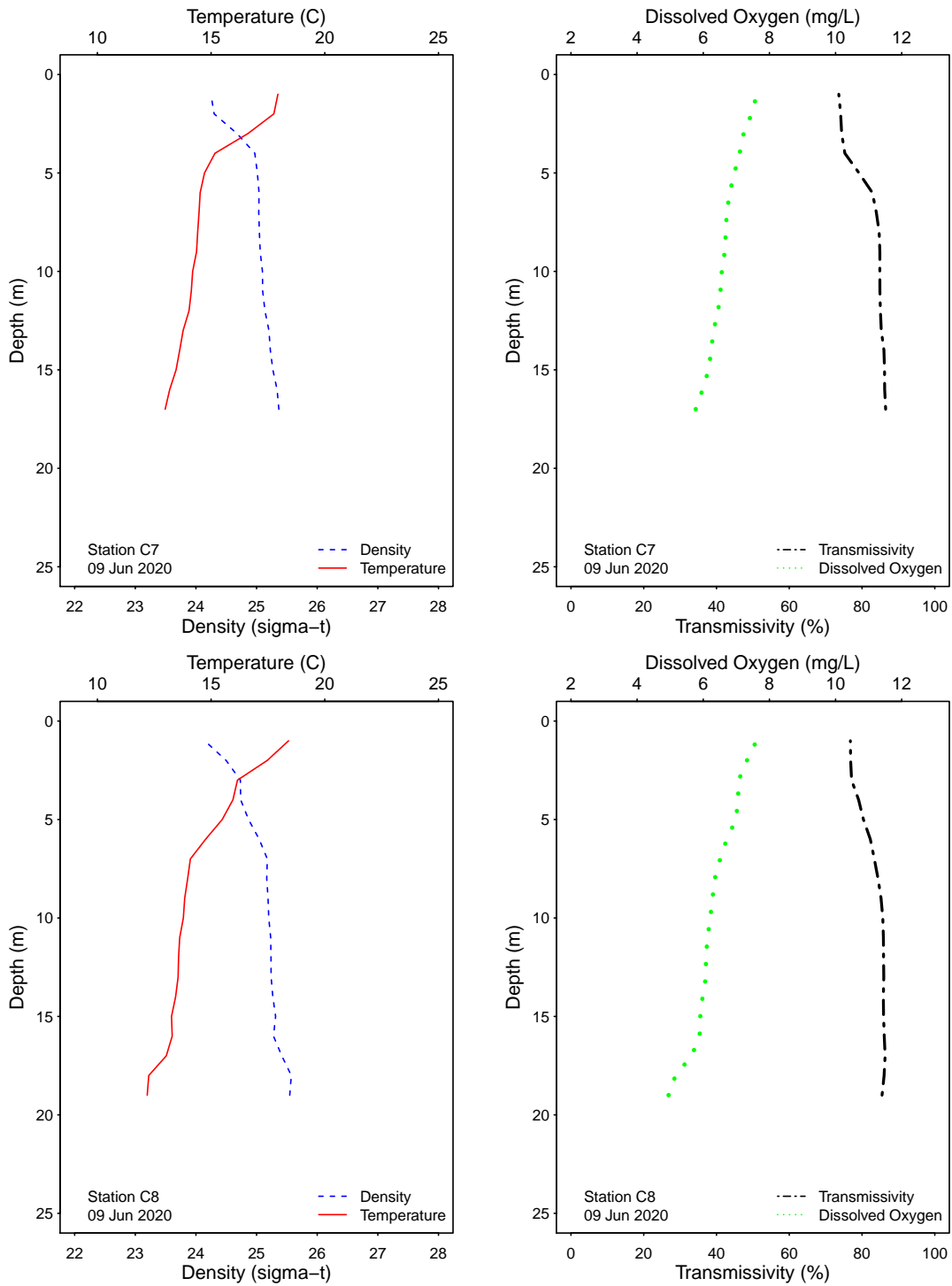


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

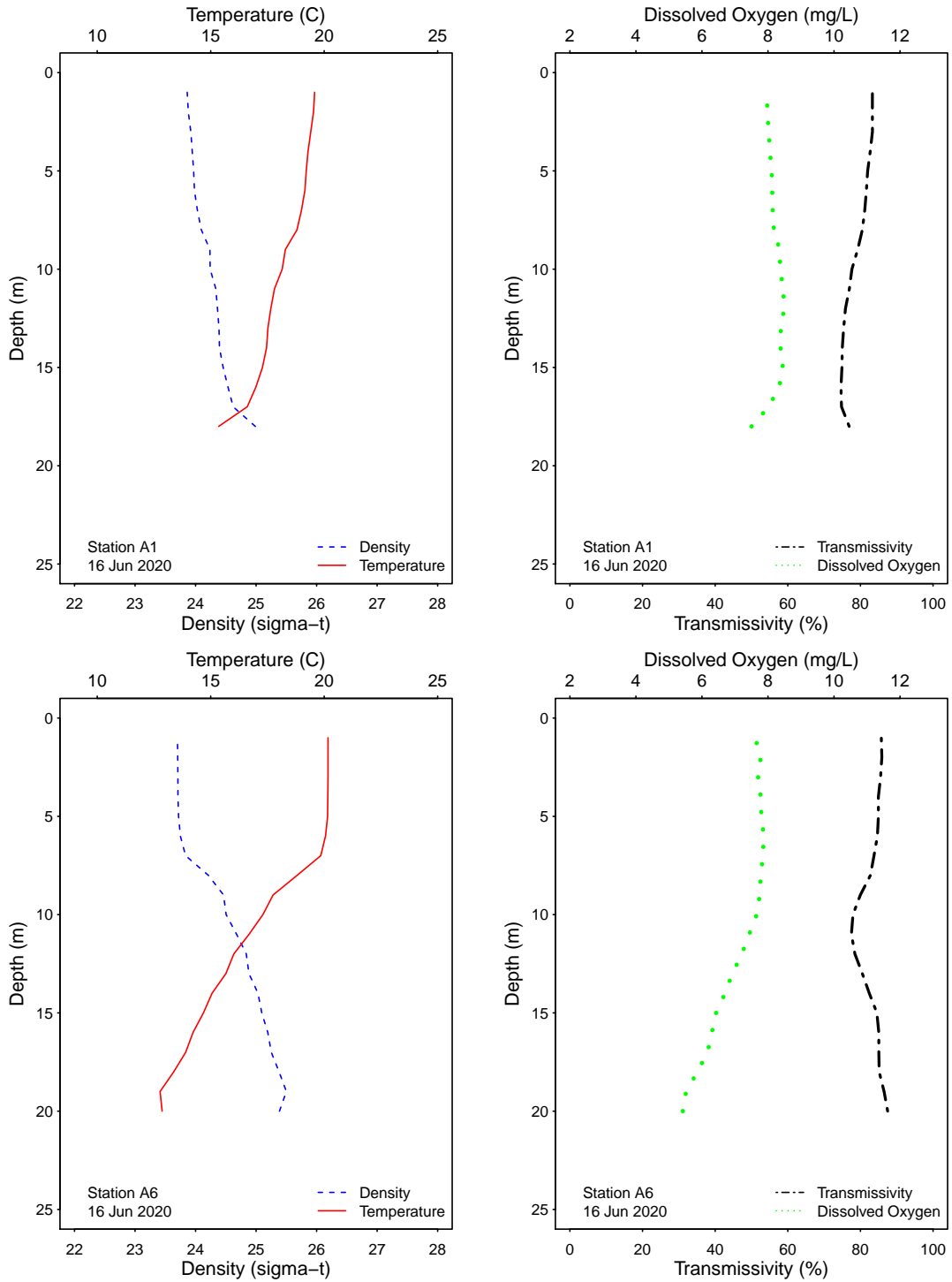


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

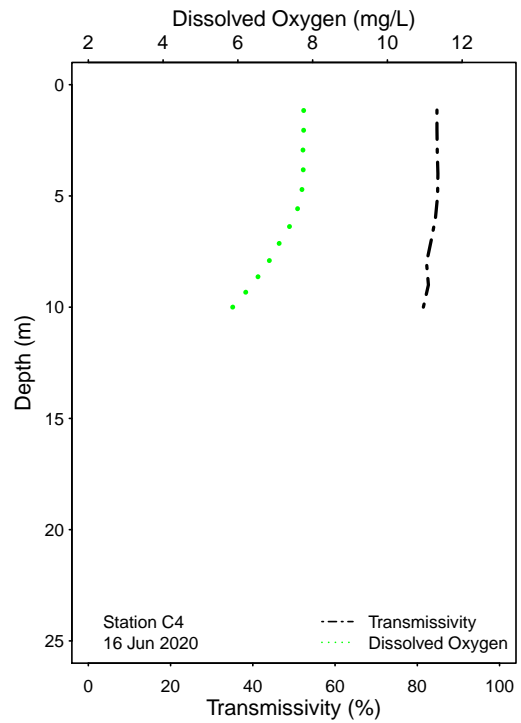
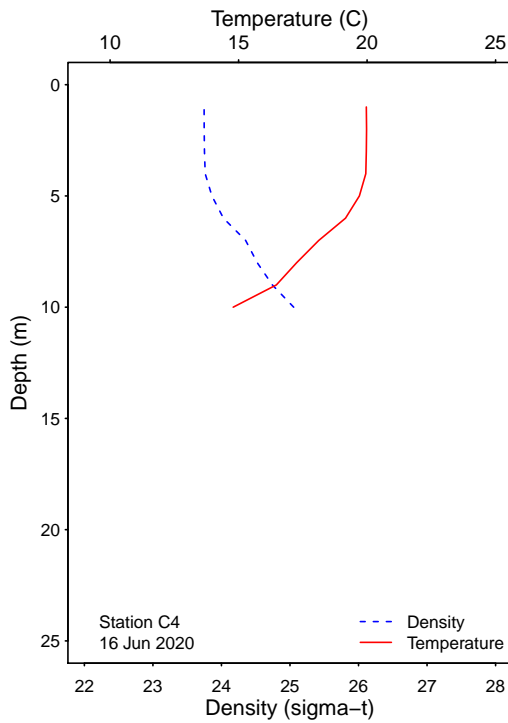
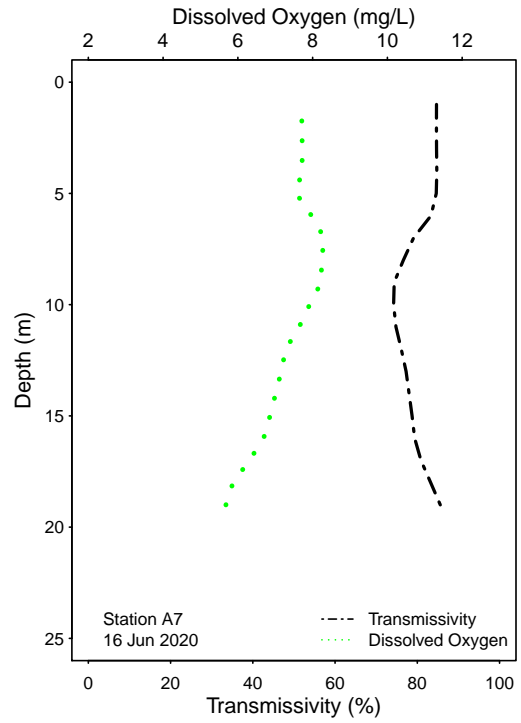
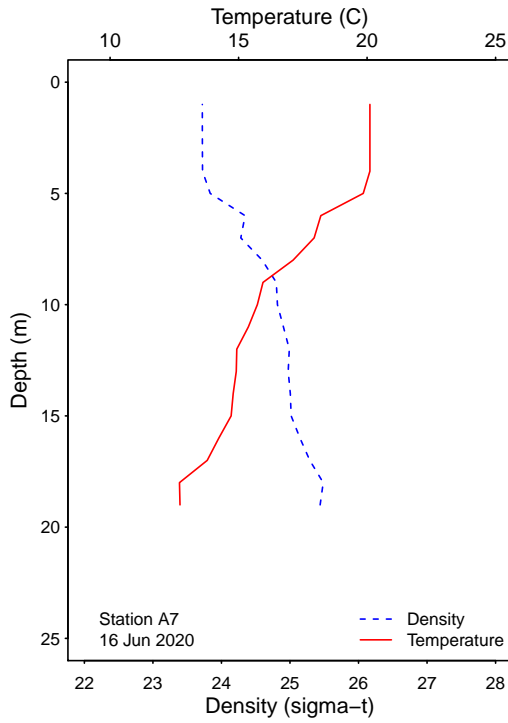


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.



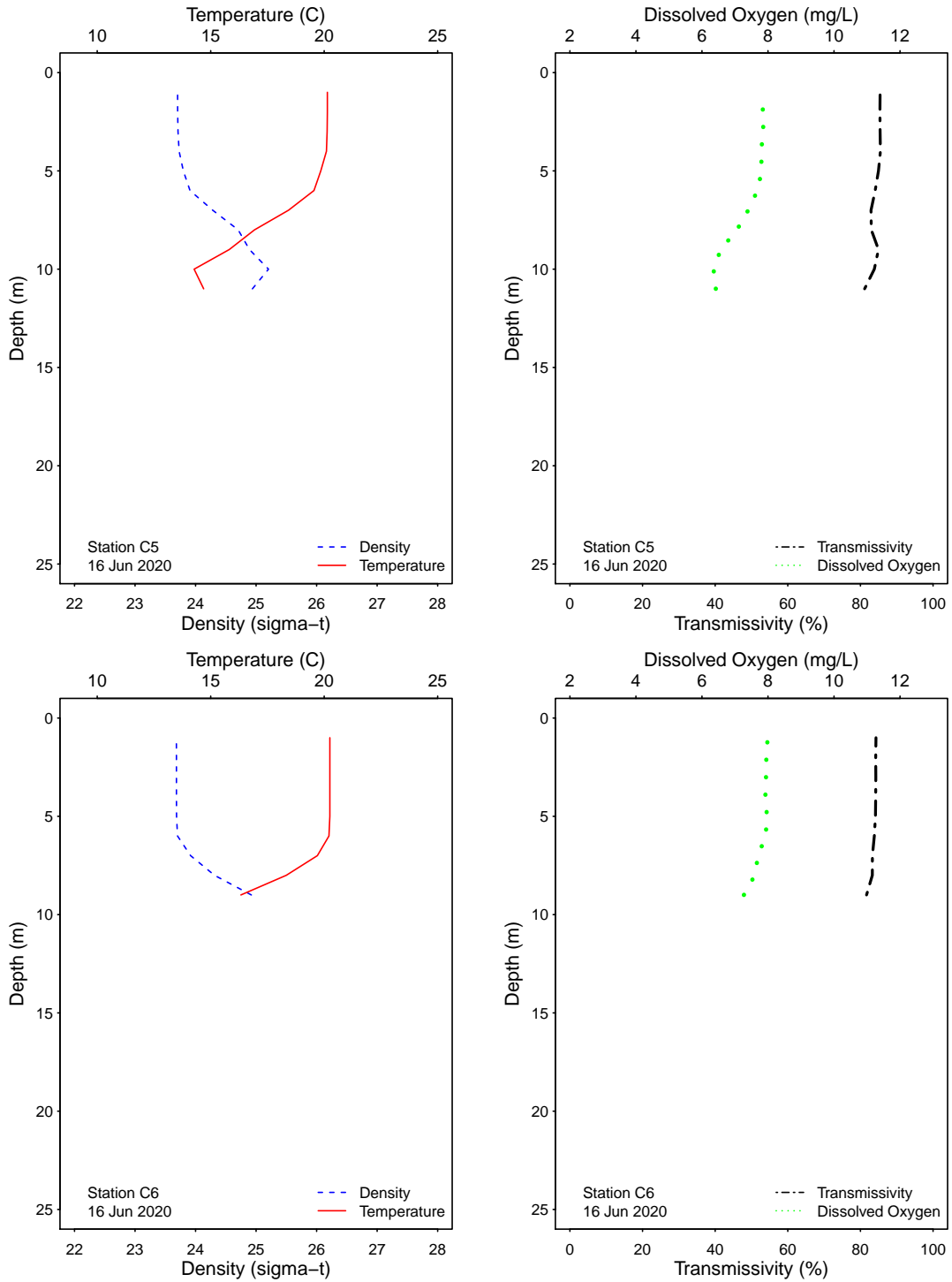


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

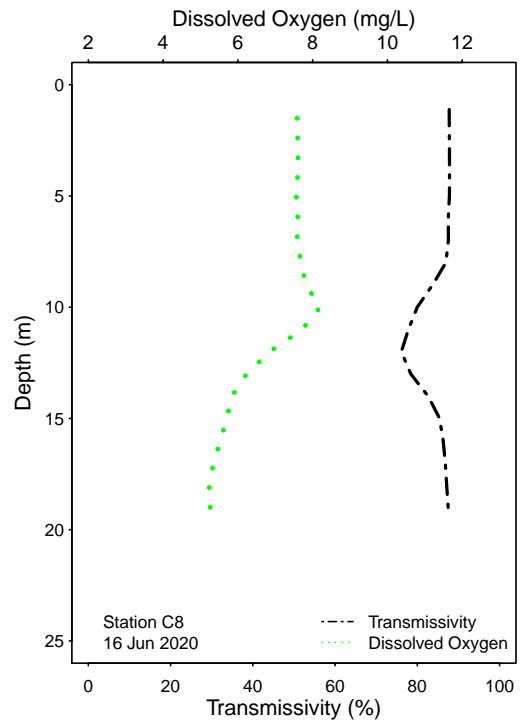
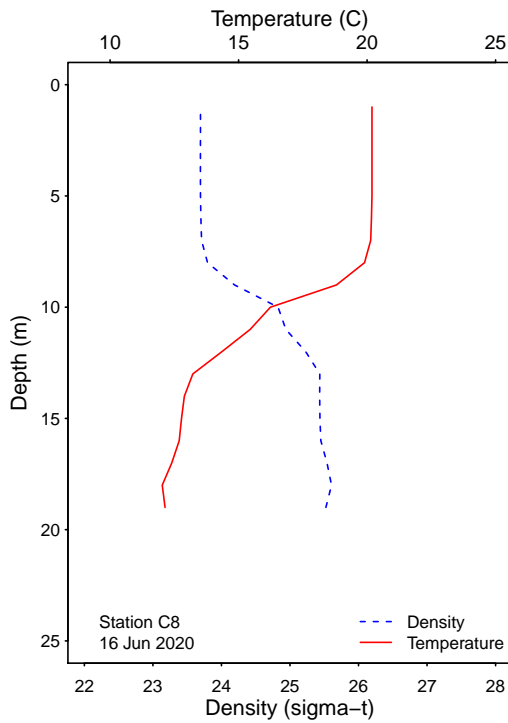
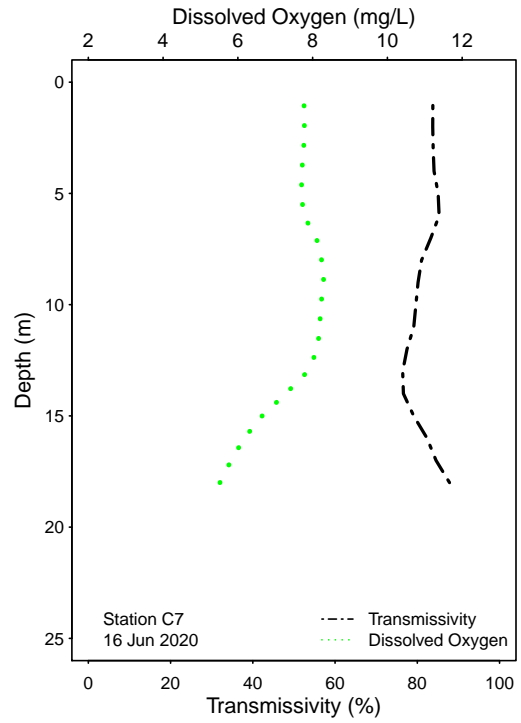
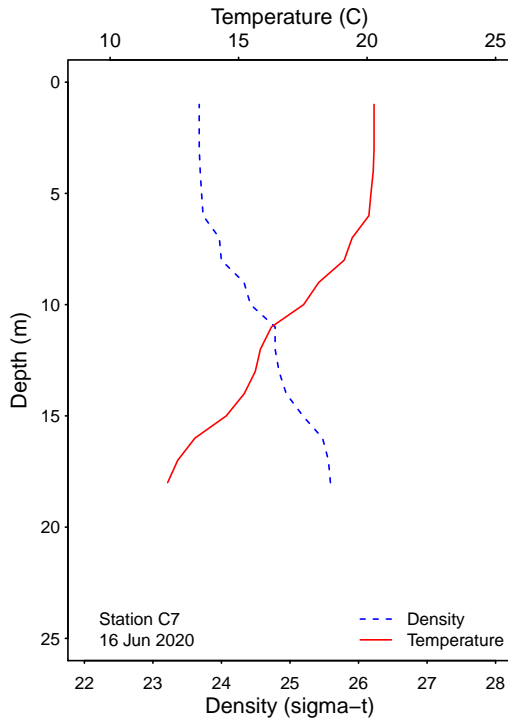


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

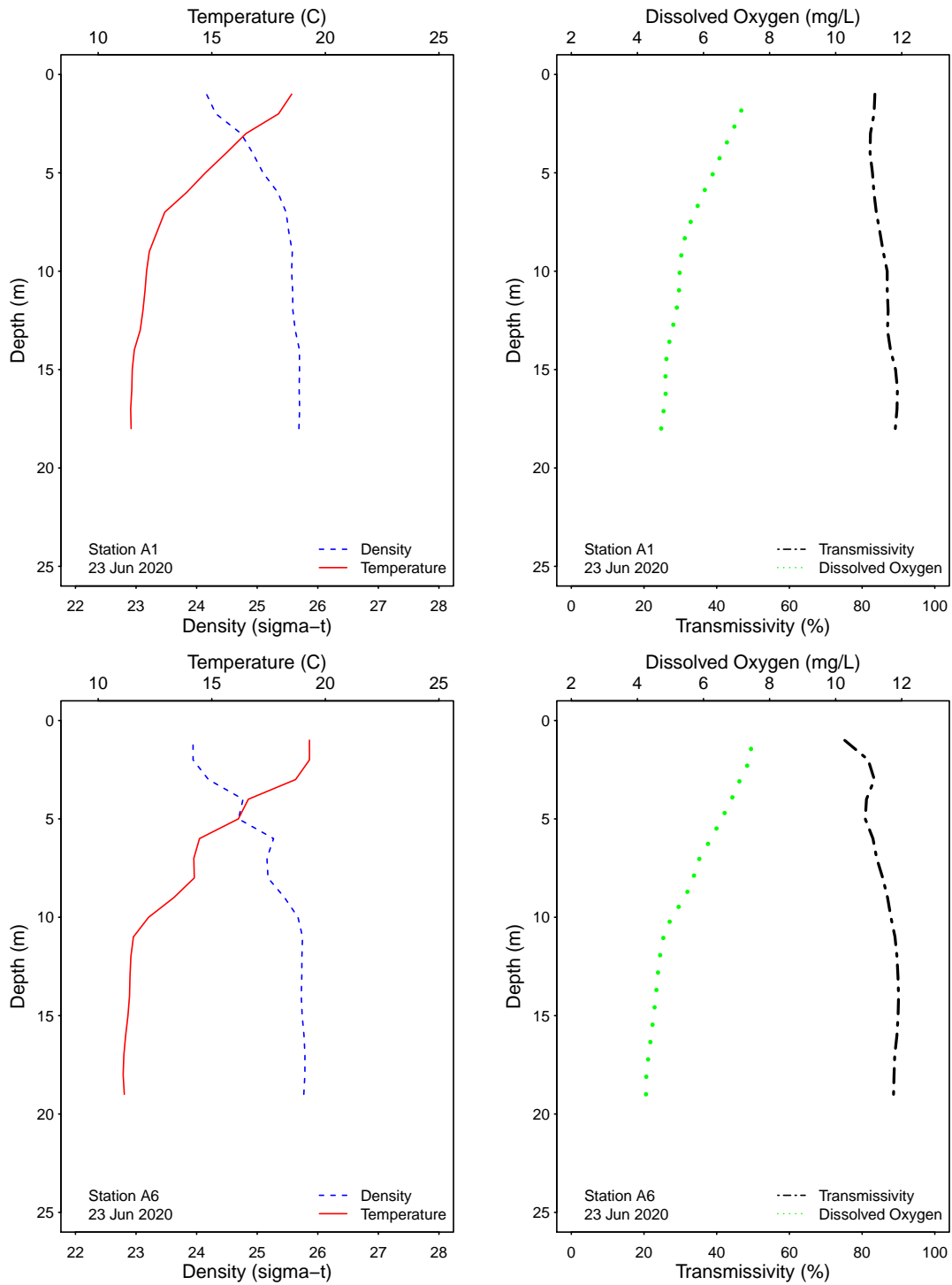


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

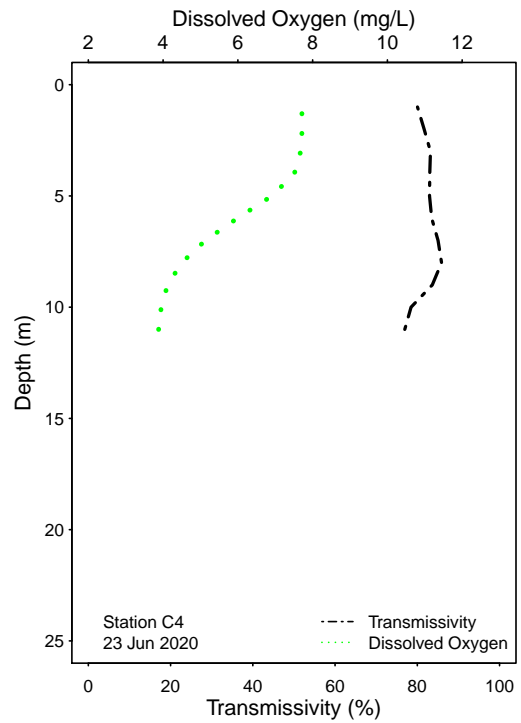
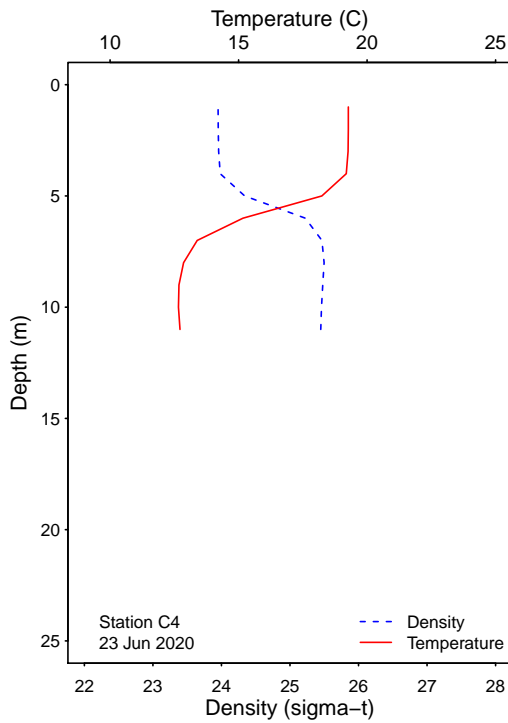
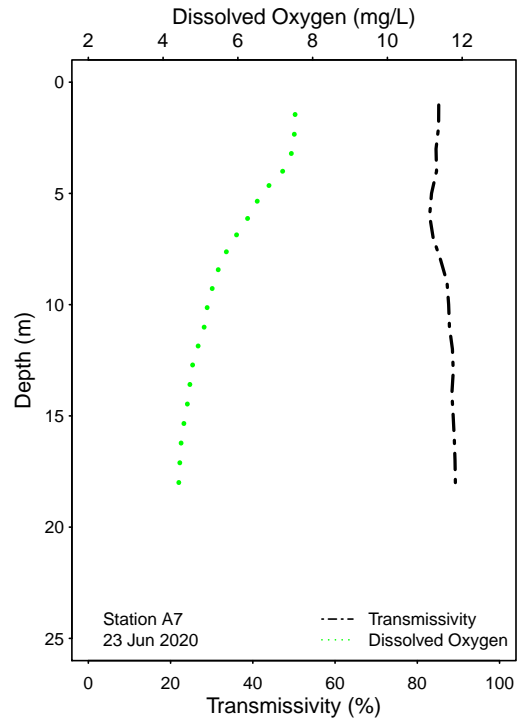
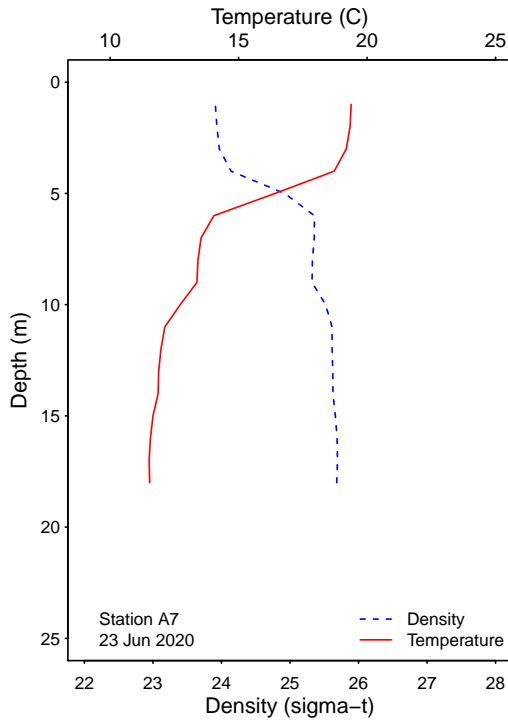


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

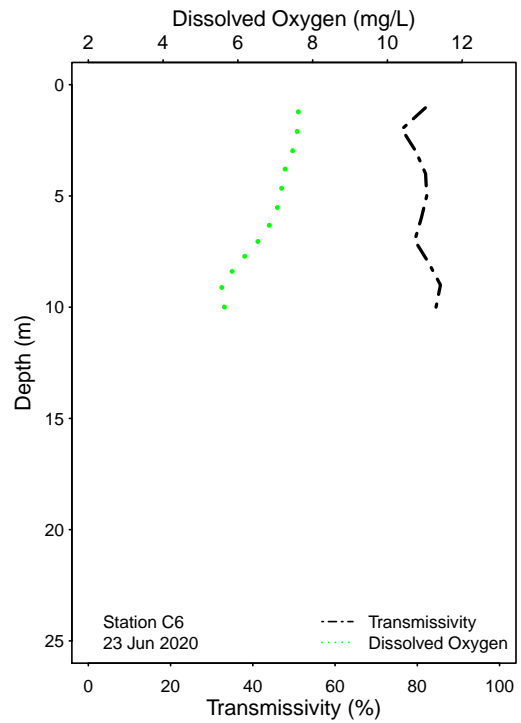
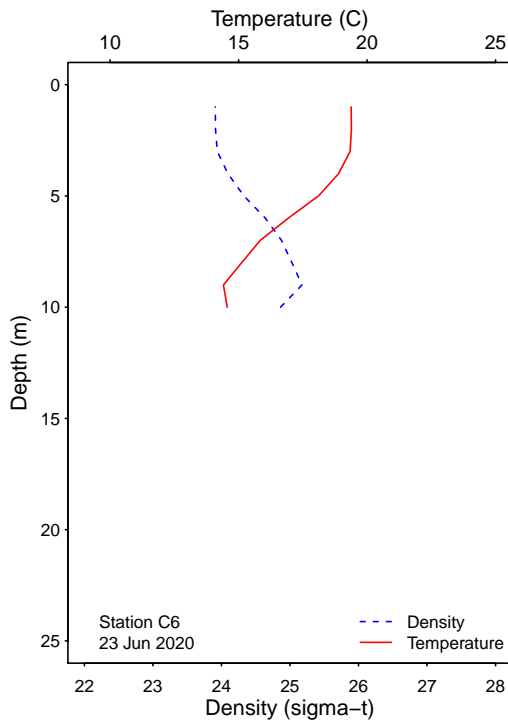
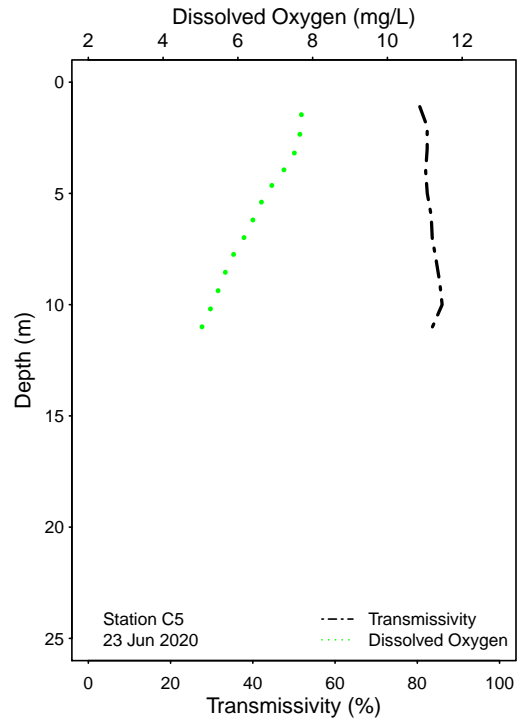
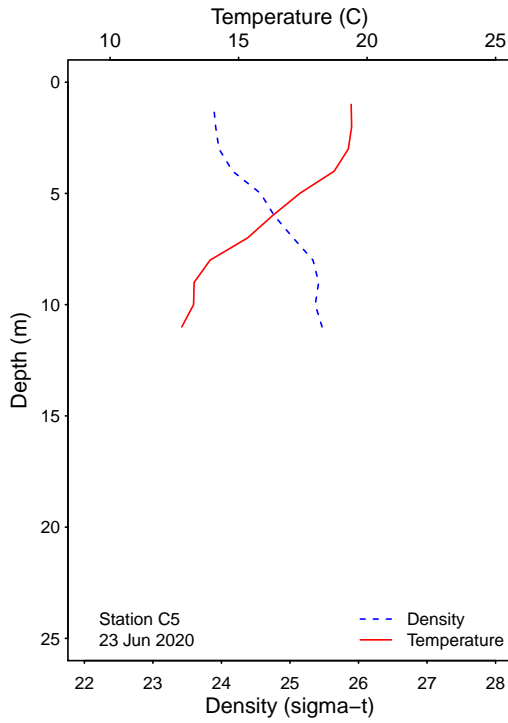


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

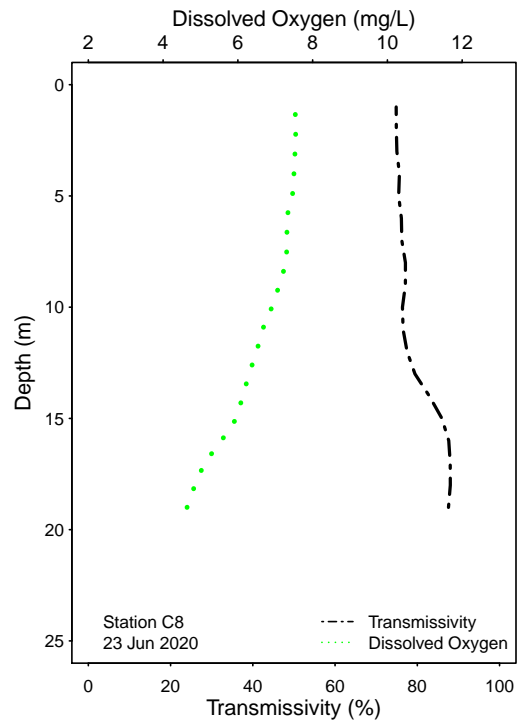
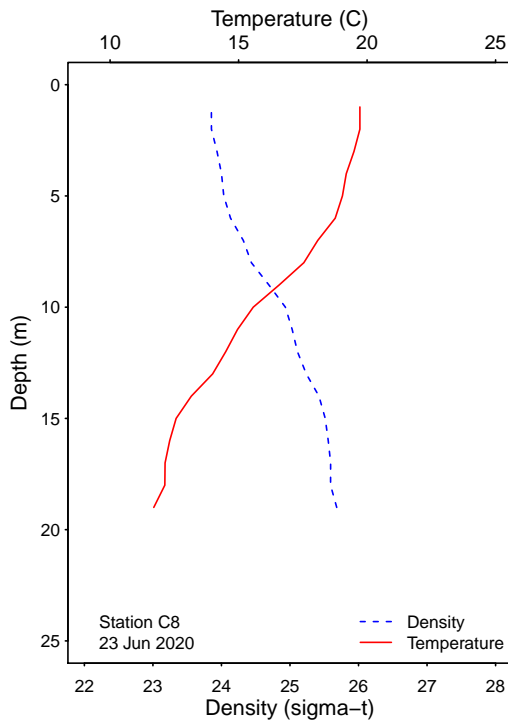
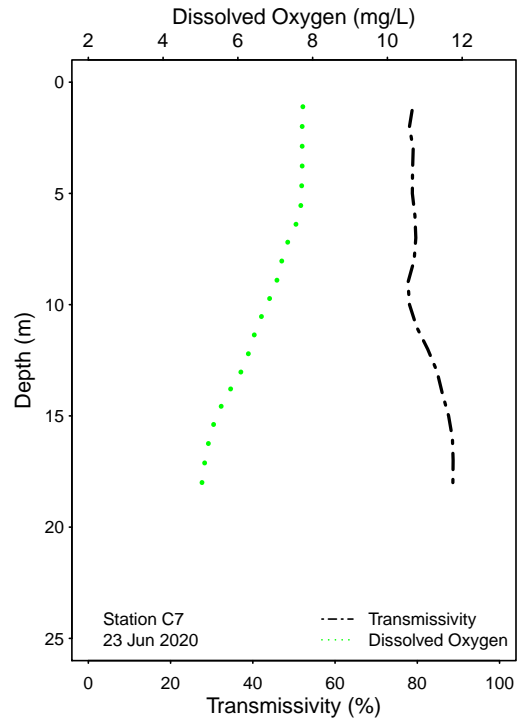
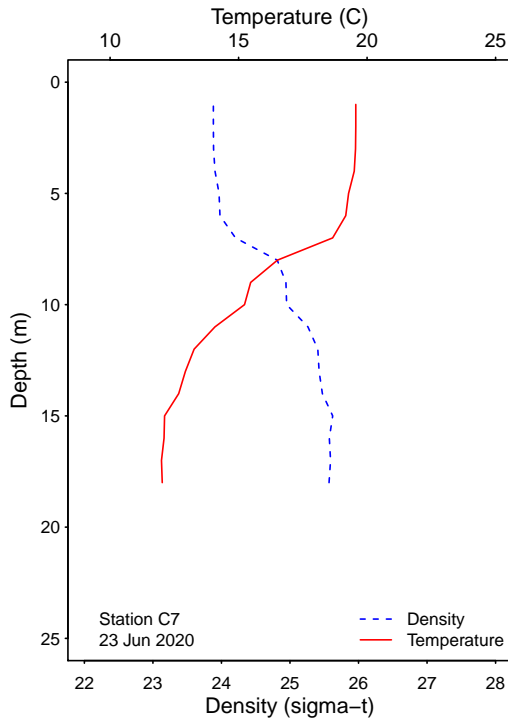


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

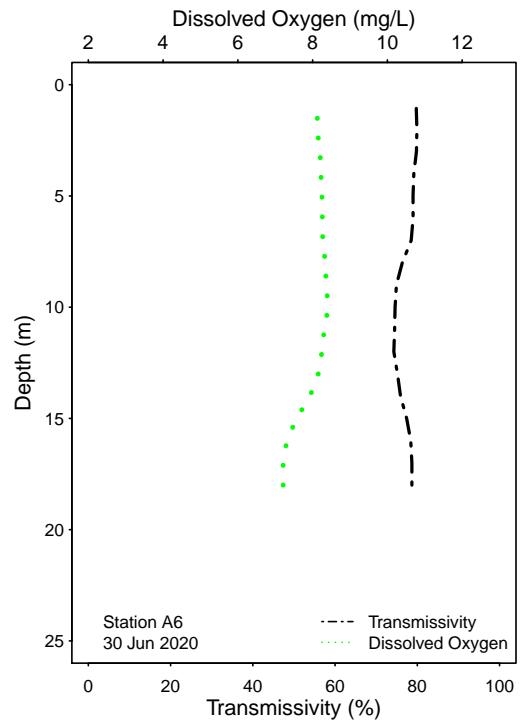
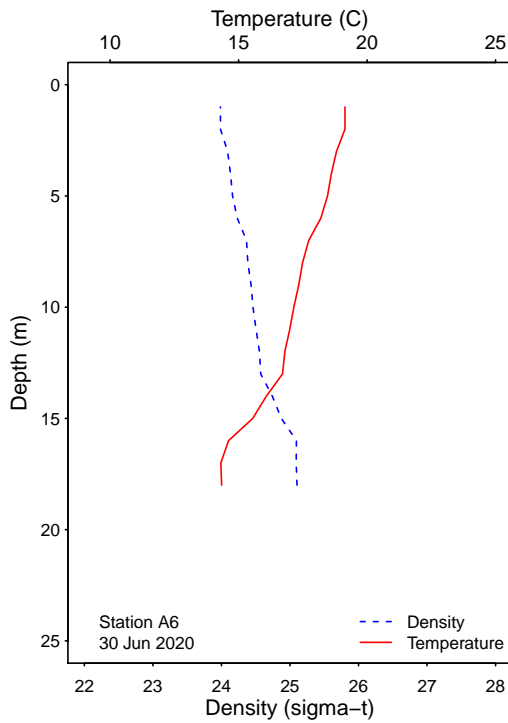
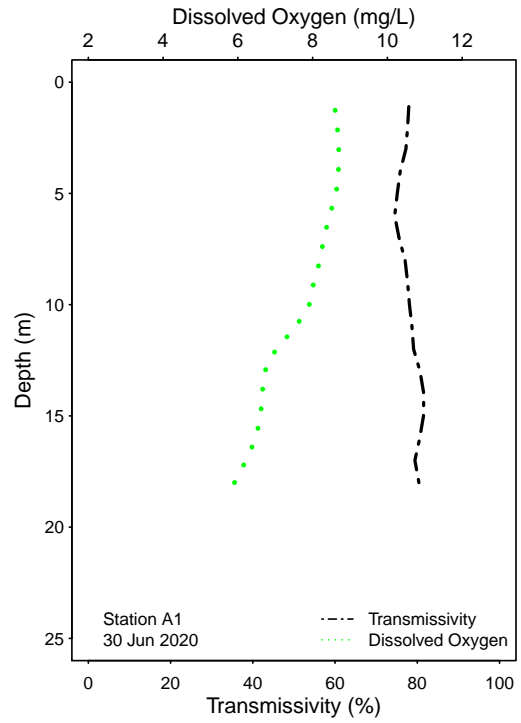
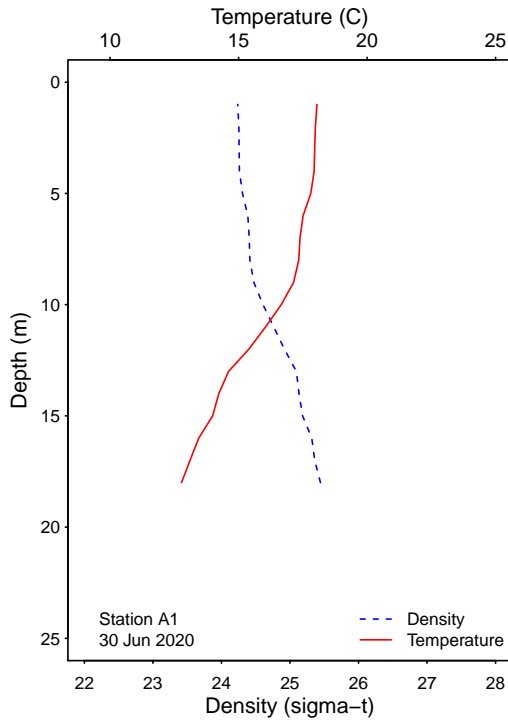


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

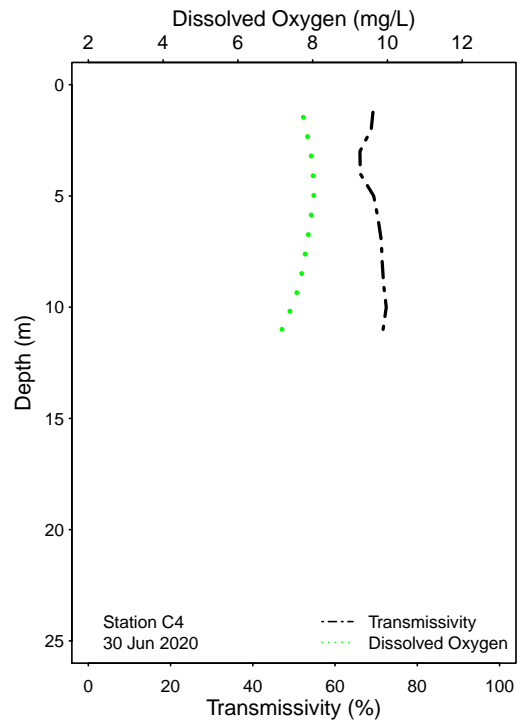
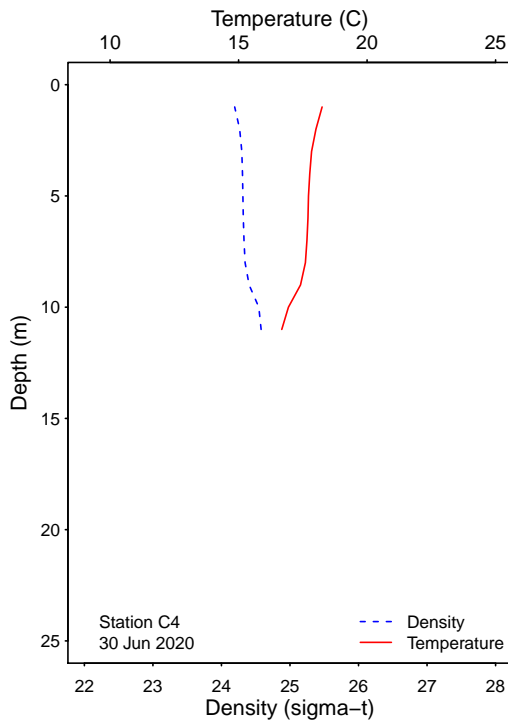
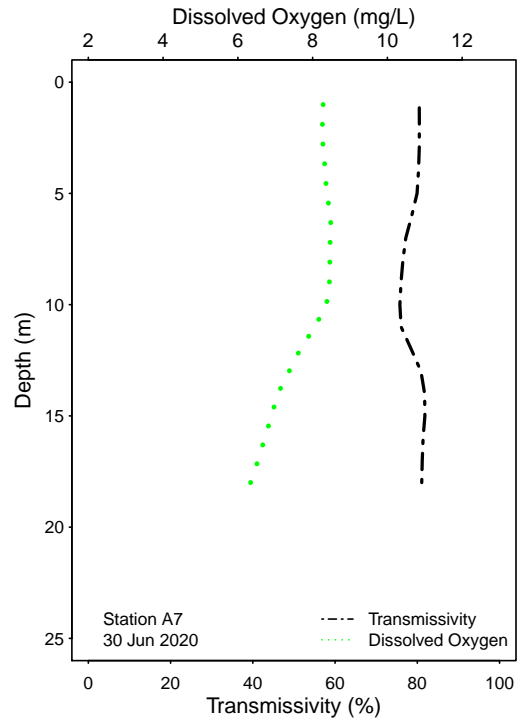
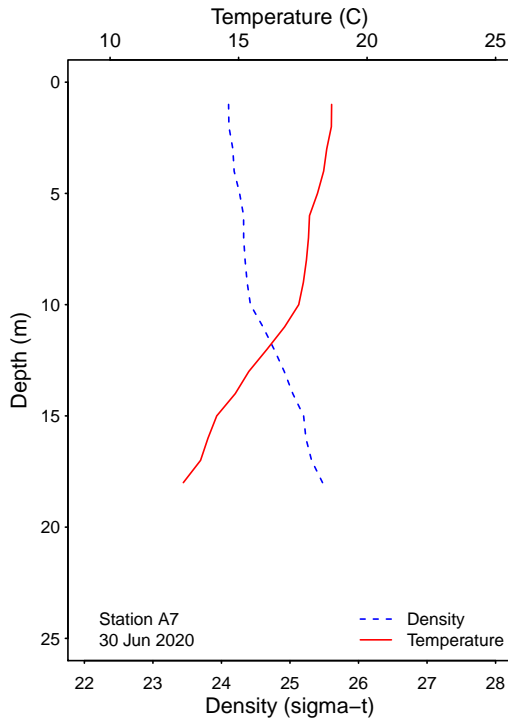


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.



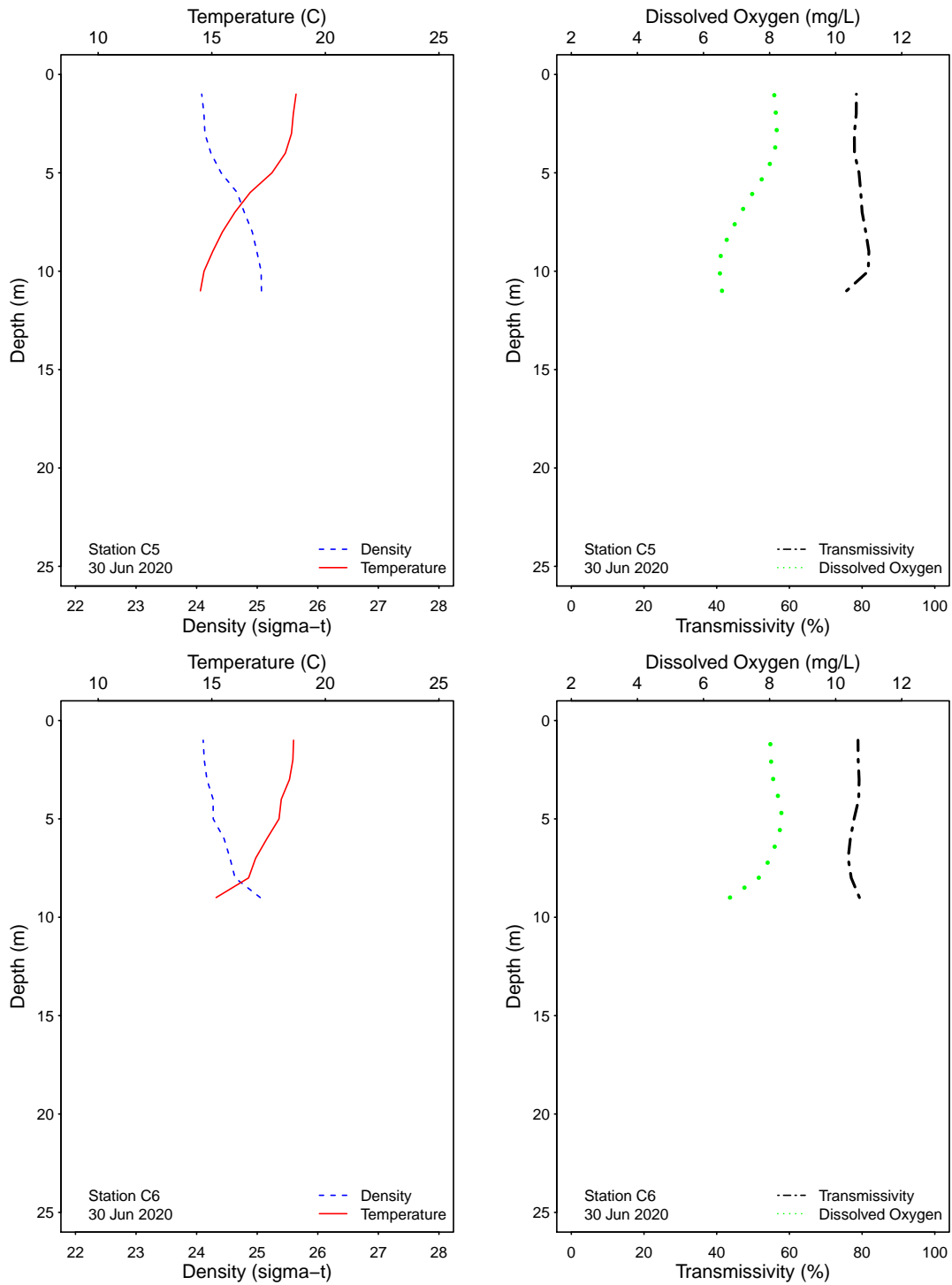


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

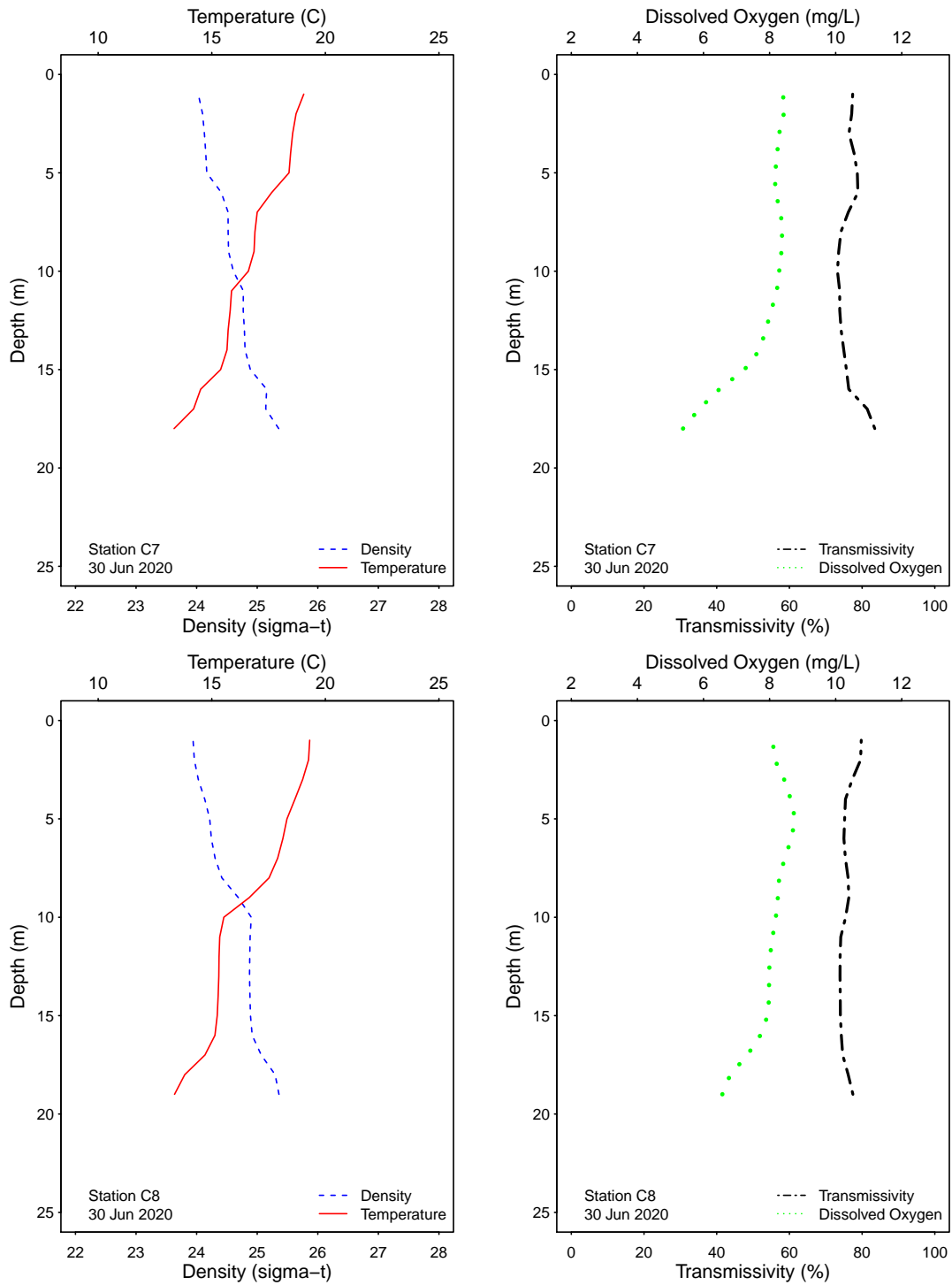


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

**APPENDIX A**

**Quality Assurance**



**Table A.1**

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

Station	Date	Depth	Analyst	Procedure	Total	Fecal	Entero
A7	02 Jun 2020	18	LMA	LAB DUPLICATE	24e	2e	<2
A7	09 Jun 2020	18	BS	LAB DUPLICATE	190	20e	8e
A7	16 Jun 2020	18	LMA	LAB DUPLICATE	<2	<2	<2
A7	23 Jun 2020	18	BS	LAB DUPLICATE	4e	<2	<2
A7	30 Jun 2020	18	BS	LAB DUPLICATE	6e	<2	<2
C7	02 Jun 2020	18	LMA	LAB DUPLICATE	10e	<2	<2
C7	09 Jun 2020	18	BS	LAB DUPLICATE	12e	2e	<2
C7	16 Jun 2020	18	BS	LAB DUPLICATE	<2	<2	<2
C7	23 Jun 2020	18	AE	LAB DUPLICATE	4e	<2	<2
C7	30 Jun 2020	18	BS	LAB DUPLICATE	<2	<2	<2
C8	02 Jun 2020	12	JF	LAB DUPLICATE	<2	<2	<2
C8	09 Jun 2020	12	BS	LAB DUPLICATE	2e	<2	<2
C8	16 Jun 2020	12	BS	LAB DUPLICATE	2e	<2	<2
C8	23 Jun 2020	12	AE	LAB DUPLICATE	<2	<2	<2
C8	30 Jun 2020	12	JF	LAB DUPLICATE	<2	<2	<2
D12	03 Jun 2020		BS	FIELD DUPLICATE	<20	<2	<2
D12	03 Jun 2020		BS	LAB DUPLICATE	<20	<2	2e
D12	10 Jun 2020		JF	FIELD DUPLICATE	8e	<2	4e
D12	10 Jun 2020		JF	LAB DUPLICATE	12e	4e	8e
D12	17 Jun 2020		AE	FIELD DUPLICATE	<20	<2	<2
D12	17 Jun 2020		AE	LAB DUPLICATE	<20	<2	<2
D12	24 Jun 2020		JF	FIELD DUPLICATE	<20	<2	2e
D12	24 Jun 2020		JF	LAB DUPLICATE	4e	<2	ns

ns = not sampled

ND = no data

