

MONTHLY RECEIVING WATERS MONITORING REPORT FOR THE POINT LOMA OCEAN OUTFALL

POINT LOMA METROPOLITAN WASTEWATER TREATMENT PLANT

NPDES PERMIT No. CA 0107409
SDRWQCB Order No. R9-2017-0007

OCTOBER 2017

Environmental Monitoring and Technical Services
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November 30, 2017

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

Attention: POTW Compliance Unit

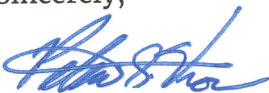
Dear Mr. Gibson:

Enclosed is the October 2017 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

TS/rjg

cc: U.S. Environmental Protection Agency, Region 9

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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 monitored at eight shore stations (D4, D5, D7–D12). These stations range from the tip of the Point Loma Peninsula to west of Mission Bay (see station locations map). Due to site inaccessibility, station D8 has been temporarily abandoned and replaced with station D8-A. This new location will be sampled until access is restored at the original location. Seawater samples are collected from the surf zone at each station five times during the month. These samples are subsequently transported to the City's Marine Microbiology Laboratory and analyzed for the presence of several types of fecal indicator bacteria (FIBs), 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 five times during the month according to permit specifications in order 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 indicator bacteria (i.e., total coliforms, fecal coliforms, and *Enterococcus*). Additional samples for ammonium analysis are collected at these same sites and depths on a quarterly basis in order to correspond to sampling at the offshore stations located within State waters that is typically scheduled during the months of February, May, August and November. 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 primarily collected using a CTD-integrated rosette sampler with Niskin bottles. Aliquots for ammonium and bacteriological analyses are then drawn from these bottles into sterile sample bottles for processing at the City's Toxicology Laboratory (ammonium) and Marine Microbiology Laboratory (bacteria), respectively. 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 eight scans per second. These scans are then internally averaged to create water column profiles with data readings at a rate of one per meter. The CTD data are presented in both graphical and tabular form. Additionally, data for depths closest to those where bacteriological samples are collected are extracted from the CTD profiles and 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); 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, chromomorphous dissolved organic matter (CDOM), and visual observations of weather and water conditions. Monitoring at sites within State waters also include the collection of discrete grab samples for ammonium analysis (see Table 4.2).

Seawater samples for ammonium and bacteriological analyses at the offshore stations are primarily 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. The CTD profile data are then presented in both graphical and tabular form. Additionally, data for depths closest to those at which bacteriological samples are collected are extracted from the CTD profiles and presented with the bacteriological data.

Bacteriological Reporting and Quality Assurance

Estimated values for bacteriological analyses are denoted by greater than (>), less than (<), or estimated (e) qualifiers and result from plates with colony counts above or below the permissible counting limits established in Bordner et al. (1978)^[1]. This document defines membrane filtration limits of 20–80 colonies per plate for total coliforms and 20–60 colonies per plate for fecal coliforms and *Enterococcus*. No Data (ND) is reported if plate counts from all dilutions have a total colony count of >200 per plate.

Results of the bacteriological analysis of seawater samples collected from each of the shore, kelp bed, and offshore stations located within State waters are assessed relative to the geometric mean and single sample maximum water-contact standards specified in the California Ocean Plan. The seven standards are defined as follows:

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

(1) Total coliform density shall not exceed 1000 CFU/100 mL;

^[1]Bordner, R., J. Winter, and P. Scarpino (eds.). (1978). *Microbiological Methods for Monitoring the Environment: Water and Wastes*, EPA Research and Development, EPA-600/8-78-017. 337 p.

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

Single Sample Maximums:

- (1) 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 exactly 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) 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 2017 Quality Assurance Report, which will be completed in March 2018.

SUMMARY OF RESULTS

Shore Stations

- During October, one of the eight shore stations was out of compliance with various California Ocean Plan (Ocean Plan) water-contact standards as follows:
 - o The single sample maximum standard for *Enterococcus* was exceeded at station D12 on October 4.
- Per permit requirements, a resample was collected in response to this SSM exceedance (see Table 2.8 for details).
- 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 surfgrass. See the City of San Diego's most recent *Point Loma Ocean Outfall Annual Receiving Waters Monitoring and Assessment Report* for details (<http://www.sandiego.gov/mwwd/environment/oceanmonitor/reports/index.shtml>).
- Nothing of sewage origin was observed at any of the shore stations.

Kelp Bed Stations

- The eight kelp bed water quality stations (A1, A6, A7, C4, C5, C6, C7, C8) were sampled five times during October (i.e. October 2, 10, 17, 26, 30).
- During October, all of the kelp bed stations were in compliance with various water-contact standards specified in the Ocean Plan.

- Water column temperatures ranged from 13.53 to 20.19°C during the month. The difference between surface and bottom waters ranged from 0.93 to 6.39°C, indicating that the water column was stratified at all of the kelp bed stations during the month.
- Chlorophyll *a* concentrations ranged from 0.56 to 2.82 µg/L during September, suggesting the presence of phytoplankton blooms during the month.
- There were no notable visual observations for October.

Offshore Stations

- Quarterly sampling was not conducted during October at the offshore stations. The next quarterly sampling is scheduled for November 2017.



TABLES AND FIGURES

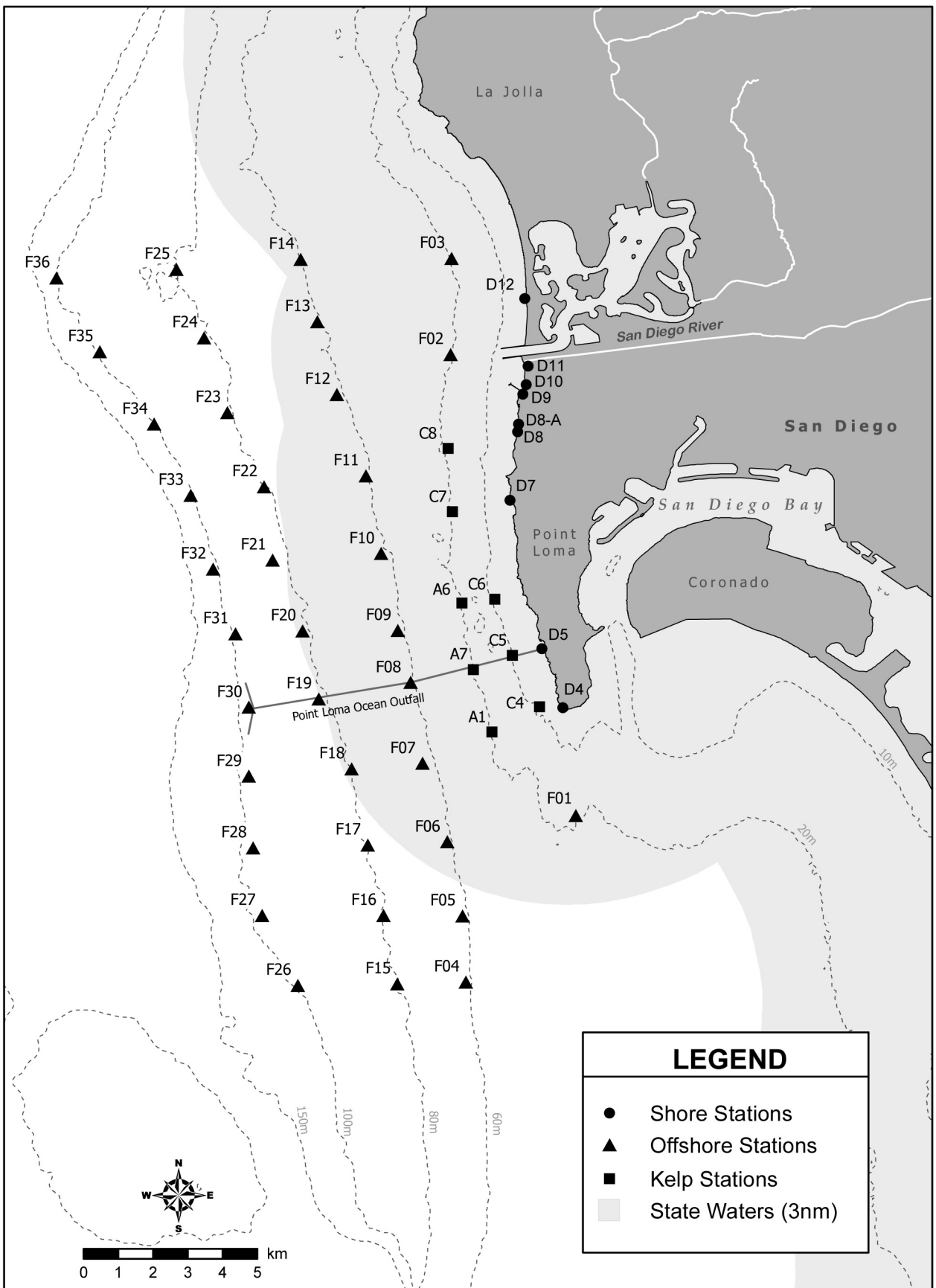


Figure 1.1 Station Map

Shore Stations

Table 2.1

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

Date	D4	D5	D7	D8-A	D9	D10	D11	D12
01 Oct 2017	89	20	51	42	41	26	11	8
02 Oct 2017	32	20*	36*	50*	37*	28*	18*	11*
03 Oct 2017	32	20*	36*	50*	37*	28*	18*	11*
04 Oct 2017	32	20	32	66	33	26	18	35
05 Oct 2017	32	20	32	66	33	26	18	35
06 Oct 2017	32	20	32	66	33	26	18	35
07 Oct 2017	32	20	32	66	33	26	18	35
08 Oct 2017	36*	20*	36*	89*	28*	19*	18*	40*
09 Oct 2017	36*	20*	36*	89*	28*	19*	18*	40*
10 Oct 2017	36*	20*	36*	89*	28*	19*	18*	40*
11 Oct 2017	50	20	32	105	26	22	18	35
12 Oct 2017	50	20	32	105	26	22	18	35
13 Oct 2017	50	20	32	105	26	22	18	35
14 Oct 2017	63*	20*	20*	89*	28*	28*	20*	71*
15 Oct 2017	63*	20*	20*	89*	28*	28*	20*	71*
16 Oct 2017	63*	20*	20*	89*	28*	28*	20*	71*
17 Oct 2017	63*	20*	20*	89*	28*	28*	20*	71*
18 Oct 2017	50	20	32	105	42	42	32	87
19 Oct 2017	50	20	32	105	42	42	32	87
20 Oct 2017	36*	20*	36*	159*	42*	42*	36*	126*
21 Oct 2017	36*	20*	36*	159*	42*	42*	36*	126*
22 Oct 2017	36*	20*	36*	159*	42*	42*	36*	126*
23 Oct 2017	36*	20*	36*	159*	42*	42*	36*	126*
24 Oct 2017	36*	20*	36*	159*	42*	42*	36*	126*
25 Oct 2017	32	20	32	121	36	36	32	87
26 Oct 2017	36*	20*	36*	134*	36*	42*	36*	126*
27 Oct 2017	36*	20*	36*	134*	36*	42*	36*	126*
28 Oct 2017	36*	20*	36*	134*	36*	42*	36*	126*
29 Oct 2017	36*	20*	36*	134*	36*	42*	36*	126*
30 Oct 2017	36*	20*	36*	134*	36*	42*	36*	126*
31 Oct 2017	36*	20*	36*	134*	36*	42*	36*	126*

* Geometric mean calculated using n<5

ns = not sampled

Table 2.2

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

Date	D4	D5	D7	D8-A	D9	D10	D11	D12
01 Oct 2017	5	3	12	2	2	5	2	2
02 Oct 2017	4*	3*	6*	2*	2*	5*	2*	2*
03 Oct 2017	4*	3*	6*	2*	2*	5*	2*	2*
04 Oct 2017	3	4	5	2	2	6	2	4
05 Oct 2017	3	4	5	2	2	6	2	4
06 Oct 2017	3	4	5	2	2	6	2	4
07 Oct 2017	3	4	5	2	2	6	2	4
08 Oct 2017	4*	4*	6*	3*	2*	6*	2*	5*
09 Oct 2017	4*	4*	6*	3*	2*	6*	2*	5*
10 Oct 2017	4*	4*	6*	3*	2*	6*	2*	5*
11 Oct 2017	3	4	7	2	2	8	3	4
12 Oct 2017	3	4	7	2	2	8	3	4
13 Oct 2017	3	4	7	2	2	8	3	4
14 Oct 2017	4*	4*	3*	3*	2*	9*	3*	5*
15 Oct 2017	4*	4*	3*	3*	2*	9*	3*	5*
16 Oct 2017	4*	4*	3*	3*	2*	9*	3*	5*
17 Oct 2017	4*	4*	3*	3*	2*	9*	3*	5*
18 Oct 2017	3	4	3	2	2	7	4	5
19 Oct 2017	3	4	3	2	2	7	4	5
20 Oct 2017	2*	3*	3*	3*	2*	9*	4*	6*
21 Oct 2017	2*	3*	3*	3*	2*	9*	4*	6*
22 Oct 2017	2*	3*	3*	3*	2*	9*	4*	6*
23 Oct 2017	2*	3*	3*	3*	2*	9*	4*	6*
24 Oct 2017	2*	3*	3*	3*	2*	9*	4*	6*
25 Oct 2017	2	3	3	2	2	6	6	5
26 Oct 2017	2*	3*	3*	3*	2*	7*	8*	6*
27 Oct 2017	2*	3*	3*	3*	2*	7*	8*	6*
28 Oct 2017	2*	3*	3*	3*	2*	7*	8*	6*
29 Oct 2017	2*	3*	3*	3*	2*	7*	8*	6*
30 Oct 2017	2*	3*	3*	3*	2*	7*	8*	6*
31 Oct 2017	2*	3*	3*	3*	2*	7*	8*	6*

* Geometric mean calculated using n<5

ns = not sampled

Table 2.3

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

Date	D4	D5	D7	D8-A	D9	D10	D11	D12
01 Oct 2017	18	2	3	2	2	4	3	4
02 Oct 2017	5	3*	2*	2*	2*	3*	3*	3*
03 Oct 2017	5	3*	2*	2*	2*	3*	3*	3*
04 Oct 2017	6	2	2	2	2	3	3	7
05 Oct 2017	6	2	2	2	2	3	3	7
06 Oct 2017	6	2	2	2	2	3	3	10
07 Oct 2017	6	2	2	2	2	3	3	10
08 Oct 2017	7*	3*	2*	2*	2*	4*	3*	14
09 Oct 2017	7*	3*	2*	2*	2*	4*	3*	14
10 Oct 2017	7*	3*	2*	2*	2*	4*	3*	14
11 Oct 2017	11	2	2	2	2	3	3	10
12 Oct 2017	11	2	2	2	2	3	3	10
13 Oct 2017	11	2	2	2	2	3	3	10
14 Oct 2017	13*	3*	2*	2*	2*	4*	3*	14
15 Oct 2017	13*	3*	2*	2*	2*	4*	3*	14
16 Oct 2017	13*	3*	2*	2*	2*	4*	3*	14
17 Oct 2017	13*	3*	2*	2*	2*	4*	3*	14
18 Oct 2017	9	2	2	2	3	6	5	13
19 Oct 2017	9	2	2	2	3	6	5	13
20 Oct 2017	6*	2*	2*	2*	3*	6*	4*	15
21 Oct 2017	6*	2*	2*	2*	3*	6*	4*	15
22 Oct 2017	6*	2*	2*	2*	3*	6*	4*	15
23 Oct 2017	6*	2*	2*	2*	3*	6*	4*	15
24 Oct 2017	6*	2*	2*	2*	3*	6*	4*	15
25 Oct 2017	5	2	2	2	3	5	4	11
26 Oct 2017	6*	2*	2*	2*	3*	6*	5*	13
27 Oct 2017	6*	2*	2*	2*	3*	6*	5*	13
28 Oct 2017	6*	2*	2*	2*	3*	6*	5*	13
29 Oct 2017	6*	2*	2*	2*	3*	6*	5*	13
30 Oct 2017	6*	2*	2*	2*	3*	6*	5*	13
31 Oct 2017	6*	2*	2*	2*	3*	6*	5*	13

* Geometric mean calculated using n<5

ns = not sampled

Table 2.4

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

Date	D4	D5	D7	D8-A	D9	D10	D11	D12
04 Oct 2017	IC	IC	IC	IC	IC	IC	IC	IC
11 Oct 2017	IC	IC	IC	IC	IC	IC	IC	IC
18 Oct 2017	IC	IC	IC	IC	IC	IC	IC	IC
25 Oct 2017	IC	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 2.5

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

Date	D4	D5	D7	D8-A	D9	D10	D11	D12
04 Oct 2017	IC	IC	IC	IC	IC	IC	IC	IC
11 Oct 2017	IC	IC	IC	IC	IC	IC	IC	IC
18 Oct 2017	IC	IC	IC	IC	IC	IC	IC	IC
25 Oct 2017	IC	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 2.6

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

Date	D4	D5	D7	D8-A	D9	D10	D11	D12
04 Oct 2017	IC	IC	IC	IC	IC	IC	IC	E
06 Oct 2017	ns	ns	ns	ns	ns	ns	ns	IC
11 Oct 2017	IC	IC	IC	IC	IC	IC	IC	IC
18 Oct 2017	IC	IC	IC	IC	IC	IC	IC	IC
25 Oct 2017	IC	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 2.7

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

Date	D4	D5	D7	D8-A	D9	D10	D11	D12
04 Oct 2017	IC	IC	IC	IC	IC	IC	IC	IC
11 Oct 2017	IC	IC	IC	IC	IC	IC	IC	IC
18 Oct 2017	IC	IC	IC	IC	IC	IC	IC	IC
25 Oct 2017	IC	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 2.8

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

Station	Date	Time	Total	Fecal	Entero	F:T
D4	04 Oct 2017	843	<20	<2	4e	0.10
D4	11 Oct 2017	1239	<200	<2	60e	0.01
D4	18 Oct 2017	805	<20	<2	2e	0.10
D4	25 Oct 2017	946	<20	2e	<2	0.10
D5	04 Oct 2017	829	<20	8e	2e	0.40
D5	11 Oct 2017	1221	<20	<2	<2	0.10
D5	18 Oct 2017	753	<20	<2	2e	0.10
D5	25 Oct 2017	1005	<20	<2	2e	0.10
D7	04 Oct 2017	920	<20	2e	4e	0.10
D7	11 Oct 2017	1146	<20	8e	<2	0.40
D7	18 Oct 2017	832	<200	<2	<2	0.01
D7	25 Oct 2017	924	<20	<2	2e	0.10
D8-A	04 Oct 2017	938	<200	6e	2e	0.03
D8-A	11 Oct 2017	1118	<200	<2	<2	0.01
D8-A	18 Oct 2017	852	<200	2e	2e	0.01
D8-A	25 Oct 2017	911	40e	<2	<2	0.05
D9	04 Oct 2017	956	<20	<2	<2	0.10
D9	11 Oct 2017	1000	<20	2e	<2	0.10
D9	18 Oct 2017	900	<200	4e	8e	0.02
D9	25 Oct 2017	842	20e	<2	<2	0.10
D10	04 Oct 2017	1006	20	12e	6e	0.60
D10	11 Oct 2017	1044	40e	<20	<2	0.50
D10	18 Oct 2017	915	200e	4e	46	0.02
D10	25 Oct 2017	829	<20	<2	<2	0.10
D11	04 Oct 2017	1027	<20	<2	<2	0.10
D11	11 Oct 2017	1032	<20	4e	2e	0.20
D11	18 Oct 2017	947	<200	20e	34e	0.10
D11	25 Oct 2017	816	20e	<20	4e	1.00
D12	04 Oct 2017	1047	3200e	110	240e	0.03
D12	06 Oct 2017	902	ns	ns	54	ns
D12	11 Oct 2017	1316	<20	<2	<2	0.10
D12	18 Oct 2017	1015	<200	4e	8e	0.02
D12	25 Oct 2017	751	<20	<2	2e	0.10

Comments

Station	Date	Depth	Parameter	Comments
D12	06 Oct 2017			Resample

Table 2.9

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

Station	Date	Parameter	Value
D4	04 Oct 2017	Arrive Time	843
D4	04 Oct 2017	Weather	Sunny
D4	04 Oct 2017	Wind Speed (kts)	0.7
D4	04 Oct 2017	Wind Dir	W
D4	04 Oct 2017	Animal Life	None
D4	04 Oct 2017	Floatables	None
D4	04 Oct 2017	Water Color	Green
D4	04 Oct 2017	Current Direction	N
D4	04 Oct 2017	Wave Height Low (ft)	2
D4	04 Oct 2017	High Tide (ft)	5.4
D4	04 Oct 2017	High Tide Time	851
D4	04 Oct 2017	Low Tide (ft)	0.1
D4	04 Oct 2017	Low Tide Time	246
D4	04 Oct 2017	Comments	Kelp; Seagrass; Algae; Water clear
D4	04 Oct 2017		16.9
D4	11 Oct 2017	Arrive Time	1239
D4	11 Oct 2017	Weather	Sunny
D4	11 Oct 2017	Wind Speed (kts)	2
D4	11 Oct 2017	Wind Dir	NW
D4	11 Oct 2017	Animal Life	None
D4	11 Oct 2017	Floatables	None
D4	11 Oct 2017	Water Color	Green
D4	11 Oct 2017	Current Direction	NW
D4	11 Oct 2017	Wave Height Low (ft)	3
D4	11 Oct 2017	High Tide (ft)	5.1
D4	11 Oct 2017	High Tide Time	1350
D4	11 Oct 2017	Low Tide (ft)	2.6
D4	11 Oct 2017	Low Tide Time	734
D4	11 Oct 2017	Comments	Kelp; Seagrass; Water turbid
D4	11 Oct 2017		20
D4	18 Oct 2017	Arrive Time	805
D4	18 Oct 2017	Weather	Sunny
D4	18 Oct 2017	Wind Speed (kts)	4.6
D4	18 Oct 2017	Wind Dir	E
D4	18 Oct 2017	Animal Life	None
D4	18 Oct 2017	Floatables	None
D4	18 Oct 2017	Water Color	Green
D4	18 Oct 2017	Current Direction	E
D4	18 Oct 2017	Wave Height Low (ft)	3
D4	18 Oct 2017	High Tide (ft)	5.7
D4	18 Oct 2017	High Tide Time	850
D4	18 Oct 2017	Low Tide (ft)	0.3
D4	18 Oct 2017	Low Tide Time	242
D4	18 Oct 2017	Comments	Kelp; Seagrass; Algae; Water clear
D4	18 Oct 2017		17.7
D4	25 Oct 2017	Arrive Time	946
D4	25 Oct 2017	Weather	Sunny
D4	25 Oct 2017	Wind Speed (kts)	2.2

Station	Date	Parameter	Value
D4	25 Oct 2017	Wind Dir	SW
D4	25 Oct 2017	Animal Life	None
D4	25 Oct 2017	Floatables	None
D4	25 Oct 2017	Water Color	Green
D4	25 Oct 2017	Current Direction	N
D4	25 Oct 2017	Wave Height Low (ft)	5
D4	25 Oct 2017	High Tide (ft)	4.5
D4	25 Oct 2017	High Tide Time	1213
D4	25 Oct 2017	Low Tide (ft)	2.9
D4	25 Oct 2017	Low Tide Time	552
D4	25 Oct 2017	Comments	Kelp; Seagrass; Algae; 3 Surfers; Water clear
D4	25 Oct 2017		18.7
D5	04 Oct 2017	Arrive Time	829
D5	04 Oct 2017	Weather	Sunny
D5	04 Oct 2017	Wind Speed (kts)	3.3
D5	04 Oct 2017	Wind Dir	W
D5	04 Oct 2017	Animal Life	None
D5	04 Oct 2017	Floatables	None
D5	04 Oct 2017	Water Color	Brown
D5	04 Oct 2017	Current Direction	N
D5	04 Oct 2017	Wave Height Low (ft)	3
D5	04 Oct 2017	High Tide (ft)	5.4
D5	04 Oct 2017	High Tide Time	851
D5	04 Oct 2017	Low Tide (ft)	0.1
D5	04 Oct 2017	Low Tide Time	246
D5	04 Oct 2017	Comments	Kelp; Seagrass; Algae; 1 Boat; 2 Fishermen; Water clear
D5	04 Oct 2017		19.2
D5	11 Oct 2017	Arrive Time	1221
D5	11 Oct 2017	Weather	Sunny
D5	11 Oct 2017	Wind Speed (kts)	2
D5	11 Oct 2017	Wind Dir	NW
D5	11 Oct 2017	Animal Life	None
D5	11 Oct 2017	Floatables	None
D5	11 Oct 2017	Water Color	Brown
D5	11 Oct 2017	Current Direction	NW
D5	11 Oct 2017	Wave Height Low (ft)	4
D5	11 Oct 2017	High Tide (ft)	5.1
D5	11 Oct 2017	High Tide Time	1350
D5	11 Oct 2017	Low Tide (ft)	2.6
D5	11 Oct 2017	Low Tide Time	734
D5	11 Oct 2017	Comments	Kelp; Seagrass; Water turbid
D5	11 Oct 2017		21
D5	18 Oct 2017	Arrive Time	753
D5	18 Oct 2017	Weather	Sunny
D5	18 Oct 2017	Wind Speed (kts)	3
D5	18 Oct 2017	Wind Dir	W
D5	18 Oct 2017	Animal Life	None
D5	18 Oct 2017	Floatables	None
D5	18 Oct 2017	Water Color	Green
D5	18 Oct 2017	Current Direction	N
D5	18 Oct 2017	Wave Height Low (ft)	4
D5	18 Oct 2017	High Tide (ft)	5.7

Station	Date	Parameter	Value
D5	18 Oct 2017	High Tide Time	850
D5	18 Oct 2017	Low Tide (ft)	0.3
D5	18 Oct 2017	Low Tide Time	242
D5	18 Oct 2017	Comments	Kelp; Seagrass; Algae; Sewage-like odor; Water clear
D5	18 Oct 2017		19.6
D5	25 Oct 2017	Arrive Time	1005
D5	25 Oct 2017	Weather	Sunny
D5	25 Oct 2017	Wind Speed (kts)	0
D5	25 Oct 2017	Wind Dir	
D5	25 Oct 2017	Animal Life	None
D5	25 Oct 2017	Floatables	None
D5	25 Oct 2017	Water Color	Green
D5	25 Oct 2017	Current Direction	N
D5	25 Oct 2017	Wave Height Low (ft)	4
D5	25 Oct 2017	High Tide (ft)	4.5
D5	25 Oct 2017	High Tide Time	1213
D5	25 Oct 2017	Low Tide (ft)	2.9
D5	25 Oct 2017	Low Tide Time	552
D5	25 Oct 2017	Comments	Kelp; Seagrass; 2 Boats; Water clear
D5	25 Oct 2017		18.6
D7	04 Oct 2017	Arrive Time	920
D7	04 Oct 2017	Weather	Partly Cloudy
D7	04 Oct 2017	Wind Speed (kts)	1.1
D7	04 Oct 2017	Wind Dir	W
D7	04 Oct 2017	Animal Life	None
D7	04 Oct 2017	Floatables	None
D7	04 Oct 2017	Water Color	Green
D7	04 Oct 2017	Current Direction	N
D7	04 Oct 2017	Wave Height Low (ft)	3
D7	04 Oct 2017	High Tide (ft)	5.4
D7	04 Oct 2017	High Tide Time	851
D7	04 Oct 2017	Low Tide (ft)	0.6
D7	04 Oct 2017	Low Tide Time	1500
D7	04 Oct 2017	Comments	Kelp; Seagrass; Algae; Water clear
D7	04 Oct 2017		17.1
D7	11 Oct 2017	Arrive Time	1146
D7	11 Oct 2017	Weather	Sunny
D7	11 Oct 2017	Wind Speed (kts)	2
D7	11 Oct 2017	Wind Dir	NW
D7	11 Oct 2017	Animal Life	None
D7	11 Oct 2017	Floatables	None
D7	11 Oct 2017	Water Color	Green
D7	11 Oct 2017	Current Direction	NW
D7	11 Oct 2017	Wave Height Low (ft)	4
D7	11 Oct 2017	High Tide (ft)	5.1
D7	11 Oct 2017	High Tide Time	1350
D7	11 Oct 2017	Low Tide (ft)	2.6
D7	11 Oct 2017	Low Tide Time	734
D7	11 Oct 2017	Comments	Kelp; Seagrass; Water turbid
D7	11 Oct 2017		21
D7	18 Oct 2017	Arrive Time	832

Station	Date	Parameter	Value
D7	18 Oct 2017	Weather	Sunny
D7	18 Oct 2017	Wind Speed (kts)	4.6
D7	18 Oct 2017	Wind Dir	E
D7	18 Oct 2017	Animal Life	None
D7	18 Oct 2017	Floatables	None
D7	18 Oct 2017	Water Color	Green
D7	18 Oct 2017	Current Direction	N
D7	18 Oct 2017	Wave Height Low (ft)	4
D7	18 Oct 2017	High Tide (ft)	5.7
D7	18 Oct 2017	High Tide Time	850
D7	18 Oct 2017	Low Tide (ft)	0.3
D7	18 Oct 2017	Low Tide Time	242
D7	18 Oct 2017	Comments	Kelp; Seagrass; Algae; 1 Person; 6 Surfers; 1 Swimmer; Water clear
D7	18 Oct 2017		17.9
D7	25 Oct 2017	Arrive Time	924
D7	25 Oct 2017	Weather	Sunny
D7	25 Oct 2017	Wind Speed (kts)	1.2
D7	25 Oct 2017	Wind Dir	S
D7	25 Oct 2017	Animal Life	None
D7	25 Oct 2017	Floatables	None
D7	25 Oct 2017	Water Color	Green
D7	25 Oct 2017	Current Direction	N
D7	25 Oct 2017	Wave Height Low (ft)	4
D7	25 Oct 2017	High Tide (ft)	4.5
D7	25 Oct 2017	High Tide Time	1213
D7	25 Oct 2017	Low Tide (ft)	2.9
D7	25 Oct 2017	Low Tide Time	552
D7	25 Oct 2017	Comments	Kelp; Seagrass; Algae; 1 Person; 3 Surfers; Water clear
D7	25 Oct 2017		18.3
D8-A	04 Oct 2017	Arrive Time	938
D8-A	04 Oct 2017	Weather	Sunny
D8-A	04 Oct 2017	Wind Speed (kts)	0.1
D8-A	04 Oct 2017	Wind Dir	W
D8-A	04 Oct 2017	Animal Life	None
D8-A	04 Oct 2017	Floatables	None
D8-A	04 Oct 2017	Water Color	Brown
D8-A	04 Oct 2017	Current Direction	N
D8-A	04 Oct 2017	Wave Height Low (ft)	3
D8-A	04 Oct 2017	High Tide (ft)	5.4
D8-A	04 Oct 2017	High Tide Time	851
D8-A	04 Oct 2017	Low Tide (ft)	0.6
D8-A	04 Oct 2017	Low Tide Time	1500
D8-A	04 Oct 2017	Comments	Kelp; Seagrass; Algae; Water clear
D8-A	04 Oct 2017		17.5
D8-A	11 Oct 2017	Arrive Time	1118
D8-A	11 Oct 2017	Weather	Sunny
D8-A	11 Oct 2017	Wind Speed (kts)	2
D8-A	11 Oct 2017	Wind Dir	NW
D8-A	11 Oct 2017	Animal Life	None
D8-A	11 Oct 2017	Floatables	None
D8-A	11 Oct 2017	Water Color	Green

Station	Date	Parameter	Value
D8-A	11 Oct 2017	Current Direction	NW
D8-A	11 Oct 2017	Wave Height Low (ft)	3
D8-A	11 Oct 2017	High Tide (ft)	5.1
D8-A	11 Oct 2017	High Tide Time	1350
D8-A	11 Oct 2017	Low Tide (ft)	2.6
D8-A	11 Oct 2017	Low Tide Time	734
D8-A	11 Oct 2017	Comments	Kelp; Seagrass; Water turbid
D8-A	11 Oct 2017		18
D8-A	18 Oct 2017	Arrive Time	852
D8-A	18 Oct 2017	Weather	Sunny
D8-A	18 Oct 2017	Wind Speed (kts)	2.2
D8-A	18 Oct 2017	Wind Dir	E
D8-A	18 Oct 2017	Animal Life	None
D8-A	18 Oct 2017	Floatables	None
D8-A	18 Oct 2017	Water Color	Green
D8-A	18 Oct 2017	Current Direction	N
D8-A	18 Oct 2017	Wave Height Low (ft)	3
D8-A	18 Oct 2017	High Tide (ft)	5.7
D8-A	18 Oct 2017	High Tide Time	850
D8-A	18 Oct 2017	Low Tide (ft)	0.3
D8-A	18 Oct 2017	Low Tide Time	242
D8-A	18 Oct 2017	Comments	Kelp; Seagrass; Algae; Water clear
D8-A	18 Oct 2017		17.1
D8-A	25 Oct 2017	Arrive Time	911
D8-A	25 Oct 2017	Weather	Sunny
D8-A	25 Oct 2017	Wind Speed (kts)	0
D8-A	25 Oct 2017	Wind Dir	
D8-A	25 Oct 2017	Animal Life	None
D8-A	25 Oct 2017	Floatables	None
D8-A	25 Oct 2017	Water Color	Green
D8-A	25 Oct 2017	Current Direction	N
D8-A	25 Oct 2017	Wave Height Low (ft)	4
D8-A	25 Oct 2017	High Tide (ft)	4.5
D8-A	25 Oct 2017	High Tide Time	1213
D8-A	25 Oct 2017	Low Tide (ft)	2.9
D8-A	25 Oct 2017	Low Tide Time	552
D8-A	25 Oct 2017	Comments	Kelp; Seagrass; 5 Surfers; Water clear
D8-A	25 Oct 2017		17.9
D9	04 Oct 2017	Arrive Time	956
D9	04 Oct 2017	Weather	Sunny
D9	04 Oct 2017	Wind Speed (kts)	2.4
D9	04 Oct 2017	Wind Dir	W
D9	04 Oct 2017	Animal Life	None
D9	04 Oct 2017	Floatables	None
D9	04 Oct 2017	Water Color	Green
D9	04 Oct 2017	Current Direction	N
D9	04 Oct 2017	Wave Height Low (ft)	3
D9	04 Oct 2017	High Tide (ft)	5.4
D9	04 Oct 2017	High Tide Time	851
D9	04 Oct 2017	Low Tide (ft)	0.6
D9	04 Oct 2017	Low Tide Time	1500
D9	04 Oct 2017	Comments	Kelp; Seagrass; Algae; 2 Persons; Water clear

Station	Date	Parameter	Value
D9	04 Oct 2017		18.3
D9	11 Oct 2017	Arrive Time	1000
D9	11 Oct 2017	Weather	Sunny
D9	11 Oct 2017	Wind Speed (kts)	2
D9	11 Oct 2017	Wind Dir	NW
D9	11 Oct 2017	Animal Life	None
D9	11 Oct 2017	Floatables	None
D9	11 Oct 2017	Water Color	Green
D9	11 Oct 2017	Current Direction	NW
D9	11 Oct 2017	Wave Height Low (ft)	3
D9	11 Oct 2017	High Tide (ft)	5.1
D9	11 Oct 2017	High Tide Time	1350
D9	11 Oct 2017	Low Tide (ft)	2.6
D9	11 Oct 2017	Low Tide Time	734
D9	11 Oct 2017	Comments	Kelp; Seagrass; 2 Surfers; Water turbid
D9	11 Oct 2017		13
D9	18 Oct 2017	Arrive Time	900
D9	18 Oct 2017	Weather	Sunny
D9	18 Oct 2017	Wind Speed (kts)	3.3
D9	18 Oct 2017	Wind Dir	E
D9	18 Oct 2017	Animal Life	None
D9	18 Oct 2017	Floatables	None
D9	18 Oct 2017	Water Color	Green
D9	18 Oct 2017	Current Direction	N
D9	18 Oct 2017	Wave Height Low (ft)	3
D9	18 Oct 2017	High Tide (ft)	5.7
D9	18 Oct 2017	High Tide Time	850
D9	18 Oct 2017	Low Tide (ft)	0.2
D9	18 Oct 2017	Low Tide Time	1513
D9	18 Oct 2017	Comments	Kelp; Seagrass; 1 Person; 5 Surfers; Water clear
D9	18 Oct 2017		18.4
D9	25 Oct 2017	Arrive Time	842
D9	25 Oct 2017	Weather	Sunny
D9	25 Oct 2017	Wind Speed (kts)	0
D9	25 Oct 2017	Wind Dir	
D9	25 Oct 2017	Animal Life	None
D9	25 Oct 2017	Floatables	None
D9	25 Oct 2017	Water Color	Green
D9	25 Oct 2017	Current Direction	N
D9	25 Oct 2017	Wave Height Low (ft)	4
D9	25 Oct 2017	High Tide (ft)	4.5
D9	25 Oct 2017	High Tide Time	1213
D9	25 Oct 2017	Low Tide (ft)	2.9
D9	25 Oct 2017	Low Tide Time	552
D9	25 Oct 2017	Comments	Kelp; Seagrass; Algae; 2 Persons; 4 Surfers
D9	25 Oct 2017		17.4
D10	04 Oct 2017	Arrive Time	1006
D10	04 Oct 2017	Weather	Sunny
D10	04 Oct 2017	Wind Speed (kts)	3.4
D10	04 Oct 2017	Wind Dir	W
D10	04 Oct 2017	Animal Life	None

Station	Date	Parameter	Value
D10	04 Oct 2017	Floatables	None
D10	04 Oct 2017	Water Color	Green
D10	04 Oct 2017	Current Direction	N
D10	04 Oct 2017	Wave Height Low (ft)	3
D10	04 Oct 2017	High Tide (ft)	5.4
D10	04 Oct 2017	High Tide Time	851
D10	04 Oct 2017	Low Tide (ft)	0.6
D10	04 Oct 2017	Low Tide Time	1500
D10	04 Oct 2017	Comments	Kelp; Seagrass; 5 Persons; Water clear
D10	04 Oct 2017		17.9
D10	11 Oct 2017	Arrive Time	1044
D10	11 Oct 2017	Weather	Sunny
D10	11 Oct 2017	Wind Speed (kts)	2
D10	11 Oct 2017	Wind Dir	NW
D10	11 Oct 2017	Animal Life	None
D10	11 Oct 2017	Floatables	None
D10	11 Oct 2017	Water Color	Green
D10	11 Oct 2017	Current Direction	NW
D10	11 Oct 2017	Wave Height Low (ft)	3
D10	11 Oct 2017	High Tide (ft)	5.1
D10	11 Oct 2017	High Tide Time	1350
D10	11 Oct 2017	Low Tide (ft)	2.6
D10	11 Oct 2017	Low Tide Time	734
D10	11 Oct 2017	Comments	Kelp; Seagrass; 20 Persons; 20 Surfers; Water turbid
D10	11 Oct 2017		18
D10	18 Oct 2017	Arrive Time	915
D10	18 Oct 2017	Weather	Sunny
D10	18 Oct 2017	Wind Speed (kts)	0.9
D10	18 Oct 2017	Wind Dir	E
D10	18 Oct 2017	Animal Life	None
D10	18 Oct 2017	Floatables	None
D10	18 Oct 2017	Water Color	Green
D10	18 Oct 2017	Current Direction	N
D10	18 Oct 2017	Wave Height Low (ft)	7
D10	18 Oct 2017	High Tide (ft)	5.7
D10	18 Oct 2017	High Tide Time	850
D10	18 Oct 2017	Low Tide (ft)	0.2
D10	18 Oct 2017	Low Tide Time	1513
D10	18 Oct 2017	Comments	Kelp; Seagrass; 15 Surfers; Water clear
D10	18 Oct 2017		19.1
D10	25 Oct 2017	Arrive Time	829
D10	25 Oct 2017	Weather	Sunny
D10	25 Oct 2017	Wind Speed (kts)	1.8
D10	25 Oct 2017	Wind Dir	SW
D10	25 Oct 2017	Animal Life	None
D10	25 Oct 2017	Floatables	None
D10	25 Oct 2017	Water Color	Green
D10	25 Oct 2017	Current Direction	N
D10	25 Oct 2017	Wave Height Low (ft)	5
D10	25 Oct 2017	High Tide (ft)	4.5
D10	25 Oct 2017	High Tide Time	1213
D10	25 Oct 2017	Low Tide (ft)	2.9

Station	Date	Parameter	Value
D10	25 Oct 2017	Low Tide Time	552
D10	25 Oct 2017	Comments	Kelp; Seagrass; 4 Persons; 8 Surfers; Water clear
D10	25 Oct 2017		18.2
D11	04 Oct 2017	Arrive Time	1027
D11	04 Oct 2017	Weather	Sunny
D11	04 Oct 2017	Wind Speed (kts)	3.7
D11	04 Oct 2017	Wind Dir	W
D11	04 Oct 2017	Animal Life	None
D11	04 Oct 2017	Floatables	None
D11	04 Oct 2017	Water Color	Green
D11	04 Oct 2017	Current Direction	N
D11	04 Oct 2017	Wave Height Low (ft)	3
D11	04 Oct 2017	High Tide (ft)	5.4
D11	04 Oct 2017	High Tide Time	851
D11	04 Oct 2017	Low Tide (ft)	0.6
D11	04 Oct 2017	Low Tide Time	1500
D11	04 Oct 2017	Comments	Kelp; Seagrass; 2 Persons; 8 Surfers; 2 Swimmers; Water clear
D11	04 Oct 2017		17.8
D11	11 Oct 2017	Arrive Time	1032
D11	11 Oct 2017	Weather	Sunny
D11	11 Oct 2017	Wind Speed (kts)	2
D11	11 Oct 2017	Wind Dir	SW
D11	11 Oct 2017	Animal Life	None
D11	11 Oct 2017	Floatables	None
D11	11 Oct 2017	Water Color	Green
D11	11 Oct 2017	Current Direction	SW
D11	11 Oct 2017	Wave Height Low (ft)	3
D11	11 Oct 2017	High Tide (ft)	5.1
D11	11 Oct 2017	High Tide Time	1350
D11	11 Oct 2017	Low Tide (ft)	2.6
D11	11 Oct 2017	Low Tide Time	734
D11	11 Oct 2017	Comments	Kelp; Seagrass; 2 Surfers; Water turbid
D11	11 Oct 2017		19
D11	18 Oct 2017	Arrive Time	947
D11	18 Oct 2017	Weather	Sunny
D11	18 Oct 2017	Wind Speed (kts)	7.3
D11	18 Oct 2017	Wind Dir	S
D11	18 Oct 2017	Animal Life	None
D11	18 Oct 2017	Floatables	None
D11	18 Oct 2017	Water Color	Green
D11	18 Oct 2017	Current Direction	N
D11	18 Oct 2017	Wave Height Low (ft)	6
D11	18 Oct 2017	High Tide (ft)	5.7
D11	18 Oct 2017	High Tide Time	850
D11	18 Oct 2017	Low Tide (ft)	0.2
D11	18 Oct 2017	Low Tide Time	1513
D11	18 Oct 2017	Comments	Kelp; Seagrass; 4 Persons; 5 Surfers; 1 Swimmer; Water clear
D11	18 Oct 2017		18.9
D11	25 Oct 2017	Arrive Time	816
D11	25 Oct 2017	Weather	Sunny
D11	25 Oct 2017	Wind Speed (kts)	1.2

Station	Date	Parameter	Value
D11	25 Oct 2017	Wind Dir	SW
D11	25 Oct 2017	Animal Life	4 Dogs
D11	25 Oct 2017	Floatables	None
D11	25 Oct 2017	Water Color	Green
D11	25 Oct 2017	Current Direction	N
D11	25 Oct 2017	Wave Height Low (ft)	3
D11	25 Oct 2017	High Tide (ft)	4.5
D11	25 Oct 2017	High Tide Time	1213
D11	25 Oct 2017	Low Tide (ft)	2.9
D11	25 Oct 2017	Low Tide Time	552
D11	25 Oct 2017	Comments	Kelp; Seagrass; 1 Jogger; 3 Persons; 12 Surfers; Water clear
D11	25 Oct 2017		18.3
D12	04 Oct 2017	Arrive Time	1047
D12	04 Oct 2017	Weather	Sunny
D12	04 Oct 2017	Wind Speed (kts)	6.9
D12	04 Oct 2017	Wind Dir	NW
D12	04 Oct 2017	Animal Life	None
D12	04 Oct 2017	Floatables	None
D12	04 Oct 2017	Water Color	Green
D12	04 Oct 2017	Current Direction	N
D12	04 Oct 2017	Wave Height Low (ft)	3
D12	04 Oct 2017	High Tide (ft)	5.4
D12	04 Oct 2017	High Tide Time	851
D12	04 Oct 2017	Low Tide (ft)	0.6
D12	04 Oct 2017	Low Tide Time	1500
D12	04 Oct 2017	Comments	Kelp; Seagrass; 1 Jogger; 19 Persons; 1 Surfer; 4 Swimmers; Water clear
D12	04 Oct 2017		19.3
D12	06 Oct 2017	Arrive Time	902
D12	06 Oct 2017	Weather	Sunny
D12	06 Oct 2017	Wind Speed (kts)	0.3
D12	06 Oct 2017	Wind Dir	W
D12	06 Oct 2017	Animal Life	None
D12	06 Oct 2017	Floatables	None
D12	06 Oct 2017	Water Color	Green
D12	06 Oct 2017	Current Direction	N
D12	06 Oct 2017	Wave Height Low (ft)	3
D12	06 Oct 2017	High Tide (ft)	5.9
D12	06 Oct 2017	High Tide Time	951
D12	06 Oct 2017	Low Tide (ft)	0.4
D12	06 Oct 2017	Low Tide Time	347
D12	06 Oct 2017	Comments	Kelp; Seagrass; 1 Jogger; 3 Persons; 2 Surfers; 1 Swimmer; Water clear
D12	06 Oct 2017		18.8
D12	11 Oct 2017	Arrive Time	1316
D12	11 Oct 2017	Weather	Sunny
D12	11 Oct 2017	Wind Speed (kts)	2
D12	11 Oct 2017	Wind Dir	NW
D12	11 Oct 2017	Animal Life	None
D12	11 Oct 2017	Floatables	None
D12	11 Oct 2017	Water Color	Green
D12	11 Oct 2017	Current Direction	NW

Station	Date	Parameter	Value
D12	11 Oct 2017	Wave Height Low (ft)	3
D12	11 Oct 2017	High Tide (ft)	5.1
D12	11 Oct 2017	High Tide Time	1350
D12	11 Oct 2017	Low Tide (ft)	2.6
D12	11 Oct 2017	Low Tide Time	734
D12	11 Oct 2017	Comments	Kelp; Seagrass; 20 Persons; Water turbid
D12	11 Oct 2017		15
D12	18 Oct 2017	Arrive Time	1015
D12	18 Oct 2017	Weather	Sunny
D12	18 Oct 2017	Wind Speed (kts)	3.8
D12	18 Oct 2017	Wind Dir	SW
D12	18 Oct 2017	Animal Life	None
D12	18 Oct 2017	Floatables	None
D12	18 Oct 2017	Water Color	Green
D12	18 Oct 2017	Current Direction	N
D12	18 Oct 2017	Wave Height Low (ft)	5
D12	18 Oct 2017	High Tide (ft)	5.7
D12	18 Oct 2017	High Tide Time	850
D12	18 Oct 2017	Low Tide (ft)	0.2
D12	18 Oct 2017	Low Tide Time	1513
D12	18 Oct 2017	Comments	Kelp; Seagrass; 1 Jogger; 8 Persons; 1 Swimmer; Water clear
D12	18 Oct 2017		20.7
D12	25 Oct 2017	Arrive Time	751
D12	25 Oct 2017	Weather	Sunny
D12	25 Oct 2017	Wind Speed (kts)	2.6
D12	25 Oct 2017	Wind Dir	SE
D12	25 Oct 2017	Animal Life	None
D12	25 Oct 2017	Floatables	None
D12	25 Oct 2017	Water Color	Green
D12	25 Oct 2017	Current Direction	N
D12	25 Oct 2017	Wave Height Low (ft)	3
D12	25 Oct 2017	High Tide (ft)	4.5
D12	25 Oct 2017	High Tide Time	1213
D12	25 Oct 2017	Low Tide (ft)	2.9
D12	25 Oct 2017	Low Tide Time	552
D12	25 Oct 2017	Comments	Kelp; Seagrass; 1 Jogger; 4 Persons; Water clear
D12	25 Oct 2017		16.6

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Kelp Stations

Table 3.1

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

Date	A1	A6	A7	C4	C5	C6	C7	C8
01 Oct 2017	3	3	4	7	4	3	2	6
02 Oct 2017	3	3	3	7	5	4	2	5
03 Oct 2017	3	3	3	7	5	4	2	5
04 Oct 2017	3	3	3	7	5	4	2	5
05 Oct 2017	3	3	3	6	4	4	2	4
06 Oct 2017	3	3	3	6	4	4	2	4
07 Oct 2017	3	3	3	6	4	4	2	4
08 Oct 2017	3	3	3	6	4	4	2	4
09 Oct 2017	3	3	3	6	4	4	2	4
10 Oct 2017	3	4	3	6	5	4	2	3
11 Oct 2017	2	3	3	5	6	4	2	4
12 Oct 2017	2	3	3	5	6	4	2	4
13 Oct 2017	2	3	3	5	6	4	2	4
14 Oct 2017	2	3	3	5	6	4	2	4
15 Oct 2017	2	3	3	5	6	4	2	4
16 Oct 2017	2*	3*	3*	4*	7*	5*	2*	3*
17 Oct 2017	3	4	4	3	6	4	3	3
18 Oct 2017	3	4	4	3	6	4	3	3
19 Oct 2017	3	4	4	3	6	4	3	3
20 Oct 2017	4*	5*	5*	4*	5*	3*	3*	4*
21 Oct 2017	4*	5*	5*	4*	5*	3*	3*	4*
22 Oct 2017	4*	5*	5*	4*	5*	3*	3*	4*
23 Oct 2017	4*	5*	5*	4*	5*	3*	3*	4*
24 Oct 2017	4*	5*	5*	4*	5*	3*	3*	4*
25 Oct 2017	4*	5*	5*	4*	5*	3*	3*	4*
26 Oct 2017	3	5	6	3	5	3	3	3
27 Oct 2017	3	5	6	3	5	3	3	3
28 Oct 2017	4*	7*	8*	4*	7*	3*	3*	2*
29 Oct 2017	4*	7*	8*	4*	7*	3*	3*	2*
30 Oct 2017	3	5	6	4	7	3	3	2
31 Oct 2017	3	5	6	4	7	3	3	2

* Geometric mean calculated using n<5

Table 3.2

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

Date	A1	A6	A7	C4	C5	C6	C7	C8
01 Oct 2017	2	2	2	2	2	2	2	2
02 Oct 2017	2	2	2	2	2	2	2	2
03 Oct 2017	2	2	2	2	2	2	2	2
04 Oct 2017	2	2	2	2	2	2	2	2
05 Oct 2017	2	2	2	2	2	2	2	2
06 Oct 2017	2	2	2	2	2	2	2	2
07 Oct 2017	2	2	2	2	2	2	2	2
08 Oct 2017	2	2	2	2	2	2	2	2
09 Oct 2017	2	2	2	2	2	2	2	2
10 Oct 2017	2	2	2	2	2	2	2	2
11 Oct 2017	2	2	2	2	2	2	2	2
12 Oct 2017	2	2	2	2	2	2	2	2
13 Oct 2017	2	2	2	2	2	2	2	2
14 Oct 2017	2	2	2	2	2	2	2	2
15 Oct 2017	2	2	2	2	2	2	2	2
16 Oct 2017	2*	2*	2*	2*	2*	2*	2*	3*
17 Oct 2017	2	2	2	2	2	2	2	2
18 Oct 2017	2	2	2	2	2	2	2	2
19 Oct 2017	2	2	2	2	2	2	2	2
20 Oct 2017	2*	2*	3*	2*	2*	2*	2*	3*
21 Oct 2017	2*	2*	3*	2*	2*	2*	2*	3*
22 Oct 2017	2*	2*	3*	2*	2*	2*	2*	3*
23 Oct 2017	2*	2*	3*	2*	2*	2*	2*	3*
24 Oct 2017	2*	2*	3*	2*	2*	2*	2*	3*
25 Oct 2017	2*	2*	3*	2*	2*	2*	2*	3*
26 Oct 2017	2	2	2	2	2	2	2	2
27 Oct 2017	2	2	2	2	2	2	2	2
28 Oct 2017	2*	2*	3*	2*	2*	2*	2*	2*
29 Oct 2017	2*	2*	3*	2*	2*	2*	2*	2*
30 Oct 2017	2	2	2	2	2	2	2	2
31 Oct 2017	2	2	2	2	2	2	2	2

* Geometric mean calculated using n<5

Table 3.3

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

Date	A1	A6	A7	C4	C5	C6	C7	C8
01 Oct 2017	2	2	2	2	2	2	2	2
02 Oct 2017	2	2	2	2	2	2	2	2
03 Oct 2017	2	2	2	2	2	2	2	2
04 Oct 2017	2	2	2	2	2	2	2	2
05 Oct 2017	2	2	2	2	2	2	2	2
06 Oct 2017	2	2	2	2	2	2	2	2
07 Oct 2017	2	2	2	2	2	2	2	2
08 Oct 2017	2	2	2	2	2	2	2	2
09 Oct 2017	2	2	2	2	2	2	2	2
10 Oct 2017	2	2	2	2	2	2	2	2
11 Oct 2017	2	2	2	2	2	2	2	2
12 Oct 2017	2	2	2	2	2	2	2	2
13 Oct 2017	2	2	2	2	2	2	2	2
14 Oct 2017	2	2	2	2	2	2	2	2
15 Oct 2017	2	2	2	2	2	2	2	2
16 Oct 2017	2*	2*	2*	2*	2*	2*	2*	2*
17 Oct 2017	2	2	2	2	2	2	2	2
18 Oct 2017	2	2	2	2	2	2	2	2
19 Oct 2017	2	2	2	2	2	2	2	2
20 Oct 2017	2*	2*	2*	2*	2*	2*	2*	2*
21 Oct 2017	2*	2*	2*	2*	2*	2*	2*	2*
22 Oct 2017	2*	2*	2*	2*	2*	2*	2*	2*
23 Oct 2017	2*	2*	2*	2*	2*	2*	2*	2*
24 Oct 2017	2*	2*	2*	2*	2*	2*	2*	2*
25 Oct 2017	2*	2*	2*	2*	2*	2*	2*	2*
26 Oct 2017	2	2	2	2	2	2	2	2
27 Oct 2017	2	2	2	2	2	2	2	2
28 Oct 2017	2*	2*	2*	2*	2*	2*	2*	2*
29 Oct 2017	2*	2*	2*	2*	2*	2*	2*	2*
30 Oct 2017	2	2	2	2	2	2	2	2
31 Oct 2017	2	2	2	2	2	2	2	2

* Geometric mean calculated using n<5

Table 3.4

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

Date	A1	A6	A7	C4	C5	C6	C7	C8
02 Oct 2017	IC	IC	IC	IC	IC	IC	IC	IC
10 Oct 2017	IC	IC	IC	IC	IC	IC	IC	IC
17 Oct 2017	IC	IC	IC	IC	IC	IC	IC	IC
26 Oct 2017	IC	IC	IC	IC	IC	IC	IC	IC
30 Oct 2017	IC	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 3.5

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

Date	A1	A6	A7	C4	C5	C6	C7	C8
02 Oct 2017	IC	IC	IC	IC	IC	IC	IC	IC
10 Oct 2017	IC	IC	IC	IC	IC	IC	IC	IC
17 Oct 2017	IC	IC	IC	IC	IC	IC	IC	IC
26 Oct 2017	IC	IC	IC	IC	IC	IC	IC	IC
30 Oct 2017	IC	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 3.6

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

Date	A1	A6	A7	C4	C5	C6	C7	C8
02 Oct 2017	IC	IC	IC	IC	IC	IC	IC	IC
10 Oct 2017	IC	IC	IC	IC	IC	IC	IC	IC
17 Oct 2017	IC	IC	IC	IC	IC	IC	IC	IC
26 Oct 2017	IC	IC	IC	IC	IC	IC	IC	IC
30 Oct 2017	IC	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 3.7

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

Date	A1	A6	A7	C4	C5	C6	C7	C8
02 Oct 2017	IC	IC	IC	IC	IC	IC	IC	IC
10 Oct 2017	IC	IC	IC	IC	IC	IC	IC	IC
17 Oct 2017	IC	IC	IC	IC	IC	IC	IC	IC
26 Oct 2017	IC	IC	IC	IC	IC	IC	IC	IC
30 Oct 2017	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; ammonium (N-NH₃) values are reported as mg/L; 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	N-NH ₃	Temp	XMS	DO	Sal	pH
A1	02 Oct 2017	801	1	2e	<2	2e	1.00	ns	19.5	76.46	7.5	33.47	8.1
A1	02 Oct 2017	801	12	<2	<2	6e	1.00	ns	16.3	78.30	8.0	33.33	8.1
A1	02 Oct 2017	801	18	2e	<2	<2	1.00	ns	15.4	77.58	7.4	33.39	8.1
A1	10 Oct 2017	750	1	2e	<2	<2	1.00	ns	19.6	83.44	8.0	33.43	8.1
A1	10 Oct 2017	750	12	<2	<2	<2	1.00	ns	17.5	83.45	7.6	33.38	8.1
A1	10 Oct 2017	750	18	4e	<2	<2	0.50	ns	15.2	87.08	7.6	33.35	8.1
A1	17 Oct 2017	754	1	<2	2e	<2	1.00	ns	19.9	82.83	8.3	33.45	8.1
A1	17 Oct 2017	754	12	8e	<2	<2	0.25	ns	15.3	86.66	7.1	33.36	8.0
A1	17 Oct 2017	754	18	40	<2	<2	0.05	ns	13.7	87.81	6.5	33.36	8.0
A1	26 Oct 2017	815	1	2e	<2	<2	1.00	ns	19.3	85.98	8.0	33.49	8.1
A1	26 Oct 2017	815	12	<2	<2	<2	1.00	ns	15.0	85.53	7.5	33.38	8.0
A1	26 Oct 2017	815	18	4e	<2	<2	0.50	ns	14.1	83.23	7.0	33.37	8.0
A1	30 Oct 2017	808	1	<2	<2	<2	1.00	ns	18.9	83.77	8.0	33.46	8.1
A1	30 Oct 2017	808	12	<2	<2	<2	1.00	ns	18.3	81.07	7.9	33.46	8.1
A1	30 Oct 2017	808	18	<2	<2	<2	1.00	ns	16.4	76.56	7.6	33.38	8.1
C4	02 Oct 2017	956	1	<2	<2	<2	1.00	ns	19.6	76.91	7.2	33.43	8.1
C4	02 Oct 2017	956	3	<2	<2	<2	1.00	ns	19.5	77.12	7.7	33.43	8.2
C4	02 Oct 2017	956	9	20e	<2	<2	0.10	ns	18.6	76.93	6.5	33.46	8.1
C4	10 Oct 2017	925	1	<2	<2	<2	1.00	ns	19.6	78.52	7.6	33.43	8.2
C4	10 Oct 2017	925	3	<2	<2	<2	1.00	ns	19.5	78.10	7.6	33.43	8.2
C4	10 Oct 2017	925	9	<20	<2	<2	0.10	ns	19.3	72.54	7.3	33.43	8.1
C4	17 Oct 2017	937	1	<2	<2	<2	1.00	ns	19.6	79.05	7.9	33.45	8.1
C4	17 Oct 2017	937	3	<2	<2	<2	1.00	ns	19.5	79.21	7.8	33.45	8.1
C4	17 Oct 2017	937	9	<2	<2	<2	1.00	ns	16.1	82.45	7.1	33.40	8.1
C4	26 Oct 2017	951	1	<2	<2	<2	1.00	ns	18.8	78.12	8.0	33.48	8.2
C4	26 Oct 2017	951	3	<2	<2	<2	1.00	ns	18.4	77.44	7.7	33.50	8.1
C4	26 Oct 2017	951	9	2e	<2	<2	1.00	ns	16.6	57.57	6.8	33.46	8.0
C4	30 Oct 2017	944	1	4e	<2	<2	0.50	ns	18.7	53.01	6.8	33.45	8.0
C4	30 Oct 2017	944	3	2e	<2	<2	1.00	ns	18.7	56.21	6.8	33.46	8.0
C4	30 Oct 2017	944	9	<2	<2	<2	1.00	ns	16.8	63.64	6.5	33.39	8.0
C5	02 Oct 2017	942	1	<20	<2	<2	0.10	ns	20.0	69.68	7.0	33.45	8.1
C5	02 Oct 2017	942	3	<20	<2	<2	0.10	ns	19.9	69.96	7.1	33.45	8.1
C5	02 Oct 2017	942	9	<2	<2	<2	1.00	ns	17.5	77.54	6.9	33.41	8.1
C5	10 Oct 2017	913	1	<2	<2	<2	1.00	ns	19.8	72.23	7.0	33.44	8.1
C5	10 Oct 2017	913	3	<20	<2	<2	0.10	ns	19.7	73.51	7.1	33.44	8.1

Station	Date	Time	Depth	Total	Fecal	Entero	F:T	N-NH3	Temp	XMS	DO	Sal	pH
C5	10 Oct 2017	913	9	<20	<2	<2	0.10	ns	19.4	83.00	6.8	33.43	8.1
C5	17 Oct 2017	926	1	<2	<2	<2	1.00	ns	20.1	78.82	8.3	33.45	8.2
C5	17 Oct 2017	926	3	2e	<2	<2	1.00	ns	20.1	78.66	8.1	33.46	8.2
C5	17 Oct 2017	926	9	<2	<2	<2	1.00	ns	16.9	82.43	6.8	33.40	8.1
C5	26 Oct 2017	939	1	4e	<2	<2	0.50	ns	19.4	82.62	7.9	33.50	8.2
C5	26 Oct 2017	939	3	8e	<2	4e	0.25	ns	18.8	82.62	7.9	33.49	8.2
C5	26 Oct 2017	939	9	<2	<2	<2	1.00	ns	16.7	77.88	6.6	33.47	8.1
C5	30 Oct 2017	933	1	<20	<2	<2	0.10	ns	19.1	63.83	6.9	33.48	8.1
C5	30 Oct 2017	933	3	<2	<2	<2	1.00	ns	19.1	64.14	6.8	33.48	8.1
C5	30 Oct 2017	933	9	<2	<2	<2	1.00	ns	17.4	76.94	6.6	33.44	8.1
A6	02 Oct 2017	838	1	2e	<2	<2	1.00	ns	19.6	83.51	8.0	33.43	8.2
A6	02 Oct 2017	838	12	<2	<2	<2	1.00	ns	18.1	82.27	8.3	33.37	8.2
A6	02 Oct 2017	838	18	<2	<2	<2	1.00	ns	17.8	81.71	8.1	33.38	8.2
A6	10 Oct 2017	814	1	<2	<2	<2	1.00	ns	19.6	86.41	7.8	33.43	8.2
A6	10 Oct 2017	814	12	6e	<2	<2	0.33	ns	16.0	86.90	7.4	33.37	8.1
A6	10 Oct 2017	814	18	20e	<2	<2	0.10	ns	15.6	87.74	7.4	33.36	8.1
A6	17 Oct 2017	823	1	2e	<2	<2	1.00	ns	19.9	85.29	7.9	33.45	8.2
A6	17 Oct 2017	823	12	10e	4e	<2	0.40	ns	15.1	88.15	7.5	33.37	8.1
A6	17 Oct 2017	823	18	40	4e	<2	0.10	ns	14.3	88.56	6.8	33.38	8.0
A6	26 Oct 2017	840	1	<2	<2	<2	1.00	ns	19.6	86.22	7.8	33.49	8.2
A6	26 Oct 2017	840	12	<2	<2	<2	1.00	ns	15.4	86.44	7.9	33.35	8.1
A6	26 Oct 2017	840	18	16e	2e	<2	0.12	ns	14.6	85.49	7.6	33.36	8.1
A6	30 Oct 2017	832	1	2e	<2	<2	1.00	ns	18.8	85.44	8.0	33.46	8.1
A6	30 Oct 2017	832	12	<2	<2	<2	1.00	ns	18.0	83.64	7.9	33.43	8.1
A6	30 Oct 2017	832	18	<2	<2	<2	1.00	ns	17.3	84.10	7.4	33.42	8.1
C6	02 Oct 2017	930	1	<2	<2	<2	1.00	ns	19.8	81.28	8.1	33.44	8.2
C6	02 Oct 2017	930	3	<20	<2	<2	0.10	ns	19.8	80.99	8.1	33.44	8.2
C6	02 Oct 2017	930	9	<20	<2	2e	0.10	ns	17.4	71.78	7.2	33.41	8.1
C6	10 Oct 2017	902	1	<2	<2	<2	1.00	ns	19.8	78.21	7.3	33.44	8.1
C6	10 Oct 2017	902	3	<2	<2	<2	1.00	ns	19.8	78.41	7.4	33.44	8.1
C6	10 Oct 2017	902	9	<2	<2	<2	1.00	ns	19.1	82.15	6.9	33.42	8.1
C6	17 Oct 2017	913	1	<2	2e	<2	1.00	ns	20.1	83.96	8.4	33.46	8.2
C6	17 Oct 2017	913	3	<2	<2	<2	1.00	ns	20.1	83.79	8.4	33.46	8.2
C6	17 Oct 2017	913	9	<2	<2	<2	1.00	ns	16.8	83.16	7.4	33.39	8.1
C6	26 Oct 2017	928	1	<2	<2	<2	1.00	ns	19.4	84.70	8.0	33.49	8.2
C6	26 Oct 2017	928	3	<2	<2	<2	1.00	ns	19.2	85.16	7.9	33.51	8.2
C6	26 Oct 2017	928	9	<2	<2	<2	1.00	ns	15.6	78.43	6.7	33.42	8.0
C6	30 Oct 2017	921	1	<2	<2	<2	1.00	ns	19.3	84.45	7.6	33.48	8.1
C6	30 Oct 2017	921	3	<2	<2	<2	1.00	ns	19.2	83.84	7.5	33.49	8.1
C6	30 Oct 2017	921	9	<2	<2	<2	1.00	ns	17.8	69.28	6.9	33.48	8.1
A7	02 Oct 2017	823	1	<2	<2	<2	1.00	ns	19.3	82.37	8.0	33.42	8.2

Station	Date	Time	Depth	Total	Fecal	Entero	F:T	N-NH3	Temp	XMS	DO	Sal	pH
A7	02 Oct 2017	823	12	<2	<2	<2	1.00	ns	17.5	82.14	7.9	33.37	8.1
A7	02 Oct 2017	823	18	<2	2e	<2	1.00	ns	16.2	81.21	7.2	33.36	8.1
A7	10 Oct 2017	803	1	<2	<2	<2	1.00	ns	19.6	84.87	7.9	33.44	8.2
A7	10 Oct 2017	803	12	16e	2e	<2	0.12	ns	16.0	86.92	7.2	33.37	8.1
A7	10 Oct 2017	803	18	8e	<2	2e	0.25	ns	15.4	86.87	7.2	33.35	8.1
A7	17 Oct 2017	809	1	<2	<2	<2	1.00	ns	19.9	85.70	8.2	33.45	8.2
A7	17 Oct 2017	809	12	22e	4e	<2	0.18	ns	14.7	87.61	7.0	33.36	8.0
A7	17 Oct 2017	809	18	32e	10e	<2	0.31	ns	13.7	87.31	6.4	33.37	8.0
A7	26 Oct 2017	828	1	32e	<2	<2	0.06	ns	19.0	85.18	8.0	33.48	8.1
A7	26 Oct 2017	828	12	<2	<2	<2	1.00	ns	15.7	85.79	7.5	33.38	8.1
A7	26 Oct 2017	828	18	<2	<2	<2	1.00	ns	15.3	84.51	6.9	33.38	8.0
A7	30 Oct 2017	820	1	<2	<2	<2	1.00	ns	19.1	85.54	7.9	33.47	8.1
A7	30 Oct 2017	820	12	2e	<2	<2	1.00	ns	18.1	83.73	7.8	33.47	8.1
A7	30 Oct 2017	820	18	<2	<2	<2	1.00	ns	17.0	83.27	7.3	33.42	8.1
C7	02 Oct 2017	854	1	<2	<2	<2	1.00	ns	19.8	85.84	7.9	33.43	8.2
C7	02 Oct 2017	854	12	<2	<2	<2	1.00	ns	18.9	84.17	8.1	33.41	8.2
C7	02 Oct 2017	854	18	<2	<2	<2	1.00	ns	16.4	80.01	7.8	33.35	8.1
C7	10 Oct 2017	829	1	<2	<2	<2	1.00	ns	19.8	84.88	8.0	33.44	8.2
C7	10 Oct 2017	829	12	<2	<2	<2	1.00	ns	19.1	86.59	7.8	33.42	8.2
C7	10 Oct 2017	829	18	4e	<2	<2	0.50	ns	16.9	83.94	7.0	33.44	8.1
C7	17 Oct 2017	839	1	6e	<2	2e	0.33	ns	20.1	84.25	7.9	33.47	8.2
C7	17 Oct 2017	839	12	<2	<2	<2	1.00	ns	16.2	87.11	7.6	33.39	8.1
C7	17 Oct 2017	839	18	30e	6e	2e	0.20	ns	14.4	88.06	6.9	33.35	8.0
C7	26 Oct 2017	856	1	<2	<2	<2	1.00	ns	19.1	84.76	8.0	33.47	8.1
C7	26 Oct 2017	856	12	<2	<2	<2	1.00	ns	15.6	81.95	7.4	33.39	8.0
C7	26 Oct 2017	856	18	2e	2e	<2	1.00	ns	15.1	86.38	7.4	33.38	8.1
C7	30 Oct 2017	847	1	<2	<2	<2	1.00	ns	19.4	87.00	7.9	33.48	8.2
C7	30 Oct 2017	847	12	2e	<2	<2	1.00	ns	17.4	82.78	7.7	33.40	8.1
C7	30 Oct 2017	847	18	<2	<2	<2	1.00	ns	16.0	83.74	7.2	33.40	8.1
C8	02 Oct 2017	905	1	<2	<2	<2	1.00	ns	20.1	86.32	7.9	33.45	8.2
C8	02 Oct 2017	905	12	<2	<2	2e	1.00	ns	18.6	84.36	8.2	33.40	8.2
C8	02 Oct 2017	905	18	<2	<2	<2	1.00	ns	16.0	80.49	7.6	33.40	8.1
C8	10 Oct 2017	841	1	<2	<2	2e	1.00	ns	19.9	77.54	7.6	33.44	8.1
C8	10 Oct 2017	841	12	<2	<2	<2	1.00	ns	19.3	84.35	7.9	33.43	8.2
C8	10 Oct 2017	841	18	<2	<2	<2	1.00	ns	17.8	83.31	7.2	33.48	8.2
C8	17 Oct 2017	852	1	<2	<2	<2	1.00	ns	20.2	84.95	8.0	33.47	8.2
C8	17 Oct 2017	852	12	<2	<2	<2	1.00	ns	16.8	87.73	8.2	33.38	8.2
C8	17 Oct 2017	852	18	6e	<2	<2	0.33	ns	14.9	87.96	7.3	33.37	8.1
C8	26 Oct 2017	908	1	<2	<2	<2	1.00	ns	19.0	85.40	8.0	33.46	8.1
C8	26 Oct 2017	908	12	2e	<2	<2	1.00	ns	16.0	83.85	7.4	33.42	8.1
C8	26 Oct 2017	908	18	2e	<2	<2	1.00	ns	14.7	85.02	7.2	33.37	8.1

Station	Date	Time	Depth	Total	Fecal	Enteroc	F:T	N-NH3	Temp	XMS	DO	Sal	pH
C8	30 Oct 2017	859	1	<2	<2	<2	1.00	ns	19.1	82.61	7.8	33.47	8.1
C8	30 Oct 2017	859	12	4e	<2	<2	0.50	ns	17.2	83.76	7.9	33.40	8.1
C8	30 Oct 2017	859	18	<2	<2	<2	1.00	ns	16.6	84.66	7.5	33.40	8.1

ns = not sampled

ND = no data

Table 3.9

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

Station	Date	Parameter	Value
A1	02 Oct 2017	Depth (m)	21
A1	02 Oct 2017	Arrive Time	801
A1	02 Oct 2017	Depart Time	813
A1	02 Oct 2017	Air Temp (C)	19
A1	02 Oct 2017	Weather	Partly Cloudy
A1	02 Oct 2017	Visibility (mi)	10
A1	02 Oct 2017	Wind Speed (kts)	10
A1	02 Oct 2017	Wind Dir	NE
A1	02 Oct 2017	Water Color	Greenish-Blue
A1	02 Oct 2017	Wave Ht Low (ft)	4
A1	02 Oct 2017	Wave Period (sec)	13
A1	02 Oct 2017	Sea State	Confused swell
A1	02 Oct 2017	High Tide (ft)	4.7
A1	02 Oct 2017	High Tide Time	759
A1	02 Oct 2017	Low Tide (ft)	1.5
A1	02 Oct 2017	Low Tide Time	1349
A1	02 Oct 2017	Comments	Kelp
A1	10 Oct 2017	Depth (m)	19
A1	10 Oct 2017	Arrive Time	750
A1	10 Oct 2017	Depart Time	754
A1	10 Oct 2017	Air Temp (C)	17
A1	10 Oct 2017	Weather	Fog
A1	10 Oct 2017	Visibility (mi)	2
A1	10 Oct 2017	Wind Speed (kts)	2
A1	10 Oct 2017	Wind Dir	E
A1	10 Oct 2017	Water Color	Greenish-Blue
A1	10 Oct 2017	Wave Ht Low (ft)	3
A1	10 Oct 2017	Wave Period (sec)	9
A1	10 Oct 2017	Sea State	Calm
A1	10 Oct 2017	High Tide (ft)	5.4
A1	10 Oct 2017	High Tide Time	1239
A1	10 Oct 2017	Low Tide (ft)	2.2
A1	10 Oct 2017	Low Tide Time	622
A1	10 Oct 2017	Comments	Lobster floats
A1	17 Oct 2017	Depth (m)	20
A1	17 Oct 2017	Arrive Time	754
A1	17 Oct 2017	Depart Time	757
A1	17 Oct 2017	Air Temp (C)	22
A1	17 Oct 2017	Weather	Partly Cloudy
A1	17 Oct 2017	Visibility (mi)	8
A1	17 Oct 2017	Wind Speed (kts)	3
A1	17 Oct 2017	Wind Dir	NE
A1	17 Oct 2017	Water Color	Greenish-Blue
A1	17 Oct 2017	Wave Ht Low (ft)	2
A1	17 Oct 2017	Wave Period (sec)	16
A1	17 Oct 2017	Sea State	Calm
A1	17 Oct 2017	High Tide (ft)	5.5
A1	17 Oct 2017	High Tide Time	821
A1	17 Oct 2017	Low Tide (ft)	0.5

Station	Date	Parameter	Value
A1	17 Oct 2017	Low Tide Time	1436
A1	17 Oct 2017	Comments	
A1	26 Oct 2017	Depth (m)	19
A1	26 Oct 2017	Arrive Time	815
A1	26 Oct 2017	Depart Time	819
A1	26 Oct 2017	Air Temp (C)	22
A1	26 Oct 2017	Weather	Clear
A1	26 Oct 2017	Visibility (mi)	8
A1	26 Oct 2017	Wind Speed (kts)	7
A1	26 Oct 2017	Wind Dir	W
A1	26 Oct 2017	Water Color	Green
A1	26 Oct 2017	Wave Ht Low (ft)	5
A1	26 Oct 2017	Wave Period (sec)	13
A1	26 Oct 2017	Sea State	Calm
A1	26 Oct 2017	High Tide (ft)	4.2
A1	26 Oct 2017	High Tide Time	1315
A1	26 Oct 2017	Low Tide (ft)	3.2
A1	26 Oct 2017	Low Tide Time	658
A1	26 Oct 2017	Comments	Kelp
A1	30 Oct 2017	Depth (m)	19
A1	30 Oct 2017	Arrive Time	808
A1	30 Oct 2017	Depart Time	812
A1	30 Oct 2017	Air Temp (C)	18
A1	30 Oct 2017	Weather	Overcast
A1	30 Oct 2017	Visibility (mi)	8
A1	30 Oct 2017	Wind Speed (kts)	5
A1	30 Oct 2017	Wind Dir	W
A1	30 Oct 2017	Water Color	Bluish-Green
A1	30 Oct 2017	Wave Ht Low (ft)	4
A1	30 Oct 2017	Wave Period (sec)	11
A1	30 Oct 2017	Sea State	Wind ripples
A1	30 Oct 2017	High Tide (ft)	4.6
A1	30 Oct 2017	High Tide Time	651
A1	30 Oct 2017	Low Tide (ft)	1.8
A1	30 Oct 2017	Low Tide Time	1251
A1	30 Oct 2017	Comments	Lobster floats
C4	02 Oct 2017	Depth (m)	11
C4	02 Oct 2017	Arrive Time	956
C4	02 Oct 2017	Depart Time	959
C4	02 Oct 2017	Air Temp (C)	20
C4	02 Oct 2017	Weather	Partly Cloudy
C4	02 Oct 2017	Visibility (mi)	11
C4	02 Oct 2017	Wind Speed (kts)	5
C4	02 Oct 2017	Wind Dir	SE
C4	02 Oct 2017	Water Color	Green
C4	02 Oct 2017	Wave Ht Low (ft)	4
C4	02 Oct 2017	Wave Period (sec)	13
C4	02 Oct 2017	Sea State	Confused swell
C4	02 Oct 2017	High Tide (ft)	4.7
C4	02 Oct 2017	High Tide Time	759
C4	02 Oct 2017	Low Tide (ft)	1.5
C4	02 Oct 2017	Low Tide Time	1349

Station	Date	Parameter	Value
C4	02 Oct 2017	Comments	
C4	10 Oct 2017	Depth (m)	11
C4	10 Oct 2017	Arrive Time	925
C4	10 Oct 2017	Depart Time	928
C4	10 Oct 2017	Air Temp (C)	17
C4	10 Oct 2017	Weather	Overcast
C4	10 Oct 2017	Visibility (mi)	3
C4	10 Oct 2017	Wind Speed (kts)	5
C4	10 Oct 2017	Wind Dir	NW
C4	10 Oct 2017	Water Color	Greenish-Blue
C4	10 Oct 2017	Wave Ht Low (ft)	3
C4	10 Oct 2017	Wave Period (sec)	9
C4	10 Oct 2017	Sea State	Calm
C4	10 Oct 2017	High Tide (ft)	5.4
C4	10 Oct 2017	High Tide Time	1239
C4	10 Oct 2017	Low Tide (ft)	2.2
C4	10 Oct 2017	Low Tide Time	622
C4	10 Oct 2017	Comments	Kelp; Lobster floats
C4	17 Oct 2017	Depth (m)	9
C4	17 Oct 2017	Arrive Time	937
C4	17 Oct 2017	Depart Time	939
C4	17 Oct 2017	Air Temp (C)	21
C4	17 Oct 2017	Weather	Haze
C4	17 Oct 2017	Visibility (mi)	12
C4	17 Oct 2017	Wind Speed (kts)	5
C4	17 Oct 2017	Wind Dir	S
C4	17 Oct 2017	Water Color	Green
C4	17 Oct 2017	Wave Ht Low (ft)	2
C4	17 Oct 2017	Wave Period (sec)	16
C4	17 Oct 2017	Sea State	Calm
C4	17 Oct 2017	High Tide (ft)	5.5
C4	17 Oct 2017	High Tide Time	821
C4	17 Oct 2017	Low Tide (ft)	0.5
C4	17 Oct 2017	Low Tide Time	1436
C4	17 Oct 2017	Comments	Kelp debris
C4	26 Oct 2017	Depth (m)	11
C4	26 Oct 2017	Arrive Time	951
C4	26 Oct 2017	Depart Time	952
C4	26 Oct 2017	Air Temp (C)	26
C4	26 Oct 2017	Weather	Clear
C4	26 Oct 2017	Visibility (mi)	8
C4	26 Oct 2017	Wind Speed (kts)	7
C4	26 Oct 2017	Wind Dir	NE
C4	26 Oct 2017	Water Color	Green
C4	26 Oct 2017	Wave Ht Low (ft)	5
C4	26 Oct 2017	Wave Period (sec)	13
C4	26 Oct 2017	Sea State	Calm
C4	26 Oct 2017	High Tide (ft)	4.2
C4	26 Oct 2017	High Tide Time	1315
C4	26 Oct 2017	Low Tide (ft)	3.2
C4	26 Oct 2017	Low Tide Time	658
C4	26 Oct 2017	Comments	Kelp; Lobster floats

Station	Date	Parameter	Value
C4	30 Oct 2017	Depth (m)	10
C4	30 Oct 2017	Arrive Time	944
C4	30 Oct 2017	Depart Time	948
C4	30 Oct 2017	Air Temp (C)	18
C4	30 Oct 2017	Weather	Overcast
C4	30 Oct 2017	Visibility (mi)	8
C4	30 Oct 2017	Wind Speed (kts)	8
C4	30 Oct 2017	Wind Dir	S
C4	30 Oct 2017	Water Color	Bluish-Green
C4	30 Oct 2017	Wave Ht Low (ft)	5
C4	30 Oct 2017	Wave Period (sec)	13
C4	30 Oct 2017	Sea State	Wind ripples
C4	30 Oct 2017	High Tide (ft)	4.6
C4	30 Oct 2017	High Tide Time	651
C4	30 Oct 2017	Low Tide (ft)	1.8
C4	30 Oct 2017	Low Tide Time	1251
C4	30 Oct 2017	Comments	Lobster floats; Kelp debris
C5	02 Oct 2017	Depth (m)	11
C5	02 Oct 2017	Arrive Time	942
C5	02 Oct 2017	Depart Time	944
C5	02 Oct 2017	Air Temp (C)	19
C5	02 Oct 2017	Weather	Partly Cloudy
C5	02 Oct 2017	Visibility (mi)	11
C5	02 Oct 2017	Wind Speed (kts)	5
C5	02 Oct 2017	Wind Dir	E
C5	02 Oct 2017	Water Color	Green
C5	02 Oct 2017	Wave Ht Low (ft)	4
C5	02 Oct 2017	Wave Period (sec)	13
C5	02 Oct 2017	Sea State	Confused swell
C5	02 Oct 2017	High Tide (ft)	4.7
C5	02 Oct 2017	High Tide Time	759
C5	02 Oct 2017	Low Tide (ft)	1.5
C5	02 Oct 2017	Low Tide Time	1349
C5	02 Oct 2017	Comments	
C5	10 Oct 2017	Depth (m)	13
C5	10 Oct 2017	Arrive Time	913
C5	10 Oct 2017	Depart Time	917
C5	10 Oct 2017	Air Temp (C)	17
C5	10 Oct 2017	Weather	Overcast
C5	10 Oct 2017	Visibility (mi)	3
C5	10 Oct 2017	Wind Speed (kts)	3
C5	10 Oct 2017	Wind Dir	SE
C5	10 Oct 2017	Water Color	Greenish-Blue
C5	10 Oct 2017	Wave Ht Low (ft)	3
C5	10 Oct 2017	Wave Period (sec)	9
C5	10 Oct 2017	Sea State	Calm
C5	10 Oct 2017	High Tide (ft)	5.4
C5	10 Oct 2017	High Tide Time	1239
C5	10 Oct 2017	Low Tide (ft)	2.2
C5	10 Oct 2017	Low Tide Time	622
C5	10 Oct 2017	Comments	Kelp; Lobster floats

Station	Date	Parameter	Value
C5	17 Oct 2017	Depth (m)	12
C5	17 Oct 2017	Arrive Time	926
C5	17 Oct 2017	Depart Time	929
C5	17 Oct 2017	Air Temp (C)	21
C5	17 Oct 2017	Weather	Haze
C5	17 Oct 2017	Visibility (mi)	12
C5	17 Oct 2017	Wind Speed (kts)	2
C5	17 Oct 2017	Wind Dir	N
C5	17 Oct 2017	Water Color	Greenish-Blue
C5	17 Oct 2017	Wave Ht Low (ft)	2
C5	17 Oct 2017	Wave Period (sec)	16
C5	17 Oct 2017	Sea State	Calm
C5	17 Oct 2017	High Tide (ft)	5.5
C5	17 Oct 2017	High Tide Time	821
C5	17 Oct 2017	Low Tide (ft)	0.5
C5	17 Oct 2017	Low Tide Time	1436
C5	17 Oct 2017	Comments	
C5	26 Oct 2017	Depth (m)	11
C5	26 Oct 2017	Arrive Time	939
C5	26 Oct 2017	Depart Time	941
C5	26 Oct 2017	Air Temp (C)	25
C5	26 Oct 2017	Weather	Clear
C5	26 Oct 2017	Visibility (mi)	8
C5	26 Oct 2017	Wind Speed (kts)	0
C5	26 Oct 2017	Wind Dir	
C5	26 Oct 2017	Water Color	Green
C5	26 Oct 2017	Wave Ht Low (ft)	5
C5	26 Oct 2017	Wave Period (sec)	13
C5	26 Oct 2017	Sea State	Calm
C5	26 Oct 2017	High Tide (ft)	4.2
C5	26 Oct 2017	High Tide Time	1315
C5	26 Oct 2017	Low Tide (ft)	3.2
C5	26 Oct 2017	Low Tide Time	658
C5	26 Oct 2017	Comments	Kelp; Lobster floats
C5	30 Oct 2017	Depth (m)	12
C5	30 Oct 2017	Arrive Time	933
C5	30 Oct 2017	Depart Time	937
C5	30 Oct 2017	Air Temp (C)	18
C5	30 Oct 2017	Weather	Overcast
C5	30 Oct 2017	Visibility (mi)	8
C5	30 Oct 2017	Wind Speed (kts)	8
C5	30 Oct 2017	Wind Dir	W
C5	30 Oct 2017	Water Color	Bluish-Green
C5	30 Oct 2017	Wave Ht Low (ft)	5
C5	30 Oct 2017	Wave Period (sec)	13
C5	30 Oct 2017	Sea State	Wind ripples
C5	30 Oct 2017	High Tide (ft)	4.6
C5	30 Oct 2017	High Tide Time	651
C5	30 Oct 2017	Low Tide (ft)	1.8
C5	30 Oct 2017	Low Tide Time	1251
C5	30 Oct 2017	Comments	Lobster floats; Kelp
A6	02 Oct 2017	Depth (m)	20

Station	Date	Parameter	Value
A6	02 Oct 2017	Arrive Time	838
A6	02 Oct 2017	Depart Time	841
A6	02 Oct 2017	Air Temp (C)	19
A6	02 Oct 2017	Weather	Partly Cloudy
A6	02 Oct 2017	Visibility (mi)	10
A6	02 Oct 2017	Wind Speed (kts)	6
A6	02 Oct 2017	Wind Dir	W
A6	02 Oct 2017	Water Color	Greenish-Blue
A6	02 Oct 2017	Wave Ht Low (ft)	4
A6	02 Oct 2017	Wave Period (sec)	13
A6	02 Oct 2017	Sea State	Confused swell
A6	02 Oct 2017	High Tide (ft)	4.7
A6	02 Oct 2017	High Tide Time	759
A6	02 Oct 2017	Low Tide (ft)	1.5
A6	02 Oct 2017	Low Tide Time	1349
A6	02 Oct 2017	Comments	Kelp
A6	10 Oct 2017	Depth (m)	19
A6	10 Oct 2017	Arrive Time	814
A6	10 Oct 2017	Depart Time	818
A6	10 Oct 2017	Air Temp (C)	17
A6	10 Oct 2017	Weather	Fog
A6	10 Oct 2017	Visibility (mi)	2
A6	10 Oct 2017	Wind Speed (kts)	7
A6	10 Oct 2017	Wind Dir	NW
A6	10 Oct 2017	Water Color	Greenish-Blue
A6	10 Oct 2017	Wave Ht Low (ft)	3
A6	10 Oct 2017	Wave Period (sec)	9
A6	10 Oct 2017	Sea State	Calm
A6	10 Oct 2017	High Tide (ft)	5.4
A6	10 Oct 2017	High Tide Time	1239
A6	10 Oct 2017	Low Tide (ft)	2.2
A6	10 Oct 2017	Low Tide Time	622
A6	10 Oct 2017	Comments	Lobster floats
A6	17 Oct 2017	Depth (m)	18
A6	17 Oct 2017	Arrive Time	823
A6	17 Oct 2017	Depart Time	825
A6	17 Oct 2017	Air Temp (C)	21
A6	17 Oct 2017	Weather	Haze
A6	17 Oct 2017	Visibility (mi)	10
A6	17 Oct 2017	Wind Speed (kts)	0
A6	17 Oct 2017	Wind Dir	
A6	17 Oct 2017	Water Color	Greenish-Blue
A6	17 Oct 2017	Wave Ht Low (ft)	2
A6	17 Oct 2017	Wave Period (sec)	16
A6	17 Oct 2017	Sea State	Calm
A6	17 Oct 2017	High Tide (ft)	5.5
A6	17 Oct 2017	High Tide Time	821
A6	17 Oct 2017	Low Tide (ft)	0.5
A6	17 Oct 2017	Low Tide Time	1436
A6	17 Oct 2017	Comments	Kelp; Kelp debris
A6	26 Oct 2017	Depth (m)	19
A6	26 Oct 2017	Arrive Time	840

Station	Date	Parameter	Value
A6	26 Oct 2017	Depart Time	844
A6	26 Oct 2017	Air Temp (C)	24
A6	26 Oct 2017	Weather	Clear
A6	26 Oct 2017	Visibility (mi)	8
A6	26 Oct 2017	Wind Speed (kts)	2
A6	26 Oct 2017	Wind Dir	E
A6	26 Oct 2017	Water Color	Green
A6	26 Oct 2017	Wave Ht Low (ft)	5
A6	26 Oct 2017	Wave Period (sec)	13
A6	26 Oct 2017	Sea State	Calm
A6	26 Oct 2017	High Tide (ft)	4.2
A6	26 Oct 2017	High Tide Time	1315
A6	26 Oct 2017	Low Tide (ft)	3.2
A6	26 Oct 2017	Low Tide Time	658
A6	26 Oct 2017	Comments	Kelp; Lobster floats
A6	30 Oct 2017	Depth (m)	19
A6	30 Oct 2017	Arrive Time	832
A6	30 Oct 2017	Depart Time	838
A6	30 Oct 2017	Air Temp (C)	18
A6	30 Oct 2017	Weather	Overcast
A6	30 Oct 2017	Visibility (mi)	8
A6	30 Oct 2017	Wind Speed (kts)	5
A6	30 Oct 2017	Wind Dir	E
A6	30 Oct 2017	Water Color	Bluish-Green
A6	30 Oct 2017	Wave Ht Low (ft)	5
A6	30 Oct 2017	Wave Period (sec)	13
A6	30 Oct 2017	Sea State	Wind ripples
A6	30 Oct 2017	High Tide (ft)	4.6
A6	30 Oct 2017	High Tide Time	651
A6	30 Oct 2017	Low Tide (ft)	1.8
A6	30 Oct 2017	Low Tide Time	1251
A6	30 Oct 2017	Comments	Lobster floats; Kelp debris
C6	02 Oct 2017	Depth (m)	9
C6	02 Oct 2017	Arrive Time	930
C6	02 Oct 2017	Depart Time	933
C6	02 Oct 2017	Air Temp (C)	19
C6	02 Oct 2017	Weather	Partly Cloudy
C6	02 Oct 2017	Visibility (mi)	11
C6	02 Oct 2017	Wind Speed (kts)	6
C6	02 Oct 2017	Wind Dir	SW
C6	02 Oct 2017	Water Color	Green
C6	02 Oct 2017	Wave Ht Low (ft)	4
C6	02 Oct 2017	Wave Period (sec)	13
C6	02 Oct 2017	Sea State	Confused swell
C6	02 Oct 2017	High Tide (ft)	4.7
C6	02 Oct 2017	High Tide Time	759
C6	02 Oct 2017	Low Tide (ft)	1.5
C6	02 Oct 2017	Low Tide Time	1349
C6	02 Oct 2017	Comments	Kelp
C6	10 Oct 2017	Depth (m)	10
C6	10 Oct 2017	Arrive Time	902
C6	10 Oct 2017	Depart Time	906

Station	Date	Parameter	Value
C6	10 Oct 2017	Air Temp (C)	17
C6	10 Oct 2017	Weather	Fog
C6	10 Oct 2017	Visibility (mi)	2
C6	10 Oct 2017	Wind Speed (kts)	3
C6	10 Oct 2017	Wind Dir	NE
C6	10 Oct 2017	Water Color	Greenish-Blue
C6	10 Oct 2017	Wave Ht Low (ft)	3
C6	10 Oct 2017	Wave Period (sec)	9
C6	10 Oct 2017	Sea State	Calm
C6	10 Oct 2017	High Tide (ft)	5.4
C6	10 Oct 2017	High Tide Time	1239
C6	10 Oct 2017	Low Tide (ft)	2.2
C6	10 Oct 2017	Low Tide Time	622
C6	10 Oct 2017	Comments	Kelp; Lobster floats
C6	17 Oct 2017	Depth (m)	18
C6	17 Oct 2017	Arrive Time	913
C6	17 Oct 2017	Depart Time	916
C6	17 Oct 2017	Air Temp (C)	22
C6	17 Oct 2017	Weather	Haze
C6	17 Oct 2017	Visibility (mi)	10
C6	17 Oct 2017	Wind Speed (kts)	2
C6	17 Oct 2017	Wind Dir	SE
C6	17 Oct 2017	Water Color	Greenish-Blue
C6	17 Oct 2017	Wave Ht Low (ft)	2
C6	17 Oct 2017	Wave Period (sec)	16
C6	17 Oct 2017	Sea State	Calm
C6	17 Oct 2017	High Tide (ft)	5.5
C6	17 Oct 2017	High Tide Time	821
C6	17 Oct 2017	Low Tide (ft)	0.5
C6	17 Oct 2017	Low Tide Time	1436
C6	17 Oct 2017	Comments	
C6	26 Oct 2017	Depth (m)	10
C6	26 Oct 2017	Arrive Time	928
C6	26 Oct 2017	Depart Time	930
C6	26 Oct 2017	Air Temp (C)	25
C6	26 Oct 2017	Weather	Clear
C6	26 Oct 2017	Visibility (mi)	8
C6	26 Oct 2017	Wind Speed (kts)	3
C6	26 Oct 2017	Wind Dir	N
C6	26 Oct 2017	Water Color	Green
C6	26 Oct 2017	Wave Ht Low (ft)	5
C6	26 Oct 2017	Wave Period (sec)	13
C6	26 Oct 2017	Sea State	Calm
C6	26 Oct 2017	High Tide (ft)	4.2
C6	26 Oct 2017	High Tide Time	1315
C6	26 Oct 2017	Low Tide (ft)	3.2
C6	26 Oct 2017	Low Tide Time	658
C6	26 Oct 2017	Comments	Kelp; Lobster floats
C6	30 Oct 2017	Depth (m)	10
C6	30 Oct 2017	Arrive Time	921
C6	30 Oct 2017	Depart Time	925
C6	30 Oct 2017	Air Temp (C)	18

Station	Date	Parameter	Value
C6	30 Oct 2017	Weather	Overcast
C6	30 Oct 2017	Visibility (mi)	8
C6	30 Oct 2017	Wind Speed (kts)	8
C6	30 Oct 2017	Wind Dir	SE
C6	30 Oct 2017	Water Color	Bluish-Green
C6	30 Oct 2017	Wave Ht Low (ft)	5
C6	30 Oct 2017	Wave Period (sec)	13
C6	30 Oct 2017	Sea State	Wind ripples
C6	30 Oct 2017	High Tide (ft)	4.6
C6	30 Oct 2017	High Tide Time	651
C6	30 Oct 2017	Low Tide (ft)	1.8
C6	30 Oct 2017	Low Tide Time	1251
C6	30 Oct 2017	Comments	Lobster floats; Kelp debris
A7	02 Oct 2017	Depth (m)	21
A7	02 Oct 2017	Arrive Time	823
A7	02 Oct 2017	Depart Time	826
A7	02 Oct 2017	Air Temp (C)	19
A7	02 Oct 2017	Weather	Partly Cloudy
A7	02 Oct 2017	Visibility (mi)	10
A7	02 Oct 2017	Wind Speed (kts)	8
A7	02 Oct 2017	Wind Dir	S
A7	02 Oct 2017	Water Color	Greenish-Blue
A7	02 Oct 2017	Wave Ht Low (ft)	4
A7	02 Oct 2017	Wave Period (sec)	13
A7	02 Oct 2017	Sea State	Confused swell
A7	02 Oct 2017	High Tide (ft)	4.7
A7	02 Oct 2017	High Tide Time	759
A7	02 Oct 2017	Low Tide (ft)	1.5
A7	02 Oct 2017	Low Tide Time	1349
A7	02 Oct 2017	Comments	Kelp; Kelp debris
A7	10 Oct 2017	Depth (m)	19
A7	10 Oct 2017	Arrive Time	803
A7	10 Oct 2017	Depart Time	806
A7	10 Oct 2017	Air Temp (C)	17
A7	10 Oct 2017	Weather	Fog
A7	10 Oct 2017	Visibility (mi)	2
A7	10 Oct 2017	Wind Speed (kts)	4
A7	10 Oct 2017	Wind Dir	SW
A7	10 Oct 2017	Water Color	Greenish-Blue
A7	10 Oct 2017	Wave Ht Low (ft)	3
A7	10 Oct 2017	Wave Period (sec)	9
A7	10 Oct 2017	Sea State	Calm
A7	10 Oct 2017	High Tide (ft)	5.4
A7	10 Oct 2017	High Tide Time	1239
A7	10 Oct 2017	Low Tide (ft)	2.2
A7	10 Oct 2017	Low Tide Time	622
A7	10 Oct 2017	Comments	Lobster floats
A7	17 Oct 2017	Depth (m)	20
A7	17 Oct 2017	Arrive Time	809
A7	17 Oct 2017	Depart Time	812
A7	17 Oct 2017	Air Temp (C)	21
A7	17 Oct 2017	Weather	Partly Cloudy

Station	Date	Parameter	Value
A7	17 Oct 2017	Visibility (mi)	8
A7	17 Oct 2017	Wind Speed (kts)	2
A7	17 Oct 2017	Wind Dir	SW
A7	17 Oct 2017	Water Color	Greenish-Blue
A7	17 Oct 2017	Wave Ht Low (ft)	2
A7	17 Oct 2017	Wave Period (sec)	16
A7	17 Oct 2017	Sea State	Calm
A7	17 Oct 2017	High Tide (ft)	5.5
A7	17 Oct 2017	High Tide Time	821
A7	17 Oct 2017	Low Tide (ft)	0.5
A7	17 Oct 2017	Low Tide Time	1436
A7	17 Oct 2017	Comments	
A7	26 Oct 2017	Depth (m)	19
A7	26 Oct 2017	Arrive Time	828
A7	26 Oct 2017	Depart Time	831
A7	26 Oct 2017	Air Temp (C)	23
A7	26 Oct 2017	Weather	Clear
A7	26 Oct 2017	Visibility (mi)	8
A7	26 Oct 2017	Wind Speed (kts)	5
A7	26 Oct 2017	Wind Dir	SW
A7	26 Oct 2017	Water Color	Green
A7	26 Oct 2017	Wave Ht Low (ft)	5
A7	26 Oct 2017	Wave Period (sec)	13
A7	26 Oct 2017	Sea State	Calm
A7	26 Oct 2017	High Tide (ft)	4.2
A7	26 Oct 2017	High Tide Time	1315
A7	26 Oct 2017	Low Tide (ft)	3.2
A7	26 Oct 2017	Low Tide Time	658
A7	26 Oct 2017	Comments	Lobster floats; Kelp
A7	30 Oct 2017	Depth (m)	20
A7	30 Oct 2017	Arrive Time	820
A7	30 Oct 2017	Depart Time	824
A7	30 Oct 2017	Air Temp (C)	18
A7	30 Oct 2017	Weather	Overcast
A7	30 Oct 2017	Visibility (mi)	8
A7	30 Oct 2017	Wind Speed (kts)	5
A7	30 Oct 2017	Wind Dir	NW
A7	30 Oct 2017	Water Color	Bluish-Green
A7	30 Oct 2017	Wave Ht Low (ft)	5
A7	30 Oct 2017	Wave Period (sec)	13
A7	30 Oct 2017	Sea State	Wind ripples
A7	30 Oct 2017	High Tide (ft)	4.6
A7	30 Oct 2017	High Tide Time	651
A7	30 Oct 2017	Low Tide (ft)	1.8
A7	30 Oct 2017	Low Tide Time	1251
A7	30 Oct 2017	Comments	Lobster floats
C7	02 Oct 2017	Depth (m)	19
C7	02 Oct 2017	Arrive Time	854
C7	02 Oct 2017	Depart Time	857
C7	02 Oct 2017	Air Temp (C)	19
C7	02 Oct 2017	Weather	Partly Cloudy
C7	02 Oct 2017	Visibility (mi)	10

Station	Date	Parameter	Value
C7	02 Oct 2017	Wind Speed (kts)	4
C7	02 Oct 2017	Wind Dir	NE
C7	02 Oct 2017	Water Color	Greenish-Blue
C7	02 Oct 2017	Wave Ht Low (ft)	4
C7	02 Oct 2017	Wave Period (sec)	13
C7	02 Oct 2017	Sea State	Confused swell
C7	02 Oct 2017	High Tide (ft)	4.7
C7	02 Oct 2017	High Tide Time	759
C7	02 Oct 2017	Low Tide (ft)	1.5
C7	02 Oct 2017	Low Tide Time	1349
C7	02 Oct 2017	Comments	
C7	10 Oct 2017	Depth (m)	18
C7	10 Oct 2017	Arrive Time	829
C7	10 Oct 2017	Depart Time	834
C7	10 Oct 2017	Air Temp (C)	17
C7	10 Oct 2017	Weather	Fog
C7	10 Oct 2017	Visibility (mi)	2
C7	10 Oct 2017	Wind Speed (kts)	7
C7	10 Oct 2017	Wind Dir	SE
C7	10 Oct 2017	Water Color	Greenish-Blue
C7	10 Oct 2017	Wave Ht Low (ft)	3
C7	10 Oct 2017	Wave Period (sec)	9
C7	10 Oct 2017	Sea State	Calm
C7	10 Oct 2017	High Tide (ft)	5.4
C7	10 Oct 2017	High Tide Time	1239
C7	10 Oct 2017	Low Tide (ft)	2.2
C7	10 Oct 2017	Low Tide Time	622
C7	10 Oct 2017	Comments	Lobster floats
C7	17 Oct 2017	Depth (m)	19
C7	17 Oct 2017	Arrive Time	839
C7	17 Oct 2017	Depart Time	841
C7	17 Oct 2017	Air Temp (C)	21
C7	17 Oct 2017	Weather	Haze
C7	17 Oct 2017	Visibility (mi)	10
C7	17 Oct 2017	Wind Speed (kts)	4
C7	17 Oct 2017	Wind Dir	S
C7	17 Oct 2017	Water Color	Greenish-Blue
C7	17 Oct 2017	Wave Ht Low (ft)	2
C7	17 Oct 2017	Wave Period (sec)	16
C7	17 Oct 2017	Sea State	Calm
C7	17 Oct 2017	High Tide (ft)	5.5
C7	17 Oct 2017	High Tide Time	821
C7	17 Oct 2017	Low Tide (ft)	0.5
C7	17 Oct 2017	Low Tide Time	1436
C7	17 Oct 2017	Comments	
C7	26 Oct 2017	Depth (m)	19
C7	26 Oct 2017	Arrive Time	856
C7	26 Oct 2017	Depart Time	858
C7	26 Oct 2017	Air Temp (C)	22
C7	26 Oct 2017	Weather	Clear
C7	26 Oct 2017	Visibility (mi)	8
C7	26 Oct 2017	Wind Speed (kts)	3

Station	Date	Parameter	Value
C7	26 Oct 2017	Wind Dir	NE
C7	26 Oct 2017	Water Color	Green
C7	26 Oct 2017	Wave Ht Low (ft)	5
C7	26 Oct 2017	Wave Period (sec)	13
C7	26 Oct 2017	Sea State	Calm
C7	26 Oct 2017	High Tide (ft)	4.2
C7	26 Oct 2017	High Tide Time	1315
C7	26 Oct 2017	Low Tide (ft)	3.2
C7	26 Oct 2017	Low Tide Time	658
C7	26 Oct 2017	Comments	Kelp; Lobster floats
C7	30 Oct 2017	Depth (m)	19
C7	30 Oct 2017	Arrive Time	847
C7	30 Oct 2017	Depart Time	851
C7	30 Oct 2017	Air Temp (C)	18
C7	30 Oct 2017	Weather	Overcast
C7	30 Oct 2017	Visibility (mi)	8
C7	30 Oct 2017	Wind Speed (kts)	4
C7	30 Oct 2017	Wind Dir	NW
C7	30 Oct 2017	Water Color	Bluish-Green
C7	30 Oct 2017	Wave Ht Low (ft)	5
C7	30 Oct 2017	Wave Period (sec)	13
C7	30 Oct 2017	Sea State	Wind ripples
C7	30 Oct 2017	High Tide (ft)	4.6
C7	30 Oct 2017	High Tide Time	651
C7	30 Oct 2017	Low Tide (ft)	1.8
C7	30 Oct 2017	Low Tide Time	1251
C7	30 Oct 2017	Comments	Lobster floats; Kelp debris
C8	02 Oct 2017	Depth (m)	20
C8	02 Oct 2017	Arrive Time	905
C8	02 Oct 2017	Depart Time	908
C8	02 Oct 2017	Air Temp (C)	19
C8	02 Oct 2017	Weather	Partly Cloudy
C8	02 Oct 2017	Visibility (mi)	11
C8	02 Oct 2017	Wind Speed (kts)	5
C8	02 Oct 2017	Wind Dir	W
C8	02 Oct 2017	Water Color	Greenish-Blue
C8	02 Oct 2017	Wave Ht Low (ft)	4
C8	02 Oct 2017	Wave Period (sec)	13
C8	02 Oct 2017	Sea State	Confused swell
C8	02 Oct 2017	High Tide (ft)	4.7
C8	02 Oct 2017	High Tide Time	759
C8	02 Oct 2017	Low Tide (ft)	1.5
C8	02 Oct 2017	Low Tide Time	1349
C8	02 Oct 2017	Comments	
C8	10 Oct 2017	Depth (m)	19
C8	10 Oct 2017	Arrive Time	841
C8	10 Oct 2017	Depart Time	846
C8	10 Oct 2017	Air Temp (C)	17
C8	10 Oct 2017	Weather	Fog
C8	10 Oct 2017	Visibility (mi)	2
C8	10 Oct 2017	Wind Speed (kts)	7
C8	10 Oct 2017	Wind Dir	S

Station	Date	Parameter	Value
C8	10 Oct 2017	Water Color	Greenish-Blue
C8	10 Oct 2017	Wave Ht Low (ft)	3
C8	10 Oct 2017	Wave Period (sec)	9
C8	10 Oct 2017	Sea State	Calm
C8	10 Oct 2017	High Tide (ft)	5.4
C8	10 Oct 2017	High Tide Time	1239
C8	10 Oct 2017	Low Tide (ft)	2.2
C8	10 Oct 2017	Low Tide Time	622
C8	10 Oct 2017	Comments	Lobster floats
C8	17 Oct 2017	Depth (m)	21
C8	17 Oct 2017	Arrive Time	852
C8	17 Oct 2017	Depart Time	856
C8	17 Oct 2017	Air Temp (C)	21
C8	17 Oct 2017	Weather	Haze
C8	17 Oct 2017	Visibility (mi)	10
C8	17 Oct 2017	Wind Speed (kts)	1
C8	17 Oct 2017	Wind Dir	SW
C8	17 Oct 2017	Water Color	Greenish-Blue
C8	17 Oct 2017	Wave Ht Low (ft)	2
C8	17 Oct 2017	Wave Period (sec)	16
C8	17 Oct 2017	Sea State	Calm
C8	17 Oct 2017	High Tide (ft)	5.5
C8	17 Oct 2017	High Tide Time	821
C8	17 Oct 2017	Low Tide (ft)	0.5
C8	17 Oct 2017	Low Tide Time	1436
C8	17 Oct 2017	Comments	
C8	26 Oct 2017	Depth (m)	20
C8	26 Oct 2017	Arrive Time	908
C8	26 Oct 2017	Depart Time	910
C8	26 Oct 2017	Air Temp (C)	23
C8	26 Oct 2017	Weather	Clear
C8	26 Oct 2017	Visibility (mi)	8
C8	26 Oct 2017	Wind Speed (kts)	3
C8	26 Oct 2017	Wind Dir	E
C8	26 Oct 2017	Water Color	Green
C8	26 Oct 2017	Wave Ht Low (ft)	5
C8	26 Oct 2017	Wave Period (sec)	13
C8	26 Oct 2017	Sea State	Calm
C8	26 Oct 2017	High Tide (ft)	4.2
C8	26 Oct 2017	High Tide Time	1315
C8	26 Oct 2017	Low Tide (ft)	3.2
C8	26 Oct 2017	Low Tide Time	658
C8	26 Oct 2017	Comments	Kelp; Lobster floats
C8	30 Oct 2017	Depth (m)	20
C8	30 Oct 2017	Arrive Time	859
C8	30 Oct 2017	Depart Time	904
C8	30 Oct 2017	Air Temp (C)	18
C8	30 Oct 2017	Weather	Overcast
C8	30 Oct 2017	Visibility (mi)	8
C8	30 Oct 2017	Wind Speed (kts)	5
C8	30 Oct 2017	Wind Dir	NE
C8	30 Oct 2017	Water Color	Bluish-Green

Station	Date	Parameter	Value
C8	30 Oct 2017	Wave Ht Low (ft)	5
C8	30 Oct 2017	Wave Period (sec)	13
C8	30 Oct 2017	Sea State	Wind ripples
C8	30 Oct 2017	High Tide (ft)	4.6
C8	30 Oct 2017	High Tide Time	651
C8	30 Oct 2017	Low Tide (ft)	1.8
C8	30 Oct 2017	Low Tide Time	1251
C8	30 Oct 2017	Comments	Lobster floats

Table 3.10

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

Station	Date	Depth (m)	Temp (°C)	XMS (‰)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
A1	02 Oct 2017	1	19.50	76.46	7.5	33.47	8.1	23.7	1.59
A1	02 Oct 2017	2	19.37	77.06	7.6	33.45	8.1	23.7	1.67
A1	02 Oct 2017	3	19.28	78.10	7.7	33.44	8.1	23.8	1.82
A1	02 Oct 2017	4	19.23	79.02	7.8	33.43	8.1	23.8	1.89
A1	02 Oct 2017	5	19.18	79.04	7.8	33.42	8.1	23.8	1.83
A1	02 Oct 2017	6	18.97	81.03	8.0	33.42	8.1	23.8	1.77
A1	02 Oct 2017	7	18.78	82.06	8.0	33.40	8.1	23.9	1.71
A1	02 Oct 2017	8	18.42	80.59	7.9	33.41	8.1	23.9	1.89
A1	02 Oct 2017	9	17.50	78.84	8.0	33.43	8.1	24.2	2.36
A1	02 Oct 2017	10	16.53	78.84	8.1	33.37	8.1	24.4	2.72
A1	02 Oct 2017	11	16.45	78.90	8.1	33.33	8.1	24.4	2.74
A1	02 Oct 2017	12	16.34	78.30	8.0	33.33	8.1	24.4	2.55
A1	02 Oct 2017	13	16.35	78.17	8.0	33.33	8.1	24.4	2.32
A1	02 Oct 2017	14	16.33	77.65	7.9	33.33	8.1	24.4	2.09
A1	02 Oct 2017	15	16.32	77.08	7.8	33.33	8.1	24.4	1.97
A1	02 Oct 2017	16	16.30	77.11	7.8	33.34	8.1	24.4	1.75
A1	02 Oct 2017	17	16.25	77.21	7.5	33.34	8.1	24.4	1.63
A1	02 Oct 2017	18	15.36	77.58	7.4	33.39	8.1	24.7	1.49
A1	02 Oct 2017	19	14.89	76.57	7.4	33.35	8.1	24.7	1.36
A1	02 Oct 2017	20	14.85	73.71	7.5	33.33	8.1	24.7	1.33
A1	10 Oct 2017	1	19.63	83.44	8.0	33.43	8.1	23.7	1.43
A1	10 Oct 2017	2	19.63	83.32	8.0	33.43	8.1	23.7	1.47
A1	10 Oct 2017	3	19.63	83.91	8.0	33.43	8.1	23.7	1.57
A1	10 Oct 2017	4	19.63	84.20	8.0	33.43	8.1	23.7	1.54
A1	10 Oct 2017	5	19.63	84.18	8.0	33.43	8.1	23.7	1.53
A1	10 Oct 2017	6	19.63	84.17	8.0	33.43	8.1	23.7	1.52
A1	10 Oct 2017	7	19.59	84.24	7.9	33.43	8.1	23.7	1.57
A1	10 Oct 2017	8	19.33	84.92	7.8	33.43	8.1	23.7	1.58
A1	10 Oct 2017	9	18.96	84.87	7.8	33.42	8.1	23.8	1.82
A1	10 Oct 2017	10	18.64	84.10	7.5	33.43	8.1	23.9	1.94
A1	10 Oct 2017	11	17.70	83.12	7.5	33.43	8.1	24.1	1.87
A1	10 Oct 2017	12	17.46	83.45	7.6	33.38	8.1	24.2	1.94
A1	10 Oct 2017	13	16.63	84.77	7.5	33.44	8.1	24.4	1.75
A1	10 Oct 2017	14	15.96	85.26	7.6	33.37	8.1	24.5	1.42
A1	10 Oct 2017	15	15.75	85.86	7.7	33.35	8.1	24.5	1.23
A1	10 Oct 2017	16	15.55	87.11	7.8	33.35	8.1	24.6	1.07
A1	10 Oct 2017	17	15.45	87.24	7.7	33.34	8.1	24.6	0.96
A1	10 Oct 2017	18	15.22	87.08	7.6	33.35	8.1	24.7	0.90
A1	17 Oct 2017	1	19.90	82.83	8.3	33.45	8.1	23.6	1.24
A1	17 Oct 2017	2	19.88	82.87	8.2	33.45	8.1	23.6	1.27
A1	17 Oct 2017	3	19.38	83.61	7.9	33.47	8.1	23.8	1.39
A1	17 Oct 2017	4	18.63	83.60	7.8	33.45	8.1	23.9	1.59
A1	17 Oct 2017	5	18.31	84.33	7.6	33.43	8.1	24.0	1.72
A1	17 Oct 2017	6	17.81	83.72	7.5	33.43	8.1	24.1	1.81
A1	17 Oct 2017	7	16.68	84.83	7.5	33.43	8.0	24.4	1.57
A1	17 Oct 2017	8	16.45	86.50	7.6	33.37	8.0	24.4	1.34
A1	17 Oct 2017	9	16.43	86.95	7.5	33.36	8.0	24.4	1.23
A1	17 Oct 2017	10	16.14	86.36	7.3	33.38	8.0	24.5	1.16

Station	Date	Depth (m)	Temp (°C)	XMS (‰)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
A1	17 Oct 2017	11	15.58	86.09	7.2	33.38	8.0	24.6	0.99
A1	17 Oct 2017	12	15.29	86.66	7.1	33.36	8.0	24.6	0.85
A1	17 Oct 2017	13	15.07	86.89	7.2	33.35	8.0	24.7	0.88
A1	17 Oct 2017	14	15.04	87.19	7.2	33.34	8.0	24.7	0.96
A1	17 Oct 2017	15	14.89	87.69	7.0	33.36	8.0	24.7	0.97
A1	17 Oct 2017	16	14.15	87.91	6.8	33.38	8.0	24.9	1.00
A1	17 Oct 2017	17	13.91	88.12	6.7	33.35	8.0	24.9	0.97
A1	17 Oct 2017	18	13.74	87.81	6.5	33.36	8.0	25.0	0.91
A1	17 Oct 2017	19	13.58	87.78	6.3	33.36	8.0	25.0	0.81
A1	17 Oct 2017	20	13.59	87.21	6.3	33.36	8.0	25.0	0.75
A1	26 Oct 2017	1	19.27	85.98	8.0	33.49	8.1	23.8	0.73
A1	26 Oct 2017	2	19.28	84.86	8.0	33.50	8.1	23.8	0.75
A1	26 Oct 2017	3	19.20	85.40	8.0	33.51	8.1	23.8	0.76
A1	26 Oct 2017	4	18.63	85.79	7.8	33.54	8.1	24.0	0.82
A1	26 Oct 2017	5	16.61	86.69	7.9	33.59	8.1	24.5	0.89
A1	26 Oct 2017	6	15.76	87.70	8.1	33.40	8.0	24.6	0.98
A1	26 Oct 2017	7	15.68	87.16	8.1	33.37	8.0	24.6	1.09
A1	26 Oct 2017	8	15.60	86.85	7.9	33.37	8.0	24.6	1.23
A1	26 Oct 2017	9	15.29	86.43	7.8	33.40	8.0	24.7	1.25
A1	26 Oct 2017	10	15.08	85.92	7.7	33.37	8.0	24.7	1.22
A1	26 Oct 2017	11	15.07	85.82	7.6	33.37	8.0	24.7	1.17
A1	26 Oct 2017	12	14.96	85.53	7.5	33.38	8.0	24.7	1.16
A1	26 Oct 2017	13	14.81	85.26	7.4	33.38	8.0	24.8	1.14
A1	26 Oct 2017	14	14.68	84.79	7.4	33.38	8.0	24.8	1.19
A1	26 Oct 2017	15	14.47	84.22	7.2	33.39	8.0	24.8	1.21
A1	26 Oct 2017	16	14.20	83.44	7.1	33.39	8.0	24.9	1.22
A1	26 Oct 2017	17	14.06	83.31	7.0	33.38	8.0	24.9	1.22
A1	26 Oct 2017	18	14.06	83.23	7.0	33.37	8.0	24.9	1.23
A1	26 Oct 2017	19	14.06	83.20	7.0	33.37	8.0	24.9	1.18
A1	30 Oct 2017	1	18.94	83.77	8.0	33.46	8.1	23.9	1.15
A1	30 Oct 2017	2	18.94	84.21	8.0	33.47	8.1	23.9	1.23
A1	30 Oct 2017	3	18.90	84.25	8.0	33.47	8.1	23.9	1.24
A1	30 Oct 2017	4	18.88	84.18	8.0	33.46	8.1	23.9	1.26
A1	30 Oct 2017	5	18.82	84.09	8.0	33.47	8.1	23.9	1.65
A1	30 Oct 2017	6	18.76	83.89	8.0	33.47	8.1	23.9	1.40
A1	30 Oct 2017	7	18.68	83.25	8.0	33.46	8.1	23.9	1.49
A1	30 Oct 2017	8	18.66	83.06	8.0	33.46	8.1	23.9	1.56
A1	30 Oct 2017	9	18.62	82.60	8.0	33.46	8.1	23.9	1.58
A1	30 Oct 2017	10	18.57	82.39	8.0	33.45	8.1	23.9	1.66
A1	30 Oct 2017	11	18.49	82.25	8.0	33.46	8.1	24.0	1.69
A1	30 Oct 2017	12	18.26	81.07	7.9	33.46	8.1	24.0	1.83
A1	30 Oct 2017	13	18.13	79.80	7.9	33.44	8.1	24.1	1.90
A1	30 Oct 2017	14	17.90	79.22	7.8	33.44	8.1	24.1	1.90
A1	30 Oct 2017	15	17.65	78.12	7.7	33.44	8.1	24.2	1.89
A1	30 Oct 2017	16	17.08	77.64	7.6	33.45	8.1	24.3	1.83
A1	30 Oct 2017	17	16.56	76.59	7.6	33.40	8.1	24.4	1.78
A1	30 Oct 2017	18	16.36	76.56	7.6	33.38	8.1	24.4	1.73
A1	30 Oct 2017	19	16.32	76.62	7.6	33.37	8.0	24.4	1.73
C4	02 Oct 2017	1	19.55	76.91	7.2	33.43	8.1	23.7	0.95
C4	02 Oct 2017	2	19.53	76.74	7.4	33.44	8.1	23.7	1.00
C4	02 Oct 2017	3	19.47	77.12	7.7	33.43	8.2	23.7	1.24
C4	02 Oct 2017	4	19.46	78.26	7.8	33.42	8.2	23.7	1.47

Station	Date	Depth (m)	Temp (°C)	XMS (‰)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
C4	02 Oct 2017	5	19.43	78.32	7.8	33.43	8.2	23.7	1.59
C4	02 Oct 2017	6	19.37	78.60	7.8	33.43	8.2	23.7	1.55
C4	02 Oct 2017	7	19.29	78.58	7.6	33.42	8.2	23.7	1.52
C4	02 Oct 2017	8	19.16	78.64	7.3	33.43	8.2	23.8	1.26
C4	02 Oct 2017	9	18.58	76.93	6.5	33.46	8.1	23.9	1.08
C4	02 Oct 2017	10	17.87	60.53	5.9	33.43	8.1	24.1	0.87
C4	10 Oct 2017	1	19.61	78.52	7.6	33.43	8.2	23.7	1.03
C4	10 Oct 2017	2	19.56	78.54	7.6	33.43	8.2	23.7	1.12
C4	10 Oct 2017	3	19.52	78.10	7.6	33.43	8.2	23.7	1.30
C4	10 Oct 2017	4	19.50	77.71	7.6	33.43	8.2	23.7	1.44
C4	10 Oct 2017	5	19.48	77.98	7.6	33.43	8.2	23.7	1.56
C4	10 Oct 2017	6	19.46	77.99	7.5	33.43	8.2	23.7	1.61
C4	10 Oct 2017	7	19.42	77.74	7.5	33.43	8.2	23.7	1.67
C4	10 Oct 2017	8	19.39	77.49	7.4	33.43	8.2	23.7	1.64
C4	10 Oct 2017	9	19.33	72.54	7.3	33.43	8.1	23.7	1.53
C4	10 Oct 2017	10	19.17	66.00	7.1	33.43	8.1	23.8	1.37
C4	10 Oct 2017	11	18.68	52.56	6.7	33.44	8.1	23.9	1.28
C4	17 Oct 2017	1	19.63	79.05	7.9	33.45	8.1	23.7	1.36
C4	17 Oct 2017	2	19.52	79.18	7.8	33.45	8.1	23.7	1.41
C4	17 Oct 2017	3	19.48	79.21	7.8	33.45	8.1	23.7	1.54
C4	17 Oct 2017	4	19.24	79.92	7.7	33.45	8.1	23.8	1.79
C4	17 Oct 2017	5	19.01	80.74	7.7	33.45	8.1	23.8	1.88
C4	17 Oct 2017	6	18.77	81.58	7.7	33.43	8.1	23.9	1.88
C4	17 Oct 2017	7	18.48	81.70	7.5	33.43	8.1	24.0	1.88
C4	17 Oct 2017	8	17.58	81.37	7.1	33.45	8.1	24.2	1.69
C4	17 Oct 2017	9	16.07	82.45	7.1	33.40	8.1	24.5	1.22
C4	17 Oct 2017	10	15.58	83.27	7.1	33.36	8.1	24.6	0.98
C4	17 Oct 2017	11	15.37	79.83	7.0	33.35	8.1	24.6	0.89
C4	17 Oct 2017	12	15.31	75.43	7.0	33.35	8.1	24.6	0.87
C4	26 Oct 2017	1	18.75	78.12	8.0	33.48	8.2	23.9	0.89
C4	26 Oct 2017	2	18.74	78.31	7.9	33.48	8.2	23.9	0.88
C4	26 Oct 2017	3	18.39	77.44	7.7	33.50	8.1	24.0	1.00
C4	26 Oct 2017	4	18.03	73.29	7.7	33.46	8.1	24.1	1.28
C4	26 Oct 2017	5	17.91	74.80	7.7	33.45	8.1	24.1	1.47
C4	26 Oct 2017	6	17.80	74.55	7.7	33.45	8.1	24.1	1.49
C4	26 Oct 2017	7	17.68	77.16	7.7	33.44	8.1	24.2	1.49
C4	26 Oct 2017	8	17.40	72.91	7.3	33.46	8.1	24.2	1.42
C4	26 Oct 2017	9	16.59	57.57	6.8	33.46	8.0	24.4	1.10
C4	26 Oct 2017	10	16.26	26.98	6.7	33.40	8.0	24.5	0.99
C4	30 Oct 2017	1	18.66	53.01	6.8	33.45	8.0	23.9	1.23
C4	30 Oct 2017	2	18.69	54.11	6.8	33.45	8.0	23.9	1.23
C4	30 Oct 2017	3	18.69	56.21	6.8	33.46	8.0	23.9	1.25
C4	30 Oct 2017	4	18.55	56.64	6.6	33.46	8.0	24.0	1.19
C4	30 Oct 2017	5	17.84	57.85	6.5	33.47	8.0	24.1	1.06
C4	30 Oct 2017	6	17.19	63.37	6.5	33.43	8.0	24.3	0.94
C4	30 Oct 2017	7	16.95	67.65	6.4	33.41	8.0	24.3	0.85
C4	30 Oct 2017	8	16.85	66.78	6.4	33.40	8.0	24.3	0.84
C4	30 Oct 2017	9	16.80	63.64	6.5	33.39	8.0	24.3	0.94
C4	30 Oct 2017	10	16.79	53.52	6.6	33.38	8.0	24.3	0.91
C5	02 Oct 2017	1	19.96	69.68	7.0	33.45	8.1	23.6	0.90

Station	Date	Depth (m)	Temp (°C)	XMS (‰)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
C5	02 Oct 2017	2	19.94	69.37	7.1	33.45	8.1	23.6	0.90
C5	02 Oct 2017	3	19.87	69.96	7.1	33.45	8.1	23.6	0.98
C5	02 Oct 2017	4	19.81	70.73	7.2	33.45	8.1	23.6	1.13
C5	02 Oct 2017	5	19.66	72.03	7.2	33.46	8.2	23.7	1.22
C5	02 Oct 2017	6	18.89	74.68	7.2	33.50	8.2	23.9	1.23
C5	02 Oct 2017	7	18.32	77.55	7.3	33.47	8.2	24.0	1.16
C5	02 Oct 2017	8	17.82	78.89	7.2	33.45	8.2	24.1	1.12
C5	02 Oct 2017	9	17.47	77.54	6.9	33.41	8.1	24.2	1.07
C5	02 Oct 2017	10	17.28	72.75	6.6	33.40	8.1	24.2	0.96
C5	02 Oct 2017	11	17.19	68.17	6.5	33.39	8.1	24.2	0.91
C5	10 Oct 2017	1	19.75	72.23	7.0	33.44	8.1	23.6	1.33
C5	10 Oct 2017	2	19.74	72.60	7.0	33.44	8.1	23.6	1.40
C5	10 Oct 2017	3	19.70	73.51	7.1	33.44	8.1	23.7	1.48
C5	10 Oct 2017	4	19.67	74.52	7.2	33.44	8.1	23.7	1.53
C5	10 Oct 2017	5	19.65	76.42	7.4	33.44	8.1	23.7	1.55
C5	10 Oct 2017	6	19.63	79.56	7.3	33.44	8.1	23.7	1.50
C5	10 Oct 2017	7	19.55	81.55	7.1	33.44	8.1	23.7	1.27
C5	10 Oct 2017	8	19.46	83.25	6.9	33.44	8.1	23.7	0.93
C5	10 Oct 2017	9	19.39	83.00	6.8	33.43	8.1	23.7	0.83
C5	10 Oct 2017	10	18.72	80.46	6.2	33.47	8.1	23.9	0.82
C5	10 Oct 2017	11	18.16	78.03	5.9	33.40	8.1	24.0	0.69
C5	17 Oct 2017	1	20.11	78.82	8.3	33.45	8.2	23.6	1.08
C5	17 Oct 2017	2	20.11	78.78	8.1	33.45	8.2	23.6	1.09
C5	17 Oct 2017	3	20.08	78.66	8.1	33.46	8.2	23.6	1.16
C5	17 Oct 2017	4	19.97	80.21	7.9	33.46	8.2	23.6	1.22
C5	17 Oct 2017	5	19.62	80.78	7.6	33.47	8.2	23.7	1.17
C5	17 Oct 2017	6	18.64	82.04	7.3	33.48	8.1	23.9	1.01
C5	17 Oct 2017	7	17.75	83.17	7.1	33.43	8.1	24.1	0.84
C5	17 Oct 2017	8	17.41	83.61	6.9	33.41	8.1	24.2	0.75
C5	17 Oct 2017	9	16.89	82.43	6.8	33.40	8.1	24.3	0.66
C5	17 Oct 2017	10	16.43	78.80	6.9	33.38	8.1	24.4	0.63
C5	26 Oct 2017	1	19.36	82.62	7.9	33.50	8.2	23.8	0.73
C5	26 Oct 2017	2	19.08	82.74	7.9	33.53	8.2	23.9	0.72
C5	26 Oct 2017	3	18.78	82.62	7.9	33.49	8.2	23.9	0.79
C5	26 Oct 2017	4	18.64	81.34	7.9	33.48	8.2	24.0	1.01
C5	26 Oct 2017	5	18.51	80.63	7.8	33.48	8.1	24.0	1.19
C5	26 Oct 2017	6	18.31	79.95	7.6	33.47	8.1	24.0	1.33
C5	26 Oct 2017	7	17.93	80.28	7.3	33.48	8.1	24.1	1.30
C5	26 Oct 2017	8	17.49	79.70	7.0	33.52	8.1	24.3	1.10
C5	26 Oct 2017	9	16.68	77.88	6.6	33.47	8.1	24.4	0.92
C5	26 Oct 2017	10	15.85	71.57	6.5	33.45	8.0	24.6	0.78
C5	26 Oct 2017	11	15.47	63.20	6.5	33.40	8.0	24.6	0.79
C5	30 Oct 2017	1	19.08	63.83	6.9	33.48	8.1	23.8	1.11
C5	30 Oct 2017	2	19.08	64.17	6.9	33.48	8.1	23.8	1.16
C5	30 Oct 2017	3	19.07	64.14	6.8	33.48	8.1	23.8	1.17
C5	30 Oct 2017	4	18.93	62.89	6.7	33.48	8.0	23.9	1.11
C5	30 Oct 2017	5	18.67	63.17	6.6	33.49	8.0	23.9	0.95
C5	30 Oct 2017	6	18.40	66.78	6.6	33.47	8.0	24.0	0.85
C5	30 Oct 2017	7	18.16	70.60	6.7	33.46	8.0	24.1	0.79
C5	30 Oct 2017	8	17.71	74.30	6.7	33.46	8.1	24.2	0.77
C5	30 Oct 2017	9	17.43	76.94	6.6	33.44	8.1	24.2	0.74

Station	Date	Depth (m)	Temp (°C)	XMS (‰)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
C5	30 Oct 2017	10	17.19	76.59	6.4	33.43	8.0	24.3	0.72
C5	30 Oct 2017	11	17.01	63.65	6.3	33.41	8.0	24.3	0.76
A6	02 Oct 2017	1	19.58	83.51	8.0	33.43	8.2	23.7	1.15
A6	02 Oct 2017	2	19.57	83.55	8.1	33.43	8.2	23.7	1.13
A6	02 Oct 2017	3	19.54	83.83	8.0	33.43	8.2	23.7	1.20
A6	02 Oct 2017	4	19.40	83.54	8.0	33.43	8.2	23.7	1.29
A6	02 Oct 2017	5	19.31	83.30	8.0	33.43	8.2	23.7	1.50
A6	02 Oct 2017	6	18.76	81.65	8.1	33.45	8.2	23.9	1.91
A6	02 Oct 2017	7	18.44	81.41	8.1	33.41	8.2	23.9	2.08
A6	02 Oct 2017	8	18.34	82.09	8.2	33.40	8.2	24.0	2.07
A6	02 Oct 2017	9	18.26	82.33	8.2	33.38	8.2	24.0	1.97
A6	02 Oct 2017	10	18.16	82.04	8.3	33.38	8.2	24.0	2.04
A6	02 Oct 2017	11	18.14	82.15	8.3	33.37	8.2	24.0	2.07
A6	02 Oct 2017	12	18.13	82.27	8.3	33.37	8.2	24.0	2.10
A6	02 Oct 2017	13	18.08	82.17	8.3	33.37	8.2	24.0	2.13
A6	02 Oct 2017	14	18.08	82.13	8.3	33.37	8.2	24.0	2.16
A6	02 Oct 2017	15	18.07	82.04	8.2	33.37	8.2	24.0	2.18
A6	02 Oct 2017	16	18.03	81.95	8.2	33.38	8.2	24.0	2.21
A6	02 Oct 2017	17	17.95	81.82	8.2	33.38	8.2	24.0	2.10
A6	02 Oct 2017	18	17.83	81.71	8.1	33.38	8.2	24.1	2.16
A6	02 Oct 2017	19	17.62	81.95	8.0	33.38	8.2	24.1	2.18
A6	02 Oct 2017	20	17.61	82.65	8.0	33.35	8.1	24.1	2.06
A6	10 Oct 2017	1	19.60	86.41	7.8	33.43	8.2	23.7	1.11
A6	10 Oct 2017	2	19.60	86.17	7.8	33.43	8.2	23.7	1.13
A6	10 Oct 2017	3	19.60	86.40	7.8	33.43	8.2	23.7	1.16
A6	10 Oct 2017	4	19.59	86.31	7.9	33.43	8.2	23.7	1.19
A6	10 Oct 2017	5	19.59	86.50	7.9	33.43	8.2	23.7	1.22
A6	10 Oct 2017	6	19.58	86.57	7.9	33.43	8.2	23.7	1.24
A6	10 Oct 2017	7	19.54	86.51	7.8	33.43	8.2	23.7	1.27
A6	10 Oct 2017	8	19.33	86.65	7.8	33.44	8.2	23.7	1.31
A6	10 Oct 2017	9	19.11	86.51	7.5	33.44	8.2	23.8	1.33
A6	10 Oct 2017	10	17.96	86.32	7.2	33.53	8.2	24.2	1.26
A6	10 Oct 2017	11	16.30	86.59	7.3	33.46	8.1	24.5	1.05
A6	10 Oct 2017	12	16.01	86.90	7.4	33.37	8.1	24.5	1.01
A6	10 Oct 2017	13	15.99	87.31	7.5	33.36	8.1	24.5	0.98
A6	10 Oct 2017	14	15.88	87.41	7.4	33.37	8.1	24.5	0.99
A6	10 Oct 2017	15	15.75	87.59	7.4	33.37	8.1	24.5	0.95
A6	10 Oct 2017	16	15.67	87.71	7.4	33.36	8.1	24.6	0.91
A6	10 Oct 2017	17	15.65	87.68	7.4	33.36	8.1	24.6	0.92
A6	10 Oct 2017	18	15.60	87.74	7.4	33.36	8.1	24.6	0.95
A6	10 Oct 2017	19	15.57	87.41	7.3	33.36	8.1	24.6	0.94
A6	10 Oct 2017	20	15.55	87.71	7.3	33.37	8.1	24.6	0.92
A6	17 Oct 2017	1	19.89	85.29	7.9	33.45	8.2	23.6	1.29
A6	17 Oct 2017	2	19.89	84.55	8.0	33.45	8.2	23.6	1.29
A6	17 Oct 2017	3	19.87	85.28	8.0	33.45	8.2	23.6	1.31
A6	17 Oct 2017	4	19.85	85.21	8.0	33.45	8.2	23.6	1.33
A6	17 Oct 2017	5	19.82	84.85	7.9	33.45	8.2	23.6	1.35
A6	17 Oct 2017	6	19.40	84.82	7.7	33.49	8.2	23.8	1.37
A6	17 Oct 2017	7	17.99	85.14	7.6	33.48	8.1	24.1	1.42
A6	17 Oct 2017	8	16.77	85.69	7.6	33.45	8.1	24.4	1.36
A6	17 Oct 2017	9	16.18	86.73	7.6	33.39	8.1	24.5	1.21
A6	17 Oct 2017	10	15.81	87.63	7.5	33.37	8.1	24.5	1.08

Station	Date	Depth (m)	Temp (°C)	XMS (‰)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
A6	17 Oct 2017	11	15.57	88.15	7.5	33.37	8.1	24.6	0.98
A6	17 Oct 2017	12	15.12	88.15	7.5	33.37	8.1	24.7	1.03
A6	17 Oct 2017	13	14.98	88.51	7.4	33.35	8.1	24.7	1.04
A6	17 Oct 2017	14	14.92	88.68	7.3	33.35	8.1	24.7	1.04
A6	17 Oct 2017	15	14.75	88.70	7.3	33.35	8.1	24.8	1.07
A6	17 Oct 2017	16	14.72	88.94	7.2	33.35	8.1	24.8	1.14
A6	17 Oct 2017	17	14.66	88.77	7.1	33.36	8.1	24.8	1.08
A6	17 Oct 2017	18	14.30	88.56	6.8	33.38	8.0	24.9	1.00
A6	17 Oct 2017	19	13.76	88.11	6.6	33.39	8.0	25.0	0.87
A6	26 Oct 2017	1	19.65	86.22	7.8	33.49	8.2	23.7	0.62
A6	26 Oct 2017	2	19.33	85.75	7.8	33.52	8.2	23.8	0.64
A6	26 Oct 2017	3	18.47	84.92	7.7	33.52	8.1	24.0	0.76
A6	26 Oct 2017	4	17.15	84.60	7.6	33.54	8.1	24.4	0.90
A6	26 Oct 2017	5	15.78	85.69	7.8	33.44	8.1	24.6	0.98
A6	26 Oct 2017	6	15.57	86.12	7.9	33.36	8.1	24.6	1.08
A6	26 Oct 2017	7	15.57	86.27	7.9	33.35	8.1	24.6	1.16
A6	26 Oct 2017	8	15.55	85.76	7.8	33.36	8.1	24.6	1.26
A6	26 Oct 2017	9	15.44	85.80	7.9	33.36	8.1	24.6	1.31
A6	26 Oct 2017	10	15.40	86.05	7.9	33.35	8.1	24.6	1.30
A6	26 Oct 2017	11	15.40	86.13	7.9	33.35	8.1	24.6	1.29
A6	26 Oct 2017	12	15.36	86.44	7.9	33.35	8.1	24.6	1.29
A6	26 Oct 2017	13	15.32	86.58	7.9	33.35	8.1	24.6	1.28
A6	26 Oct 2017	14	15.28	86.72	7.9	33.35	8.1	24.6	1.27
A6	26 Oct 2017	15	15.22	86.65	7.8	33.35	8.1	24.7	1.27
A6	26 Oct 2017	16	14.99	86.74	7.7	33.37	8.1	24.7	1.25
A6	26 Oct 2017	17	14.63	86.14	7.6	33.37	8.1	24.8	1.31
A6	26 Oct 2017	18	14.62	85.49	7.6	33.36	8.1	24.8	1.35
A6	30 Oct 2017	1	18.81	85.44	8.0	33.46	8.1	23.9	1.93
A6	30 Oct 2017	2	18.92	85.69	8.0	33.45	8.1	23.9	1.95
A6	30 Oct 2017	3	18.80	84.77	8.0	33.47	8.1	23.9	2.07
A6	30 Oct 2017	4	18.62	83.98	8.1	33.45	8.1	23.9	2.29
A6	30 Oct 2017	5	18.61	84.12	8.1	33.45	8.1	23.9	2.34
A6	30 Oct 2017	6	18.57	83.66	8.1	33.45	8.1	23.9	2.45
A6	30 Oct 2017	7	18.50	83.72	8.1	33.45	8.1	24.0	2.55
A6	30 Oct 2017	8	18.43	83.53	8.0	33.45	8.1	24.0	2.58
A6	30 Oct 2017	9	18.24	83.24	8.0	33.44	8.1	24.0	2.61
A6	30 Oct 2017	10	18.20	83.32	7.9	33.43	8.1	24.0	2.46
A6	30 Oct 2017	11	18.10	83.31	7.9	33.44	8.1	24.1	2.32
A6	30 Oct 2017	12	18.03	83.64	7.9	33.43	8.1	24.1	2.09
A6	30 Oct 2017	13	18.01	83.85	7.8	33.43	8.1	24.1	1.89
A6	30 Oct 2017	14	17.95	84.01	7.7	33.43	8.1	24.1	1.80
A6	30 Oct 2017	15	17.88	84.23	7.7	33.43	8.1	24.1	1.67
A6	30 Oct 2017	16	17.68	84.21	7.6	33.43	8.1	24.1	1.54
A6	30 Oct 2017	17	17.53	84.73	7.5	33.42	8.1	24.2	1.28
A6	30 Oct 2017	18	17.31	84.10	7.4	33.42	8.1	24.2	1.08
C6	02 Oct 2017	1	19.81	81.28	8.1	33.44	8.2	23.6	0.91
C6	02 Oct 2017	2	19.80	81.20	8.1	33.44	8.2	23.6	0.97
C6	02 Oct 2017	3	19.79	80.99	8.1	33.44	8.2	23.6	1.11
C6	02 Oct 2017	4	19.74	80.88	8.1	33.45	8.2	23.6	1.21
C6	02 Oct 2017	5	19.67	80.73	8.0	33.44	8.2	23.7	1.22
C6	02 Oct 2017	6	19.43	80.50	7.8	33.45	8.2	23.7	1.15
C6	02 Oct 2017	7	18.88	79.66	7.4	33.47	8.2	23.9	1.00

Station	Date	Depth (m)	Temp (°C)	XMS (‰)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
C6	02 Oct 2017	8	18.00	77.13	7.1	33.47	8.2	24.1	0.81
C6	02 Oct 2017	9	17.45	71.78	7.2	33.41	8.1	24.2	0.72
C6	10 Oct 2017	1	19.78	78.21	7.3	33.44	8.1	23.6	1.15
C6	10 Oct 2017	2	19.77	77.60	7.4	33.44	8.1	23.6	1.24
C6	10 Oct 2017	3	19.76	78.41	7.4	33.44	8.1	23.6	1.33
C6	10 Oct 2017	4	19.75	79.11	7.4	33.44	8.1	23.6	1.35
C6	10 Oct 2017	5	19.64	80.63	7.5	33.44	8.1	23.7	1.47
C6	10 Oct 2017	6	19.49	83.11	7.6	33.43	8.2	23.7	1.52
C6	10 Oct 2017	7	19.39	83.92	7.5	33.43	8.2	23.7	1.45
C6	10 Oct 2017	8	19.21	83.64	7.3	33.43	8.2	23.8	1.39
C6	10 Oct 2017	9	19.07	82.15	6.9	33.42	8.1	23.8	1.22
C6	10 Oct 2017	10	18.43	76.38	6.2	33.44	8.1	24.0	0.94
C6	17 Oct 2017	1	20.09	83.96	8.4	33.46	8.2	23.6	1.07
C6	17 Oct 2017	2	20.09	82.73	8.4	33.46	8.2	23.6	1.09
C6	17 Oct 2017	3	20.06	83.79	8.4	33.46	8.2	23.6	1.18
C6	17 Oct 2017	4	19.98	83.88	8.3	33.46	8.2	23.6	1.28
C6	17 Oct 2017	5	19.54	84.31	8.1	33.46	8.2	23.7	1.34
C6	17 Oct 2017	6	18.83	84.97	7.8	33.45	8.2	23.9	1.47
C6	17 Oct 2017	7	18.12	84.18	7.6	33.44	8.2	24.0	1.57
C6	17 Oct 2017	8	17.38	83.73	7.5	33.42	8.1	24.2	1.35
C6	17 Oct 2017	9	16.84	83.16	7.4	33.39	8.1	24.3	0.95
C6	17 Oct 2017	10	16.66	81.05	7.3	33.37	8.1	24.3	0.68
C6	17 Oct 2017	11	16.62	77.61	7.3	33.36	8.1	24.3	0.61
C6	26 Oct 2017	1	19.37	84.70	8.0	33.49	8.2	23.8	0.65
C6	26 Oct 2017	2	19.36	84.23	7.9	33.49	8.2	23.8	0.66
C6	26 Oct 2017	3	19.22	85.16	7.9	33.51	8.2	23.8	0.70
C6	26 Oct 2017	4	18.74	83.33	7.7	33.49	8.2	23.9	0.89
C6	26 Oct 2017	5	18.50	82.13	7.5	33.47	8.1	24.0	0.97
C6	26 Oct 2017	6	17.83	81.42	7.1	33.49	8.1	24.2	0.84
C6	26 Oct 2017	7	16.95	80.24	6.8	33.48	8.1	24.4	0.70
C6	26 Oct 2017	8	16.08	78.46	6.7	33.42	8.0	24.5	0.60
C6	26 Oct 2017	9	15.55	78.43	6.7	33.42	8.0	24.6	0.57
C6	26 Oct 2017	10	15.28	77.63	6.7	33.39	8.0	24.7	0.56
C6	30 Oct 2017	1	19.32	84.45	7.6	33.48	8.1	23.8	1.23
C6	30 Oct 2017	2	19.30	84.28	7.6	33.48	8.1	23.8	1.26
C6	30 Oct 2017	3	19.21	83.84	7.5	33.49	8.1	23.8	1.29
C6	30 Oct 2017	4	19.03	81.95	7.4	33.48	8.1	23.8	1.19
C6	30 Oct 2017	5	18.90	78.91	7.3	33.48	8.1	23.9	1.00
C6	30 Oct 2017	6	18.75	77.88	7.1	33.48	8.1	23.9	0.92
C6	30 Oct 2017	7	18.45	76.82	7.0	33.48	8.1	24.0	0.85
C6	30 Oct 2017	8	18.27	74.44	7.0	33.48	8.1	24.0	0.77
C6	30 Oct 2017	9	17.83	69.28	6.9	33.48	8.1	24.2	0.75
C6	30 Oct 2017	10	17.71	65.42	6.8	33.45	8.1	24.2	0.72
A7	02 Oct 2017	1	19.27	82.37	8.0	33.42	8.2	23.7	1.24
A7	02 Oct 2017	2	19.26	82.34	8.0	33.42	8.2	23.7	1.32
A7	02 Oct 2017	3	19.22	82.13	8.0	33.42	8.2	23.8	1.65
A7	02 Oct 2017	4	19.20	81.61	8.0	33.41	8.2	23.8	1.91
A7	02 Oct 2017	5	19.18	81.29	8.0	33.42	8.2	23.8	1.92
A7	02 Oct 2017	6	19.16	81.33	7.9	33.41	8.2	23.8	1.99
A7	02 Oct 2017	7	18.99	81.62	7.9	33.43	8.2	23.8	1.98

Station	Date	Depth (m)	Temp (°C)	XMS (‰)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
A7	02 Oct 2017	8	18.25	81.57	8.0	33.42	8.2	24.0	2.08
A7	02 Oct 2017	9	18.02	81.71	8.1	33.39	8.1	24.0	2.19
A7	02 Oct 2017	10	17.89	81.74	8.0	33.39	8.1	24.1	2.26
A7	02 Oct 2017	11	17.64	81.90	8.0	33.38	8.1	24.1	2.25
A7	02 Oct 2017	12	17.51	82.14	7.9	33.37	8.1	24.1	2.07
A7	02 Oct 2017	13	17.47	82.59	7.8	33.37	8.1	24.1	1.90
A7	02 Oct 2017	14	17.20	82.58	7.6	33.39	8.1	24.2	1.76
A7	02 Oct 2017	15	16.84	81.45	7.5	33.37	8.1	24.3	1.69
A7	02 Oct 2017	16	16.61	80.65	7.3	33.37	8.1	24.4	1.59
A7	02 Oct 2017	17	16.47	80.19	7.2	33.36	8.1	24.4	1.43
A7	02 Oct 2017	18	16.19	81.21	7.2	33.36	8.1	24.4	1.21
A7	02 Oct 2017	19	15.90	82.05	7.2	33.36	8.1	24.5	1.07
A7	02 Oct 2017	20	15.49	81.90	7.2	33.36	8.1	24.6	0.96
A7	10 Oct 2017	1	19.63	84.87	7.9	33.44	8.2	23.7	1.30
A7	10 Oct 2017	2	19.63	84.84	7.9	33.44	8.2	23.7	1.35
A7	10 Oct 2017	3	19.63	84.95	7.9	33.44	8.2	23.7	1.41
A7	10 Oct 2017	4	19.61	85.07	7.8	33.44	8.2	23.7	1.52
A7	10 Oct 2017	5	19.56	84.30	7.8	33.43	8.2	23.7	1.57
A7	10 Oct 2017	6	19.47	83.97	7.7	33.43	8.2	23.7	1.59
A7	10 Oct 2017	7	19.20	83.91	7.5	33.44	8.2	23.8	1.47
A7	10 Oct 2017	8	18.84	84.43	7.3	33.44	8.1	23.9	1.31
A7	10 Oct 2017	9	18.00	85.50	7.2	33.43	8.1	24.1	1.13
A7	10 Oct 2017	10	17.27	85.33	7.0	33.44	8.1	24.3	1.04
A7	10 Oct 2017	11	16.35	85.88	7.1	33.41	8.1	24.4	0.89
A7	10 Oct 2017	12	15.98	86.92	7.2	33.37	8.1	24.5	0.85
A7	10 Oct 2017	13	15.78	86.82	7.2	33.36	8.1	24.5	0.89
A7	10 Oct 2017	14	15.63	86.81	7.3	33.35	8.1	24.6	0.95
A7	10 Oct 2017	15	15.62	86.88	7.3	33.35	8.1	24.6	0.92
A7	10 Oct 2017	16	15.44	86.96	7.3	33.35	8.1	24.6	0.94
A7	10 Oct 2017	17	15.40	86.92	7.3	33.35	8.1	24.6	0.91
A7	10 Oct 2017	18	15.40	86.87	7.2	33.35	8.1	24.6	0.89
A7	17 Oct 2017	1	19.92	85.70	8.2	33.45	8.2	23.6	0.92
A7	17 Oct 2017	2	19.84	85.59	8.1	33.47	8.2	23.6	0.92
A7	17 Oct 2017	3	19.33	85.92	7.8	33.51	8.2	23.8	0.99
A7	17 Oct 2017	4	18.18	86.15	7.8	33.48	8.1	24.1	1.14
A7	17 Oct 2017	5	17.77	86.40	7.8	33.45	8.1	24.1	1.29
A7	17 Oct 2017	6	17.49	86.65	7.8	33.42	8.1	24.2	1.32
A7	17 Oct 2017	7	17.39	86.83	7.7	33.40	8.1	24.2	1.37
A7	17 Oct 2017	8	17.01	86.93	7.5	33.45	8.1	24.3	1.30
A7	17 Oct 2017	9	15.81	87.71	7.3	33.46	8.1	24.6	1.13
A7	17 Oct 2017	10	15.55	88.12	7.1	33.39	8.1	24.6	0.93
A7	17 Oct 2017	11	14.78	87.40	7.1	33.43	8.1	24.8	0.88
A7	17 Oct 2017	12	14.67	87.61	7.0	33.36	8.0	24.8	0.88
A7	17 Oct 2017	13	14.39	87.85	6.9	33.38	8.0	24.9	0.85
A7	17 Oct 2017	14	14.20	87.42	6.8	33.37	8.0	24.9	0.83
A7	17 Oct 2017	15	14.19	87.59	6.7	33.36	8.0	24.9	0.82
A7	17 Oct 2017	16	13.88	87.71	6.6	33.39	8.0	25.0	0.83
A7	17 Oct 2017	17	13.76	87.65	6.5	33.37	8.0	25.0	0.79
A7	17 Oct 2017	18	13.66	87.31	6.4	33.37	8.0	25.0	0.76
A7	17 Oct 2017	19	13.56	87.27	6.3	33.38	8.0	25.0	0.75
A7	17 Oct 2017	20	13.53	86.78	6.3	33.37	8.0	25.0	0.73
A7	26 Oct 2017	1	19.00	85.18	8.0	33.48	8.1	23.9	0.96

Station	Date	Depth (m)	Temp (°C)	XMS (‰)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
A7	26 Oct 2017	2	18.75	84.85	8.0	33.51	8.1	23.9	0.96
A7	26 Oct 2017	3	18.25	84.36	8.0	33.48	8.1	24.0	1.07
A7	26 Oct 2017	4	17.79	84.80	8.0	33.47	8.1	24.2	1.20
A7	26 Oct 2017	5	17.18	85.08	7.9	33.47	8.1	24.3	1.29
A7	26 Oct 2017	6	16.44	85.34	7.8	33.44	8.1	24.4	1.30
A7	26 Oct 2017	7	15.96	85.90	8.0	33.38	8.1	24.5	1.31
A7	26 Oct 2017	8	15.83	85.93	8.0	33.37	8.1	24.5	1.33
A7	26 Oct 2017	9	15.77	85.79	7.8	33.37	8.1	24.5	1.33
A7	26 Oct 2017	10	15.75	85.48	7.7	33.37	8.1	24.6	1.28
A7	26 Oct 2017	11	15.72	85.81	7.7	33.37	8.1	24.6	1.22
A7	26 Oct 2017	12	15.68	85.79	7.5	33.38	8.1	24.6	1.16
A7	26 Oct 2017	13	15.51	85.55	7.3	33.39	8.1	24.6	1.01
A7	26 Oct 2017	14	15.39	85.06	7.1	33.38	8.0	24.6	0.78
A7	26 Oct 2017	15	15.35	84.59	7.0	33.38	8.0	24.6	0.66
A7	26 Oct 2017	16	15.35	84.35	7.0	33.38	8.0	24.6	0.62
A7	26 Oct 2017	17	15.34	84.30	6.9	33.38	8.0	24.6	0.62
A7	26 Oct 2017	18	15.34	84.51	6.9	33.38	8.0	24.6	0.59
A7	30 Oct 2017	1	19.08	85.54	7.9	33.47	8.1	23.8	1.43
A7	30 Oct 2017	2	19.09	85.51	7.9	33.47	8.1	23.8	1.46
A7	30 Oct 2017	3	19.08	85.10	7.9	33.47	8.1	23.8	1.56
A7	30 Oct 2017	4	19.07	85.25	7.9	33.47	8.1	23.8	1.59
A7	30 Oct 2017	5	19.08	85.32	7.9	33.47	8.1	23.8	1.63
A7	30 Oct 2017	6	19.05	85.12	7.9	33.47	8.1	23.8	1.64
A7	30 Oct 2017	7	18.90	84.37	7.9	33.46	8.1	23.9	1.83
A7	30 Oct 2017	8	18.78	83.64	8.0	33.46	8.1	23.9	1.91
A7	30 Oct 2017	9	18.69	83.33	8.0	33.45	8.1	23.9	1.98
A7	30 Oct 2017	10	18.66	83.43	8.0	33.45	8.1	23.9	2.02
A7	30 Oct 2017	11	18.56	83.68	7.9	33.45	8.1	23.9	1.98
A7	30 Oct 2017	12	18.06	83.73	7.8	33.47	8.1	24.1	1.84
A7	30 Oct 2017	13	17.74	83.44	7.8	33.43	8.1	24.1	1.79
A7	30 Oct 2017	14	17.70	83.30	7.8	33.42	8.1	24.1	1.80
A7	30 Oct 2017	15	17.47	83.06	7.7	33.42	8.1	24.2	1.73
A7	30 Oct 2017	16	17.43	83.57	7.7	33.41	8.1	24.2	1.56
A7	30 Oct 2017	17	17.35	83.62	7.5	33.41	8.1	24.2	1.40
A7	30 Oct 2017	18	16.96	83.27	7.3	33.42	8.1	24.3	1.21
A7	30 Oct 2017	19	16.62	82.27	7.2	33.41	8.1	24.4	1.00
C7	02 Oct 2017	1	19.84	85.84	7.9	33.43	8.2	23.6	1.03
C7	02 Oct 2017	2	19.84	85.90	7.9	33.44	8.2	23.6	1.04
C7	02 Oct 2017	3	19.84	85.76	7.9	33.44	8.2	23.6	1.09
C7	02 Oct 2017	4	19.84	85.94	7.9	33.44	8.2	23.6	1.14
C7	02 Oct 2017	5	19.83	85.86	7.9	33.44	8.2	23.6	1.18
C7	02 Oct 2017	6	19.79	85.90	7.9	33.44	8.2	23.6	1.23
C7	02 Oct 2017	7	19.71	85.35	7.9	33.44	8.2	23.6	1.41
C7	02 Oct 2017	8	19.54	84.65	7.9	33.44	8.2	23.7	1.63
C7	02 Oct 2017	9	19.33	84.03	8.0	33.44	8.2	23.7	1.81
C7	02 Oct 2017	10	19.18	84.00	8.1	33.42	8.2	23.8	1.91
C7	02 Oct 2017	11	19.07	84.16	8.1	33.41	8.2	23.8	1.91
C7	02 Oct 2017	12	18.95	84.17	8.1	33.41	8.2	23.8	1.84
C7	02 Oct 2017	13	18.71	83.59	7.9	33.43	8.2	23.9	1.93
C7	02 Oct 2017	14	17.59	81.99	7.9	33.49	8.2	24.2	2.31
C7	02 Oct 2017	15	16.74	80.49	7.9	33.40	8.2	24.4	2.82
C7	02 Oct 2017	16	16.54	80.45	7.9	33.36	8.1	24.4	2.80
C7	02 Oct 2017	17	16.49	80.60	7.8	33.35	8.1	24.4	2.69

Station	Date	Depth (m)	Temp (°C)	XMS (‰)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
C7	02 Oct 2017	18	16.36	80.01	7.8	33.35	8.1	24.4	2.41
C7	02 Oct 2017	19	16.29	78.75	7.9	33.35	8.1	24.4	2.06
C7	10 Oct 2017	1	19.76	84.88	8.0	33.44	8.2	23.6	1.48
C7	10 Oct 2017	2	19.75	84.40	8.1	33.44	8.2	23.6	1.55
C7	10 Oct 2017	3	19.75	84.75	8.1	33.44	8.2	23.6	1.60
C7	10 Oct 2017	4	19.73	84.77	8.0	33.44	8.2	23.6	1.65
C7	10 Oct 2017	5	19.72	84.78	8.0	33.44	8.2	23.6	1.62
C7	10 Oct 2017	6	19.66	85.07	8.0	33.44	8.2	23.7	1.56
C7	10 Oct 2017	7	19.50	86.00	8.0	33.43	8.2	23.7	1.42
C7	10 Oct 2017	8	19.45	86.69	8.0	33.42	8.2	23.7	1.32
C7	10 Oct 2017	9	19.44	86.96	8.0	33.42	8.2	23.7	1.37
C7	10 Oct 2017	10	19.42	87.01	8.0	33.42	8.2	23.7	1.49
C7	10 Oct 2017	11	19.29	87.27	7.9	33.43	8.2	23.7	1.48
C7	10 Oct 2017	12	19.05	86.59	7.8	33.42	8.2	23.8	1.89
C7	10 Oct 2017	13	18.81	85.47	7.6	33.43	8.2	23.9	2.19
C7	10 Oct 2017	14	18.38	85.03	7.4	33.44	8.2	24.0	2.13
C7	10 Oct 2017	15	18.00	84.79	7.4	33.41	8.1	24.1	1.79
C7	10 Oct 2017	16	17.90	84.61	7.3	33.40	8.1	24.1	1.63
C7	10 Oct 2017	17	17.71	84.10	7.1	33.40	8.1	24.1	1.46
C7	10 Oct 2017	18	16.87	83.94	7.0	33.44	8.1	24.3	1.15
C7	17 Oct 2017	1	20.15	84.25	7.9	33.47	8.2	23.6	1.29
C7	17 Oct 2017	2	20.12	83.98	7.9	33.47	8.2	23.6	1.37
C7	17 Oct 2017	3	20.11	83.99	7.9	33.47	8.2	23.6	1.43
C7	17 Oct 2017	4	20.04	83.98	7.9	33.47	8.2	23.6	1.50
C7	17 Oct 2017	5	20.01	84.38	7.8	33.47	8.2	23.6	1.52
C7	17 Oct 2017	6	19.89	84.68	7.9	33.47	8.2	23.6	1.44
C7	17 Oct 2017	7	19.47	85.37	8.0	33.45	8.2	23.7	1.32
C7	17 Oct 2017	8	19.11	85.83	8.0	33.44	8.2	23.8	1.23
C7	17 Oct 2017	9	18.43	86.50	8.0	33.42	8.2	24.0	1.25
C7	17 Oct 2017	10	17.80	86.68	7.8	33.42	8.2	24.1	1.28
C7	17 Oct 2017	11	16.90	86.93	7.7	33.40	8.1	24.3	1.11
C7	17 Oct 2017	12	16.18	87.11	7.6	33.39	8.1	24.5	1.03
C7	17 Oct 2017	13	15.39	87.87	7.6	33.37	8.1	24.6	1.02
C7	17 Oct 2017	14	15.26	88.20	7.5	33.35	8.1	24.6	1.02
C7	17 Oct 2017	15	14.90	88.41	7.2	33.35	8.1	24.7	0.95
C7	17 Oct 2017	16	14.61	88.50	7.1	33.36	8.1	24.8	0.91
C7	17 Oct 2017	17	14.39	88.11	7.0	33.35	8.1	24.8	0.88
C7	17 Oct 2017	18	14.36	88.06	6.9	33.35	8.0	24.8	0.90
C7	26 Oct 2017	1	19.13	84.76	8.0	33.47	8.1	23.8	0.71
C7	26 Oct 2017	2	19.01	84.66	8.0	33.48	8.1	23.9	0.72
C7	26 Oct 2017	3	18.69	83.60	7.9	33.47	8.1	23.9	0.84
C7	26 Oct 2017	4	18.19	82.85	7.9	33.48	8.1	24.1	1.02
C7	26 Oct 2017	5	17.84	83.75	7.9	33.45	8.1	24.1	1.21
C7	26 Oct 2017	6	17.46	84.48	7.8	33.45	8.1	24.2	1.29
C7	26 Oct 2017	7	17.24	84.86	7.7	33.43	8.1	24.3	1.24
C7	26 Oct 2017	8	16.99	83.50	7.4	33.43	8.1	24.3	1.19
C7	26 Oct 2017	9	16.61	80.86	7.1	33.42	8.1	24.4	1.05
C7	26 Oct 2017	10	16.31	80.37	6.9	33.42	8.0	24.5	0.92
C7	26 Oct 2017	11	15.82	80.30	6.9	33.40	8.0	24.6	0.86
C7	26 Oct 2017	12	15.62	81.95	7.4	33.39	8.0	24.6	0.96
C7	26 Oct 2017	13	15.50	84.45	7.8	33.37	8.1	24.6	1.30
C7	26 Oct 2017	14	15.46	86.00	7.8	33.37	8.1	24.6	1.49

Station	Date	Depth (m)	Temp (°C)	XMS (‰)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
C7	26 Oct 2017	15	15.33	86.28	7.7	33.37	8.1	24.6	1.52
C7	26 Oct 2017	16	15.28	86.49	7.7	33.37	8.1	24.6	1.52
C7	26 Oct 2017	17	15.23	86.53	7.6	33.37	8.1	24.7	1.46
C7	26 Oct 2017	18	15.11	86.38	7.4	33.38	8.1	24.7	1.34
C7	30 Oct 2017	1	19.40	87.00	7.9	33.48	8.2	23.8	1.40
C7	30 Oct 2017	2	19.41	85.52	7.8	33.48	8.2	23.8	1.45
C7	30 Oct 2017	3	19.42	86.93	7.8	33.48	8.2	23.8	1.45
C7	30 Oct 2017	4	19.21	86.80	7.7	33.50	8.2	23.8	1.72
C7	30 Oct 2017	5	18.54	85.50	7.8	33.47	8.1	24.0	2.01
C7	30 Oct 2017	6	18.33	84.49	7.8	33.45	8.1	24.0	2.02
C7	30 Oct 2017	7	18.28	83.59	7.6	33.44	8.1	24.0	1.86
C7	30 Oct 2017	8	17.81	83.36	7.6	33.46	8.1	24.1	1.82
C7	30 Oct 2017	9	17.43	83.34	7.7	33.41	8.1	24.2	1.88
C7	30 Oct 2017	10	17.41	82.79	7.7	33.40	8.1	24.2	2.02
C7	30 Oct 2017	11	17.40	82.93	7.7	33.40	8.1	24.2	2.10
C7	30 Oct 2017	12	17.39	82.78	7.7	33.40	8.1	24.2	2.12
C7	30 Oct 2017	13	17.39	82.53	7.8	33.40	8.1	24.2	2.14
C7	30 Oct 2017	14	17.34	82.65	7.8	33.41	8.1	24.2	2.30
C7	30 Oct 2017	15	17.21	82.64	7.8	33.40	8.1	24.2	2.46
C7	30 Oct 2017	16	16.95	83.19	7.8	33.40	8.1	24.3	2.40
C7	30 Oct 2017	17	16.54	83.53	7.6	33.40	8.1	24.4	2.03
C7	30 Oct 2017	18	15.97	83.74	7.2	33.40	8.1	24.5	1.43
C7	30 Oct 2017	19	15.76	78.17	7.1	33.37	8.1	24.5	1.09
C8	02 Oct 2017	1	20.08	86.32	7.9	33.45	8.2	23.6	1.03
C8	02 Oct 2017	2	20.08	86.35	7.9	33.45	8.2	23.6	1.08
C8	02 Oct 2017	3	20.07	86.31	7.9	33.45	8.2	23.6	1.18
C8	02 Oct 2017	4	20.04	86.27	7.9	33.45	8.2	23.6	1.26
C8	02 Oct 2017	5	19.95	85.89	7.9	33.45	8.2	23.6	1.35
C8	02 Oct 2017	6	19.72	85.03	8.0	33.44	8.2	23.6	1.52
C8	02 Oct 2017	7	19.50	84.64	8.1	33.42	8.2	23.7	1.52
C8	02 Oct 2017	8	19.46	84.68	8.1	33.41	8.2	23.7	1.52
C8	02 Oct 2017	9	19.37	84.60	8.1	33.41	8.2	23.7	1.58
C8	02 Oct 2017	10	19.11	84.54	8.1	33.42	8.2	23.8	1.67
C8	02 Oct 2017	11	18.87	84.39	8.1	33.41	8.2	23.8	1.71
C8	02 Oct 2017	12	18.62	84.36	8.2	33.40	8.2	23.9	1.76
C8	02 Oct 2017	13	18.48	84.80	8.2	33.39	8.2	23.9	1.71
C8	02 Oct 2017	14	18.34	84.35	8.2	33.38	8.2	24.0	1.73
C8	02 Oct 2017	15	18.28	84.04	8.0	33.38	8.2	24.0	1.73
C8	02 Oct 2017	16	17.43	82.70	7.7	33.43	8.2	24.2	1.74
C8	02 Oct 2017	17	16.79	80.90	7.5	33.35	8.1	24.3	1.46
C8	02 Oct 2017	18	15.98	80.49	7.6	33.40	8.1	24.5	1.26
C8	02 Oct 2017	19	15.72	78.76	7.7	33.33	8.1	24.5	1.20
C8	10 Oct 2017	1	19.88	77.54	7.6	33.44	8.1	23.6	1.55
C8	10 Oct 2017	2	19.80	78.03	7.6	33.45	8.2	23.6	1.65
C8	10 Oct 2017	3	19.57	80.90	7.8	33.45	8.2	23.7	1.75
C8	10 Oct 2017	4	19.49	82.39	7.8	33.44	8.2	23.7	1.72
C8	10 Oct 2017	5	19.42	83.65	7.8	33.43	8.2	23.7	1.71
C8	10 Oct 2017	6	19.41	83.97	7.9	33.43	8.2	23.7	1.73
C8	10 Oct 2017	7	19.41	84.11	7.9	33.43	8.2	23.7	1.71
C8	10 Oct 2017	8	19.39	84.14	7.9	33.43	8.2	23.7	1.71
C8	10 Oct 2017	9	19.37	84.14	7.9	33.43	8.2	23.7	1.70
C8	10 Oct 2017	10	19.36	84.01	7.9	33.43	8.2	23.7	1.72

Station	Date	Depth (m)	Temp (°C)	XMS (‰)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
C8	10 Oct 2017	11	19.34	83.84	7.9	33.43	8.2	23.7	1.72
C8	10 Oct 2017	12	19.29	84.35	7.9	33.43	8.2	23.7	1.78
C8	10 Oct 2017	13	19.21	84.08	7.8	33.43	8.2	23.8	1.85
C8	10 Oct 2017	14	19.15	84.05	7.9	33.42	8.2	23.8	1.96
C8	10 Oct 2017	15	19.10	84.30	7.8	33.43	8.2	23.8	1.96
C8	10 Oct 2017	16	18.92	84.06	7.8	33.43	8.2	23.8	2.16
C8	10 Oct 2017	17	18.78	83.34	7.6	33.42	8.2	23.9	2.43
C8	10 Oct 2017	18	17.80	83.31	7.2	33.48	8.2	24.2	2.31
C8	10 Oct 2017	19	16.72	82.41	7.0	33.42	8.1	24.4	1.64
C8	17 Oct 2017	1	20.19	84.95	8.0	33.47	8.2	23.5	1.06
C8	17 Oct 2017	2	20.19	84.56	8.0	33.47	8.2	23.5	1.08
C8	17 Oct 2017	3	20.08	84.79	7.9	33.47	8.2	23.6	1.23
C8	17 Oct 2017	4	19.78	84.05	7.9	33.48	8.2	23.7	1.40
C8	17 Oct 2017	5	19.51	83.78	7.9	33.46	8.2	23.7	1.49
C8	17 Oct 2017	6	19.35	84.14	8.0	33.44	8.2	23.7	1.52
C8	17 Oct 2017	7	19.31	84.11	8.0	33.43	8.2	23.7	1.49
C8	17 Oct 2017	8	19.25	84.49	8.0	33.43	8.2	23.8	1.46
C8	17 Oct 2017	9	18.69	84.83	8.0	33.45	8.2	23.9	1.37
C8	17 Oct 2017	10	18.14	86.45	8.1	33.41	8.2	24.0	1.22
C8	17 Oct 2017	11	17.43	87.30	8.2	33.41	8.2	24.2	1.15
C8	17 Oct 2017	12	16.75	87.73	8.2	33.38	8.2	24.3	1.07
C8	17 Oct 2017	13	16.10	87.82	8.1	33.38	8.1	24.5	1.10
C8	17 Oct 2017	14	15.82	88.14	8.0	33.35	8.1	24.5	1.14
C8	17 Oct 2017	15	15.76	88.28	7.8	33.34	8.1	24.5	1.11
C8	17 Oct 2017	16	15.65	88.15	7.6	33.35	8.1	24.6	0.96
C8	17 Oct 2017	17	15.29	87.98	7.5	33.36	8.1	24.6	0.96
C8	17 Oct 2017	18	14.93	87.96	7.3	33.37	8.1	24.7	0.96
C8	17 Oct 2017	19	14.57	87.47	7.1	33.35	8.1	24.8	0.84
C8	17 Oct 2017	20	14.57	86.65	7.1	33.35	8.1	24.8	0.79
C8	26 Oct 2017	1	19.00	85.40	8.0	33.46	8.1	23.8	0.86
C8	26 Oct 2017	2	19.01	85.35	8.0	33.47	8.2	23.8	0.86
C8	26 Oct 2017	3	18.94	85.11	8.0	33.48	8.2	23.9	0.84
C8	26 Oct 2017	4	18.72	84.57	8.0	33.48	8.1	23.9	0.93
C8	26 Oct 2017	5	18.30	84.49	8.0	33.49	8.1	24.0	1.11
C8	26 Oct 2017	6	17.83	84.43	8.0	33.46	8.1	24.1	1.32
C8	26 Oct 2017	7	17.30	84.83	7.9	33.47	8.1	24.3	1.45
C8	26 Oct 2017	8	16.78	84.74	7.8	33.43	8.1	24.4	1.47
C8	26 Oct 2017	9	16.55	83.51	7.8	33.41	8.1	24.4	1.50
C8	26 Oct 2017	10	16.50	83.30	7.7	33.40	8.1	24.4	1.54
C8	26 Oct 2017	11	16.43	83.37	7.6	33.40	8.1	24.4	1.48
C8	26 Oct 2017	12	15.99	83.85	7.4	33.42	8.1	24.5	1.34
C8	26 Oct 2017	13	15.44	84.35	7.3	33.41	8.1	24.6	1.13
C8	26 Oct 2017	14	15.21	85.02	7.3	33.38	8.1	24.7	1.02
C8	26 Oct 2017	15	15.10	84.92	7.3	33.38	8.1	24.7	1.02
C8	26 Oct 2017	16	14.98	84.73	7.3	33.38	8.1	24.7	1.08
C8	26 Oct 2017	17	14.80	84.98	7.3	33.38	8.1	24.8	1.10
C8	26 Oct 2017	18	14.73	85.02	7.2	33.37	8.1	24.8	1.06
C8	26 Oct 2017	19	14.70	84.29	7.2	33.37	8.0	24.8	1.03
C8	30 Oct 2017	1	19.14	82.61	7.8	33.47	8.1	23.8	1.67
C8	30 Oct 2017	2	19.15	82.65	7.8	33.47	8.1	23.8	1.70
C8	30 Oct 2017	3	19.14	82.15	7.7	33.47	8.1	23.8	1.73
C8	30 Oct 2017	4	18.97	82.14	7.7	33.48	8.1	23.9	1.73

Station	Date	Depth (m)	Temp (°C)	XMS (‰)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
C8	30 Oct 2017	5	18.58	80.63	7.8	33.47	8.1	24.0	1.89
C8	30 Oct 2017	6	18.14	80.77	7.9	33.46	8.1	24.1	2.04
C8	30 Oct 2017	7	17.85	83.35	8.0	33.43	8.1	24.1	2.01
C8	30 Oct 2017	8	17.63	84.89	7.9	33.42	8.1	24.2	1.93
C8	30 Oct 2017	9	17.49	84.95	7.9	33.42	8.1	24.2	1.99
C8	30 Oct 2017	10	17.37	84.81	7.9	33.41	8.1	24.2	2.14
C8	30 Oct 2017	11	17.31	84.57	7.9	33.40	8.1	24.2	2.26
C8	30 Oct 2017	12	17.22	83.76	7.9	33.40	8.1	24.2	2.32
C8	30 Oct 2017	13	17.19	82.71	7.9	33.40	8.1	24.2	2.29
C8	30 Oct 2017	14	17.18	83.58	7.8	33.40	8.1	24.2	2.21
C8	30 Oct 2017	15	17.14	84.39	7.8	33.40	8.1	24.3	2.11
C8	30 Oct 2017	16	17.11	85.08	7.8	33.40	8.1	24.3	1.94
C8	30 Oct 2017	17	16.95	85.24	7.7	33.41	8.1	24.3	1.86
C8	30 Oct 2017	18	16.55	84.66	7.5	33.40	8.1	24.4	1.78
C8	30 Oct 2017	19	15.89	81.89	7.5	33.41	8.1	24.5	1.45

NA = not available

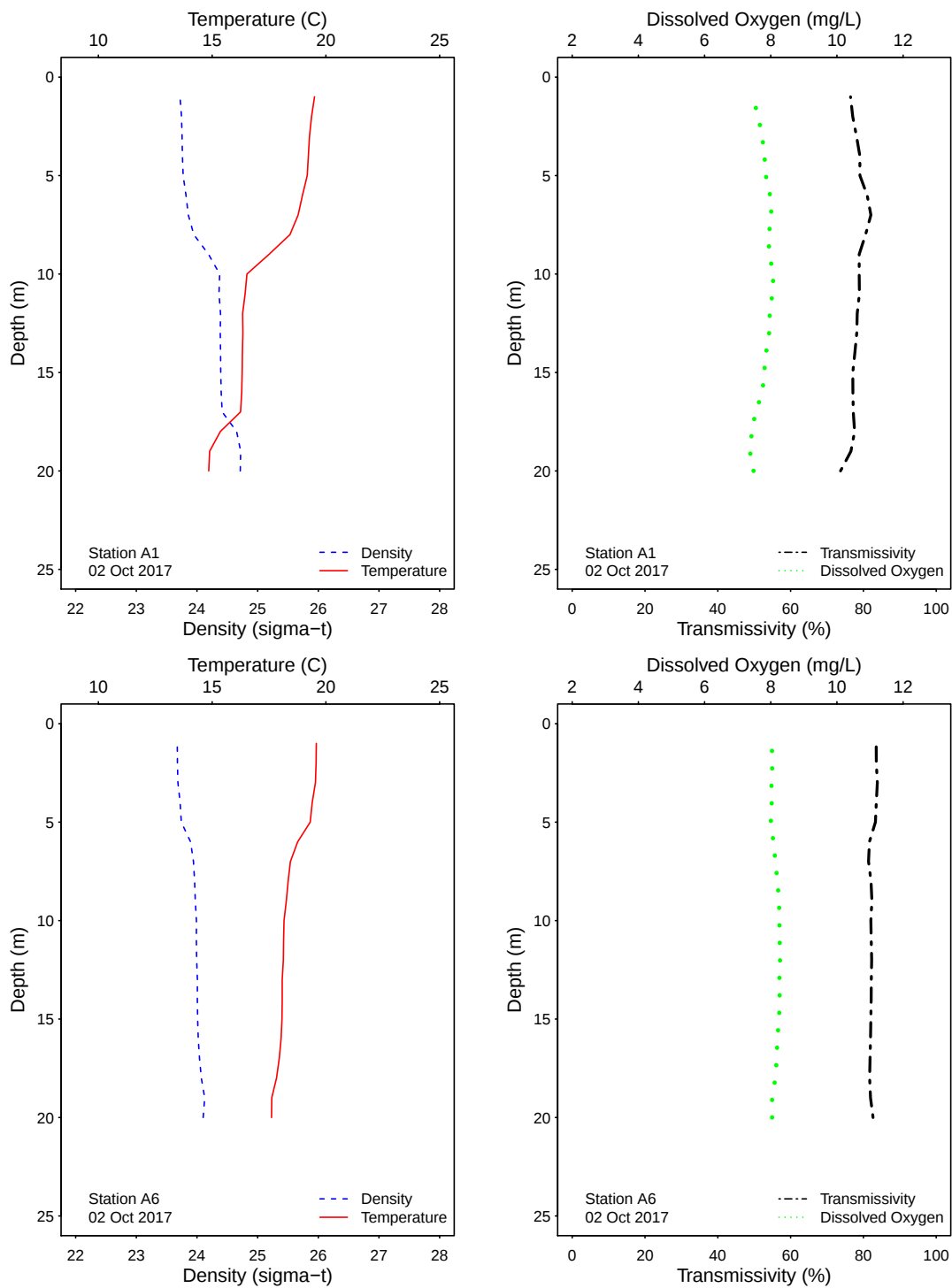


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

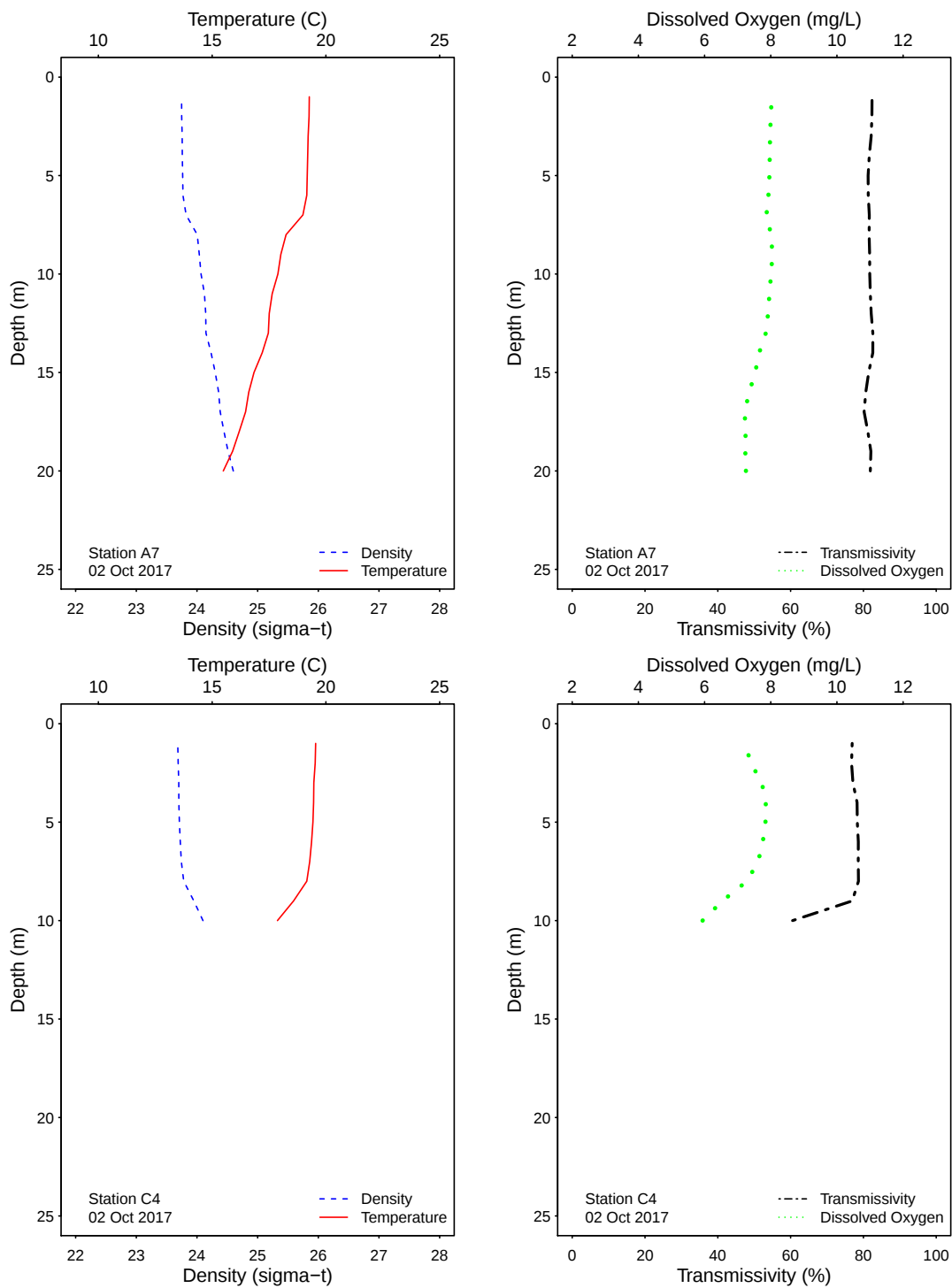


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

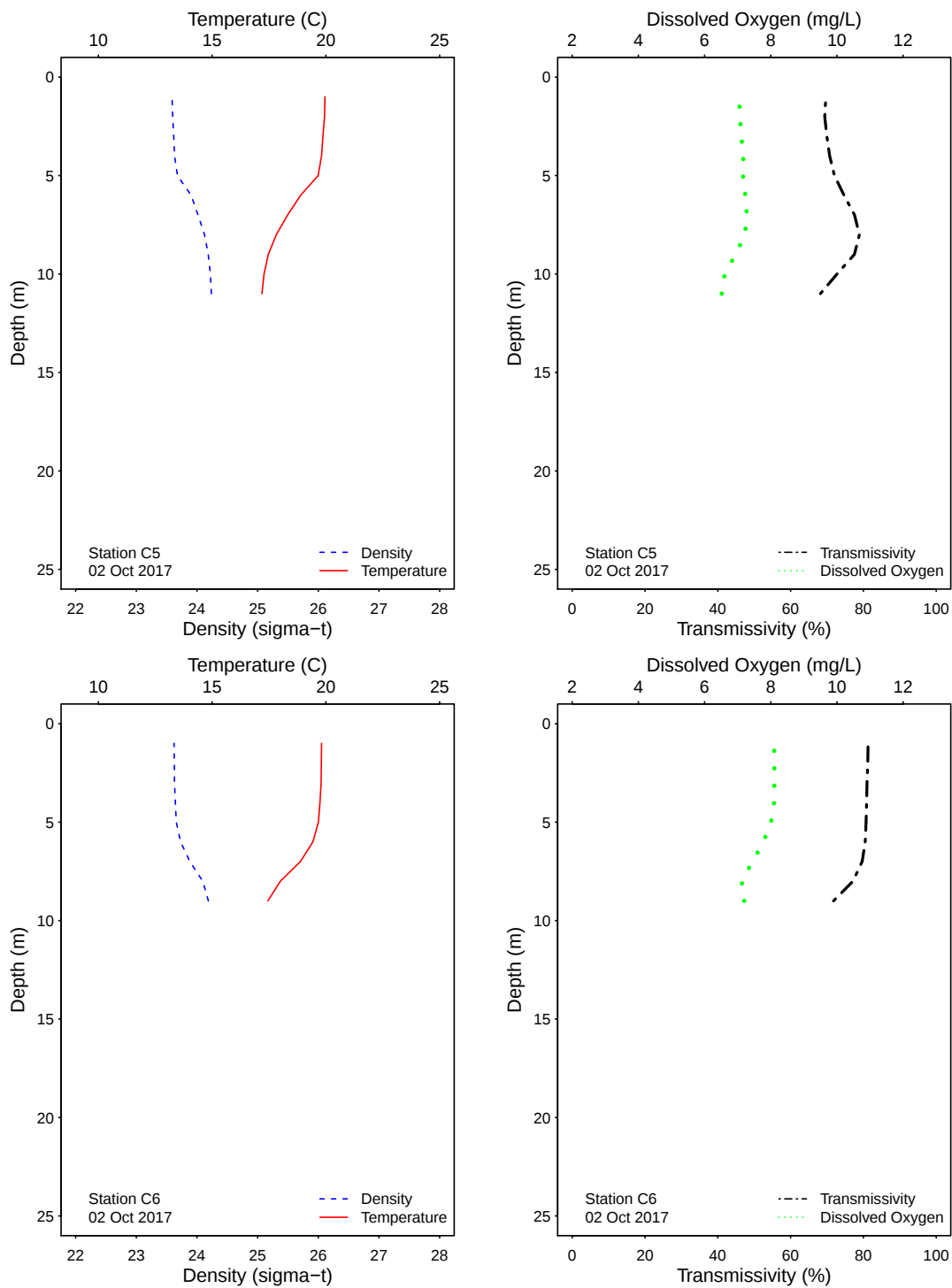


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

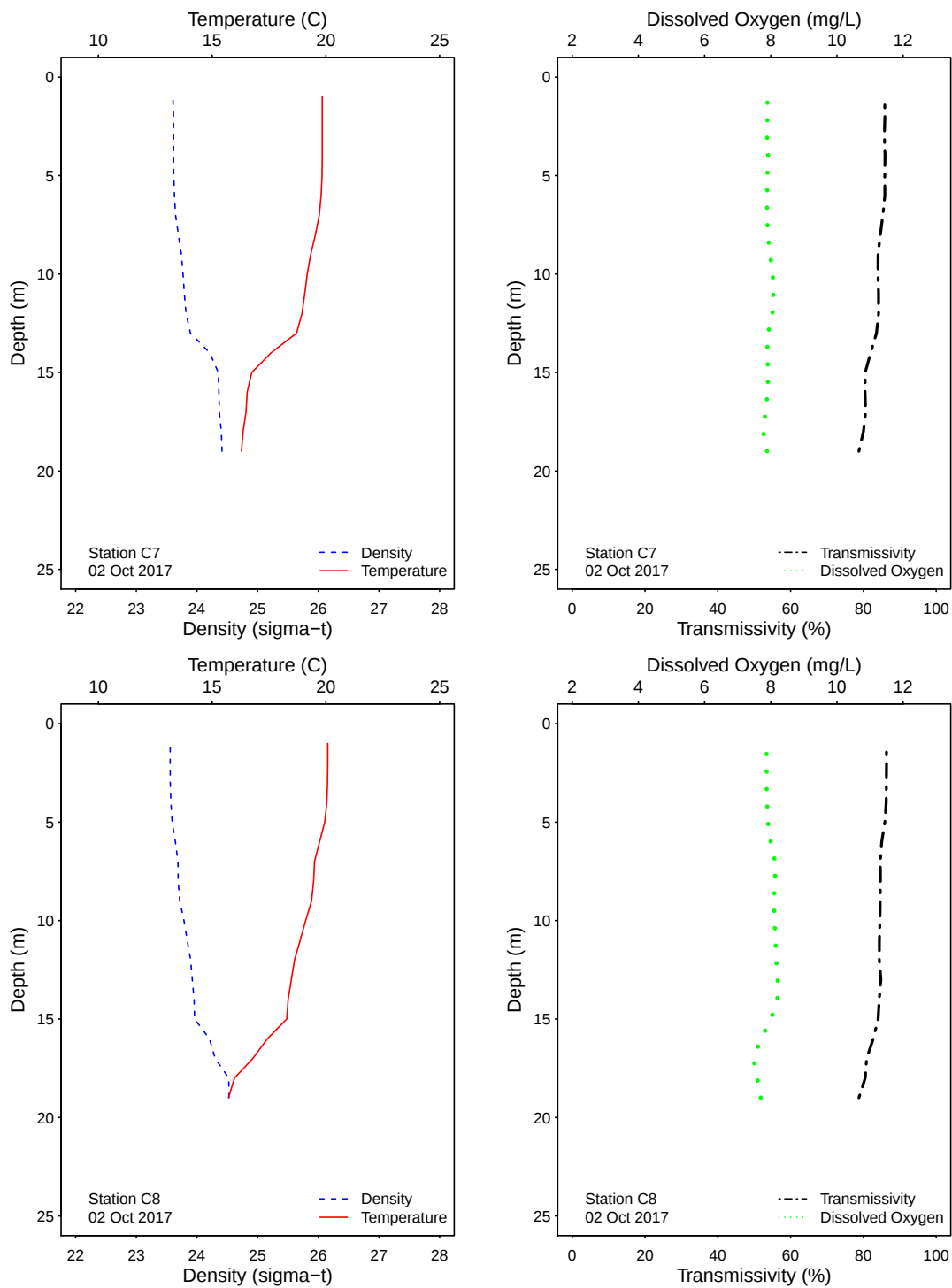


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

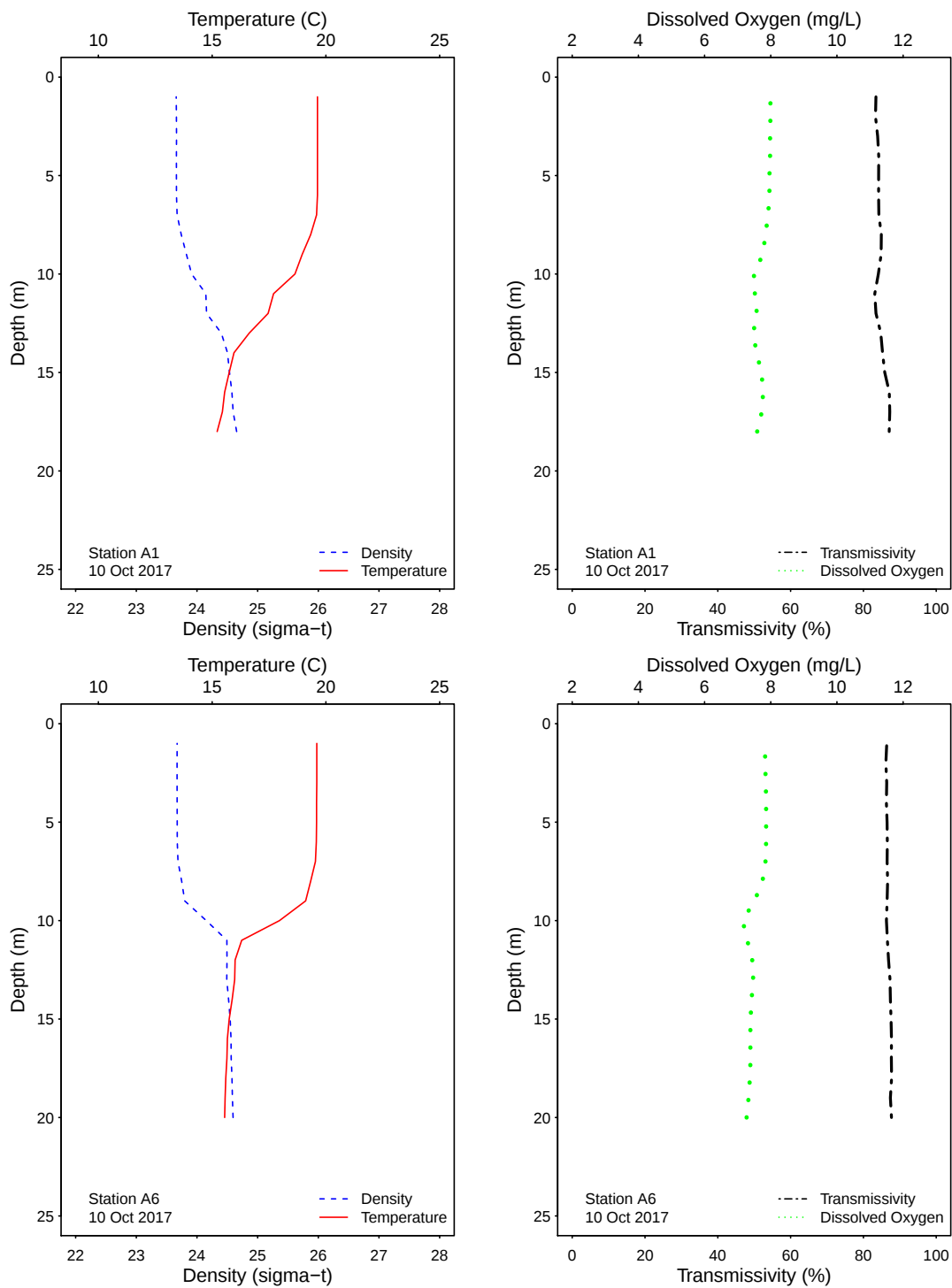


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

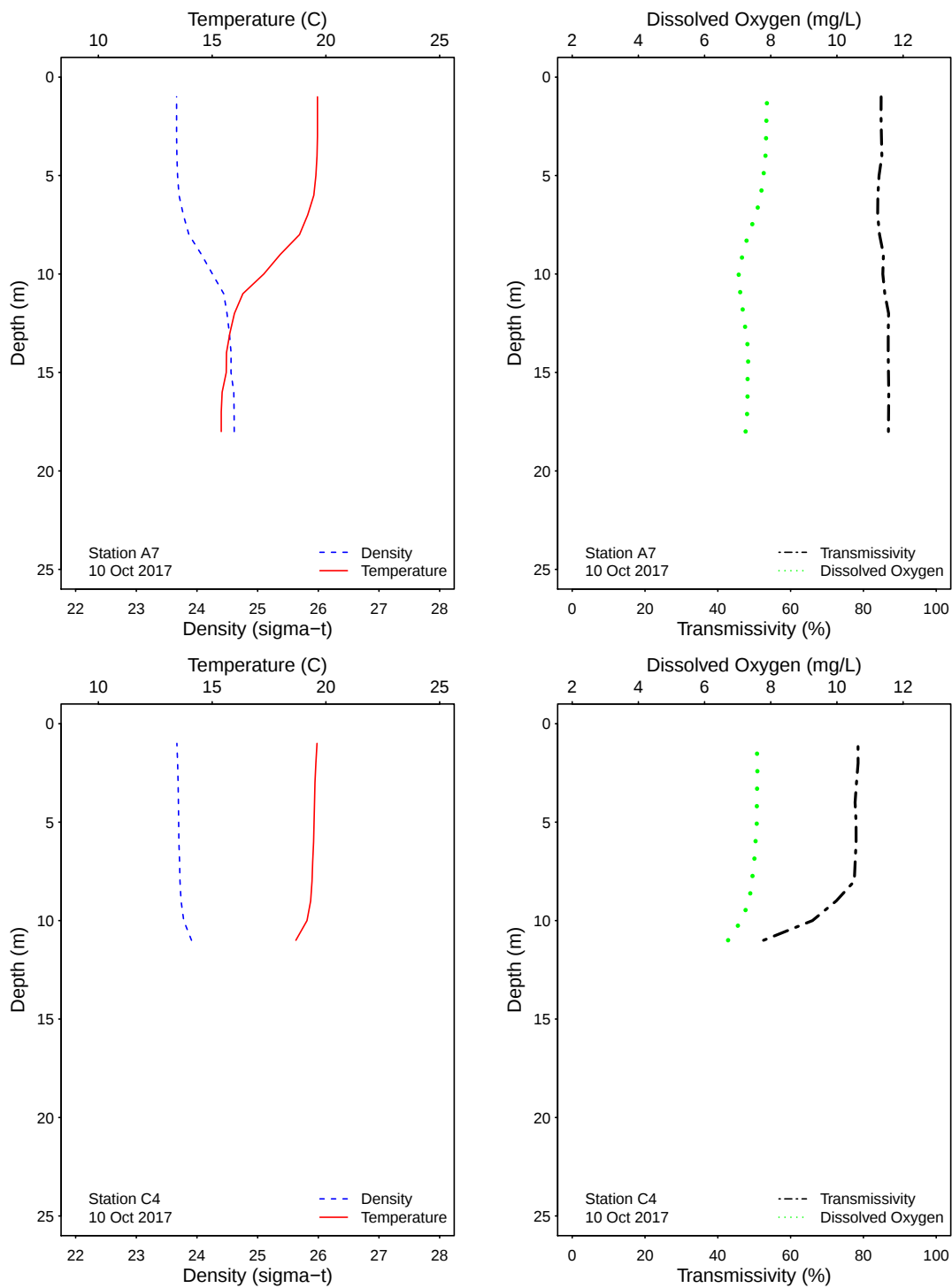


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

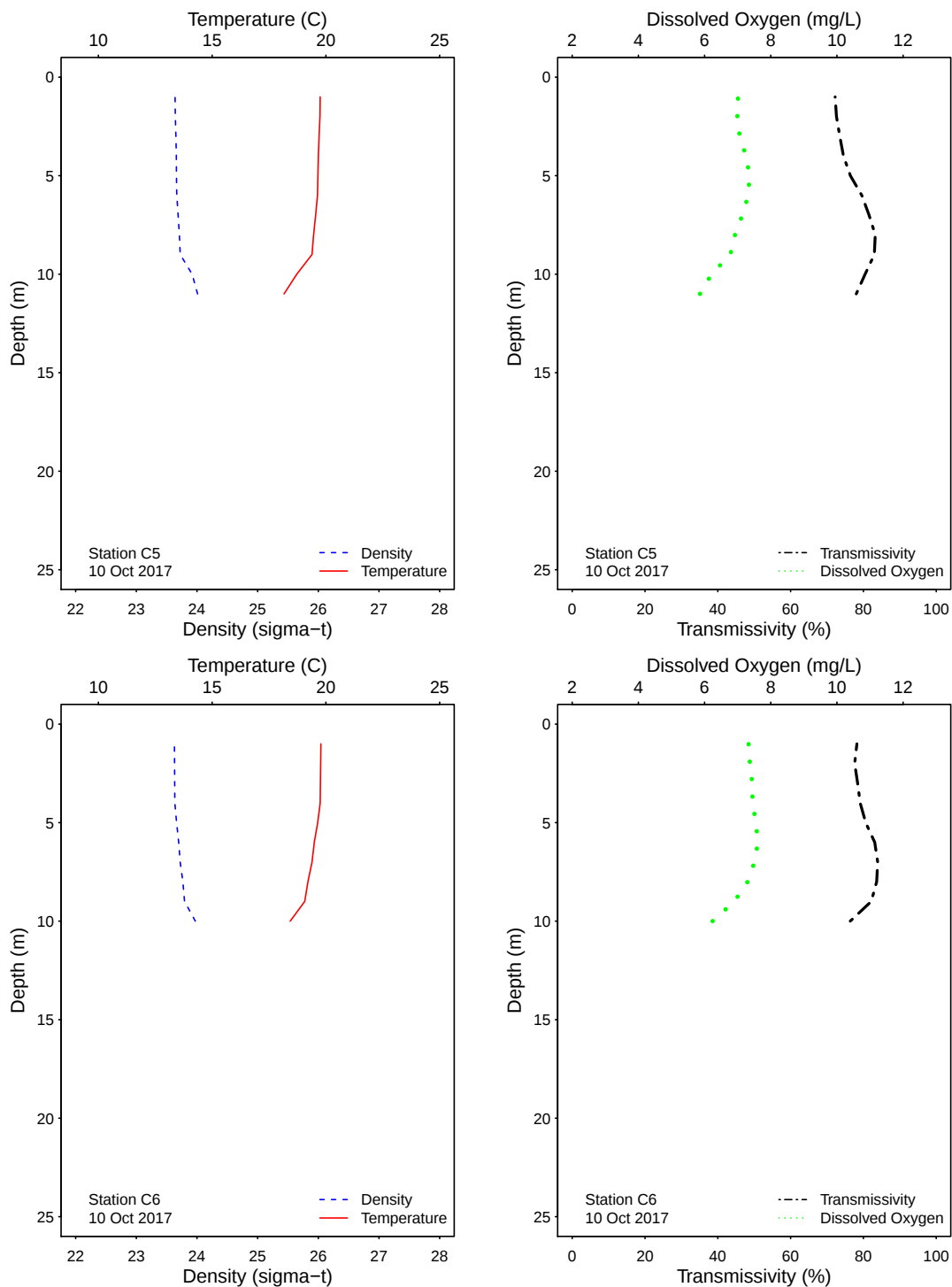


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

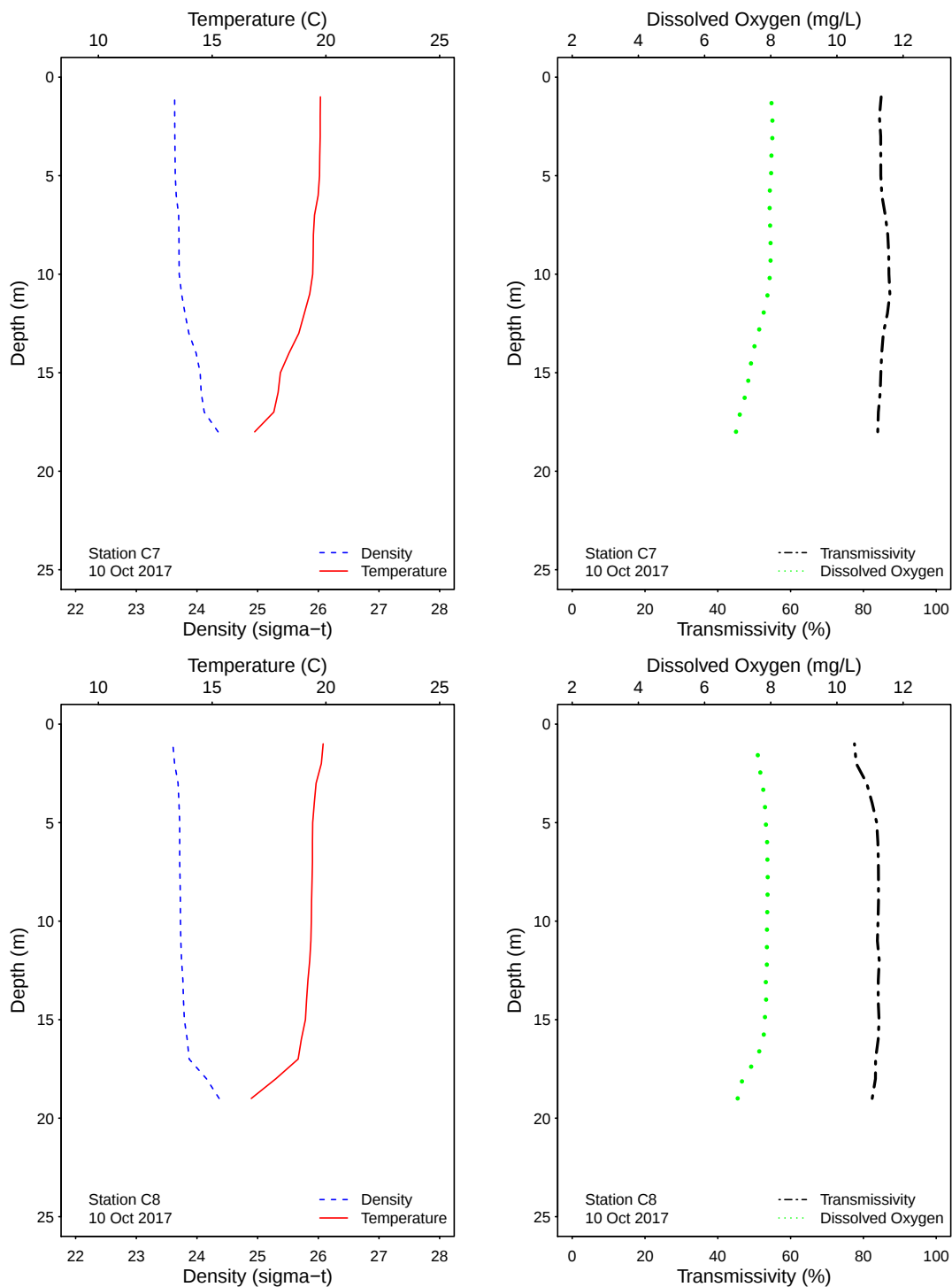


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

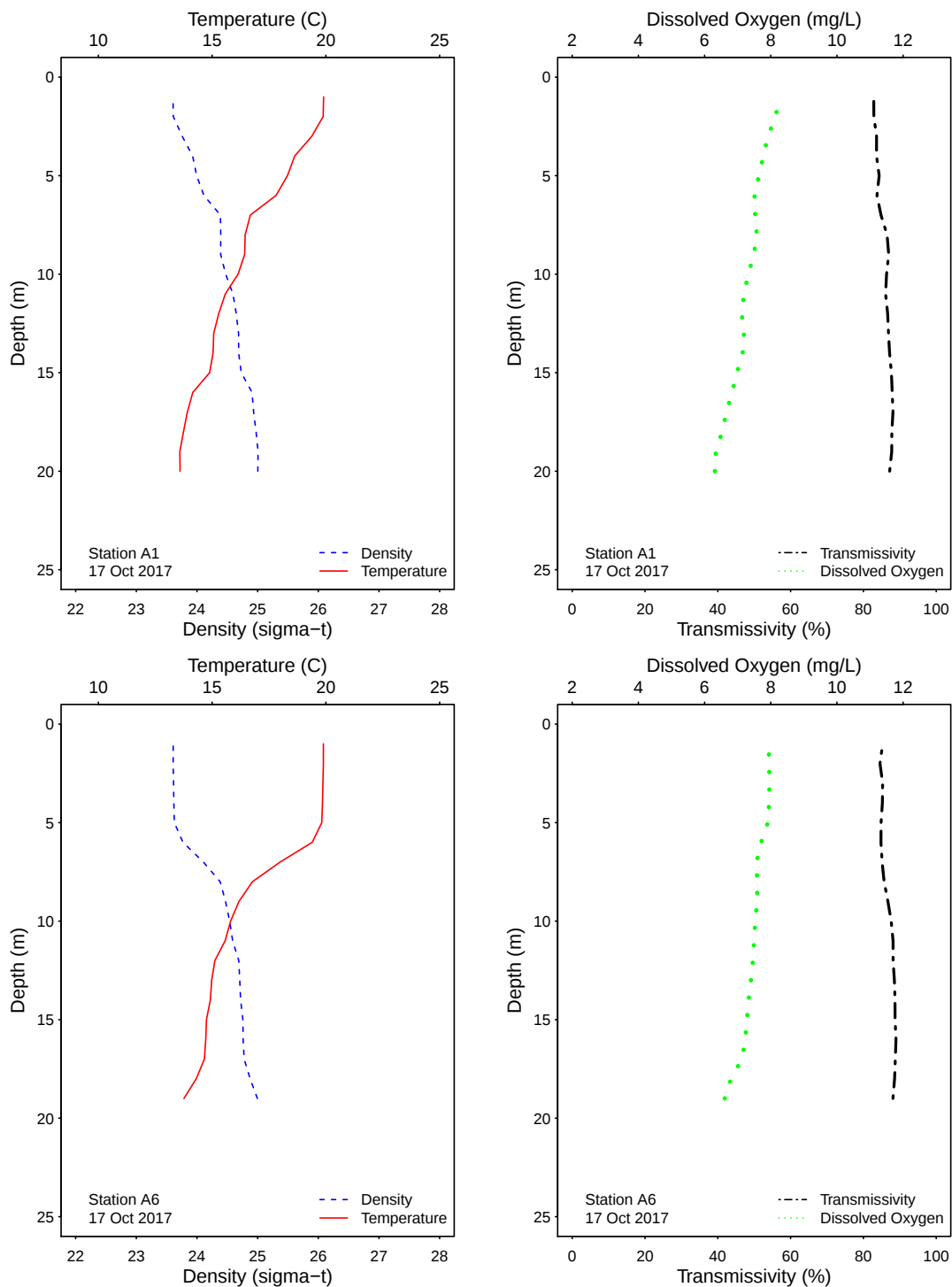


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

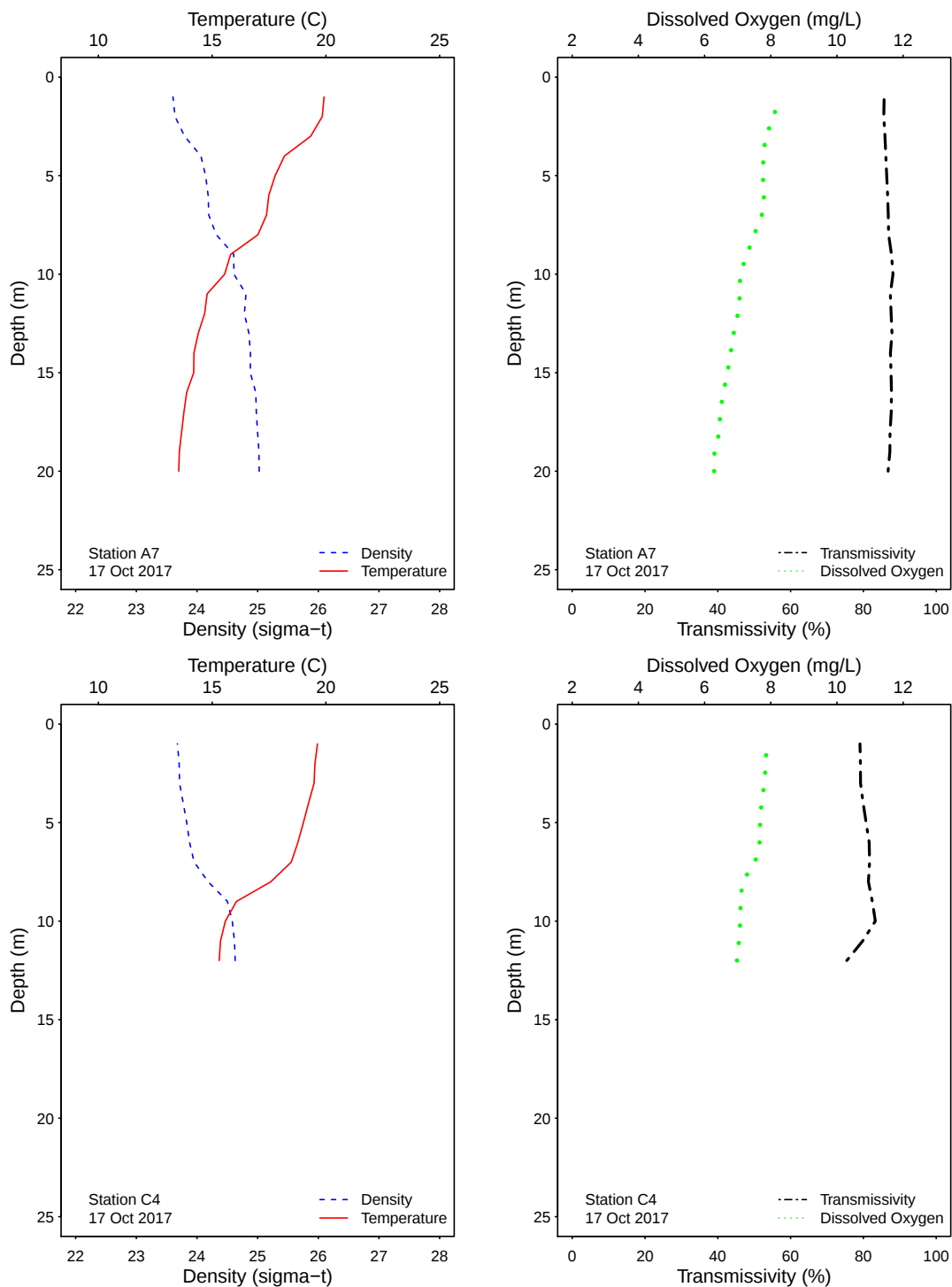


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

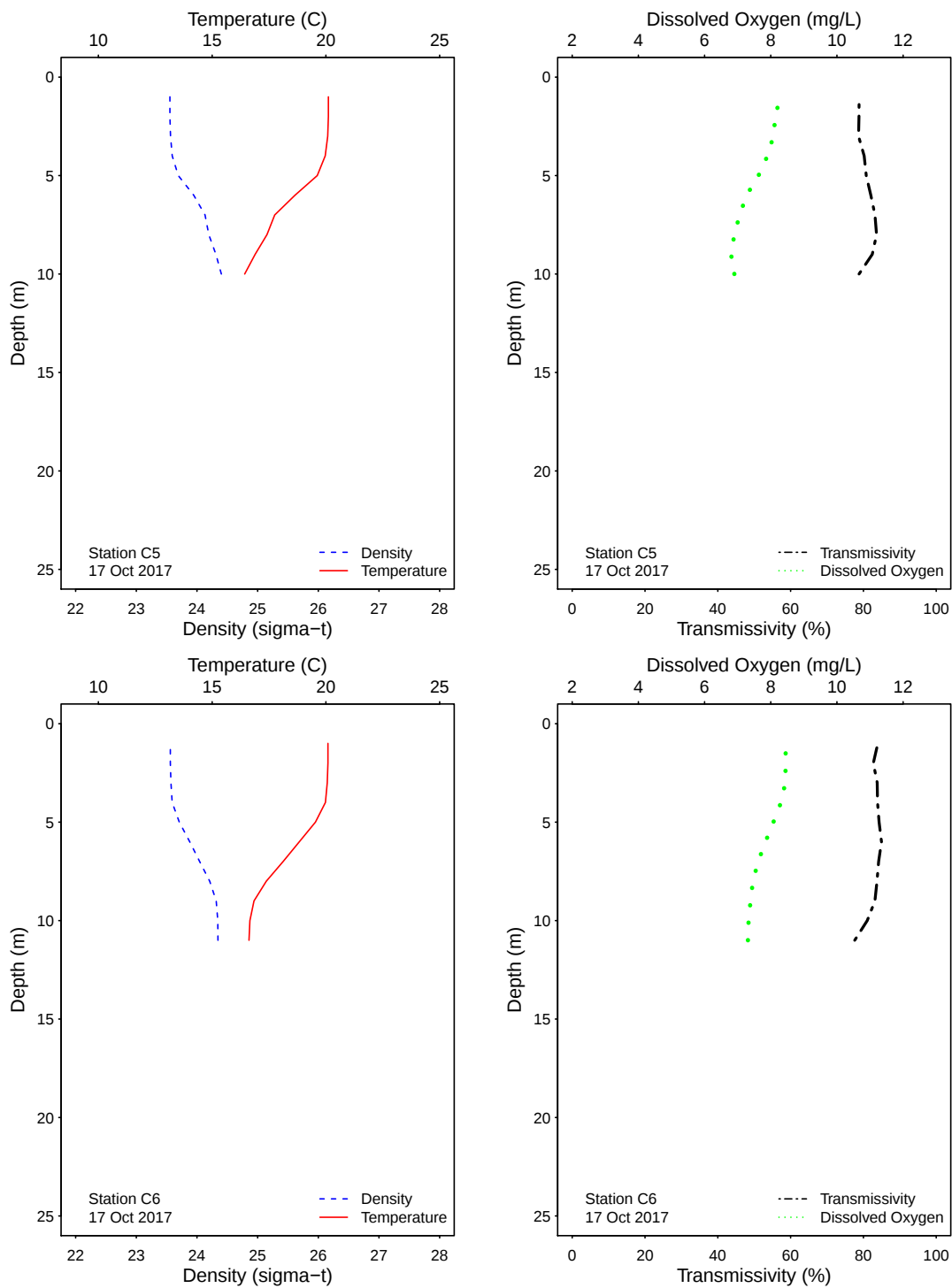


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

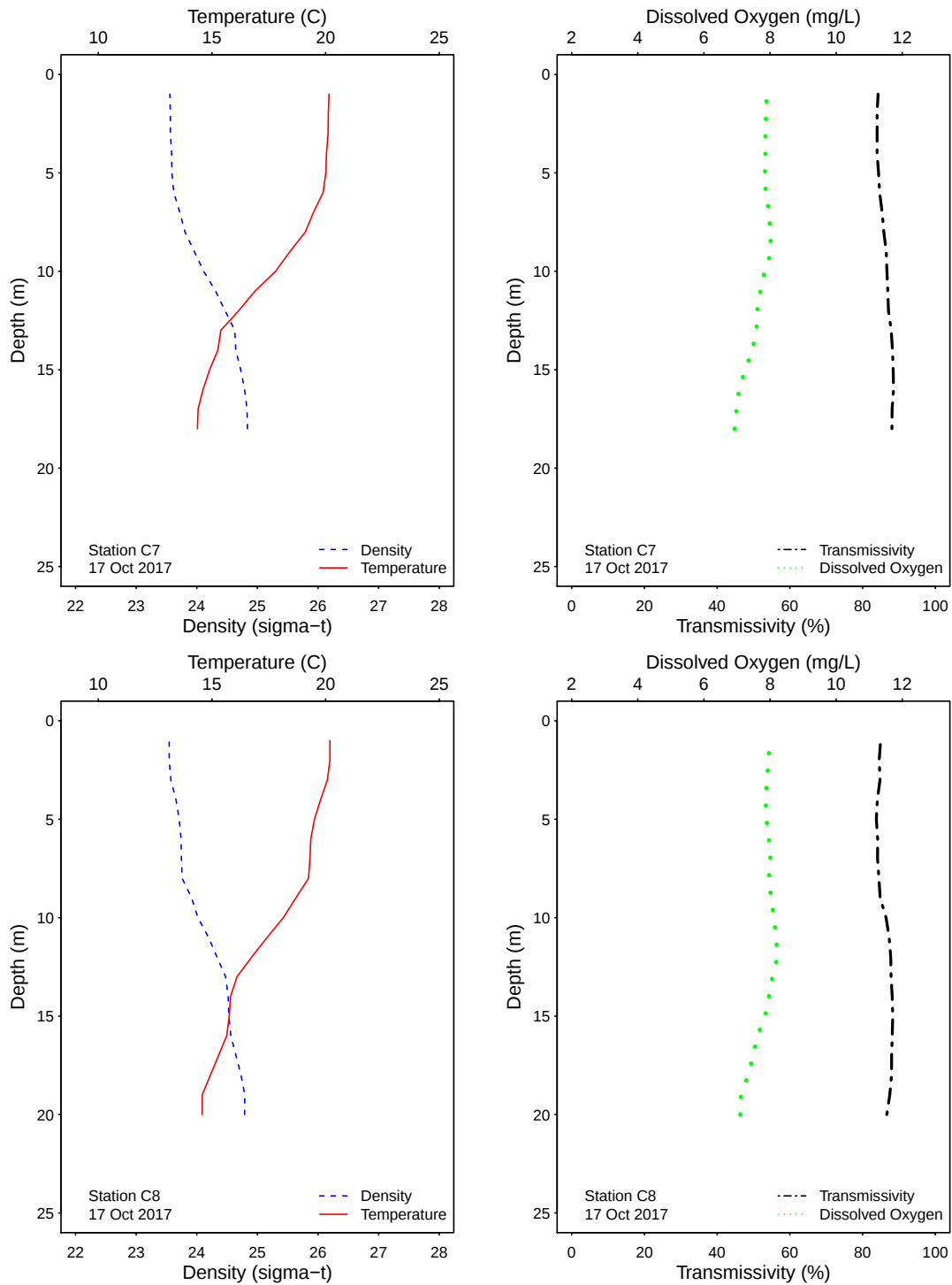


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

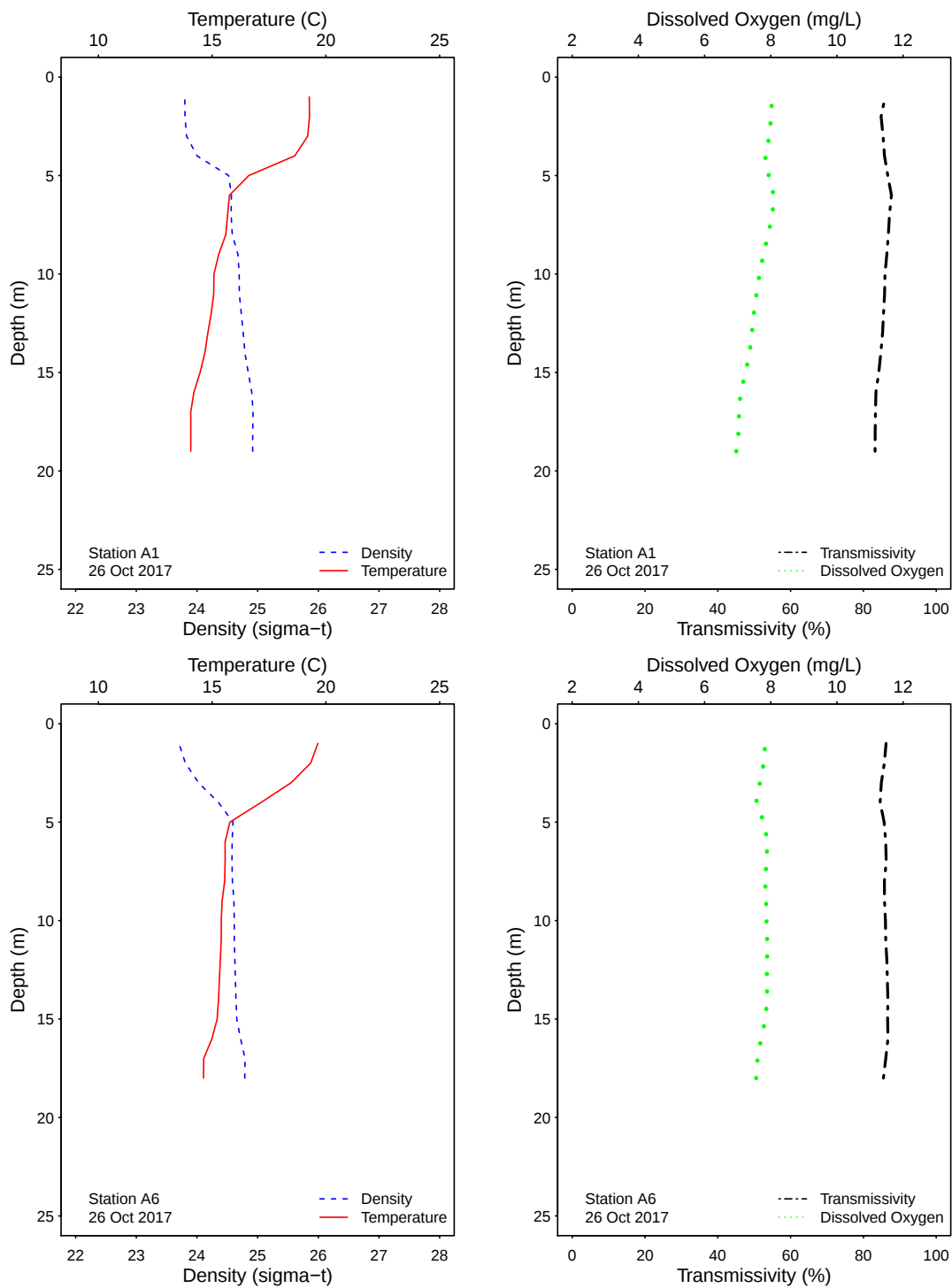


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

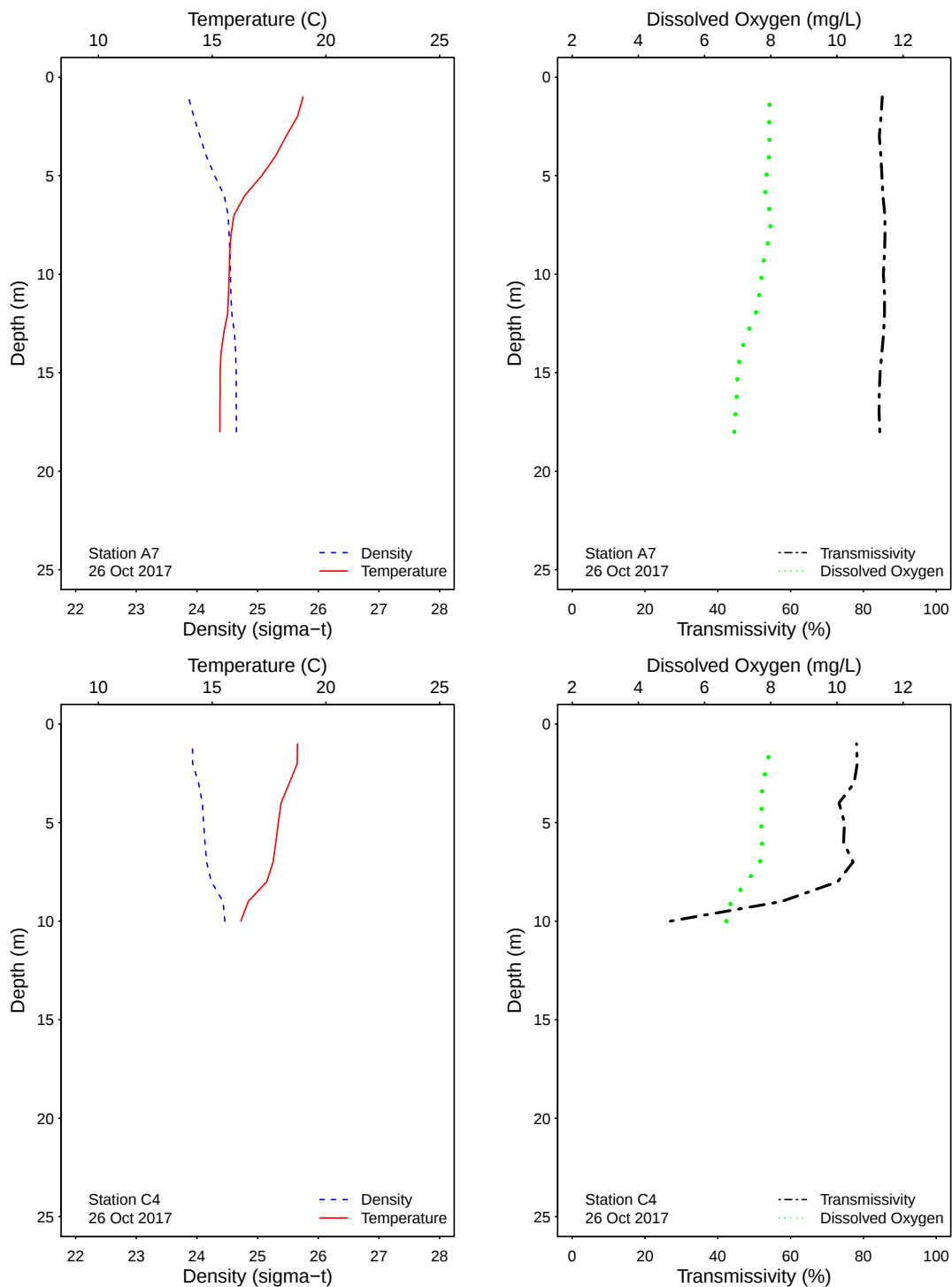


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

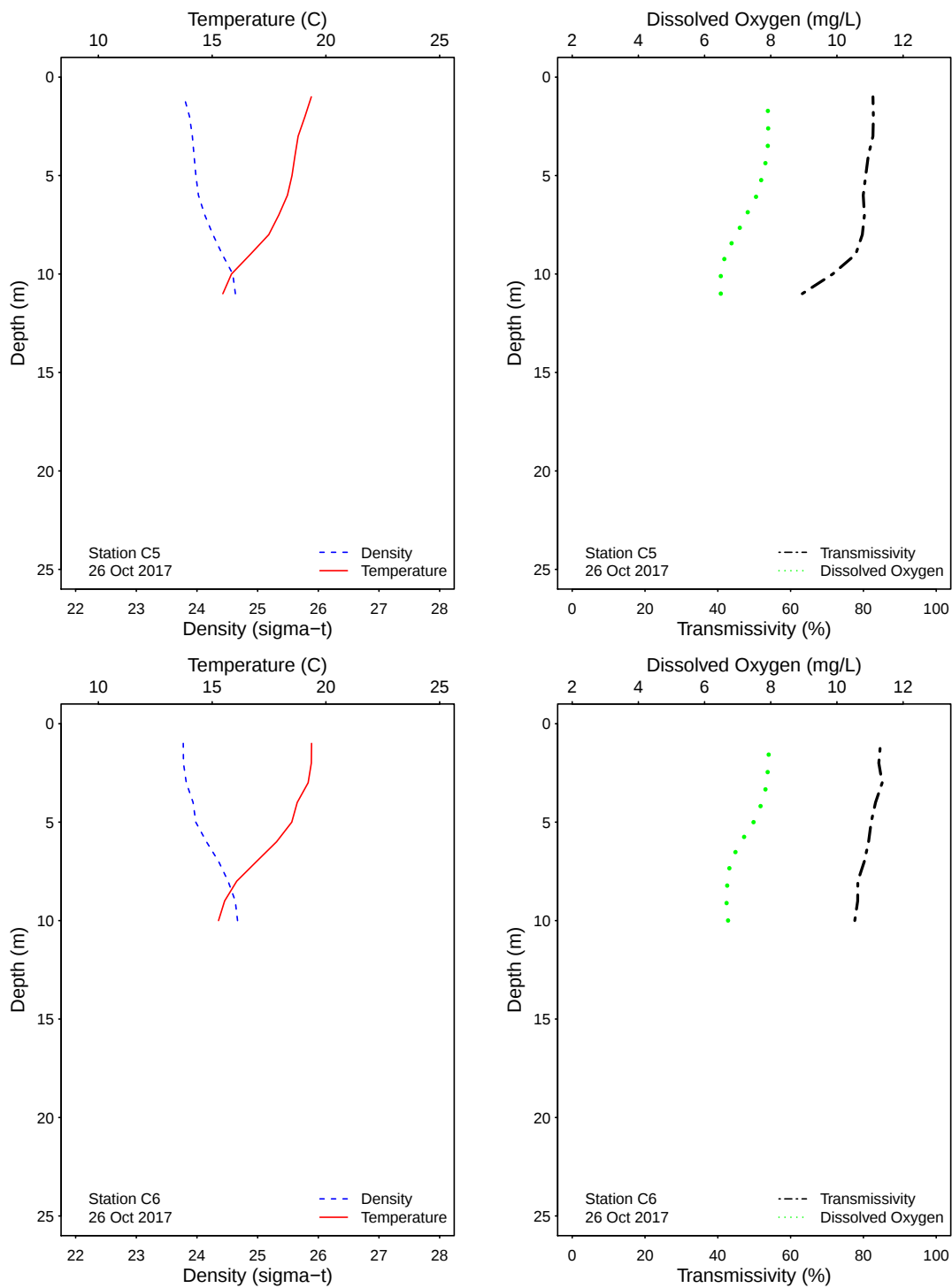


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

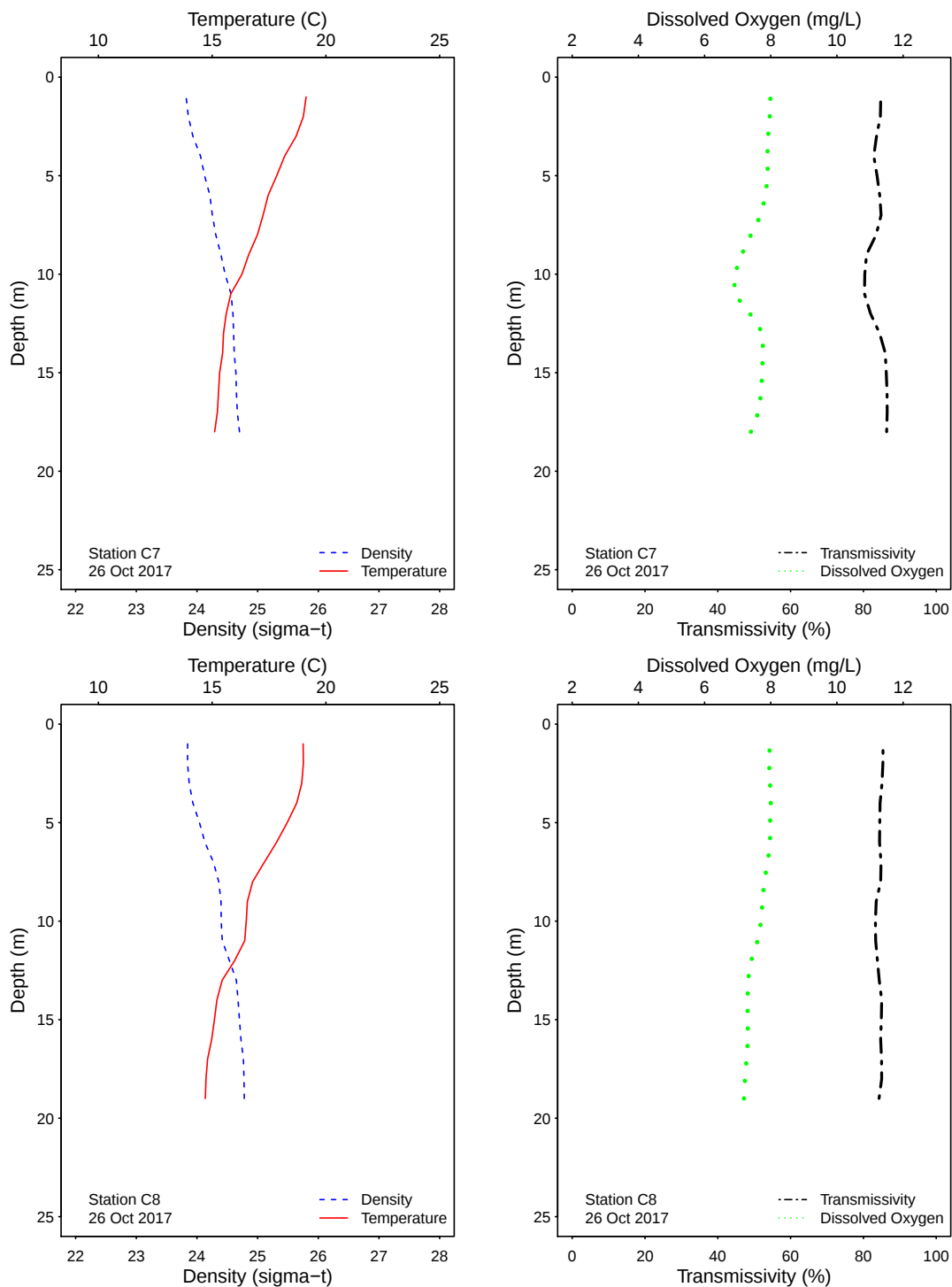


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

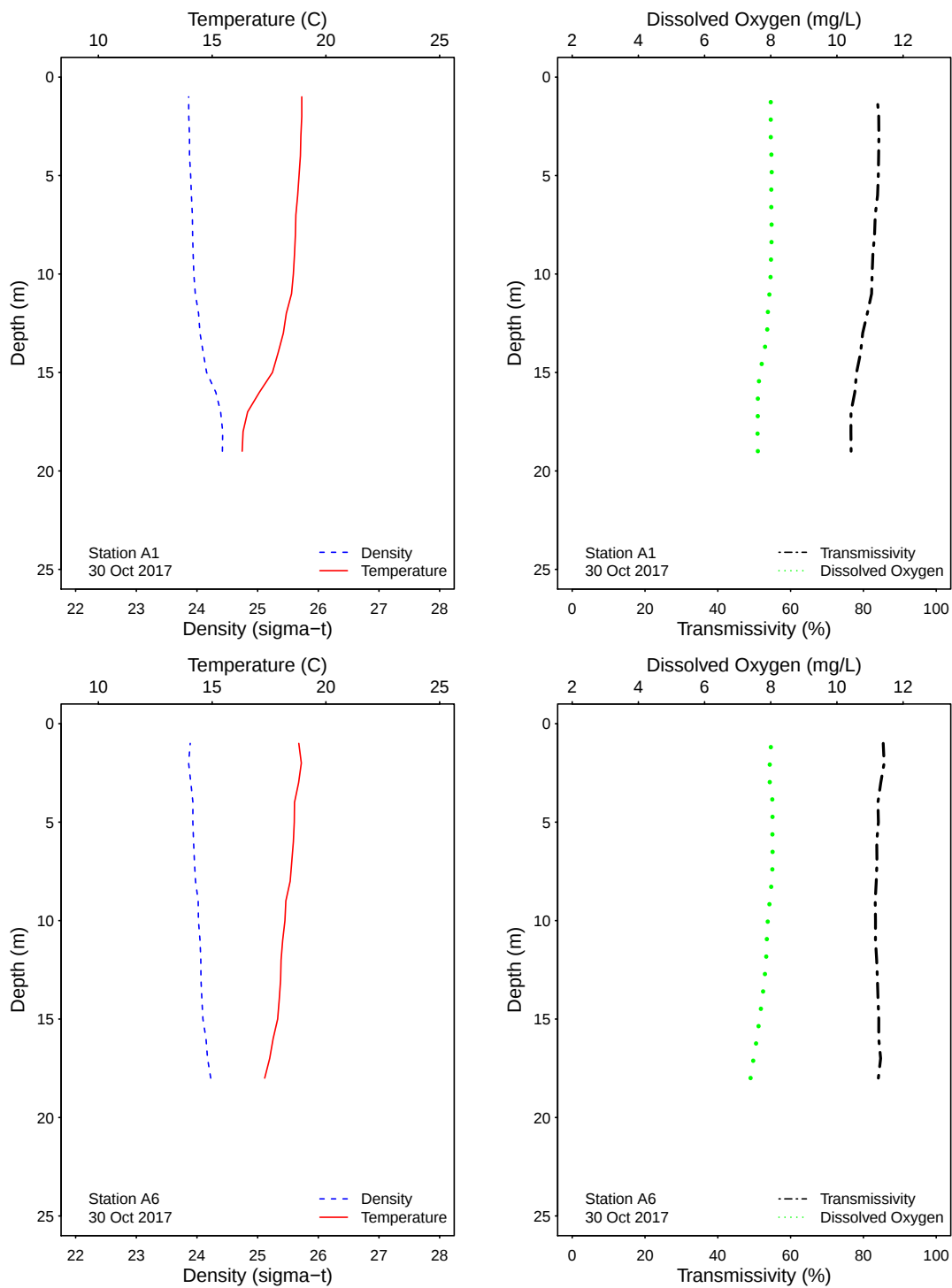


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

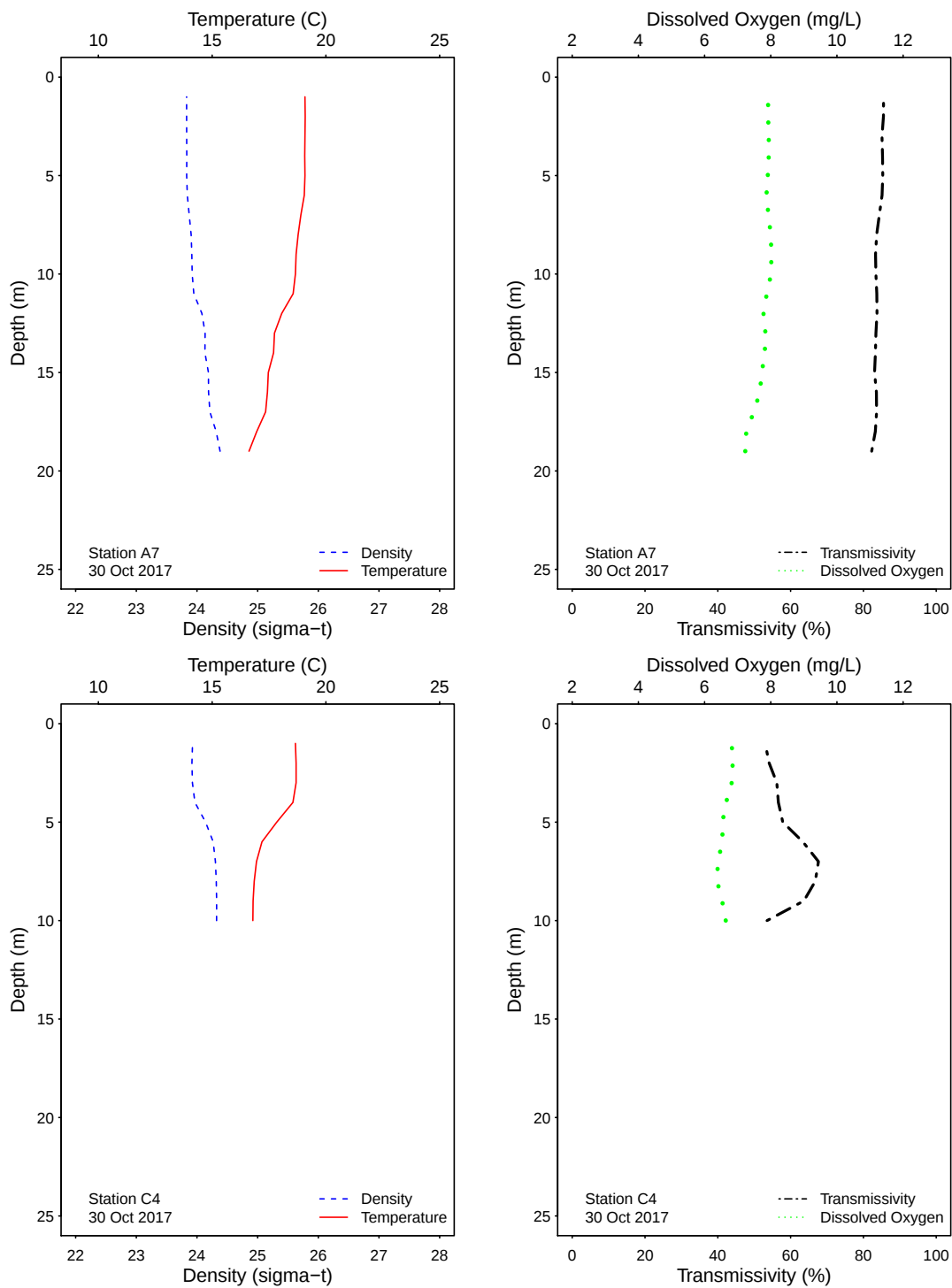


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

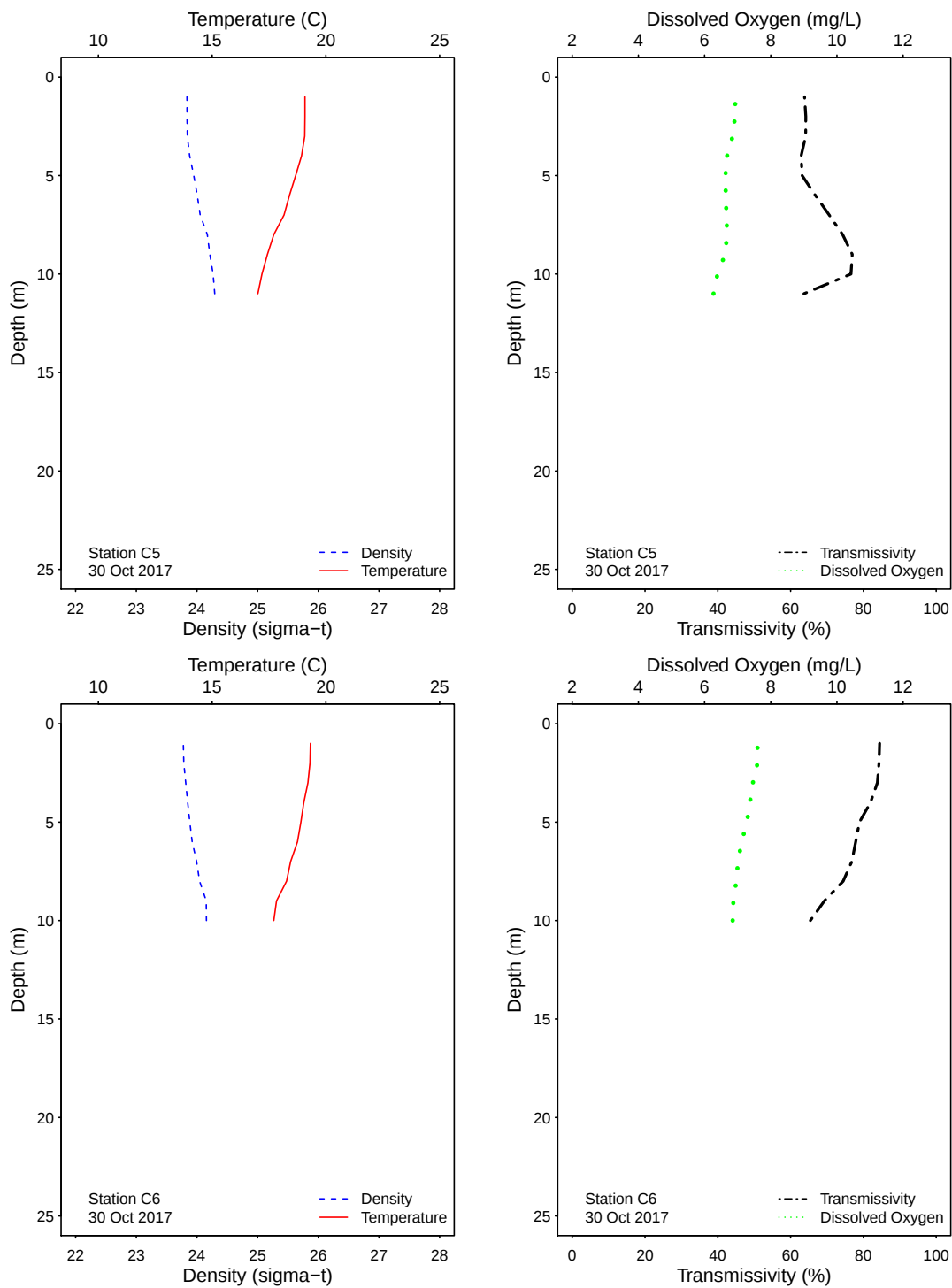


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

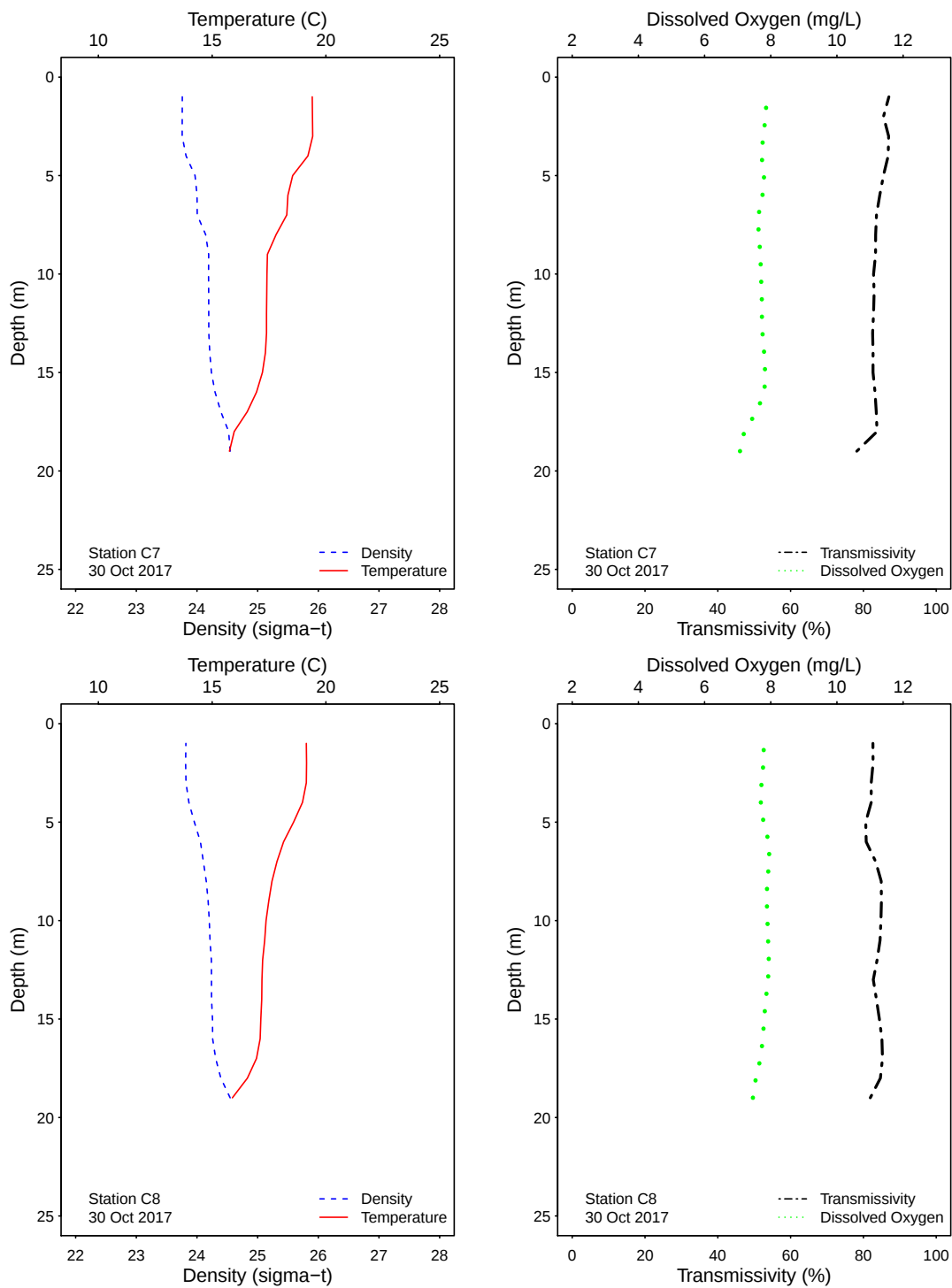


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

APPENDIX A

Quality Assurance

Table A.1

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

Station	Date	Depth	Analyst	Procedure	Total	Fecal	Entero
A7	02 Oct 2017	18	ZV	LAB DUPLICATE	2e	2e	<2
A7	10 Oct 2017	18	ZV	LAB DUPLICATE	20e	<2	<2
A7	17 Oct 2017	18	JT	LAB DUPLICATE	40	4e	6e
A7	26 Oct 2017	18	AE	LAB DUPLICATE	<2	<2	<2
A7	30 Oct 2017	18	ZV	LAB DUPLICATE	<2	<2	<2
C7	02 Oct 2017	18	ZV	LAB DUPLICATE	<2	<2	<2
C7	10 Oct 2017	18	JT	LAB DUPLICATE	<20	<2	<2
C7	17 Oct 2017	18	JT	LAB DUPLICATE	24e	2e	<2
C7	26 Oct 2017	18	JT	LAB DUPLICATE	<2	<2	<2
C7	30 Oct 2017	18	ZV	LAB DUPLICATE	<2	<2	<2
C8	02 Oct 2017	12	ZV	LAB DUPLICATE	<2	<2	<2
C8	10 Oct 2017	12	AE	LAB DUPLICATE	<2	<2	<2
C8	17 Oct 2017	12	JT	LAB DUPLICATE	<2	<2	<2
C8	26 Oct 2017	12	JT	LAB DUPLICATE	2e	<2	<2
C8	30 Oct 2017	12	ZV	LAB DUPLICATE	<2	<2	<2
D12	04 Oct 2017		AR	FIELD DUPLICATE	600	280e	76
D12	04 Oct 2017		AR	LAB DUPLICATE	2600e	110	460e
D12	11 Oct 2017		JT	FIELD DUPLICATE	<20	2e	<2
D12	11 Oct 2017		JT	LAB DUPLICATE	<20	<2	<2
D12	18 Oct 2017		AR	FIELD DUPLICATE	<200	2e	4e
D12	18 Oct 2017		AR	LAB DUPLICATE	<200	<2	10e
D12	25 Oct 2017		LMA	FIELD DUPLICATE	<20	<2	2e
D12	25 Oct 2017		LMA	LAB DUPLICATE	<20	<2	6e

ns = not sampled

ND = no data

