

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. R9-2009-0001

SEPTEMBER 2017

Environmental Monitoring and Technical Services
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October 31, 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 September 2017 Monthly Receiving Waters Monitoring Report for the Point Loma Ocean Outfall, Point Loma Wastewater Treatment Plant as required per Order No. R9-2009-0001, 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

REPORT OUTLINE

INTRODUCTION

METHODS

SUMMARY OF RESULTS

TABLES AND FIGURES

Station Locations (Map)

Shore Stations

- Total Coliform Compliance Summary, Geometric Mean Standard
- Fecal Coliform Compliance Summary, Geometric Mean Standard
- Enterococcus* Bacteria Compliance Summary, Geometric Mean Standard
- Total Coliform Single Sample Maximum
- Fecal Coliform Single Sample Maximum
- Enterococcus* Bacteria Single Sample Maximum
- Fecal:Total Coliform Ratio Single Sample Maximum
- Shore Station Water Quality Summary Data
- Visual Observations

Kelp Stations

- Total Coliform Compliance Summary, Geometric Mean Standard
- Fecal Coliform Compliance Summary, Geometric Mean Standard
- Enterococcus* Bacteria Compliance Summary, Geometric Mean Standard
- Total Coliform Single Sample Maximum
- Fecal Coliform Single Sample Maximum
- Enterococcus* Bacteria Single Sample Maximum
- Fecal:Total Coliform Ratio Single Sample Maximum
- Kelp Station Water Quality Summary Data
- Visual Observations
- CTD Profile Data
- CTD Profile Graphics

APPENDIX A

Quality Assurance

- Water Quality Summary Data

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. R9-2009-0001, 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, chromomorph 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 September, 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 total coliform bacteria was exceeded at station D4 on September 2.
 - o The single sample maximum standard for *Enterococcus* was exceeded at station D4 on September 2.
- Per permit requirements, resamples were collected in response to these SSM exceedances (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 September (i.e. September 5, 11, 16, 20, 28).

- During September, all of the kelp bed stations were in compliance with various water-contact standards specified in the Ocean Plan.
- Water column temperatures ranged from 12.59 to 22.48°C during the month. The difference between surface and bottom waters ranged from 3.00 to 7.29°C, indicating that the water column was stratified at all of the kelp bed stations during the month.
- Chlorophyll *a* concentrations ranged from 0.60 to 5.51 µg/L during September, suggesting the presence of phytoplankton blooms during the month.
- There were no notable visual observations for September.

Offshore Stations

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



TABLES AND FIGURES

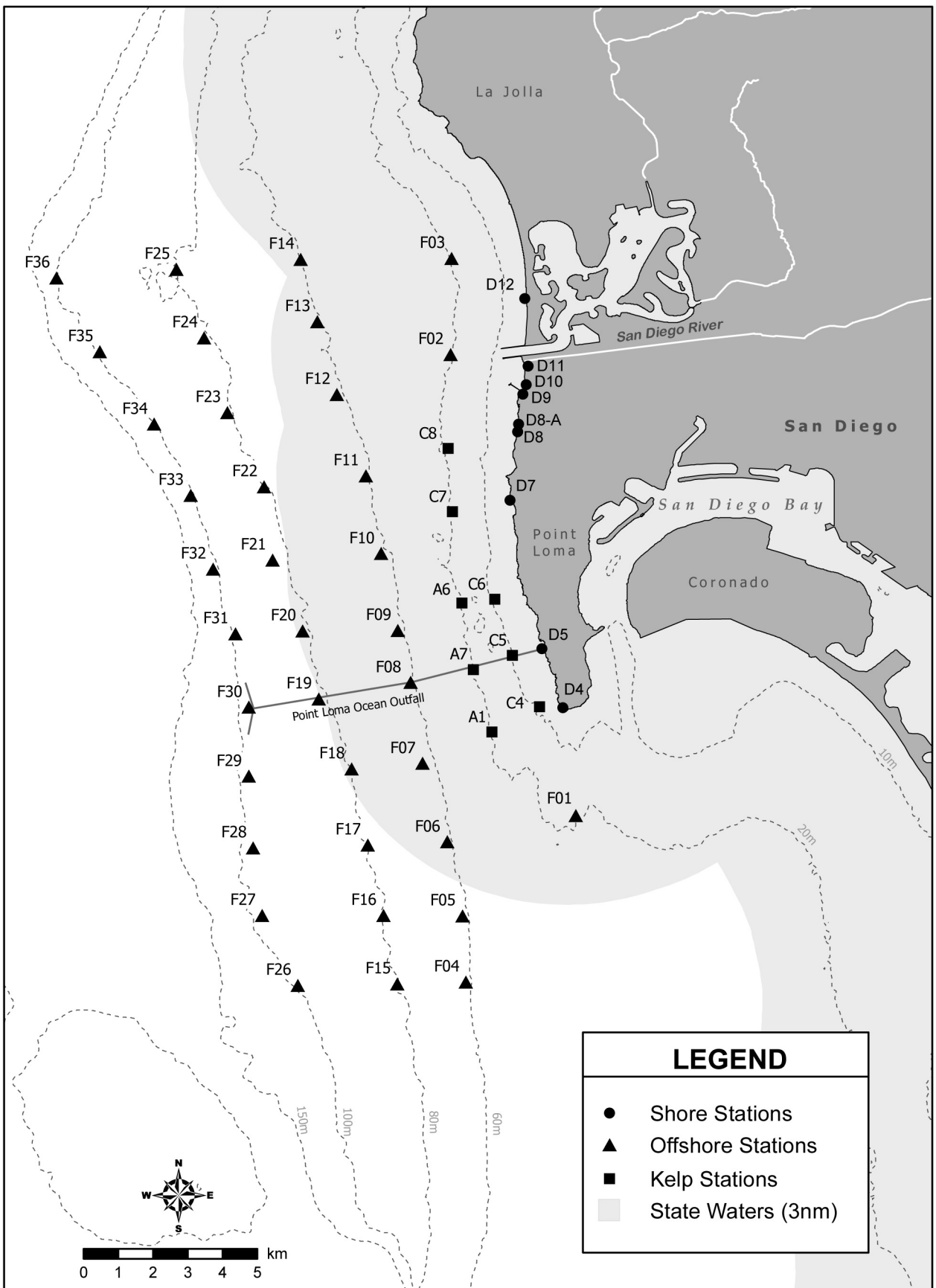


Figure 1.1 Station Map

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 Sep 2017	20	50	145	80	125	91	66	20
02 Sep 2017	121	50	145	80	156	91	42	13
03 Sep 2017	121	50	145	80	156	91	42	13
04 Sep 2017	89	50	145	80	156	91	42	13
05 Sep 2017	89	50	145	80	156	91	42	13
06 Sep 2017	89	50	145	80	156	91	42	13
07 Sep 2017	89	50	145	80	156	91	42	13
08 Sep 2017	89	32	91	50	123	80	26	13
09 Sep 2017	89	32	91	50	123	80	26	13
10 Sep 2017	89	32	91	50	123	80	26	13
11 Sep 2017	89	32	91	50	123	80	26	13
12 Sep 2017	89	32	91	50	123	80	26	13
13 Sep 2017	89	32	91	50	123	80	26	13
14 Sep 2017	89	32	93	50	107	42	24	8
15 Sep 2017	89	32	93	50	107	42	24	8
16 Sep 2017	89	32	93	50	107	42	24	8
17 Sep 2017	89	32	93	50	107	42	24	8
18 Sep 2017	89	32	93	50	107	42	24	8
19 Sep 2017	89	32	93	50	107	42	24	8
20 Sep 2017	89	20	51	32	107	30	15	8
21 Sep 2017	89	20	51	32	107	30	15	8
22 Sep 2017	89	20	51	32	107	30	15	8
23 Sep 2017	89	20	51	32	107	30	15	8
24 Sep 2017	89	20	51	32	107	30	15	8
25 Sep 2017	89	20	51	32	107	30	15	8
26 Sep 2017	89	20	51	42	41	26	11	8
27 Sep 2017	89	20	51	42	41	26	11	8
28 Sep 2017	89	20	51	42	41	26	11	8
29 Sep 2017	89	20	51	42	41	26	11	8
30 Sep 2017	89	20	51	42	41	26	11	8

* 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 Sep 2017	3	2	5	4	2	5	3	2
02 Sep 2017	5	2	8	3	2	6	3	2
03 Sep 2017	5	2	8	3	2	6	3	2
04 Sep 2017	5	2	8	3	2	6	3	2
05 Sep 2017	5	2	8	3	2	6	3	2
06 Sep 2017	5	2	8	3	2	6	3	2
07 Sep 2017	5	2	8	3	2	6	3	2
08 Sep 2017	5	2	8	3	2	7	3	2
09 Sep 2017	5	2	8	3	2	7	3	2
10 Sep 2017	5	2	8	3	2	7	3	2
11 Sep 2017	5	2	8	3	2	7	3	2
12 Sep 2017	5	2	8	3	2	7	3	2
13 Sep 2017	5	2	8	3	2	7	3	2
14 Sep 2017	5	2	20	2	2	6	3	2
15 Sep 2017	5	2	20	2	2	6	3	2
16 Sep 2017	5	2	20	2	2	6	3	2
17 Sep 2017	5	2	20	2	2	6	3	2
18 Sep 2017	5	2	20	2	2	6	3	2
19 Sep 2017	5	2	20	2	2	6	3	2
20 Sep 2017	5	3	12	2	2	5	3	2
21 Sep 2017	5	3	12	2	2	5	3	2
22 Sep 2017	5	3	12	2	2	5	3	2
23 Sep 2017	5	3	12	2	2	5	3	2
24 Sep 2017	5	3	12	2	2	5	3	2
25 Sep 2017	5	3	12	2	2	5	3	2
26 Sep 2017	5	3	12	2	2	5	2	2
27 Sep 2017	5	3	12	2	2	5	2	2
28 Sep 2017	5	3	12	2	2	5	2	2
29 Sep 2017	5	3	12	2	2	5	2	2
30 Sep 2017	5	3	12	2	2	5	2	2

* Geometric mean calculated using n<5

ns = not sampled

Table 2.3

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

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

* 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
02 Sep 2017	E	IC	IC	IC	IC	IC	IC	IC
04 Sep 2017	IC	ns	ns	ns	ns	ns	ns	ns
08 Sep 2017	IC	IC	IC	IC	IC	IC	IC	IC
14 Sep 2017	IC	IC	IC	IC	IC	IC	IC	IC
20 Sep 2017	IC	IC	IC	IC	IC	IC	IC	IC
26 Sep 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
02 Sep 2017	IC	IC	IC	IC	IC	IC	IC	IC
08 Sep 2017	IC	IC	IC	IC	IC	IC	IC	IC
14 Sep 2017	IC	IC	IC	IC	IC	IC	IC	IC
20 Sep 2017	IC	IC	IC	IC	IC	IC	IC	IC
26 Sep 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
02 Sep 2017	E	IC	IC	IC	IC	IC	IC	IC
04 Sep 2017	IC	ns	ns	ns	ns	ns	ns	ns
08 Sep 2017	IC	IC	IC	IC	IC	IC	IC	IC
14 Sep 2017	IC	IC	IC	IC	IC	IC	IC	IC
20 Sep 2017	IC	IC	IC	IC	IC	IC	IC	IC
26 Sep 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
02 Sep 2017	IC	IC	IC	IC	IC	IC	IC	IC
04 Sep 2017	ND	ns	ns	ns	ns	ns	ns	ns
08 Sep 2017	IC	IC	IC	IC	IC	IC	IC	IC
14 Sep 2017	IC	IC	IC	IC	IC	IC	IC	IC
20 Sep 2017	IC	IC	IC	IC	IC	IC	IC	IC
26 Sep 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	02 Sep 2017	834	>16000	10e	>12000	0.0006
D4	04 Sep 2017	926	<20	ns	2e	ns
D4	08 Sep 2017	749	<20	2e	<2	0.1000
D4	14 Sep 2017	838	20e	2e	6e	0.1000
D4	20 Sep 2017	1000	<200	28e	58	0.1400
D4	26 Sep 2017	1000	<20	<2	<2	0.1000
D5	02 Sep 2017	814	<20	<2	<2	0.1000
D5	08 Sep 2017	736	<20	<2	<2	0.1000
D5	14 Sep 2017	817	<20	<2	<2	0.1000
D5	20 Sep 2017	943	20e	10e	6e	0.5000
D5	26 Sep 2017	1038	20e	<2	<2	0.1000
D7	02 Sep 2017	859	200e	180e	8e	0.9000
D7	08 Sep 2017	811	20e	<2	<2	0.1000
D7	14 Sep 2017	904	220e	200e	<2	0.9091
D7	20 Sep 2017	910	<20	<2	<2	0.1000
D7	26 Sep 2017	940	<20	<2	<2	0.1000
D8-A	02 Sep 2017	915	<20	2e	4e	0.1000
D8-A	08 Sep 2017	826	20e	<2	<2	0.1000
D8-A	14 Sep 2017	922	200e	<2	<2	0.0100
D8-A	20 Sep 2017	725	<20	<2	2e	0.1000
D8-A	26 Sep 2017	910	80e	<2	<2	0.0250
D9	02 Sep 2017	927	60e	<2	2e	0.0333
D9	08 Sep 2017	836	60e	<2	<2	0.0333
D9	14 Sep 2017	934	<20	<2	<2	0.1000
D9	20 Sep 2017	845	40e	<2	4e	0.0500
D9	26 Sep 2017	910	40e	<2	<2	0.0500
D10	02 Sep 2017	942	20e	6e	12e	0.3000
D10	08 Sep 2017	842	100e	4e	2e	0.0400
D10	14 Sep 2017	950	8e	6e	2e	0.7500
D10	20 Sep 2017	832	40e	4e	10e	0.1000
D10	26 Sep 2017	854	<20	6e	<2	0.3000
D11	02 Sep 2017	1000	<2	<2	<2	1.0000
D11	08 Sep 2017	852	20e	<2	2e	0.1000
D11	14 Sep 2017	1005	12e	2e	<2	0.1667
D11	20 Sep 2017	820	20e	4e	12e	0.2000

Station	Date	Time	Total	Fecal	Entero	F:T
D11	26 Sep 2017	842	<20	<2	<2	0.1000
D12	02 Sep 2017	1028	<2	<2	8e	1.0000
D12	08 Sep 2017	910	<20	<2	2e	0.1000
D12	14 Sep 2017	1028	<2	<2	<2	1.0000
D12	20 Sep 2017	800	<20	<2	6e	0.1000
D12	26 Sep 2017	823	20e	<2	4e	0.1000

ns = not sampled

ND = no data

Comments

Station	Date	Depth	Parameter	Comments
D4	04 Sep 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	02 Sep 2017	Arrive Time	834
D4	02 Sep 2017	Weather	Sunny
D4	02 Sep 2017	Wind Speed (kts)	0.7
D4	02 Sep 2017	Wind Dir	W
D4	02 Sep 2017	Animal Life	None
D4	02 Sep 2017	Floatables	None
D4	02 Sep 2017	Water Color	Green
D4	02 Sep 2017	Current Direction	W
D4	02 Sep 2017	Wave Height Low (ft)	1
D4	02 Sep 2017	High Tide (ft)	4
D4	02 Sep 2017	High Tide Time	816
D4	02 Sep 2017	Low Tide (ft)	2.1
D4	02 Sep 2017	Low Tide Time	1331
D4	02 Sep 2017	Comments	Seagrass; Algae; Water clear
D4	04 Sep 2017	Arrive Time	926
D4	04 Sep 2017	Weather	Cloudy
D4	04 Sep 2017	Wind Speed (kts)	3.8
D4	04 Sep 2017	Wind Dir	W
D4	04 Sep 2017	Animal Life	None
D4	04 Sep 2017	Floatables	None
D4	04 Sep 2017	Water Color	Green
D4	04 Sep 2017	Current Direction	N
D4	04 Sep 2017	Wave Height Low (ft)	3
D4	04 Sep 2017	High Tide (ft)	4.5
D4	04 Sep 2017	High Tide Time	905
D4	04 Sep 2017	Low Tide (ft)	1.4
D4	04 Sep 2017	Low Tide Time	1441
D4	04 Sep 2017	Comments	Kelp; Seagrass; 4 Surfers; Water clear
D4	08 Sep 2017	Arrive Time	749
D4	08 Sep 2017	Weather	Sunny
D4	08 Sep 2017	Wind Speed (kts)	0.7
D4	08 Sep 2017	Wind Dir	W
D4	08 Sep 2017	Animal Life	None
D4	08 Sep 2017	Floatables	None
D4	08 Sep 2017	Water Color	Green
D4	08 Sep 2017	Current Direction	W
D4	08 Sep 2017	Wave Height Low (ft)	2
D4	08 Sep 2017	High Tide (ft)	5.3
D4	08 Sep 2017	High Tide Time	1102
D4	08 Sep 2017	Low Tide (ft)	0.3
D4	08 Sep 2017	Low Tide Time	456
D4	08 Sep 2017	Comments	Seagrass; Algae; Water clear
D4	14 Sep 2017	Arrive Time	838
D4	14 Sep 2017	Weather	Partly Cloudy
D4	14 Sep 2017	Wind Speed (kts)	1.3
D4	14 Sep 2017	Wind Dir	SW
D4	14 Sep 2017	Animal Life	None
D4	14 Sep 2017	Floatables	None

Station	Date	Parameter	Value
D4	14 Sep 2017	Water Color	Green
D4	14 Sep 2017	Current Direction	SW
D4	14 Sep 2017	Wave Height Low (ft)	1
D4	14 Sep 2017	High Tide (ft)	3.7
D4	14 Sep 2017	High Tide Time	606
D4	14 Sep 2017	Low Tide (ft)	2.5
D4	14 Sep 2017	Low Tide Time	1055
D4	14 Sep 2017	Comments	Kelp; Seagrass; Water clear
D4	20 Sep 2017	Arrive Time	1000
D4	20 Sep 2017	Weather	Cloudy
D4	20 Sep 2017	Wind Speed (kts)	4
D4	20 Sep 2017	Wind Dir	SW
D4	20 Sep 2017	Animal Life	None
D4	20 Sep 2017	Floatables	None
D4	20 Sep 2017	Water Color	Blue
D4	20 Sep 2017	Current Direction	SW
D4	20 Sep 2017	Wave Height Low (ft)	4
D4	20 Sep 2017	High Tide (ft)	5.4
D4	20 Sep 2017	High Tide Time	953
D4	20 Sep 2017	Low Tide (ft)	-0.1
D4	20 Sep 2017	Low Tide Time	348
D4	20 Sep 2017	Comments	Kelp; Seagrass; Water clear
D4	26 Sep 2017	Arrive Time	1000
D4	26 Sep 2017	Weather	Sunny
D4	26 Sep 2017	Wind Speed (kts)	3
D4	26 Sep 2017	Wind Dir	E
D4	26 Sep 2017	Animal Life	None
D4	26 Sep 2017	Floatables	None
D4	26 Sep 2017	Water Color	Green
D4	26 Sep 2017	Current Direction	E
D4	26 Sep 2017	Wave Height Low (ft)	3
D4	26 Sep 2017	High Tide (ft)	4.4
D4	26 Sep 2017	High Tide Time	1321
D4	26 Sep 2017	Low Tide (ft)	2.7
D4	26 Sep 2017	Low Tide Time	647
D4	26 Sep 2017	Comments	Kelp; Seagrass; Water turbid
D5	02 Sep 2017	Arrive Time	814
D5	02 Sep 2017	Weather	Partly Cloudy
D5	02 Sep 2017	Wind Speed (kts)	1.3
D5	02 Sep 2017	Wind Dir	S
D5	02 Sep 2017	Animal Life	None
D5	02 Sep 2017	Floatables	None
D5	02 Sep 2017	Water Color	Green
D5	02 Sep 2017	Current Direction	S
D5	02 Sep 2017	Wave Height Low (ft)	2
D5	02 Sep 2017	High Tide (ft)	4
D5	02 Sep 2017	High Tide Time	816
D5	02 Sep 2017	Low Tide (ft)	2.1
D5	02 Sep 2017	Low Tide Time	1331
D5	02 Sep 2017	Comments	Kelp; Seagrass; Algae; Water clear
D5	08 Sep 2017	Arrive Time	736

Station	Date	Parameter	Value
D5	08 Sep 2017	Weather	Sunny
D5	08 Sep 2017	Wind Speed (kts)	0.1
D5	08 Sep 2017	Wind Dir	W
D5	08 Sep 2017	Animal Life	None
D5	08 Sep 2017	Floatables	None
D5	08 Sep 2017	Water Color	Brown
D5	08 Sep 2017	Current Direction	W
D5	08 Sep 2017	Wave Height Low (ft)	2
D5	08 Sep 2017	High Tide (ft)	5.3
D5	08 Sep 2017	High Tide Time	1102
D5	08 Sep 2017	Low Tide (ft)	0.3
D5	08 Sep 2017	Low Tide Time	456
D5	08 Sep 2017	Comments	Seagrass; Water clear
D5	14 Sep 2017	Arrive Time	817
D5	14 Sep 2017	Weather	Partly Cloudy
D5	14 Sep 2017	Wind Speed (kts)	1.5
D5	14 Sep 2017	Wind Dir	SW
D5	14 Sep 2017	Animal Life	None
D5	14 Sep 2017	Floatables	None
D5	14 Sep 2017	Water Color	Green
D5	14 Sep 2017	Current Direction	SW
D5	14 Sep 2017	Wave Height Low (ft)	2
D5	14 Sep 2017	High Tide (ft)	3.7
D5	14 Sep 2017	High Tide Time	606
D5	14 Sep 2017	Low Tide (ft)	2.5
D5	14 Sep 2017	Low Tide Time	1055
D5	14 Sep 2017	Comments	Seagrass; Algae; Water clear
D5	20 Sep 2017	Arrive Time	943
D5	20 Sep 2017	Weather	Cloudy
D5	20 Sep 2017	Wind Speed (kts)	4
D5	20 Sep 2017	Wind Dir	SW
D5	20 Sep 2017	Animal Life	None
D5	20 Sep 2017	Floatables	None
D5	20 Sep 2017	Water Color	Green
D5	20 Sep 2017	Current Direction	SW
D5	20 Sep 2017	Wave Height Low (ft)	4
D5	20 Sep 2017	High Tide (ft)	5.4
D5	20 Sep 2017	High Tide Time	953
D5	20 Sep 2017	Low Tide (ft)	-0.1
D5	20 Sep 2017	Low Tide Time	348
D5	20 Sep 2017	Comments	Kelp; Seagrass; Water turbid
D5	26 Sep 2017	Arrive Time	1038
D5	26 Sep 2017	Weather	Sunny
D5	26 Sep 2017	Wind Speed (kts)	3
D5	26 Sep 2017	Wind Dir	E
D5	26 Sep 2017	Animal Life	None
D5	26 Sep 2017	Floatables	None
D5	26 Sep 2017	Water Color	Green
D5	26 Sep 2017	Current Direction	E
D5	26 Sep 2017	Wave Height Low (ft)	2
D5	26 Sep 2017	High Tide (ft)	4.4
D5	26 Sep 2017	High Tide Time	1321

Station	Date	Parameter	Value
D5	26 Sep 2017	Low Tide (ft)	2.7
D5	26 Sep 2017	Low Tide Time	647
D5	26 Sep 2017	Comments	Kelp; Seagrass; Water turbid
D7	02 Sep 2017	Arrive Time	859
D7	02 Sep 2017	Weather	Sunny
D7	02 Sep 2017	Wind Speed (kts)	0.7
D7	02 Sep 2017	Wind Dir	W
D7	02 Sep 2017	Animal Life	None
D7	02 Sep 2017	Floatables	None
D7	02 Sep 2017	Water Color	Green
D7	02 Sep 2017	Current Direction	W
D7	02 Sep 2017	Wave Height Low (ft)	1
D7	02 Sep 2017	High Tide (ft)	4
D7	02 Sep 2017	High Tide Time	816
D7	02 Sep 2017	Low Tide (ft)	2.1
D7	02 Sep 2017	Low Tide Time	1331
D7	02 Sep 2017	Comments	Kelp; Seagrass; Algae; 4 Persons; Water clear
D7	08 Sep 2017	Arrive Time	811
D7	08 Sep 2017	Weather	Sunny
D7	08 Sep 2017	Wind Speed (kts)	1.2
D7	08 Sep 2017	Wind Dir	NW
D7	08 Sep 2017	Animal Life	None
D7	08 Sep 2017	Floatables	None
D7	08 Sep 2017	Water Color	Green
D7	08 Sep 2017	Current Direction	NW
D7	08 Sep 2017	Wave Height Low (ft)	2
D7	08 Sep 2017	High Tide (ft)	5.3
D7	08 Sep 2017	High Tide Time	1102
D7	08 Sep 2017	Low Tide (ft)	0.3
D7	08 Sep 2017	Low Tide Time	456
D7	08 Sep 2017	Comments	Seagrass; 4 Surfers; Water clear
D7	14 Sep 2017	Arrive Time	904
D7	14 Sep 2017	Weather	Overcast
D7	14 Sep 2017	Wind Speed (kts)	1.3
D7	14 Sep 2017	Wind Dir	S
D7	14 Sep 2017	Animal Life	None
D7	14 Sep 2017	Floatables	None
D7	14 Sep 2017	Water Color	Colorless
D7	14 Sep 2017	Current Direction	S
D7	14 Sep 2017	Wave Height Low (ft)	1
D7	14 Sep 2017	High Tide (ft)	3.7
D7	14 Sep 2017	High Tide Time	606
D7	14 Sep 2017	Low Tide (ft)	2.5
D7	14 Sep 2017	Low Tide Time	1055
D7	14 Sep 2017	Comments	Kelp; Seagrass; 3 Surfers; Water clear
D7	20 Sep 2017	Arrive Time	910
D7	20 Sep 2017	Weather	Cloudy
D7	20 Sep 2017	Wind Speed (kts)	4
D7	20 Sep 2017	Wind Dir	SW
D7	20 Sep 2017	Animal Life	None
D7	20 Sep 2017	Floatables	None

Station	Date	Parameter	Value
D7	20 Sep 2017	Water Color	Green
D7	20 Sep 2017	Current Direction	SW
D7	20 Sep 2017	Wave Height Low (ft)	5
D7	20 Sep 2017	High Tide (ft)	5.4
D7	20 Sep 2017	High Tide Time	953
D7	20 Sep 2017	Low Tide (ft)	-0.1
D7	20 Sep 2017	Low Tide Time	348
D7	20 Sep 2017	Comments	Kelp; Seagrass; Water turbid
D7	26 Sep 2017	Arrive Time	940
D7	26 Sep 2017	Weather	Sunny
D7	26 Sep 2017	Wind Speed (kts)	3
D7	26 Sep 2017	Wind Dir	E
D7	26 Sep 2017	Animal Life	None
D7	26 Sep 2017	Floatables	None
D7	26 Sep 2017	Water Color	Green
D7	26 Sep 2017	Current Direction	E
D7	26 Sep 2017	Wave Height Low (ft)	2
D7	26 Sep 2017	High Tide (ft)	4.4
D7	26 Sep 2017	High Tide Time	1321
D7	26 Sep 2017	Low Tide (ft)	2.7
D7	26 Sep 2017	Low Tide Time	647
D7	26 Sep 2017	Comments	None
D8-A	02 Sep 2017	Arrive Time	915
D8-A	02 Sep 2017	Weather	Sunny
D8-A	02 Sep 2017	Wind Speed (kts)	2.1
D8-A	02 Sep 2017	Wind Dir	W
D8-A	02 Sep 2017	Animal Life	None
D8-A	02 Sep 2017	Floatables	None
D8-A	02 Sep 2017	Water Color	Green
D8-A	02 Sep 2017	Current Direction	W
D8-A	02 Sep 2017	Wave Height Low (ft)	1
D8-A	02 Sep 2017	High Tide (ft)	4
D8-A	02 Sep 2017	High Tide Time	816
D8-A	02 Sep 2017	Low Tide (ft)	2.1
D8-A	02 Sep 2017	Low Tide Time	1331
D8-A	02 Sep 2017	Comments	Kelp; 1 Fisherman; Water clear
D8-A	08 Sep 2017	Arrive Time	826
D8-A	08 Sep 2017	Weather	Sunny
D8-A	08 Sep 2017	Wind Speed (kts)	0.3
D8-A	08 Sep 2017	Wind Dir	W
D8-A	08 Sep 2017	Animal Life	None
D8-A	08 Sep 2017	Floatables	None
D8-A	08 Sep 2017	Water Color	Green
D8-A	08 Sep 2017	Current Direction	W
D8-A	08 Sep 2017	Wave Height Low (ft)	2
D8-A	08 Sep 2017	High Tide (ft)	5.3
D8-A	08 Sep 2017	High Tide Time	1102
D8-A	08 Sep 2017	Low Tide (ft)	0.3
D8-A	08 Sep 2017	Low Tide Time	456
D8-A	08 Sep 2017	Comments	Seagrass; Water clear
D8-A	14 Sep 2017	Arrive Time	922

Station	Date	Parameter	Value
D8-A	14 Sep 2017	Weather	Partly Cloudy
D8-A	14 Sep 2017	Wind Speed (kts)	2.7
D8-A	14 Sep 2017	Wind Dir	SW
D8-A	14 Sep 2017	Animal Life	None
D8-A	14 Sep 2017	Floatables	None
D8-A	14 Sep 2017	Water Color	Green
D8-A	14 Sep 2017	Current Direction	SW
D8-A	14 Sep 2017	Wave Height Low (ft)	2
D8-A	14 Sep 2017	High Tide (ft)	3.7
D8-A	14 Sep 2017	High Tide Time	606
D8-A	14 Sep 2017	Low Tide (ft)	2.5
D8-A	14 Sep 2017	Low Tide Time	1055
D8-A	14 Sep 2017	Comments	Kelp; Seagrass; Algae; 1 Person; 1 Surfer; Water turbid; Lots of kelp in the water
D8-A	20 Sep 2017	Arrive Time	725
D8-A	20 Sep 2017	Weather	Cloudy
D8-A	20 Sep 2017	Wind Speed (kts)	1
D8-A	20 Sep 2017	Wind Dir	SW
D8-A	20 Sep 2017	Animal Life	None
D8-A	20 Sep 2017	Floatables	None
D8-A	20 Sep 2017	Water Color	Green
D8-A	20 Sep 2017	Current Direction	SW
D8-A	20 Sep 2017	Wave Height Low (ft)	3
D8-A	20 Sep 2017	High Tide (ft)	5.4
D8-A	20 Sep 2017	High Tide Time	953
D8-A	20 Sep 2017	Low Tide (ft)	-0.1
D8-A	20 Sep 2017	Low Tide Time	348
D8-A	20 Sep 2017	Comments	Kelp; Seagrass; Water turbid
D8-A	26 Sep 2017	Arrive Time	910
D8-A	26 Sep 2017	Weather	Sunny
D8-A	26 Sep 2017	Wind Speed (kts)	3
D8-A	26 Sep 2017	Wind Dir	E
D8-A	26 Sep 2017	Animal Life	None
D8-A	26 Sep 2017	Floatables	None
D8-A	26 Sep 2017	Water Color	Green
D8-A	26 Sep 2017	Current Direction	E
D8-A	26 Sep 2017	Wave Height Low (ft)	2
D8-A	26 Sep 2017	High Tide (ft)	4.4
D8-A	26 Sep 2017	High Tide Time	1321
D8-A	26 Sep 2017	Low Tide (ft)	2.7
D8-A	26 Sep 2017	Low Tide Time	647
D8-A	26 Sep 2017	Comments	None
D9	02 Sep 2017	Arrive Time	927
D9	02 Sep 2017	Weather	Sunny
D9	02 Sep 2017	Wind Speed (kts)	3.6
D9	02 Sep 2017	Wind Dir	SW
D9	02 Sep 2017	Animal Life	None
D9	02 Sep 2017	Floatables	None
D9	02 Sep 2017	Water Color	Green
D9	02 Sep 2017	Current Direction	SW
D9	02 Sep 2017	Wave Height Low (ft)	1
D9	02 Sep 2017	High Tide (ft)	4

Station	Date	Parameter	Value
D9	02 Sep 2017	High Tide Time	816
D9	02 Sep 2017	Low Tide (ft)	2.1
D9	02 Sep 2017	Low Tide Time	1331
D9	02 Sep 2017	Comments	Kelp; Seagrass; Water clear
D9	08 Sep 2017	Arrive Time	836
D9	08 Sep 2017	Weather	Sunny
D9	08 Sep 2017	Wind Speed (kts)	1.3
D9	08 Sep 2017	Wind Dir	W
D9	08 Sep 2017	Animal Life	None
D9	08 Sep 2017	Floatables	None
D9	08 Sep 2017	Water Color	Green
D9	08 Sep 2017	Current Direction	W
D9	08 Sep 2017	Wave Height Low (ft)	2
D9	08 Sep 2017	High Tide (ft)	5.3
D9	08 Sep 2017	High Tide Time	1102
D9	08 Sep 2017	Low Tide (ft)	0.3
D9	08 Sep 2017	Low Tide Time	456
D9	08 Sep 2017	Comments	Algae; 1 Person; Water clear
D9	14 Sep 2017	Arrive Time	934
D9	14 Sep 2017	Weather	Sunny
D9	14 Sep 2017	Wind Speed (kts)	1.8
D9	14 Sep 2017	Wind Dir	S
D9	14 Sep 2017	Animal Life	None
D9	14 Sep 2017	Floatables	None
D9	14 Sep 2017	Water Color	Green
D9	14 Sep 2017	Current Direction	S
D9	14 Sep 2017	Wave Height Low (ft)	1
D9	14 Sep 2017	High Tide (ft)	3.7
D9	14 Sep 2017	High Tide Time	606
D9	14 Sep 2017	Low Tide (ft)	2.5
D9	14 Sep 2017	Low Tide Time	1055
D9	14 Sep 2017	Comments	Kelp; Seagrass; 2 Persons; 3 Surfers; Water clear
D9	20 Sep 2017	Arrive Time	845
D9	20 Sep 2017	Weather	Cloudy
D9	20 Sep 2017	Wind Speed (kts)	4
D9	20 Sep 2017	Wind Dir	SW
D9	20 Sep 2017	Animal Life	None
D9	20 Sep 2017	Floatables	None
D9	20 Sep 2017	Water Color	Green
D9	20 Sep 2017	Current Direction	SW
D9	20 Sep 2017	Wave Height Low (ft)	3
D9	20 Sep 2017	High Tide (ft)	5.4
D9	20 Sep 2017	High Tide Time	953
D9	20 Sep 2017	Low Tide (ft)	-0.1
D9	20 Sep 2017	Low Tide Time	348
D9	20 Sep 2017	Comments	Kelp; Seagrass; 2 Persons; Water turbid
D9	26 Sep 2017	Arrive Time	910
D9	26 Sep 2017	Weather	Sunny
D9	26 Sep 2017	Wind Speed (kts)	3
D9	26 Sep 2017	Wind Dir	E
D9	26 Sep 2017	Animal Life	None

Station	Date	Parameter	Value
D9	26 Sep 2017	Floatables	None
D9	26 Sep 2017	Water Color	Green
D9	26 Sep 2017	Current Direction	E
D9	26 Sep 2017	Wave Height Low (ft)	3
D9	26 Sep 2017	High Tide (ft)	4.4
D9	26 Sep 2017	High Tide Time	1321
D9	26 Sep 2017	Low Tide (ft)	2.7
D9	26 Sep 2017	Low Tide Time	647
D9	26 Sep 2017	Comments	Kelp; Seagrass; 2 Persons; Water turbid
D10	02 Sep 2017	Arrive Time	942
D10	02 Sep 2017	Weather	Sunny
D10	02 Sep 2017	Wind Speed (kts)	2.4
D10	02 Sep 2017	Wind Dir	W
D10	02 Sep 2017	Animal Life	None
D10	02 Sep 2017	Floatables	None
D10	02 Sep 2017	Water Color	Green
D10	02 Sep 2017	Current Direction	W
D10	02 Sep 2017	Wave Height Low (ft)	2
D10	02 Sep 2017	High Tide (ft)	4
D10	02 Sep 2017	High Tide Time	816
D10	02 Sep 2017	Low Tide (ft)	2.1
D10	02 Sep 2017	Low Tide Time	1331
D10	02 Sep 2017	Comments	Kelp; Seagrass; 60 Persons; 25 Surfers; 18 Swimmers; Water clear
D10	08 Sep 2017	Arrive Time	842
D10	08 Sep 2017	Weather	Partly Cloudy
D10	08 Sep 2017	Wind Speed (kts)	2.5
D10	08 Sep 2017	Wind Dir	SW
D10	08 Sep 2017	Animal Life	None
D10	08 Sep 2017	Floatables	None
D10	08 Sep 2017	Water Color	Green
D10	08 Sep 2017	Current Direction	SW
D10	08 Sep 2017	Wave Height Low (ft)	3
D10	08 Sep 2017	High Tide (ft)	5.3
D10	08 Sep 2017	High Tide Time	1102
D10	08 Sep 2017	Low Tide (ft)	0.3
D10	08 Sep 2017	Low Tide Time	456
D10	08 Sep 2017	Comments	Kelp; 16 Surfers; Water clear
D10	14 Sep 2017	Arrive Time	950
D10	14 Sep 2017	Weather	Sunny
D10	14 Sep 2017	Wind Speed (kts)	3.3
D10	14 Sep 2017	Wind Dir	S
D10	14 Sep 2017	Animal Life	None
D10	14 Sep 2017	Floatables	None
D10	14 Sep 2017	Water Color	Green
D10	14 Sep 2017	Current Direction	S
D10	14 Sep 2017	Wave Height Low (ft)	1
D10	14 Sep 2017	High Tide (ft)	3.7
D10	14 Sep 2017	High Tide Time	606
D10	14 Sep 2017	Low Tide (ft)	2.5
D10	14 Sep 2017	Low Tide Time	1055
D10	14 Sep 2017	Comments	Seagrass; 3 Joggers; 15 Persons; 12 Surfers; Water clear

Station	Date	Parameter	Value
D10	20 Sep 2017	Arrive Time	832
D10	20 Sep 2017	Weather	Cloudy
D10	20 Sep 2017	Wind Speed (kts)	4
D10	20 Sep 2017	Wind Dir	SW
D10	20 Sep 2017	Animal Life	None
D10	20 Sep 2017	Floatables	None
D10	20 Sep 2017	Water Color	Green
D10	20 Sep 2017	Current Direction	SW
D10	20 Sep 2017	Wave Height Low (ft)	3
D10	20 Sep 2017	High Tide (ft)	5.4
D10	20 Sep 2017	High Tide Time	953
D10	20 Sep 2017	Low Tide (ft)	-0.1
D10	20 Sep 2017	Low Tide Time	348
D10	20 Sep 2017	Comments	Kelp; Seagrass; 10 Surfers; Water turbid
D10	26 Sep 2017	Arrive Time	854
D10	26 Sep 2017	Weather	Sunny
D10	26 Sep 2017	Wind Speed (kts)	4
D10	26 Sep 2017	Wind Dir	E
D10	26 Sep 2017	Animal Life	None
D10	26 Sep 2017	Floatables	None
D10	26 Sep 2017	Water Color	Green
D10	26 Sep 2017	Current Direction	E
D10	26 Sep 2017	Wave Height Low (ft)	3
D10	26 Sep 2017	High Tide (ft)	4.4
D10	26 Sep 2017	High Tide Time	1321
D10	26 Sep 2017	Low Tide (ft)	2.7
D10	26 Sep 2017	Low Tide Time	647
D10	26 Sep 2017	Comments	Kelp; Seagrass; 16 Surfers; Water turbid
D11	02 Sep 2017	Arrive Time	1000
D11	02 Sep 2017	Weather	Sunny
D11	02 Sep 2017	Wind Speed (kts)	2.9
D11	02 Sep 2017	Wind Dir	W
D11	02 Sep 2017	Animal Life	None
D11	02 Sep 2017	Floatables	None
D11	02 Sep 2017	Water Color	Green
D11	02 Sep 2017	Current Direction	W
D11	02 Sep 2017	Wave Height Low (ft)	2
D11	02 Sep 2017	High Tide (ft)	4
D11	02 Sep 2017	High Tide Time	816
D11	02 Sep 2017	Low Tide (ft)	2.1
D11	02 Sep 2017	Low Tide Time	1331
D11	02 Sep 2017	Comments	Kelp; Seagrass; Algae; 65 Persons; 21 Surfers; 22 Swimmers; Water clear
D11	08 Sep 2017	Arrive Time	852
D11	08 Sep 2017	Weather	Partly Cloudy
D11	08 Sep 2017	Wind Speed (kts)	3.1
D11	08 Sep 2017	Wind Dir	W
D11	08 Sep 2017	Animal Life	3 Dogs
D11	08 Sep 2017	Floatables	None
D11	08 Sep 2017	Water Color	Green
D11	08 Sep 2017	Current Direction	W

Station	Date	Parameter	Value
D11	08 Sep 2017	Wave Height Low (ft)	3
D11	08 Sep 2017	High Tide (ft)	5.3
D11	08 Sep 2017	High Tide Time	1102
D11	08 Sep 2017	Low Tide (ft)	0.3
D11	08 Sep 2017	Low Tide Time	456
D11	08 Sep 2017	Comments	Seagrass; 15 Surfers; Water clear
D11	14 Sep 2017	Arrive Time	1005
D11	14 Sep 2017	Weather	Sunny
D11	14 Sep 2017	Wind Speed (kts)	2.3
D11	14 Sep 2017	Wind Dir	SW
D11	14 Sep 2017	Animal Life	None
D11	14 Sep 2017	Floatables	None
D11	14 Sep 2017	Water Color	Green
D11	14 Sep 2017	Current Direction	SW
D11	14 Sep 2017	Wave Height Low (ft)	3
D11	14 Sep 2017	High Tide (ft)	3.7
D11	14 Sep 2017	High Tide Time	606
D11	14 Sep 2017	Low Tide (ft)	2.5
D11	14 Sep 2017	Low Tide Time	1055
D11	14 Sep 2017	Comments	Seagrass; 6 Persons; 12 Surfers; 2 Swimmers; Water clear
D11	20 Sep 2017	Arrive Time	820
D11	20 Sep 2017	Weather	Cloudy
D11	20 Sep 2017	Wind Speed (kts)	4.5
D11	20 Sep 2017	Wind Dir	SW
D11	20 Sep 2017	Animal Life	None
D11	20 Sep 2017	Floatables	None
D11	20 Sep 2017	Water Color	Green
D11	20 Sep 2017	Current Direction	SW
D11	20 Sep 2017	Wave Height Low (ft)	3
D11	20 Sep 2017	High Tide (ft)	5.4
D11	20 Sep 2017	High Tide Time	953
D11	20 Sep 2017	Low Tide (ft)	-0.1
D11	20 Sep 2017	Low Tide Time	348
D11	20 Sep 2017	Comments	Kelp; Seagrass; 20 Surfers; Water turbid
D11	26 Sep 2017	Arrive Time	842
D11	26 Sep 2017	Weather	Sunny
D11	26 Sep 2017	Wind Speed (kts)	3
D11	26 Sep 2017	Wind Dir	E
D11	26 Sep 2017	Animal Life	None
D11	26 Sep 2017	Floatables	None
D11	26 Sep 2017	Water Color	Green
D11	26 Sep 2017	Current Direction	E
D11	26 Sep 2017	Wave Height Low (ft)	2
D11	26 Sep 2017	High Tide (ft)	4.4
D11	26 Sep 2017	High Tide Time	1321
D11	26 Sep 2017	Low Tide (ft)	2.7
D11	26 Sep 2017	Low Tide Time	647
D11	26 Sep 2017	Comments	Kelp; Seagrass; 10 Surfers; Water turbid
D12	02 Sep 2017	Arrive Time	1028
D12	02 Sep 2017	Weather	Sunny
D12	02 Sep 2017	Wind Speed (kts)	2.7

Station	Date	Parameter	Value
D12	02 Sep 2017	Wind Dir	SW
D12	02 Sep 2017	Animal Life	None
D12	02 Sep 2017	Floatables	None
D12	02 Sep 2017	Water Color	Green
D12	02 Sep 2017	Current Direction	SW
D12	02 Sep 2017	Wave Height Low (ft)	2
D12	02 Sep 2017	High Tide (ft)	4
D12	02 Sep 2017	High Tide Time	816
D12	02 Sep 2017	Low Tide (ft)	2.1
D12	02 Sep 2017	Low Tide Time	1331
D12	02 Sep 2017	Comments	Kelp; 62 Persons; 9 Surfers; 8 Swimmers; Water clear
D12	08 Sep 2017	Arrive Time	910
D12	08 Sep 2017	Weather	Partly Cloudy
D12	08 Sep 2017	Wind Speed (kts)	1.9
D12	08 Sep 2017	Wind Dir	W
D12	08 Sep 2017	Animal Life	None
D12	08 Sep 2017	Floatables	None
D12	08 Sep 2017	Water Color	Green
D12	08 Sep 2017	Current Direction	W
D12	08 Sep 2017	Wave Height Low (ft)	2
D12	08 Sep 2017	High Tide (ft)	5.3
D12	08 Sep 2017	High Tide Time	1102
D12	08 Sep 2017	Low Tide (ft)	0.3
D12	08 Sep 2017	Low Tide Time	456
D12	08 Sep 2017	Comments	Kelp; 12 Persons; 2 Surfers; Water clear
D12	14 Sep 2017	Arrive Time	1028
D12	14 Sep 2017	Weather	Partly Cloudy
D12	14 Sep 2017	Wind Speed (kts)	3.1
D12	14 Sep 2017	Wind Dir	W
D12	14 Sep 2017	Animal Life	None
D12	14 Sep 2017	Floatables	None
D12	14 Sep 2017	Water Color	Green
D12	14 Sep 2017	Current Direction	W
D12	14 Sep 2017	Wave Height Low (ft)	1
D12	14 Sep 2017	High Tide (ft)	3.7
D12	14 Sep 2017	High Tide Time	606
D12	14 Sep 2017	Low Tide (ft)	2.5
D12	14 Sep 2017	Low Tide Time	1055
D12	14 Sep 2017	Comments	9 Persons; 1 Surfer; 3 Swimmers; Water clear
D12	20 Sep 2017	Arrive Time	800
D12	20 Sep 2017	Weather	Cloudy
D12	20 Sep 2017	Wind Speed (kts)	2
D12	20 Sep 2017	Wind Dir	SW
D12	20 Sep 2017	Animal Life	None
D12	20 Sep 2017	Floatables	None
D12	20 Sep 2017	Water Color	Green
D12	20 Sep 2017	Current Direction	SW
D12	20 Sep 2017	Wave Height Low (ft)	3
D12	20 Sep 2017	High Tide (ft)	5.4
D12	20 Sep 2017	High Tide Time	953
D12	20 Sep 2017	Low Tide (ft)	-0.1
D12	20 Sep 2017	Low Tide Time	348

Station	Date	Parameter	Value
D12	20 Sep 2017	Comments	Kelp; Seagrass; Water turbid
D12	26 Sep 2017	Arrive Time	823
D12	26 Sep 2017	Weather	Sunny
D12	26 Sep 2017	Wind Speed (kts)	4
D12	26 Sep 2017	Wind Dir	E
D12	26 Sep 2017	Animal Life	None
D12	26 Sep 2017	Floatables	None
D12	26 Sep 2017	Water Color	Colorless
D12	26 Sep 2017	Current Direction	E
D12	26 Sep 2017	Wave Height Low (ft)	2
D12	26 Sep 2017	High Tide (ft)	4.4
D12	26 Sep 2017	High Tide Time	1321
D12	26 Sep 2017	Low Tide (ft)	2.7
D12	26 Sep 2017	Low Tide Time	647
D12	26 Sep 2017	Comments	Kelp; Seagrass; 1 Surfer; Water clear

Kelp Stations

Table 3.1

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

Date	A1	A6	A7	C4	C5	C6	C7	C8
01 Sep 2017	5	9	8	18	9	4	5	9
02 Sep 2017	5	9	8	18	9	4	5	9
03 Sep 2017	6*	9*	11*	22*	9*	5*	6*	14*
04 Sep 2017	6*	9*	11*	22*	9*	5*	6*	14*
05 Sep 2017	5	7	10	21	10	4	5	16
06 Sep 2017	5	7	10	21	10	4	5	16
07 Sep 2017	5	7	10	21	10	4	5	16
08 Sep 2017	5	7	10	21	10	4	5	16
09 Sep 2017	6*	5*	15*	23*	9*	3*	4*	14*
10 Sep 2017	6*	5*	15*	23*	9*	3*	4*	14*
11 Sep 2017	6	6	14	23	7	3	4	9
12 Sep 2017	6	6	14	23	7	3	4	9
13 Sep 2017	6	6	14	23	7	3	4	9
14 Sep 2017	6	6	14	23	7	3	4	9
15 Sep 2017	6	6	14	23	7	3	4	9
16 Sep 2017	5	5	10	19	6	3	4	9
17 Sep 2017	5	5	10	19	6	3	4	9
18 Sep 2017	6	5	7	20	5	2	3	6
19 Sep 2017	6	5	7	20	5	2	3	6
20 Sep 2017	5	4	6	14	6	3	3	5
21 Sep 2017	5	4	6	14	6	3	3	5
22 Sep 2017	3	3	4	11	5	3	2	4
23 Sep 2017	3	3	4	11	5	3	2	4
24 Sep 2017	3	3	4	11	5	3	2	4
25 Sep 2017	3	3	4	11	5	3	2	4
26 Sep 2017	3	3	4	11	5	3	2	4
27 Sep 2017	3*	3*	4*	9*	5*	3*	2*	5*
28 Sep 2017	3	3	4	7	4	3	2	6
29 Sep 2017	3	3	4	7	4	3	2	6
30 Sep 2017	3	3	4	7	4	3	2	6

* Geometric mean calculated using n<5

Table 3.2

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

Date	A1	A6	A7	C4	C5	C6	C7	C8
01 Sep 2017	3	2	2	2	2	2	2	2
02 Sep 2017	3	2	2	2	2	2	2	2
03 Sep 2017	3*	2*	2*	2*	2*	2*	2*	2*
04 Sep 2017	3*	2*	2*	2*	2*	2*	2*	2*
05 Sep 2017	3	2	2	2	2	2	2	2
06 Sep 2017	3	2	2	2	2	2	2	2
07 Sep 2017	3	2	2	2	2	2	2	2
08 Sep 2017	3	2	2	2	2	2	2	2
09 Sep 2017	3*	2*	2*	2*	2*	2*	2*	2*
10 Sep 2017	3*	2*	2*	2*	2*	2*	2*	2*
11 Sep 2017	3	2	2	2	2	2	2	2
12 Sep 2017	3	2	2	2	2	2	2	2
13 Sep 2017	3	2	2	2	2	2	2	2
14 Sep 2017	3	2	2	2	2	2	2	2
15 Sep 2017	3	2	2	2	2	2	2	2
16 Sep 2017	2	2	2	2	2	2	2	2
17 Sep 2017	2	2	2	2	2	2	2	2
18 Sep 2017	3	2	2	2	2	2	2	2
19 Sep 2017	3	2	2	2	2	2	2	2
20 Sep 2017	2	2	2	2	2	2	2	2
21 Sep 2017	2	2	2	2	2	2	2	2
22 Sep 2017	2	2	2	2	2	2	2	2
23 Sep 2017	2	2	2	2	2	2	2	2
24 Sep 2017	2	2	2	2	2	2	2	2
25 Sep 2017	2	2	2	2	2	2	2	2
26 Sep 2017	2	2	2	2	2	2	2	2
27 Sep 2017	2*	2*	2*	2*	2*	2*	2*	2*
28 Sep 2017	2	2	2	2	2	2	2	2
29 Sep 2017	2	2	2	2	2	2	2	2
30 Sep 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 Sep 2017	2	2	2	2	2	2	2	2
02 Sep 2017	2	2	2	2	2	2	2	2
03 Sep 2017	2*	2*	2*	2*	2*	2*	2*	2*
04 Sep 2017	2*	2*	2*	2*	2*	2*	2*	2*
05 Sep 2017	2	2	2	2	2	2	2	2
06 Sep 2017	2	2	2	2	2	2	2	2
07 Sep 2017	2	2	2	2	2	2	2	2
08 Sep 2017	2	2	2	2	2	2	2	2
09 Sep 2017	2*	2*	2*	2*	2*	2*	2*	2*
10 Sep 2017	2*	2*	2*	2*	2*	2*	2*	2*
11 Sep 2017	2	2	2	2	2	2	2	2
12 Sep 2017	2	2	2	2	2	2	2	2
13 Sep 2017	2	2	2	2	2	2	2	2
14 Sep 2017	2	2	2	2	2	2	2	2
15 Sep 2017	2	2	2	2	2	2	2	2
16 Sep 2017	2	2	2	2	2	2	2	2
17 Sep 2017	2	2	2	2	2	2	2	2
18 Sep 2017	2	2	2	2	2	2	2	2
19 Sep 2017	2	2	2	2	2	2	2	2
20 Sep 2017	2	2	2	2	2	2	2	2
21 Sep 2017	2	2	2	2	2	2	2	2
22 Sep 2017	2	2	2	2	2	2	2	2
23 Sep 2017	2	2	2	2	2	2	2	2
24 Sep 2017	2	2	2	2	2	2	2	2
25 Sep 2017	2	2	2	2	2	2	2	2
26 Sep 2017	2	2	2	2	2	2	2	2
27 Sep 2017	2*	2*	2*	2*	2*	2*	2*	2*
28 Sep 2017	2	2	2	2	2	2	2	2
29 Sep 2017	2	2	2	2	2	2	2	2
30 Sep 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
05 Sep 2017	IC	IC	IC	IC	IC	IC	IC	IC
11 Sep 2017	IC	IC	IC	IC	IC	IC	IC	IC
16 Sep 2017	IC	IC	IC	IC	IC	IC	IC	IC
20 Sep 2017	IC	IC	IC	IC	IC	IC	IC	IC
28 Sep 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
05 Sep 2017	IC	IC	IC	IC	IC	IC	IC	IC
11 Sep 2017	IC	IC	IC	IC	IC	IC	IC	IC
16 Sep 2017	IC	IC	IC	IC	IC	IC	IC	IC
20 Sep 2017	IC	IC	IC	IC	IC	IC	IC	IC
28 Sep 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
05 Sep 2017	IC	IC	IC	IC	IC	IC	IC	IC
11 Sep 2017	IC	IC	IC	IC	IC	IC	IC	IC
16 Sep 2017	IC	IC	IC	IC	IC	IC	IC	IC
20 Sep 2017	IC	IC	IC	IC	IC	IC	IC	IC
28 Sep 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
05 Sep 2017	IC	IC	IC	IC	IC	IC	IC	IC
11 Sep 2017	IC	IC	IC	IC	IC	IC	IC	IC
16 Sep 2017	IC	IC	IC	IC	IC	IC	IC	IC
20 Sep 2017	IC	IC	IC	IC	IC	IC	IC	IC
28 Sep 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-NH3	Temp	XMS	DO	Sal	pH
A1	05 Sep 2017	826	1	<2	<2	<2	1.00	ns	22.0	81.87	8.3	33.46	8.3
A1	05 Sep 2017	826	12	<2	<2	<2	1.00	ns	19.7	81.22	8.2	33.41	8.3
A1	05 Sep 2017	826	18	<2	<2	<2	1.00	ns	18.7	83.61	8.7	33.41	8.3
A1	11 Sep 2017	846	1	2e	<2	<2	1.00	ns	19.1	77.43	7.6	33.35	8.2
A1	11 Sep 2017	846	12	12e	<2	<2	0.17	ns	12.7	87.83	5.7	33.42	8.0
A1	11 Sep 2017	846	18	4e	<2	<2	0.50	ns	12.6	90.34	5.5	33.43	8.0
A1	16 Sep 2017	851	1	8e	<2	<2	0.25	ns	20.1	88.71	8.0	33.39	8.2
A1	16 Sep 2017	851	12	<2	<2	<2	1.00	ns	14.0	77.45	7.4	33.34	7.9
A1	16 Sep 2017	851	18	<2	<2	<2	1.00	ns	13.1	86.29	6.4	33.39	7.8
A1	20 Sep 2017	757	1	<2	<2	<2	1.00	ns	20.2	87.95	7.9	33.41	8.2
A1	20 Sep 2017	757	12	<2	<2	<2	1.00	ns	14.8	84.11	7.2	33.35	7.8
A1	20 Sep 2017	757	18	<2	<2	<2	1.00	ns	13.5	86.05	6.4	33.38	7.7
A1	28 Sep 2017	821	1	2e	<2	<2	1.00	ns	19.8	85.03	8.4	33.43	8.2
A1	28 Sep 2017	821	12	2e	<2	<2	1.00	ns	15.1	78.96	7.5	33.39	8.1
A1	28 Sep 2017	821	18	<2	<2	<2	1.00	ns	14.4	84.22	7.3	33.35	8.0
C4	05 Sep 2017	1009	1	<20	<2	<2	0.10	ns	22.2	81.26	6.9	33.47	8.3
C4	05 Sep 2017	1009	3	<20	<2	<2	0.10	ns	21.4	81.17	7.3	33.52	8.3
C4	05 Sep 2017	1009	9	<20	<2	<2	0.10	ns	19.1	81.50	7.4	33.44	8.3
C4	11 Sep 2017	1059	1	<20	<2	<2	0.10	ns	14.1	65.21	6.5	33.38	8.1
C4	11 Sep 2017	1059	3	<20	<2	<2	0.10	ns	17.4	74.54	7.8	33.42	8.2
C4	11 Sep 2017	1059	9	<20	<2	<2	0.10	ns	14.1	61.28	6.5	33.39	8.1
C4	16 Sep 2017	1015	1	<20	<2	<2	0.10	ns	19.1	71.35	6.7	33.34	8.2
C4	16 Sep 2017	1015	3	<2	<2	<2	1.00	ns	19.0	69.97	6.8	33.41	8.2
C4	16 Sep 2017	1015	9	<2	<2	<2	1.00	ns	14.5	71.36	7.7	33.50	7.9
C4	20 Sep 2017	933	1	2e	<2	<2	1.00	ns	19.1	66.70	8.1	33.41	8.3
C4	20 Sep 2017	933	3	<2	<2	<2	1.00	ns	19.0	74.44	8.1	33.42	8.3
C4	20 Sep 2017	933	9	<2	<2	<2	1.00	ns	15.6	69.13	7.5	33.39	8.1
C4	28 Sep 2017	1002	1	<2	<2	<2	1.00	ns	20.4	81.26	8.6	33.44	8.2
C4	28 Sep 2017	1002	3	<2	<2	<2	1.00	ns	20.0	82.05	8.3	33.46	8.2
C4	28 Sep 2017	1002	9	<2	<2	<2	1.00	ns	18.1	81.85	7.5	33.43	8.2
C5	05 Sep 2017	957	1	<2	<2	<2	1.00	ns	22.4	84.18	8.1	33.47	8.4
C5	05 Sep 2017	957	3	<20	<2	<2	0.10	ns	22.4	84.18	8.1	33.47	8.4
C5	05 Sep 2017	957	9	<20	<2	<2	0.10	ns	19.7	76.64	7.0	33.74	8.3
C5	11 Sep 2017	1047	1	<2	<2	<2	1.00	ns	14.2	82.52	6.7	33.41	8.1
C5	11 Sep 2017	1047	3	<2	<2	<2	1.00	ns	18.8	83.83	8.3	33.42	8.3

Station	Date	Time	Depth	Total	Fecal	Enteroc	F:T	N-NH3	Temp	XMS	DO	Sal	pH
C5	11 Sep 2017	1047	9	<2	<2	<2	1.00	ns	14.6	86.71	6.8	33.41	8.1
C5	16 Sep 2017	1005	1	<2	<2	<2	1.00	ns	19.6	82.59	8.4	33.41	8.3
C5	16 Sep 2017	1005	3	<2	<2	<2	1.00	ns	19.4	82.77	8.3	33.41	8.3
C5	16 Sep 2017	1005	9	<2	<2	<2	1.00	ns	14.6	78.99	6.8	33.36	7.9
C5	20 Sep 2017	920	1	<2	<2	<2	1.00	ns	20.0	85.38	8.1	33.42	8.3
C5	20 Sep 2017	920	3	<2	<2	<2	1.00	ns	19.9	86.36	8.0	33.42	8.3
C5	20 Sep 2017	920	9	<20	<2	<2	0.10	ns	16.0	81.96	7.1	33.40	8.1
C5	28 Sep 2017	950	1	<2	<2	<2	1.00	ns	20.2	85.27	8.2	33.44	8.2
C5	28 Sep 2017	950	3	<2	2e	<2	1.00	ns	19.8	85.40	8.2	33.47	8.2
C5	28 Sep 2017	950	9	<2	2e	<2	1.00	ns	17.3	82.93	7.4	33.44	8.2
A6	05 Sep 2017	855	1	<2	<2	<2	1.00	ns	22.4	89.28	7.8	33.47	8.3
A6	05 Sep 2017	855	12	<2	4e	<2	2.00	ns	19.3	83.10	8.4	33.42	8.3
A6	05 Sep 2017	855	18	<2	<2	<2	1.00	ns	17.1	85.32	7.9	33.40	8.3
A6	11 Sep 2017	912	1	<2	<2	<2	1.00	ns	19.6	87.18	7.9	33.40	8.2
A6	11 Sep 2017	912	12	4e	<2	<2	0.50	ns	12.9	89.84	5.9	33.42	8.0
A6	11 Sep 2017	912	18	14e	<2	<2	0.14	ns	12.6	91.11	5.5	33.43	8.0
A6	16 Sep 2017	912	1	2e	<2	<2	1.00	ns	19.8	87.54	8.0	33.40	8.2
A6	16 Sep 2017	912	12	<2	2e	<2	1.00	ns	14.0	81.11	7.7	33.33	7.9
A6	16 Sep 2017	912	18	8e	<2	<2	0.25	ns	13.4	86.85	6.6	33.37	7.8
A6	20 Sep 2017	822	1	<2	<2	<2	1.00	ns	20.2	87.03	8.0	33.41	8.2
A6	20 Sep 2017	822	12	<2	<2	<2	1.00	ns	20.1	87.83	7.9	33.41	8.2
A6	20 Sep 2017	822	18	4e	<2	<2	0.50	ns	14.1	87.08	6.7	33.36	7.8
A6	28 Sep 2017	849	1	<2	<2	<2	1.00	ns	20.4	87.21	8.0	33.44	8.2
A6	28 Sep 2017	849	12	<2	<2	<2	1.00	ns	15.9	85.42	7.3	33.36	8.1
A6	28 Sep 2017	849	18	2e	<2	<2	1.00	ns	13.6	87.86	6.8	33.35	8.0
C6	05 Sep 2017	945	1	<2	<2	<2	1.00	ns	22.4	84.78	7.4	33.46	8.4
C6	05 Sep 2017	945	3	<2	<2	<2	1.00	ns	22.4	84.89	7.8	33.47	8.4
C6	05 Sep 2017	945	9	<2	<2	<2	1.00	ns	18.8	83.77	7.4	33.64	8.3
C6	11 Sep 2017	1037	1	<2	<2	<2	1.00	ns	19.9	86.05	8.1	33.38	8.2
C6	11 Sep 2017	1037	3	<2	<2	<2	1.00	ns	18.1	86.20	8.2	33.42	8.3
C6	11 Sep 2017	1037	9	2e	<2	<2	1.00	ns	14.7	86.24	7.3	33.35	8.1
C6	16 Sep 2017	955	1	<2	<2	<2	1.00	ns	19.6	86.05	7.4	33.39	8.2
C6	16 Sep 2017	955	3	<2	<2	<2	1.00	ns	19.4	85.79	8.0	33.45	8.2
C6	16 Sep 2017	955	9	<2	<2	<2	1.00	ns	15.0	75.78	7.5	33.68	7.9
C6	20 Sep 2017	907	1	<20	<2	<2	0.10	ns	20.3	85.44	8.1	33.43	8.3
C6	20 Sep 2017	907	3	<20	<2	<2	0.10	ns	20.3	85.97	8.1	33.43	8.3
C6	20 Sep 2017	907	9	<2	<2	<2	1.00	ns	16.8	80.59	7.6	33.45	8.1
C6	28 Sep 2017	940	1	<2	<2	<2	1.00	ns	20.4	87.02	8.3	33.44	8.2
C6	28 Sep 2017	940	3	<2	<2	<2	1.00	ns	20.3	86.76	8.3	33.44	8.2
C6	28 Sep 2017	940	9	<2	<2	<2	1.00	ns	17.6	84.82	7.7	33.45	8.2
A7	05 Sep 2017	840	1	<20	<2	<2	0.10	ns	22.4	85.47	8.2	33.46	8.4

Station	Date	Time	Depth	Total	Fecal	Entero	F:T	N-NH3	Temp	XMS	DO	Sal	pH
A7	05 Sep 2017	840	12	<2	<2	<2	1.00	ns	18.4	83.53	9.0	33.38	8.3
A7	05 Sep 2017	840	18	2e	2e	<2	1.00	ns	17.2	83.10	8.6	33.38	8.3
A7	11 Sep 2017	858	1	2e	<2	<2	1.00	ns	19.0	86.31	8.1	33.43	8.2
A7	11 Sep 2017	858	12	8e	<2	<2	0.25	ns	12.9	88.54	6.0	33.41	8.0
A7	11 Sep 2017	858	18	<20	<2	<2	0.10	ns	12.8	89.29	5.7	33.42	8.0
A7	16 Sep 2017	901	1	2e	<2	<2	1.00	ns	19.7	85.17	8.0	33.41	8.2
A7	16 Sep 2017	901	12	<2	<2	<2	1.00	ns	13.8	84.11	6.7	33.35	7.8
A7	16 Sep 2017	901	18	2e	<2	<2	1.00	ns	13.5	87.00	6.6	33.37	7.8
A7	20 Sep 2017	810	1	<2	<2	<2	1.00	ns	20.1	88.38	8.0	33.41	8.2
A7	20 Sep 2017	810	12	<2	<2	<2	1.00	ns	18.7	87.33	7.8	33.41	8.2
A7	20 Sep 2017	810	18	<2	<2	<2	1.00	ns	13.8	86.88	6.8	33.35	7.8
A7	28 Sep 2017	836	1	<2	<2	<2	1.00	ns	20.4	87.70	7.9	33.44	8.2
A7	28 Sep 2017	836	12	<2	<2	<2	1.00	ns	15.3	83.06	7.6	33.36	8.1
A7	28 Sep 2017	836	18	<2	<2	<2	1.00	ns	14.6	85.80	7.0	33.36	8.1
C7	05 Sep 2017	911	1	2e	<2	<2	1.00	ns	22.5	88.54	8.0	33.47	8.3
C7	05 Sep 2017	911	12	<2	<2	<2	1.00	ns	18.8	86.40	8.9	33.38	8.3
C7	05 Sep 2017	911	18	2e	<2	<2	1.00	ns	16.3	84.84	8.0	33.39	8.3
C7	11 Sep 2017	927	1	<2	<2	<2	1.00	ns	20.0	88.09	7.9	33.41	8.3
C7	11 Sep 2017	927	12	2e	<2	<2	1.00	ns	13.6	88.51	6.4	33.41	8.1
C7	11 Sep 2017	927	18	10e	<2	<2	0.20	ns	12.7	90.98	5.7	33.42	8.0
C7	16 Sep 2017	924	1	<2	<2	<2	1.00	ns	19.6	85.81	8.1	33.39	8.2
C7	16 Sep 2017	924	12	<2	<2	<2	1.00	ns	14.4	80.26	7.3	33.36	7.9
C7	16 Sep 2017	924	18	<2	<2	<2	1.00	ns	13.5	86.21	6.7	33.37	7.8
C7	20 Sep 2017	836	1	<2	<2	<2	1.00	ns	20.4	86.05	8.0	33.42	8.2
C7	20 Sep 2017	836	12	<2	<2	<2	1.00	ns	17.2	86.60	8.0	33.52	8.2
C7	20 Sep 2017	836	18	<2	<2	<2	1.00	ns	13.8	85.99	7.0	33.37	7.8
C7	28 Sep 2017	904	1	<2	<2	<2	1.00	ns	20.4	86.69	7.9	33.44	8.2
C7	28 Sep 2017	904	12	2e	2e	<2	1.00	ns	15.7	86.05	8.2	33.35	8.2
C7	28 Sep 2017	904	18	<2	<2	<2	1.00	ns	14.5	86.88	7.5	33.34	8.1
C8	05 Sep 2017	925	1	80e	2e	2e	0.02	ns	22.2	83.20	7.7	33.47	8.3
C8	05 Sep 2017	925	12	<2	<2	<2	1.00	ns	19.2	86.76	8.8	33.39	8.3
C8	05 Sep 2017	925	18	<2	<2	<2	1.00	ns	16.8	84.34	8.4	33.38	8.3
C8	11 Sep 2017	938	1	<2	<2	<2	1.00	ns	19.8	89.08	8.0	33.40	8.3
C8	11 Sep 2017	938	12	<2	<2	<2	1.00	ns	14.3	88.35	7.0	33.39	8.1
C8	11 Sep 2017	938	18	2e	<2	<2	1.00	ns	13.1	90.48	6.2	33.40	8.1
C8	16 Sep 2017	934	1	<20	<2	<2	0.10	ns	19.7	84.55	8.2	33.40	8.2
C8	16 Sep 2017	934	12	<2	<2	<2	1.00	ns	14.1	82.30	7.7	33.34	7.9
C8	16 Sep 2017	934	18	<2	<2	<2	1.00	ns	13.3	86.87	6.8	33.36	7.8
C8	20 Sep 2017	847	1	<2	<2	<2	1.00	ns	20.4	86.51	7.9	33.42	8.2
C8	20 Sep 2017	847	12	2e	<2	<2	1.00	ns	16.4	84.52	8.4	33.34	8.1
C8	20 Sep 2017	847	18	<2	<2	<2	1.00	ns	13.8	87.47	7.2	33.34	7.8

Station	Date	Time	Depth	Total	Fecal	Enteroc	F:T	N-NH3	Temp	XMS	DO	Sal	pH
C8	28 Sep 2017	920	1	<2	<2	<2	1.00	ns	20.4	86.96	7.9	33.45	8.2
C8	28 Sep 2017	920	12	<2	<2	<2	1.00	ns	15.6	86.43	8.4	33.34	8.2
C8	28 Sep 2017	920	18	30e	12e	<2	0.40	ns	14.1	87.33	7.2	33.35	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	05 Sep 2017	Depth (m)	18
A1	05 Sep 2017	Arrive Time	826
A1	05 Sep 2017	Depart Time	838
A1	05 Sep 2017	Air Temp (C)	22
A1	05 Sep 2017	Weather	Fog
A1	05 Sep 2017	Visibility (mi)	2
A1	05 Sep 2017	Wind Speed (kts)	6
A1	05 Sep 2017	Wind Dir	SW
A1	05 Sep 2017	Water Color	Green
A1	05 Sep 2017	Wave Ht Low (ft)	3
A1	05 Sep 2017	Wave Period (sec)	13
A1	05 Sep 2017	Sea State	Calm
A1	05 Sep 2017	High Tide (ft)	4.8
A1	05 Sep 2017	High Tide Time	932
A1	05 Sep 2017	Low Tide (ft)	1.2
A1	05 Sep 2017	Low Tide Time	1516
A1	05 Sep 2017	Comments	Kelp
A1	11 Sep 2017	Depth (m)	19
A1	11 Sep 2017	Arrive Time	846
A1	11 Sep 2017	Depart Time	850
A1	11 Sep 2017	Air Temp (C)	20
A1	11 Sep 2017	Weather	Haze
A1	11 Sep 2017	Visibility (mi)	7
A1	11 Sep 2017	Wind Speed (kts)	1
A1	11 Sep 2017	Wind Dir	N
A1	11 Sep 2017	Water Color	Greenish-Blue
A1	11 Sep 2017	Wave Ht Low (ft)	2
A1	11 Sep 2017	Wave Period (sec)	13
A1	11 Sep 2017	Sea State	Calm
A1	11 Sep 2017	High Tide (ft)	5.2
A1	11 Sep 2017	High Tide Time	1311
A1	11 Sep 2017	Low Tide (ft)	1.7
A1	11 Sep 2017	Low Tide Time	645
A1	11 Sep 2017	Comments	
A1	16 Sep 2017	Depth (m)	18
A1	16 Sep 2017	Arrive Time	851
A1	16 Sep 2017	Depart Time	854
A1	16 Sep 2017	Air Temp (C)	19
A1	16 Sep 2017	Weather	Partly Cloudy
A1	16 Sep 2017	Visibility (mi)	5
A1	16 Sep 2017	Wind Speed (kts)	4
A1	16 Sep 2017	Wind Dir	N
A1	16 Sep 2017	Water Color	Green
A1	16 Sep 2017	Wave Ht Low (ft)	4
A1	16 Sep 2017	Wave Period (sec)	7
A1	16 Sep 2017	Sea State	Calm
A1	16 Sep 2017	High Tide (ft)	4.5
A1	16 Sep 2017	High Tide Time	743
A1	16 Sep 2017	Low Tide (ft)	1.7

Station	Date	Parameter	Value
A1	16 Sep 2017	Low Tide Time	1310
A1	16 Sep 2017	Comments	Kelp
A1	20 Sep 2017	Depth (m)	19
A1	20 Sep 2017	Arrive Time	757
A1	20 Sep 2017	Depart Time	801
A1	20 Sep 2017	Air Temp (C)	19
A1	20 Sep 2017	Weather	Partly Cloudy
A1	20 Sep 2017	Visibility (mi)	8
A1	20 Sep 2017	Wind Speed (kts)	10
A1	20 Sep 2017	Wind Dir	W
A1	20 Sep 2017	Water Color	Greenish-Blue
A1	20 Sep 2017	Wave Ht Low (ft)	3
A1	20 Sep 2017	Wave Period (sec)	13
A1	20 Sep 2017	Sea State	Confused swell
A1	20 Sep 2017	High Tide (ft)	5.4
A1	20 Sep 2017	High Tide Time	953
A1	20 Sep 2017	Low Tide (ft)	0.5
A1	20 Sep 2017	Low Tide Time	1602
A1	20 Sep 2017	Comments	
A1	28 Sep 2017	Depth (m)	19
A1	28 Sep 2017	Arrive Time	821
A1	28 Sep 2017	Depart Time	827
A1	28 Sep 2017	Air Temp (C)	19
A1	28 Sep 2017	Weather	Haze
A1	28 Sep 2017	Visibility (mi)	7
A1	28 Sep 2017	Wind Speed (kts)	3
A1	28 Sep 2017	Wind Dir	SE
A1	28 Sep 2017	Water Color	Bluish-Green
A1	28 Sep 2017	Wave Ht Low (ft)	3
A1	28 Sep 2017	Wave Period (sec)	11
A1	28 Sep 2017	Sea State	Wind ripples
A1	28 Sep 2017	High Tide (ft)	3.4
A1	28 Sep 2017	High Tide Time	625
A1	28 Sep 2017	Low Tide (ft)	3.1
A1	28 Sep 2017	Low Tide Time	1022
A1	28 Sep 2017	Comments	
C4	05 Sep 2017	Depth (m)	12
C4	05 Sep 2017	Arrive Time	1009
C4	05 Sep 2017	Depart Time	1011
C4	05 Sep 2017	Air Temp (C)	22
C4	05 Sep 2017	Weather	Overcast
C4	05 Sep 2017	Visibility (mi)	6
C4	05 Sep 2017	Wind Speed (kts)	7
C4	05 Sep 2017	Wind Dir	E
C4	05 Sep 2017	Water Color	Green
C4	05 Sep 2017	Wave Ht Low (ft)	3
C4	05 Sep 2017	Wave Period (sec)	13
C4	05 Sep 2017	Sea State	Calm
C4	05 Sep 2017	High Tide (ft)	4.8
C4	05 Sep 2017	High Tide Time	932
C4	05 Sep 2017	Low Tide (ft)	1.2
C4	05 Sep 2017	Low Tide Time	1516

Station	Date	Parameter	Value
C4	05 Sep 2017	Comments	
C4	11 Sep 2017	Depth (m)	10
C4	11 Sep 2017	Arrive Time	1059
C4	11 Sep 2017	Depart Time	1102
C4	11 Sep 2017	Air Temp (C)	21
C4	11 Sep 2017	Weather	Partly Cloudy
C4	11 Sep 2017	Visibility (mi)	11
C4	11 Sep 2017	Wind Speed (kts)	8
C4	11 Sep 2017	Wind Dir	S
C4	11 Sep 2017	Water Color	Greenish-Blue
C4	11 Sep 2017	Wave Ht Low (ft)	2
C4	11 Sep 2017	Wave Period (sec)	13
C4	11 Sep 2017	Sea State	Calm
C4	11 Sep 2017	High Tide (ft)	5.2
C4	11 Sep 2017	High Tide Time	1311
C4	11 Sep 2017	Low Tide (ft)	1.7
C4	11 Sep 2017	Low Tide Time	645
C4	11 Sep 2017	Comments	Kelp
C4	16 Sep 2017	Depth (m)	10
C4	16 Sep 2017	Arrive Time	1015
C4	16 Sep 2017	Depart Time	1018
C4	16 Sep 2017	Air Temp (C)	19
C4	16 Sep 2017	Weather	Partly Cloudy
C4	16 Sep 2017	Visibility (mi)	6
C4	16 Sep 2017	Wind Speed (kts)	1
C4	16 Sep 2017	Wind Dir	NE
C4	16 Sep 2017	Water Color	Green
C4	16 Sep 2017	Wave Ht Low (ft)	4
C4	16 Sep 2017	Wave Period (sec)	7
C4	16 Sep 2017	Sea State	Calm
C4	16 Sep 2017	High Tide (ft)	4.5
C4	16 Sep 2017	High Tide Time	743
C4	16 Sep 2017	Low Tide (ft)	1.7
C4	16 Sep 2017	Low Tide Time	1310
C4	16 Sep 2017	Comments	Kelp; Boats
C4	20 Sep 2017	Depth (m)	9
C4	20 Sep 2017	Arrive Time	933
C4	20 Sep 2017	Depart Time	940
C4	20 Sep 2017	Air Temp (C)	19
C4	20 Sep 2017	Weather	Cloudy
C4	20 Sep 2017	Visibility (mi)	7
C4	20 Sep 2017	Wind Speed (kts)	14
C4	20 Sep 2017	Wind Dir	SE
C4	20 Sep 2017	Water Color	Green
C4	20 Sep 2017	Wave Ht Low (ft)	4
C4	20 Sep 2017	Wave Period (sec)	7
C4	20 Sep 2017	Sea State	Heavy chop
C4	20 Sep 2017	High Tide (ft)	5.4
C4	20 Sep 2017	High Tide Time	953
C4	20 Sep 2017	Low Tide (ft)	0.5
C4	20 Sep 2017	Low Tide Time	1602
C4	20 Sep 2017	Comments	

Station	Date	Parameter	Value
C4	28 Sep 2017	Depth (m)	11
C4	28 Sep 2017	Arrive Time	1002
C4	28 Sep 2017	Depart Time	1006
C4	28 Sep 2017	Air Temp (C)	19
C4	28 Sep 2017	Weather	Clear
C4	28 Sep 2017	Visibility (mi)	9
C4	28 Sep 2017	Wind Speed (kts)	7
C4	28 Sep 2017	Wind Dir	SW
C4	28 Sep 2017	Water Color	Bluish-Green
C4	28 Sep 2017	Wave Ht Low (ft)	3
C4	28 Sep 2017	Wave Period (sec)	11
C4	28 Sep 2017	Sea State	Wind ripples
C4	28 Sep 2017	High Tide (ft)	3.4
C4	28 Sep 2017	High Tide Time	625
C4	28 Sep 2017	Low Tide (ft)	3.1
C4	28 Sep 2017	Low Tide Time	1022
C4	28 Sep 2017	Comments	Lobster floats; Kelp
C5	05 Sep 2017	Depth (m)	11
C5	05 Sep 2017	Arrive Time	957
C5	05 Sep 2017	Depart Time	1000
C5	05 Sep 2017	Air Temp (C)	22
C5	05 Sep 2017	Weather	Overcast
C5	05 Sep 2017	Visibility (mi)	6
C5	05 Sep 2017	Wind Speed (kts)	6
C5	05 Sep 2017	Wind Dir	W
C5	05 Sep 2017	Water Color	Green
C5	05 Sep 2017	Wave Ht Low (ft)	3
C5	05 Sep 2017	Wave Period (sec)	13
C5	05 Sep 2017	Sea State	Calm
C5	05 Sep 2017	High Tide (ft)	4.8
C5	05 Sep 2017	High Tide Time	932
C5	05 Sep 2017	Low Tide (ft)	1.2
C5	05 Sep 2017	Low Tide Time	1516
C5	05 Sep 2017	Comments	Seagrass
C5	11 Sep 2017	Depth (m)	9
C5	11 Sep 2017	Arrive Time	1047
C5	11 Sep 2017	Depart Time	1050
C5	11 Sep 2017	Air Temp (C)	21
C5	11 Sep 2017	Weather	Partly Cloudy
C5	11 Sep 2017	Visibility (mi)	11
C5	11 Sep 2017	Wind Speed (kts)	6
C5	11 Sep 2017	Wind Dir	W
C5	11 Sep 2017	Water Color	Greenish-Blue
C5	11 Sep 2017	Wave Ht Low (ft)	2
C5	11 Sep 2017	Wave Period (sec)	13
C5	11 Sep 2017	Sea State	Calm
C5	11 Sep 2017	High Tide (ft)	5.2
C5	11 Sep 2017	High Tide Time	1311
C5	11 Sep 2017	Low Tide (ft)	1.7
C5	11 Sep 2017	Low Tide Time	645
C5	11 Sep 2017	Comments	

Station	Date	Parameter	Value
C5	16 Sep 2017	Depth (m)	11
C5	16 Sep 2017	Arrive Time	1005
C5	16 Sep 2017	Depart Time	1010
C5	16 Sep 2017	Air Temp (C)	19
C5	16 Sep 2017	Weather	Partly Cloudy
C5	16 Sep 2017	Visibility (mi)	4
C5	16 Sep 2017	Wind Speed (kts)	3
C5	16 Sep 2017	Wind Dir	NE
C5	16 Sep 2017	Water Color	Green
C5	16 Sep 2017	Wave Ht Low (ft)	4
C5	16 Sep 2017	Wave Period (sec)	7
C5	16 Sep 2017	Sea State	Calm
C5	16 Sep 2017	High Tide (ft)	4.5
C5	16 Sep 2017	High Tide Time	743
C5	16 Sep 2017	Low Tide (ft)	1.7
C5	16 Sep 2017	Low Tide Time	1310
C5	16 Sep 2017	Comments	Kelp
C5	20 Sep 2017	Depth (m)	9
C5	20 Sep 2017	Arrive Time	920
C5	20 Sep 2017	Depart Time	922
C5	20 Sep 2017	Air Temp (C)	19
C5	20 Sep 2017	Weather	Cloudy
C5	20 Sep 2017	Visibility (mi)	7
C5	20 Sep 2017	Wind Speed (kts)	12
C5	20 Sep 2017	Wind Dir	S
C5	20 Sep 2017	Water Color	Green
C5	20 Sep 2017	Wave Ht Low (ft)	4
C5	20 Sep 2017	Wave Period (sec)	7
C5	20 Sep 2017	Sea State	Heavy chop
C5	20 Sep 2017	High Tide (ft)	5.4
C5	20 Sep 2017	High Tide Time	953
C5	20 Sep 2017	Low Tide (ft)	0.5
C5	20 Sep 2017	Low Tide Time	1602
C5	20 Sep 2017	Comments	
C5	28 Sep 2017	Depth (m)	12
C5	28 Sep 2017	Arrive Time	950
C5	28 Sep 2017	Depart Time	955
C5	28 Sep 2017	Air Temp (C)	19
C5	28 Sep 2017	Weather	Clear
C5	28 Sep 2017	Visibility (mi)	9
C5	28 Sep 2017	Wind Speed (kts)	6
C5	28 Sep 2017	Wind Dir	E
C5	28 Sep 2017	Water Color	Bluish-Green
C5	28 Sep 2017	Wave Ht Low (ft)	3
C5	28 Sep 2017	Wave Period (sec)	11
C5	28 Sep 2017	Sea State	Wind ripples
C5	28 Sep 2017	High Tide (ft)	3.4
C5	28 Sep 2017	High Tide Time	625
C5	28 Sep 2017	Low Tide (ft)	3.1
C5	28 Sep 2017	Low Tide Time	1022
C5	28 Sep 2017	Comments	Lobster floats; Kelp
A6	05 Sep 2017	Depth (m)	21

Station	Date	Parameter	Value
A6	05 Sep 2017	Arrive Time	855
A6	05 Sep 2017	Depart Time	859
A6	05 Sep 2017	Air Temp (C)	22
A6	05 Sep 2017	Weather	Fog
A6	05 Sep 2017	Visibility (mi)	4
A6	05 Sep 2017	Wind Speed (kts)	8
A6	05 Sep 2017	Wind Dir	NE
A6	05 Sep 2017	Water Color	Green
A6	05 Sep 2017	Wave Ht Low (ft)	3
A6	05 Sep 2017	Wave Period (sec)	13
A6	05 Sep 2017	Sea State	Calm
A6	05 Sep 2017	High Tide (ft)	4.8
A6	05 Sep 2017	High Tide Time	932
A6	05 Sep 2017	Low Tide (ft)	1.2
A6	05 Sep 2017	Low Tide Time	1516
A6	05 Sep 2017	Comments	Kelp
A6	11 Sep 2017	Depth (m)	18
A6	11 Sep 2017	Arrive Time	912
A6	11 Sep 2017	Depart Time	914
A6	11 Sep 2017	Air Temp (C)	21
A6	11 Sep 2017	Weather	Haze
A6	11 Sep 2017	Visibility (mi)	9
A6	11 Sep 2017	Wind Speed (kts)	3
A6	11 Sep 2017	Wind Dir	S
A6	11 Sep 2017	Water Color	Greenish-Blue
A6	11 Sep 2017	Wave Ht Low (ft)	2
A6	11 Sep 2017	Wave Period (sec)	13
A6	11 Sep 2017	Sea State	Calm
A6	11 Sep 2017	High Tide (ft)	5.2
A6	11 Sep 2017	High Tide Time	1311
A6	11 Sep 2017	Low Tide (ft)	1.7
A6	11 Sep 2017	Low Tide Time	645
A6	11 Sep 2017	Comments	Kelp debris
A6	16 Sep 2017	Depth (m)	18
A6	16 Sep 2017	Arrive Time	912
A6	16 Sep 2017	Depart Time	915
A6	16 Sep 2017	Air Temp (C)	20
A6	16 Sep 2017	Weather	Partly Cloudy
A6	16 Sep 2017	Visibility (mi)	4
A6	16 Sep 2017	Wind Speed (kts)	4
A6	16 Sep 2017	Wind Dir	W
A6	16 Sep 2017	Water Color	Green
A6	16 Sep 2017	Wave Ht Low (ft)	4
A6	16 Sep 2017	Wave Period (sec)	7
A6	16 Sep 2017	Sea State	Calm
A6	16 Sep 2017	High Tide (ft)	4.5
A6	16 Sep 2017	High Tide Time	743
A6	16 Sep 2017	Low Tide (ft)	1.7
A6	16 Sep 2017	Low Tide Time	1310
A6	16 Sep 2017	Comments	Kelp; Boats
A6	20 Sep 2017	Depth (m)	19
A6	20 Sep 2017	Arrive Time	822

Station	Date	Parameter	Value
A6	20 Sep 2017	Depart Time	824
A6	20 Sep 2017	Air Temp (C)	19
A6	20 Sep 2017	Weather	Partly Cloudy
A6	20 Sep 2017	Visibility (mi)	8
A6	20 Sep 2017	Wind Speed (kts)	11
A6	20 Sep 2017	Wind Dir	W
A6	20 Sep 2017	Water Color	Greenish-Blue
A6	20 Sep 2017	Wave Ht Low (ft)	3
A6	20 Sep 2017	Wave Period (sec)	11
A6	20 Sep 2017	Sea State	Confused swell
A6	20 Sep 2017	High Tide (ft)	5.4
A6	20 Sep 2017	High Tide Time	953
A6	20 Sep 2017	Low Tide (ft)	0.5
A6	20 Sep 2017	Low Tide Time	1602
A6	20 Sep 2017	Comments	
A6	28 Sep 2017	Depth (m)	19
A6	28 Sep 2017	Arrive Time	849
A6	28 Sep 2017	Depart Time	853
A6	28 Sep 2017	Air Temp (C)	19
A6	28 Sep 2017	Weather	Clear
A6	28 Sep 2017	Visibility (mi)	9
A6	28 Sep 2017	Wind Speed (kts)	4
A6	28 Sep 2017	Wind Dir	SW
A6	28 Sep 2017	Water Color	Bluish-Green
A6	28 Sep 2017	Wave Ht Low (ft)	3
A6	28 Sep 2017	Wave Period (sec)	11
A6	28 Sep 2017	Sea State	Wind ripples
A6	28 Sep 2017	High Tide (ft)	3.4
A6	28 Sep 2017	High Tide Time	625
A6	28 Sep 2017	Low Tide (ft)	3.1
A6	28 Sep 2017	Low Tide Time	1022
A6	28 Sep 2017	Comments	Lobster floats; Kelp
C6	05 Sep 2017	Depth (m)	10
C6	05 Sep 2017	Arrive Time	945
C6	05 Sep 2017	Depart Time	950
C6	05 Sep 2017	Air Temp (C)	22
C6	05 Sep 2017	Weather	Fog
C6	05 Sep 2017	Visibility (mi)	4
C6	05 Sep 2017	Wind Speed (kts)	6
C6	05 Sep 2017	Wind Dir	NW
C6	05 Sep 2017	Water Color	Green
C6	05 Sep 2017	Wave Ht Low (ft)	3
C6	05 Sep 2017	Wave Period (sec)	13
C6	05 Sep 2017	Sea State	Calm
C6	05 Sep 2017	High Tide (ft)	4.8
C6	05 Sep 2017	High Tide Time	932
C6	05 Sep 2017	Low Tide (ft)	1.2
C6	05 Sep 2017	Low Tide Time	1516
C6	05 Sep 2017	Comments	Kelp
C6	11 Sep 2017	Depth (m)	10
C6	11 Sep 2017	Arrive Time	1037
C6	11 Sep 2017	Depart Time	1040

Station	Date	Parameter	Value
C6	11 Sep 2017	Air Temp (C)	22
C6	11 Sep 2017	Weather	Partly Cloudy
C6	11 Sep 2017	Visibility (mi)	11
C6	11 Sep 2017	Wind Speed (kts)	7
C6	11 Sep 2017	Wind Dir	NE
C6	11 Sep 2017	Water Color	Greenish-Blue
C6	11 Sep 2017	Wave Ht Low (ft)	2
C6	11 Sep 2017	Wave Period (sec)	13
C6	11 Sep 2017	Sea State	Calm
C6	11 Sep 2017	High Tide (ft)	5.2
C6	11 Sep 2017	High Tide Time	1311
C6	11 Sep 2017	Low Tide (ft)	1.7
C6	11 Sep 2017	Low Tide Time	645
C6	11 Sep 2017	Comments	Kelp
C6	16 Sep 2017	Depth (m)	10
C6	16 Sep 2017	Arrive Time	955
C6	16 Sep 2017	Depart Time	1001
C6	16 Sep 2017	Air Temp (C)	20
C6	16 Sep 2017	Weather	Partly Cloudy
C6	16 Sep 2017	Visibility (mi)	4
C6	16 Sep 2017	Wind Speed (kts)	5
C6	16 Sep 2017	Wind Dir	NW
C6	16 Sep 2017	Water Color	Green
C6	16 Sep 2017	Wave Ht Low (ft)	4
C6	16 Sep 2017	Wave Period (sec)	7
C6	16 Sep 2017	Sea State	Calm
C6	16 Sep 2017	High Tide (ft)	4.5
C6	16 Sep 2017	High Tide Time	743
C6	16 Sep 2017	Low Tide (ft)	1.7
C6	16 Sep 2017	Low Tide Time	1310
C6	16 Sep 2017	Comments	Kelp
C6	20 Sep 2017	Depth (m)	9
C6	20 Sep 2017	Arrive Time	907
C6	20 Sep 2017	Depart Time	909
C6	20 Sep 2017	Air Temp (C)	19
C6	20 Sep 2017	Weather	Cloudy
C6	20 Sep 2017	Visibility (mi)	7
C6	20 Sep 2017	Wind Speed (kts)	15
C6	20 Sep 2017	Wind Dir	NW
C6	20 Sep 2017	Water Color	Green
C6	20 Sep 2017	Wave Ht Low (ft)	4
C6	20 Sep 2017	Wave Period (sec)	7
C6	20 Sep 2017	Sea State	Heavy chop
C6	20 Sep 2017	High Tide (ft)	5.4
C6	20 Sep 2017	High Tide Time	953
C6	20 Sep 2017	Low Tide (ft)	0.5
C6	20 Sep 2017	Low Tide Time	1602
C6	20 Sep 2017	Comments	Kelp
C6	28 Sep 2017	Depth (m)	10
C6	28 Sep 2017	Arrive Time	940
C6	28 Sep 2017	Depart Time	945
C6	28 Sep 2017	Air Temp (C)	19

Station	Date	Parameter	Value
C6	28 Sep 2017	Weather	Clear
C6	28 Sep 2017	Visibility (mi)	9
C6	28 Sep 2017	Wind Speed (kts)	5
C6	28 Sep 2017	Wind Dir	SW
C6	28 Sep 2017	Water Color	Bluish-Green
C6	28 Sep 2017	Wave Ht Low (ft)	3
C6	28 Sep 2017	Wave Period (sec)	11
C6	28 Sep 2017	Sea State	Wind ripples
C6	28 Sep 2017	High Tide (ft)	3.4
C6	28 Sep 2017	High Tide Time	625
C6	28 Sep 2017	Low Tide (ft)	3.1
C6	28 Sep 2017	Low Tide Time	1022
C6	28 Sep 2017	Comments	Lobster floats; Kelp
A7	05 Sep 2017	Depth (m)	20
A7	05 Sep 2017	Arrive Time	840
A7	05 Sep 2017	Depart Time	852
A7	05 Sep 2017	Air Temp (C)	22
A7	05 Sep 2017	Weather	Fog
A7	05 Sep 2017	Visibility (mi)	2
A7	05 Sep 2017	Wind Speed (kts)	7
A7	05 Sep 2017	Wind Dir	S
A7	05 Sep 2017	Water Color	Green
A7	05 Sep 2017	Wave Ht Low (ft)	3
A7	05 Sep 2017	Wave Period (sec)	13
A7	05 Sep 2017	Sea State	Calm
A7	05 Sep 2017	High Tide (ft)	4.8
A7	05 Sep 2017	High Tide Time	932
A7	05 Sep 2017	Low Tide (ft)	1.2
A7	05 Sep 2017	Low Tide Time	1516
A7	05 Sep 2017	Comments	
A7	11 Sep 2017	Depth (m)	20
A7	11 Sep 2017	Arrive Time	858
A7	11 Sep 2017	Depart Time	901
A7	11 Sep 2017	Air Temp (C)	21
A7	11 Sep 2017	Weather	Haze
A7	11 Sep 2017	Visibility (mi)	7
A7	11 Sep 2017	Wind Speed (kts)	2
A7	11 Sep 2017	Wind Dir	SE
A7	11 Sep 2017	Water Color	Greenish-Blue
A7	11 Sep 2017	Wave Ht Low (ft)	2
A7	11 Sep 2017	Wave Period (sec)	13
A7	11 Sep 2017	Sea State	Calm
A7	11 Sep 2017	High Tide (ft)	5.2
A7	11 Sep 2017	High Tide Time	1311
A7	11 Sep 2017	Low Tide (ft)	1.7
A7	11 Sep 2017	Low Tide Time	645
A7	11 Sep 2017	Comments	Kelp
A7	16 Sep 2017	Depth (m)	18
A7	16 Sep 2017	Arrive Time	901
A7	16 Sep 2017	Depart Time	904
A7	16 Sep 2017	Air Temp (C)	20
A7	16 Sep 2017	Weather	Partly Cloudy

Station	Date	Parameter	Value
A7	16 Sep 2017	Visibility (mi)	5
A7	16 Sep 2017	Wind Speed (kts)	3
A7	16 Sep 2017	Wind Dir	E
A7	16 Sep 2017	Water Color	Green
A7	16 Sep 2017	Wave Ht Low (ft)	4
A7	16 Sep 2017	Wave Period (sec)	7
A7	16 Sep 2017	Sea State	Calm
A7	16 Sep 2017	High Tide (ft)	4.5
A7	16 Sep 2017	High Tide Time	743
A7	16 Sep 2017	Low Tide (ft)	1.7
A7	16 Sep 2017	Low Tide Time	1310
A7	16 Sep 2017	Comments	Kelp
A7	20 Sep 2017	Depth (m)	19
A7	20 Sep 2017	Arrive Time	810
A7	20 Sep 2017	Depart Time	813
A7	20 Sep 2017	Air Temp (C)	19
A7	20 Sep 2017	Weather	Partly Cloudy
A7	20 Sep 2017	Visibility (mi)	8
A7	20 Sep 2017	Wind Speed (kts)	10
A7	20 Sep 2017	Wind Dir	NE
A7	20 Sep 2017	Water Color	Greenish-Blue
A7	20 Sep 2017	Wave Ht Low (ft)	3
A7	20 Sep 2017	Wave Period (sec)	13
A7	20 Sep 2017	Sea State	Confused swell
A7	20 Sep 2017	High Tide (ft)	5.4
A7	20 Sep 2017	High Tide Time	953
A7	20 Sep 2017	Low Tide (ft)	0.5
A7	20 Sep 2017	Low Tide Time	1602
A7	20 Sep 2017	Comments	
A7	28 Sep 2017	Depth (m)	21
A7	28 Sep 2017	Arrive Time	836
A7	28 Sep 2017	Depart Time	840
A7	28 Sep 2017	Air Temp (C)	19
A7	28 Sep 2017	Weather	Haze
A7	28 Sep 2017	Visibility (mi)	7
A7	28 Sep 2017	Wind Speed (kts)	4
A7	28 Sep 2017	Wind Dir	SW
A7	28 Sep 2017	Water Color	Bluish-Green
A7	28 Sep 2017	Wave Ht Low (ft)	3
A7	28 Sep 2017	Wave Period (sec)	11
A7	28 Sep 2017	Sea State	Wind ripples
A7	28 Sep 2017	High Tide (ft)	3.4
A7	28 Sep 2017	High Tide Time	625
A7	28 Sep 2017	Low Tide (ft)	3.1
A7	28 Sep 2017	Low Tide Time	1022
A7	28 Sep 2017	Comments	Lobster floats
C7	05 Sep 2017	Depth (m)	19
C7	05 Sep 2017	Arrive Time	911
C7	05 Sep 2017	Depart Time	915
C7	05 Sep 2017	Air Temp (C)	22
C7	05 Sep 2017	Weather	Fog
C7	05 Sep 2017	Visibility (mi)	4

Station	Date	Parameter	Value
C7	05 Sep 2017	Wind Speed (kts)	7
C7	05 Sep 2017	Wind Dir	N
C7	05 Sep 2017	Water Color	Green
C7	05 Sep 2017	Wave Ht Low (ft)	3
C7	05 Sep 2017	Wave Period (sec)	13
C7	05 Sep 2017	Sea State	Calm
C7	05 Sep 2017	High Tide (ft)	4.8
C7	05 Sep 2017	High Tide Time	932
C7	05 Sep 2017	Low Tide (ft)	1.2
C7	05 Sep 2017	Low Tide Time	1516
C7	05 Sep 2017	Comments	
C7	11 Sep 2017	Depth (m)	18
C7	11 Sep 2017	Arrive Time	927
C7	11 Sep 2017	Depart Time	929
C7	11 Sep 2017	Air Temp (C)	21
C7	11 Sep 2017	Weather	Haze
C7	11 Sep 2017	Visibility (mi)	9
C7	11 Sep 2017	Wind Speed (kts)	7
C7	11 Sep 2017	Wind Dir	SW
C7	11 Sep 2017	Water Color	Greenish-Blue
C7	11 Sep 2017	Wave Ht Low (ft)	2
C7	11 Sep 2017	Wave Period (sec)	13
C7	11 Sep 2017	Sea State	Calm
C7	11 Sep 2017	High Tide (ft)	5.2
C7	11 Sep 2017	High Tide Time	1311
C7	11 Sep 2017	Low Tide (ft)	1.7
C7	11 Sep 2017	Low Tide Time	645
C7	11 Sep 2017	Comments	Kelp; Kelp debris
C7	16 Sep 2017	Depth (m)	20
C7	16 Sep 2017	Arrive Time	924
C7	16 Sep 2017	Depart Time	927
C7	16 Sep 2017	Air Temp (C)	20
C7	16 Sep 2017	Weather	Partly Cloudy
C7	16 Sep 2017	Visibility (mi)	4
C7	16 Sep 2017	Wind Speed (kts)	4
C7	16 Sep 2017	Wind Dir	NW
C7	16 Sep 2017	Water Color	Green
C7	16 Sep 2017	Wave Ht Low (ft)	4
C7	16 Sep 2017	Wave Period (sec)	7
C7	16 Sep 2017	Sea State	Calm
C7	16 Sep 2017	High Tide (ft)	4.5
C7	16 Sep 2017	High Tide Time	743
C7	16 Sep 2017	Low Tide (ft)	1.7
C7	16 Sep 2017	Low Tide Time	1310
C7	16 Sep 2017	Comments	Kelp
C7	20 Sep 2017	Depth (m)	19
C7	20 Sep 2017	Arrive Time	836
C7	20 Sep 2017	Depart Time	840
C7	20 Sep 2017	Air Temp (C)	19
C7	20 Sep 2017	Weather	Cloudy
C7	20 Sep 2017	Visibility (mi)	7
C7	20 Sep 2017	Wind Speed (kts)	11

Station	Date	Parameter	Value
C7	20 Sep 2017	Wind Dir	W
C7	20 Sep 2017	Water Color	Greenish-Blue
C7	20 Sep 2017	Wave Ht Low (ft)	4
C7	20 Sep 2017	Wave Period (sec)	7
C7	20 Sep 2017	Sea State	Confused swell
C7	20 Sep 2017	High Tide (ft)	5.4
C7	20 Sep 2017	High Tide Time	953
C7	20 Sep 2017	Low Tide (ft)	0.5
C7	20 Sep 2017	Low Tide Time	1602
C7	20 Sep 2017	Comments	Kelp
C7	28 Sep 2017	Depth (m)	19
C7	28 Sep 2017	Arrive Time	904
C7	28 Sep 2017	Depart Time	909
C7	28 Sep 2017	Air Temp (C)	19
C7	28 Sep 2017	Weather	Clear
C7	28 Sep 2017	Visibility (mi)	9
C7	28 Sep 2017	Wind Speed (kts)	4
C7	28 Sep 2017	Wind Dir	S
C7	28 Sep 2017	Water Color	Bluish-Green
C7	28 Sep 2017	Wave Ht Low (ft)	3
C7	28 Sep 2017	Wave Period (sec)	11
C7	28 Sep 2017	Sea State	Wind ripples
C7	28 Sep 2017	High Tide (ft)	3.4
C7	28 Sep 2017	High Tide Time	625
C7	28 Sep 2017	Low Tide (ft)	3.1
C7	28 Sep 2017	Low Tide Time	1022
C7	28 Sep 2017	Comments	Lobster floats; Niskin Bottle #1 fell off CTD during cast; Not recovered.
C8	05 Sep 2017	Depth (m)	20
C8	05 Sep 2017	Arrive Time	925
C8	05 Sep 2017	Depart Time	927
C8	05 Sep 2017	Air Temp (C)	22
C8	05 Sep 2017	Weather	Fog
C8	05 Sep 2017	Visibility (mi)	4
C8	05 Sep 2017	Wind Speed (kts)	6
C8	05 Sep 2017	Wind Dir	W
C8	05 Sep 2017	Water Color	Green
C8	05 Sep 2017	Wave Ht Low (ft)	3
C8	05 Sep 2017	Wave Period (sec)	13
C8	05 Sep 2017	Sea State	Calm
C8	05 Sep 2017	High Tide (ft)	4.8
C8	05 Sep 2017	High Tide Time	932
C8	05 Sep 2017	Low Tide (ft)	1.2
C8	05 Sep 2017	Low Tide Time	1516
C8	05 Sep 2017	Comments	
C8	11 Sep 2017	Depth (m)	18
C8	11 Sep 2017	Arrive Time	938
C8	11 Sep 2017	Depart Time	940
C8	11 Sep 2017	Air Temp (C)	21
C8	11 Sep 2017	Weather	Haze
C8	11 Sep 2017	Visibility (mi)	9
C8	11 Sep 2017	Wind Speed (kts)	5

Station	Date	Parameter	Value
C8	11 Sep 2017	Wind Dir	E
C8	11 Sep 2017	Water Color	Greenish-Blue
C8	11 Sep 2017	Wave Ht Low (ft)	2
C8	11 Sep 2017	Wave Period (sec)	13
C8	11 Sep 2017	Sea State	Calm
C8	11 Sep 2017	High Tide (ft)	5.2
C8	11 Sep 2017	High Tide Time	1311
C8	11 Sep 2017	Low Tide (ft)	1.7
C8	11 Sep 2017	Low Tide Time	645
C8	11 Sep 2017	Comments	
C8	16 Sep 2017	Depth (m)	19
C8	16 Sep 2017	Arrive Time	934
C8	16 Sep 2017	Depart Time	939
C8	16 Sep 2017	Air Temp (C)	20
C8	16 Sep 2017	Weather	Partly Cloudy
C8	16 Sep 2017	Visibility (mi)	4
C8	16 Sep 2017	Wind Speed (kts)	5
C8	16 Sep 2017	Wind Dir	S
C8	16 Sep 2017	Water Color	Green
C8	16 Sep 2017	Wave Ht Low (ft)	4
C8	16 Sep 2017	Wave Period (sec)	7
C8	16 Sep 2017	Sea State	Calm
C8	16 Sep 2017	High Tide (ft)	4.5
C8	16 Sep 2017	High Tide Time	743
C8	16 Sep 2017	Low Tide (ft)	1.7
C8	16 Sep 2017	Low Tide Time	1310
C8	16 Sep 2017	Comments	Boats
C8	20 Sep 2017	Depth (m)	19
C8	20 Sep 2017	Arrive Time	847
C8	20 Sep 2017	Depart Time	850
C8	20 Sep 2017	Air Temp (C)	19
C8	20 Sep 2017	Weather	Cloudy
C8	20 Sep 2017	Visibility (mi)	7
C8	20 Sep 2017	Wind Speed (kts)	12
C8	20 Sep 2017	Wind Dir	E
C8	20 Sep 2017	Water Color	Greenish-Blue
C8	20 Sep 2017	Wave Ht Low (ft)	4
C8	20 Sep 2017	Wave Period (sec)	7
C8	20 Sep 2017	Sea State	Confused swell
C8	20 Sep 2017	High Tide (ft)	5.4
C8	20 Sep 2017	High Tide Time	953
C8	20 Sep 2017	Low Tide (ft)	0.5
C8	20 Sep 2017	Low Tide Time	1602
C8	20 Sep 2017	Comments	
C8	28 Sep 2017	Depth (m)	20
C8	28 Sep 2017	Arrive Time	920
C8	28 Sep 2017	Depart Time	925
C8	28 Sep 2017	Air Temp (C)	19
C8	28 Sep 2017	Weather	Clear
C8	28 Sep 2017	Visibility (mi)	9
C8	28 Sep 2017	Wind Speed (kts)	5
C8	28 Sep 2017	Wind Dir	SE

Station	Date	Parameter	Value
C8	28 Sep 2017	Water Color	Bluish-Green
C8	28 Sep 2017	Wave Ht Low (ft)	3
C8	28 Sep 2017	Wave Period (sec)	11
C8	28 Sep 2017	Sea State	Wind ripples
C8	28 Sep 2017	High Tide (ft)	3.4
C8	28 Sep 2017	High Tide Time	625
C8	28 Sep 2017	Low Tide (ft)	3.1
C8	28 Sep 2017	Low Tide Time	1022
C8	28 Sep 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	05 Sep 2017	1	22.02	81.87	8.3	33.46	8.3	23.0	1.50
A1	05 Sep 2017	2	22.02	67.44	8.3	33.46	8.3	23.0	1.52
A1	05 Sep 2017	3	22.02	81.22	8.3	33.46	8.3	23.0	1.51
A1	05 Sep 2017	4	21.96	84.18	8.3	33.47	8.3	23.1	1.64
A1	05 Sep 2017	5	21.69	84.01	8.3	33.47	8.3	23.1	1.71
A1	05 Sep 2017	6	21.45	83.54	8.2	33.46	8.3	23.2	1.82
A1	05 Sep 2017	7	21.23	82.81	8.2	33.46	8.3	23.3	1.96
A1	05 Sep 2017	8	20.37	81.84	8.3	33.46	8.3	23.5	2.17
A1	05 Sep 2017	9	20.05	83.24	8.3	33.42	8.3	23.5	2.07
A1	05 Sep 2017	10	19.92	81.77	8.1	33.41	8.3	23.6	2.15
A1	05 Sep 2017	11	19.87	81.14	8.1	33.42	8.3	23.6	2.10
A1	05 Sep 2017	12	19.73	81.22	8.2	33.41	8.3	23.6	2.08
A1	05 Sep 2017	13	19.63	81.70	8.3	33.41	8.3	23.6	2.11
A1	05 Sep 2017	14	19.61	82.03	8.3	33.41	8.3	23.6	2.15
A1	05 Sep 2017	15	19.57	82.27	8.4	33.41	8.3	23.7	2.12
A1	05 Sep 2017	16	19.25	83.07	8.6	33.42	8.3	23.7	2.10
A1	05 Sep 2017	17	19.04	83.16	8.7	33.41	8.3	23.8	2.12
A1	05 Sep 2017	18	18.71	83.61	8.7	33.41	8.3	23.9	1.97
A1	05 Sep 2017	19	17.29	83.63	8.8	33.54	8.3	24.3	1.85
A1	11 Sep 2017	1	19.14	77.43	7.6	33.35	8.2	23.7	0.97
A1	11 Sep 2017	2	18.28	77.36	7.5	33.61	8.2	24.1	0.97
A1	11 Sep 2017	3	16.46	78.13	7.7	33.50	8.1	24.5	1.06
A1	11 Sep 2017	4	16.31	80.68	7.7	33.42	8.1	24.5	1.73
A1	11 Sep 2017	5	15.94	80.99	7.7	33.41	8.1	24.5	2.30
A1	11 Sep 2017	6	15.85	80.73	7.6	33.38	8.1	24.5	2.49
A1	11 Sep 2017	7	15.07	81.00	7.3	33.48	8.1	24.8	2.57
A1	11 Sep 2017	8	14.01	81.57	6.8	33.47	8.1	25.0	2.50
A1	11 Sep 2017	9	13.25	83.47	6.4	33.46	8.0	25.1	2.25
A1	11 Sep 2017	10	12.98	86.06	6.1	33.41	8.0	25.2	1.84
A1	11 Sep 2017	11	12.84	85.28	5.9	33.43	8.0	25.2	1.69
A1	11 Sep 2017	12	12.69	87.83	5.7	33.42	8.0	25.2	1.50
A1	11 Sep 2017	13	12.67	88.81	5.6	33.42	8.0	25.2	1.29
A1	11 Sep 2017	14	12.65	88.93	5.6	33.42	8.0	25.2	1.19
A1	11 Sep 2017	15	12.64	89.49	5.5	33.42	8.0	25.2	1.14
A1	11 Sep 2017	16	12.64	89.49	5.5	33.42	8.0	25.2	1.11
A1	11 Sep 2017	17	12.63	90.06	5.5	33.43	8.0	25.2	1.04
A1	11 Sep 2017	18	12.63	90.34	5.5	33.43	8.0	25.2	0.95
A1	11 Sep 2017	19	12.63	90.36	5.5	33.43	8.0	25.2	0.87
A1	16 Sep 2017	1	20.15	88.71	8.0	33.39	8.2	23.5	0.66
A1	16 Sep 2017	2	20.22	88.46	7.8	33.41	8.2	23.5	0.64
A1	16 Sep 2017	3	18.69	88.13	8.0	33.44	8.2	23.9	0.77
A1	16 Sep 2017	4	17.39	86.80	7.9	33.45	8.2	24.2	1.17
A1	16 Sep 2017	5	15.70	83.90	8.0	33.42	8.1	24.6	2.23
A1	16 Sep 2017	6	15.43	81.92	8.0	33.34	8.0	24.6	2.97
A1	16 Sep 2017	7	15.22	80.38	7.9	33.34	8.0	24.6	3.36
A1	16 Sep 2017	8	15.23	81.05	7.8	33.34	8.0	24.6	3.79
A1	16 Sep 2017	9	14.68	79.13	7.7	33.37	8.0	24.8	4.40
A1	16 Sep 2017	10	14.32	77.44	7.6	33.34	7.9	24.8	5.15

Station	Date	Depth (m)	Temp (°C)	XMS (‰)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
A1	16 Sep 2017	11	14.15	76.66	7.5	33.34	7.9	24.9	5.51
A1	16 Sep 2017	12	14.01	77.45	7.4	33.34	7.9	24.9	5.33
A1	16 Sep 2017	13	13.95	78.06	7.3	33.34	7.9	24.9	4.72
A1	16 Sep 2017	14	13.84	81.06	7.1	33.35	7.8	24.9	3.61
A1	16 Sep 2017	15	13.82	83.21	7.0	33.35	7.8	25.0	2.79
A1	16 Sep 2017	16	13.73	83.70	6.8	33.36	7.8	25.0	2.36
A1	16 Sep 2017	17	13.44	85.37	6.6	33.38	7.8	25.1	1.92
A1	16 Sep 2017	18	13.14	86.29	6.4	33.39	7.8	25.1	1.40
A1	16 Sep 2017	19	13.01	86.19	6.1	33.39	7.7	25.1	1.13
A1	20 Sep 2017	1	20.18	87.95	7.9	33.41	8.2	23.5	0.67
A1	20 Sep 2017	2	20.20	88.91	7.9	33.41	8.2	23.5	0.69
A1	20 Sep 2017	3	20.07	88.91	7.8	33.42	8.2	23.5	0.75
A1	20 Sep 2017	4	19.71	88.54	7.9	33.43	8.2	23.6	0.88
A1	20 Sep 2017	5	19.43	88.07	7.8	33.42	8.2	23.7	1.08
A1	20 Sep 2017	6	18.42	87.19	7.5	33.44	8.1	24.0	1.48
A1	20 Sep 2017	7	16.68	85.96	7.5	33.47	8.1	24.4	1.98
A1	20 Sep 2017	8	15.10	84.23	7.6	33.39	7.9	24.7	2.25
A1	20 Sep 2017	9	14.95	84.01	7.6	33.35	7.9	24.7	2.33
A1	20 Sep 2017	10	14.92	84.16	7.6	33.34	7.9	24.7	2.33
A1	20 Sep 2017	11	14.89	84.14	7.5	33.34	7.8	24.7	2.32
A1	20 Sep 2017	12	14.75	84.11	7.2	33.35	7.8	24.8	2.22
A1	20 Sep 2017	13	13.96	84.50	6.9	33.40	7.8	25.0	1.90
A1	20 Sep 2017	14	13.68	86.28	6.8	33.36	7.7	25.0	1.51
A1	20 Sep 2017	15	13.65	86.56	6.6	33.36	7.7	25.0	1.27
A1	20 Sep 2017	16	13.60	86.72	6.6	33.36	7.7	25.0	1.15
A1	20 Sep 2017	17	13.61	86.53	6.5	33.37	7.7	25.0	1.11
A1	20 Sep 2017	18	13.48	86.05	6.4	33.38	7.7	25.0	1.04
A1	28 Sep 2017	1	19.81	85.03	8.4	33.43	8.2	23.6	1.13
A1	28 Sep 2017	2	19.87	85.28	8.4	33.44	8.2	23.6	1.12
A1	28 Sep 2017	3	19.71	85.16	8.4	33.44	8.2	23.6	1.18
A1	28 Sep 2017	4	19.70	84.89	8.4	33.44	8.2	23.6	1.29
A1	28 Sep 2017	5	19.56	84.69	8.2	33.44	8.2	23.7	1.34
A1	28 Sep 2017	6	19.07	84.74	8.1	33.45	8.2	23.8	1.48
A1	28 Sep 2017	7	18.31	84.62	8.0	33.44	8.1	24.0	1.69
A1	28 Sep 2017	8	17.62	84.45	8.0	33.42	8.1	24.2	2.03
A1	28 Sep 2017	9	17.08	82.34	7.8	33.42	8.1	24.3	2.69
A1	28 Sep 2017	10	16.28	79.19	7.7	33.41	8.1	24.5	3.44
A1	28 Sep 2017	11	15.91	79.18	7.5	33.39	8.1	24.5	3.82
A1	28 Sep 2017	12	15.12	78.96	7.5	33.39	8.1	24.7	3.61
A1	28 Sep 2017	13	14.63	80.70	7.5	33.35	8.1	24.8	3.02
A1	28 Sep 2017	14	14.56	83.14	7.4	33.34	8.1	24.8	2.59
A1	28 Sep 2017	15	14.53	83.59	7.4	33.34	8.1	24.8	2.46
A1	28 Sep 2017	16	14.48	83.73	7.4	33.34	8.1	24.8	2.42
A1	28 Sep 2017	17	14.45	84.09	7.3	33.35	8.1	24.8	2.30
A1	28 Sep 2017	18	14.45	84.22	7.3	33.35	8.0	24.8	2.32
A1	28 Sep 2017	19	14.36	83.88	7.2	33.36	8.0	24.8	2.28
C4	05 Sep 2017	1	22.24	81.26	6.9	33.47	8.3	23.0	1.25
C4	05 Sep 2017	2	22.15	81.33	7.0	33.48	8.3	23.0	1.26
C4	05 Sep 2017	3	21.44	81.17	7.3	33.52	8.3	23.2	1.61
C4	05 Sep 2017	4	20.46	80.65	7.9	33.49	8.3	23.5	2.08
C4	05 Sep 2017	5	20.18	80.09	8.1	33.43	8.3	23.5	2.40
C4	05 Sep 2017	6	19.99	80.69	8.1	33.43	8.3	23.6	2.34

Station	Date	Depth (m)	Temp (°C)	XMS (‰)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
C4	05 Sep 2017	7	19.81	81.33	8.0	33.43	8.3	23.6	2.27
C4	05 Sep 2017	8	19.61	81.77	7.9	33.43	8.3	23.7	2.06
C4	05 Sep 2017	9	19.11	81.50	7.4	33.44	8.3	23.8	1.77
C4	05 Sep 2017	10	18.82	80.14	7.0	33.42	8.2	23.9	1.32
C4	05 Sep 2017	11	18.72	75.89	6.9	33.41	8.2	23.9	1.12
C4	05 Sep 2017	12	18.70	72.83	6.9	33.41	8.2	23.9	1.05
C4	11 Sep 2017	2	18.45	72.85	7.8	33.43	8.2	24.0	0.97
C4	11 Sep 2017	3	17.36	74.54	7.8	33.42	8.2	24.2	1.24
C4	11 Sep 2017	4	16.88	75.63	7.7	33.40	8.2	24.3	1.61
C4	11 Sep 2017	5	16.40	76.67	7.5	33.41	8.2	24.4	1.83
C4	11 Sep 2017	6	15.74	76.76	7.2	33.43	8.2	24.6	1.79
C4	11 Sep 2017	7	15.11	80.95	6.9	33.39	8.1	24.7	1.45
C4	11 Sep 2017	8	14.51	78.44	6.6	33.44	8.1	24.9	1.22
C4	11 Sep 2017	9	14.05	61.28	6.5	33.39	8.1	24.9	1.00
C4	11 Sep 2017	10	14.07	65.21	6.5	33.38	8.1	24.9	0.91
C4	16 Sep 2017	1	19.07	71.35	6.7	33.34	8.2	23.7	0.80
C4	16 Sep 2017	2	19.04	71.28	6.8	33.38	8.2	23.8	0.78
C4	16 Sep 2017	3	19.00	69.97	6.8	33.41	8.2	23.8	0.75
C4	16 Sep 2017	4	18.65	67.59	7.5	33.58	8.2	24.0	0.78
C4	16 Sep 2017	5	17.67	68.25	7.9	33.79	8.1	24.4	0.78
C4	16 Sep 2017	6	16.50	71.68	7.9	33.87	8.1	24.8	0.78
C4	16 Sep 2017	7	15.08	72.84	7.9	33.73	8.0	25.0	0.81
C4	16 Sep 2017	8	14.75	72.34	7.8	33.59	8.0	24.9	0.78
C4	16 Sep 2017	9	14.50	71.36	7.7	33.50	7.9	24.9	1.86
C4	16 Sep 2017	10	14.38	67.06	7.3	33.47	7.9	24.9	3.02
C4	16 Sep 2017	11	14.35	61.01	6.9	33.62	7.9	25.1	3.20
C4	20 Sep 2017	1	19.06	66.70	8.1	33.41	8.3	23.8	1.78
C4	20 Sep 2017	2	19.06	69.10	8.1	33.41	8.3	23.8	1.83
C4	20 Sep 2017	3	19.04	74.44	8.1	33.42	8.3	23.8	1.91
C4	20 Sep 2017	4	18.70	75.37	8.0	33.44	8.3	23.9	2.04
C4	20 Sep 2017	5	17.94	73.03	7.9	33.45	8.2	24.1	2.57
C4	20 Sep 2017	6	17.34	72.13	7.9	33.43	8.2	24.2	3.15
C4	20 Sep 2017	7	16.93	69.83	7.8	33.40	8.2	24.3	3.58
C4	20 Sep 2017	8	16.01	69.21	7.6	33.42	8.1	24.5	3.68
C4	20 Sep 2017	9	15.64	69.13	7.5	33.39	8.1	24.6	3.44
C4	20 Sep 2017	10	15.18	68.36	7.3	33.38	8.0	24.7	2.91
C4	28 Sep 2017	1	20.35	81.26	8.6	33.44	8.2	23.5	0.96
C4	28 Sep 2017	2	20.22	81.24	8.5	33.45	8.2	23.5	1.05
C4	28 Sep 2017	3	19.98	82.05	8.3	33.46	8.2	23.6	1.21
C4	28 Sep 2017	4	19.47	82.56	8.2	33.44	8.2	23.7	1.37
C4	28 Sep 2017	5	19.26	82.76	8.1	33.43	8.2	23.8	1.56
C4	28 Sep 2017	6	19.01	82.43	8.0	33.42	8.2	23.8	1.63
C4	28 Sep 2017	7	18.84	82.52	7.9	33.42	8.2	23.9	1.68
C4	28 Sep 2017	8	18.56	81.90	7.8	33.43	8.2	23.9	1.65
C4	28 Sep 2017	9	18.08	81.85	7.5	33.43	8.2	24.0	1.42
C4	28 Sep 2017	10	17.35	80.51	7.4	33.44	8.1	24.2	1.12
C5	05 Sep 2017	1	22.39	84.18	8.1	33.47	8.4	22.9	1.45
C5	05 Sep 2017	2	22.39	84.20	8.1	33.47	8.4	22.9	1.58
C5	05 Sep 2017	3	22.38	84.18	8.1	33.47	8.4	22.9	1.67
C5	05 Sep 2017	4	22.26	84.13	7.8	33.47	8.4	23.0	1.83

Station	Date	Depth (m)	Temp (°C)	XMS (‰)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
C5	05 Sep 2017	5	21.58	83.97	7.4	33.50	8.3	23.2	1.87
C5	05 Sep 2017	6	20.52	83.79	7.2	33.49	8.3	23.5	1.80
C5	05 Sep 2017	7	19.94	83.60	6.9	33.60	8.3	23.7	1.71
C5	05 Sep 2017	8	19.96	80.79	6.8	33.60	8.3	23.7	1.71
C5	05 Sep 2017	9	19.66	76.64	7.0	33.74	8.3	23.9	1.64
C5	05 Sep 2017	10	19.32	80.22	7.2	33.63	8.3	23.9	1.56
C5	05 Sep 2017	11	19.12	80.41	7.3	33.43	8.3	23.8	1.35
C5	11 Sep 2017	2	19.47	85.27	8.2	33.42	8.3	23.7	0.68
C5	11 Sep 2017	3	18.83	83.83	8.3	33.42	8.3	23.9	0.82
C5	11 Sep 2017	4	18.48	82.31	8.1	33.41	8.3	23.9	1.04
C5	11 Sep 2017	5	16.72	83.32	7.8	33.44	8.2	24.4	1.07
C5	11 Sep 2017	6	16.46	86.32	7.4	33.45	8.2	24.4	0.98
C5	11 Sep 2017	7	15.47	87.58	7.2	33.39	8.2	24.6	0.83
C5	11 Sep 2017	8	15.18	87.14	6.9	33.41	8.1	24.7	0.76
C5	11 Sep 2017	9	14.56	86.71	6.8	33.41	8.1	24.8	0.73
C5	11 Sep 2017	10	14.28	85.91	6.8	33.38	8.1	24.9	0.75
C5	11 Sep 2017	11	14.21	82.52	6.7	33.41	8.1	24.9	0.71
C5	16 Sep 2017	1	19.56	82.59	8.4	33.41	8.3	23.7	0.89
C5	16 Sep 2017	2	19.51	82.36	8.4	33.41	8.3	23.7	0.97
C5	16 Sep 2017	3	19.39	82.77	8.3	33.41	8.3	23.7	1.12
C5	16 Sep 2017	4	18.64	82.61	8.1	33.43	8.2	23.9	1.57
C5	16 Sep 2017	5	17.44	82.12	7.9	33.44	8.2	24.2	2.24
C5	16 Sep 2017	6	16.02	79.88	7.6	33.41	8.1	24.5	2.80
C5	16 Sep 2017	7	15.31	80.73	7.3	33.39	8.0	24.7	2.41
C5	16 Sep 2017	8	14.88	81.36	7.0	33.37	8.0	24.7	1.92
C5	16 Sep 2017	9	14.56	78.99	6.8	33.36	7.9	24.8	1.37
C5	16 Sep 2017	10	14.38	71.96	6.6	33.35	7.9	24.8	0.93
C5	16 Sep 2017	11	14.36	64.24	6.6	33.35	7.9	24.8	0.84
C5	20 Sep 2017	1	19.96	85.38	8.1	33.42	8.3	23.6	1.05
C5	20 Sep 2017	2	19.95	86.04	8.1	33.42	8.3	23.6	1.06
C5	20 Sep 2017	3	19.93	86.36	8.0	33.42	8.3	23.6	1.08
C5	20 Sep 2017	4	19.93	86.46	8.0	33.42	8.3	23.6	1.11
C5	20 Sep 2017	5	19.92	86.52	8.0	33.42	8.3	23.6	1.12
C5	20 Sep 2017	6	19.55	86.38	7.5	33.45	8.3	23.7	1.11
C5	20 Sep 2017	7	17.92	85.21	7.3	33.47	8.2	24.1	1.01
C5	20 Sep 2017	8	16.74	84.09	7.2	33.43	8.1	24.4	0.93
C5	20 Sep 2017	9	15.96	81.96	7.1	33.40	8.1	24.5	0.85
C5	20 Sep 2017	10	15.10	76.14	7.1	33.38	8.0	24.7	0.78
C5	20 Sep 2017	11	15.28	70.24	7.2	33.32	7.9	24.6	0.77
C5	28 Sep 2017	1	20.23	85.27	8.2	33.44	8.2	23.5	0.83
C5	28 Sep 2017	2	20.21	85.27	8.2	33.45	8.2	23.5	0.82
C5	28 Sep 2017	3	19.78	85.40	8.2	33.47	8.2	23.6	0.92
C5	28 Sep 2017	4	19.56	84.78	8.3	33.45	8.2	23.7	1.16
C5	28 Sep 2017	5	19.38	83.41	8.2	33.45	8.2	23.7	1.33
C5	28 Sep 2017	6	19.07	82.93	8.3	33.44	8.2	23.8	1.52
C5	28 Sep 2017	7	18.86	82.38	8.1	33.44	8.2	23.9	1.73
C5	28 Sep 2017	8	18.18	81.95	7.9	33.46	8.2	24.0	1.91
C5	28 Sep 2017	9	17.30	82.93	7.4	33.44	8.2	24.2	1.74
C5	28 Sep 2017	10	16.17	84.21	6.8	33.47	8.1	24.5	1.23
C5	28 Sep 2017	11	15.24	83.15	6.6	33.40	8.1	24.7	0.82

Station	Date	Depth (m)	Temp (°C)	XMS (‰)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
A6	05 Sep 2017	1	22.35	89.28	7.8	33.47	8.3	23.0	0.73
A6	05 Sep 2017	2	22.35	89.20	7.8	33.47	8.3	23.0	0.78
A6	05 Sep 2017	3	22.35	89.38	7.8	33.47	8.3	23.0	0.77
A6	05 Sep 2017	4	22.35	89.29	7.8	33.47	8.3	23.0	0.82
A6	05 Sep 2017	5	22.34	89.22	7.8	33.47	8.3	23.0	0.83
A6	05 Sep 2017	6	22.33	89.09	7.8	33.47	8.3	23.0	0.83
A6	05 Sep 2017	7	22.28	89.10	7.9	33.47	8.3	23.0	0.91
A6	05 Sep 2017	8	21.63	88.59	8.0	33.51	8.3	23.2	1.33
A6	05 Sep 2017	9	20.88	86.51	8.2	33.46	8.3	23.4	1.93
A6	05 Sep 2017	10	20.66	83.94	8.3	33.45	8.3	23.4	2.17
A6	05 Sep 2017	11	19.62	83.41	8.4	33.46	8.3	23.7	2.20
A6	05 Sep 2017	12	19.29	83.10	8.4	33.42	8.3	23.7	2.29
A6	05 Sep 2017	13	19.05	82.96	8.4	33.41	8.3	23.8	2.32
A6	05 Sep 2017	14	18.77	82.71	8.3	33.41	8.3	23.9	2.34
A6	05 Sep 2017	15	18.46	82.99	8.3	33.40	8.3	23.9	2.27
A6	05 Sep 2017	16	18.26	83.17	8.1	33.41	8.3	24.0	2.22
A6	05 Sep 2017	17	17.46	84.26	8.0	33.42	8.3	24.2	1.90
A6	05 Sep 2017	18	17.05	85.32	7.9	33.40	8.3	24.3	1.63
A6	11 Sep 2017	1	19.65	87.18	7.9	33.40	8.2	23.6	0.87
A6	11 Sep 2017	2	19.49	87.29	7.9	33.41	8.2	23.7	0.89
A6	11 Sep 2017	3	19.20	87.41	7.8	33.42	8.2	23.8	0.94
A6	11 Sep 2017	4	17.67	87.19	7.7	33.47	8.2	24.2	1.21
A6	11 Sep 2017	5	16.47	84.51	7.6	33.45	8.2	24.4	1.60
A6	11 Sep 2017	6	15.30	83.70	7.1	33.45	8.1	24.7	1.65
A6	11 Sep 2017	7	13.65	85.17	6.7	33.45	8.1	25.1	1.33
A6	11 Sep 2017	8	13.43	87.64	6.5	33.39	8.1	25.1	1.17
A6	11 Sep 2017	9	13.21	87.98	6.4	33.39	8.1	25.1	1.18
A6	11 Sep 2017	10	13.13	88.19	6.3	33.39	8.1	25.1	1.11
A6	11 Sep 2017	11	13.03	89.42	6.2	33.39	8.1	25.1	1.09
A6	11 Sep 2017	12	12.92	89.84	5.9	33.42	8.0	25.2	1.03
A6	11 Sep 2017	13	12.76	90.15	5.7	33.42	8.0	25.2	0.89
A6	11 Sep 2017	14	12.74	90.70	5.7	33.42	8.0	25.2	0.87
A6	11 Sep 2017	15	12.66	90.85	5.6	33.42	8.0	25.2	0.94
A6	11 Sep 2017	16	12.62	90.95	5.5	33.43	8.0	25.2	0.93
A6	11 Sep 2017	17	12.62	91.03	5.5	33.42	8.0	25.2	0.96
A6	11 Sep 2017	18	12.62	91.11	5.5	33.43	8.0	25.2	0.93
A6	11 Sep 2017	19	12.62	91.04	5.4	33.43	8.0	25.2	0.95
A6	11 Sep 2017	20	12.62	91.09	5.5	33.43	8.0	25.2	0.96
A6	16 Sep 2017	1	19.75	87.54	8.0	33.40	8.2	23.6	0.60
A6	16 Sep 2017	2	19.72	87.51	8.0	33.41	8.2	23.6	0.63
A6	16 Sep 2017	3	19.58	87.44	8.0	33.41	8.2	23.7	0.73
A6	16 Sep 2017	4	18.96	87.10	8.0	33.43	8.2	23.8	0.90
A6	16 Sep 2017	5	17.72	86.23	7.9	33.45	8.2	24.2	1.23
A6	16 Sep 2017	6	17.01	83.93	8.0	33.39	8.1	24.3	1.72
A6	16 Sep 2017	7	16.83	83.25	7.7	33.39	8.1	24.3	1.92
A6	16 Sep 2017	8	15.56	82.76	7.7	33.43	8.0	24.6	2.41
A6	16 Sep 2017	9	14.88	81.80	7.8	33.37	8.0	24.7	3.33
A6	16 Sep 2017	10	14.48	80.48	7.9	33.36	8.0	24.8	4.29
A6	16 Sep 2017	11	14.18	80.00	7.9	33.34	7.9	24.9	4.75
A6	16 Sep 2017	12	14.02	81.11	7.7	33.33	7.9	24.9	4.48
A6	16 Sep 2017	13	13.87	82.06	7.6	33.34	7.9	24.9	3.78
A6	16 Sep 2017	14	13.98	81.54	7.5	33.35	7.9	24.9	3.56
A6	16 Sep 2017	15	13.75	83.81	7.4	33.35	7.8	25.0	3.19

Station	Date	Depth (m)	Temp (°C)	XMS (‰)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
A6	16 Sep 2017	16	13.65	84.64	7.2	33.35	7.8	25.0	2.80
A6	16 Sep 2017	17	13.45	85.83	6.8	33.37	7.8	25.0	2.02
A6	16 Sep 2017	18	13.37	86.85	6.6	33.37	7.8	25.1	1.35
A6	16 Sep 2017	19	13.34	86.70	6.5	33.37	7.8	25.1	1.19
A6	20 Sep 2017	1	20.17	87.03	8.0	33.41	8.2	23.5	0.73
A6	20 Sep 2017	2	20.17	87.33	8.0	33.41	8.2	23.5	0.74
A6	20 Sep 2017	3	20.17	87.43	8.0	33.41	8.2	23.5	0.75
A6	20 Sep 2017	4	20.17	87.60	8.0	33.41	8.2	23.5	0.75
A6	20 Sep 2017	5	20.17	87.66	8.0	33.41	8.2	23.5	0.77
A6	20 Sep 2017	6	20.17	87.71	8.0	33.41	8.2	23.5	0.78
A6	20 Sep 2017	7	20.17	87.74	8.0	33.41	8.2	23.5	0.78
A6	20 Sep 2017	8	20.17	87.86	8.0	33.41	8.2	23.5	0.78
A6	20 Sep 2017	9	20.16	88.05	8.0	33.41	8.2	23.5	0.79
A6	20 Sep 2017	10	20.16	88.04	8.0	33.41	8.2	23.5	0.80
A6	20 Sep 2017	11	20.15	88.05	8.0	33.41	8.2	23.5	0.79
A6	20 Sep 2017	12	20.09	87.83	7.9	33.41	8.2	23.5	0.84
A6	20 Sep 2017	13	18.77	86.60	7.8	33.47	8.2	23.9	1.19
A6	20 Sep 2017	14	18.13	85.64	7.7	33.39	8.1	24.0	1.46
A6	20 Sep 2017	15	16.44	86.22	7.2	33.48	8.1	24.5	1.35
A6	20 Sep 2017	16	15.32	86.94	7.0	33.37	7.9	24.6	1.04
A6	20 Sep 2017	17	14.85	87.02	6.7	33.40	7.9	24.8	0.95
A6	20 Sep 2017	18	14.06	87.08	6.7	33.36	7.8	24.9	0.91
A6	20 Sep 2017	19	14.14	87.06	6.5	33.37	7.8	24.9	0.91
A6	28 Sep 2017	1	20.35	87.21	8.0	33.44	8.2	23.5	0.75
A6	28 Sep 2017	2	20.35	87.17	8.0	33.44	8.2	23.5	0.76
A6	28 Sep 2017	3	20.35	87.17	8.1	33.44	8.2	23.5	0.76
A6	28 Sep 2017	4	20.34	87.31	8.0	33.44	8.2	23.5	0.77
A6	28 Sep 2017	5	20.25	87.43	8.0	33.45	8.2	23.5	0.81
A6	28 Sep 2017	6	19.55	87.34	8.0	33.48	8.2	23.7	0.90
A6	28 Sep 2017	7	18.65	86.38	8.1	33.44	8.2	23.9	1.24
A6	28 Sep 2017	8	18.27	85.25	8.0	33.42	8.2	24.0	1.59
A6	28 Sep 2017	9	17.32	82.99	7.8	33.43	8.2	24.2	1.94
A6	28 Sep 2017	10	16.64	82.58	7.6	33.41	8.1	24.4	2.03
A6	28 Sep 2017	11	16.01	83.93	7.5	33.38	8.1	24.5	1.74
A6	28 Sep 2017	12	15.94	85.42	7.3	33.36	8.1	24.5	1.41
A6	28 Sep 2017	13	15.35	86.85	7.1	33.39	8.1	24.7	1.12
A6	28 Sep 2017	14	14.79	87.78	6.9	33.38	8.1	24.8	0.86
A6	28 Sep 2017	15	14.26	88.02	6.8	33.39	8.1	24.9	0.77
A6	28 Sep 2017	16	13.85	87.99	6.8	33.35	8.0	24.9	0.87
A6	28 Sep 2017	17	13.84	88.04	6.8	33.35	8.0	24.9	0.97
A6	28 Sep 2017	18	13.65	87.86	6.8	33.35	8.0	25.0	1.04
A6	28 Sep 2017	19	13.64	87.72	6.8	33.35	8.0	25.0	1.11
C6	05 Sep 2017	1	22.45	84.78	7.4	33.46	8.4	22.9	1.79
C6	05 Sep 2017	2	22.45	84.71	7.6	33.46	8.4	22.9	1.91
C6	05 Sep 2017	3	22.44	84.89	7.8	33.47	8.4	22.9	1.88
C6	05 Sep 2017	4	22.43	85.07	7.4	33.47	8.4	22.9	1.71
C6	05 Sep 2017	5	22.37	85.10	7.4	33.50	8.4	23.0	1.67
C6	05 Sep 2017	6	22.16	84.46	7.8	33.57	8.4	23.1	1.63
C6	05 Sep 2017	7	21.16	83.59	7.8	33.77	8.3	23.5	1.62
C6	05 Sep 2017	8	19.96	83.89	7.6	33.61	8.3	23.7	1.74
C6	05 Sep 2017	9	18.75	83.77	7.4	33.64	8.3	24.0	1.56
C6	05 Sep 2017	10	18.20	83.32	7.5	33.46	8.3	24.0	1.19

Station	Date	Depth (m)	Temp (°C)	XMS (‰)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
C6	11 Sep 2017	1	19.92	86.05	8.1	33.38	8.2	23.6	0.69
C6	11 Sep 2017	2	19.63	86.18	8.0	33.41	8.3	23.6	0.72
C6	11 Sep 2017	3	18.06	86.20	8.2	33.42	8.3	24.1	0.98
C6	11 Sep 2017	4	17.65	85.00	8.0	33.38	8.2	24.1	1.17
C6	11 Sep 2017	5	16.44	84.64	7.8	33.41	8.2	24.4	1.27
C6	11 Sep 2017	6	15.91	84.92	7.7	33.35	8.2	24.5	1.18
C6	11 Sep 2017	7	15.36	85.81	7.4	33.41	8.2	24.7	1.13
C6	11 Sep 2017	8	14.63	86.46	7.3	33.38	8.2	24.8	1.03
C6	11 Sep 2017	9	14.66	86.24	7.3	33.35	8.1	24.8	0.91
C6	11 Sep 2017	10	14.25	84.87	7.5	33.37	8.2	24.9	0.74
C6	16 Sep 2017	1	19.56	86.05	7.4	33.39	8.2	23.6	0.73
C6	16 Sep 2017	2	19.55	86.03	7.8	33.40	8.2	23.7	0.75
C6	16 Sep 2017	3	19.40	85.79	8.0	33.45	8.2	23.7	0.74
C6	16 Sep 2017	4	19.30	82.58	8.1	33.43	8.2	23.7	0.73
C6	16 Sep 2017	5	19.23	83.77	8.1	33.45	8.2	23.8	0.81
C6	16 Sep 2017	6	18.31	82.61	8.0	33.55	8.2	24.1	0.84
C6	16 Sep 2017	7	17.44	80.34	7.9	33.60	8.1	24.5	0.91
C6	16 Sep 2017	8	15.97	78.76	8.0	33.78	8.0	24.9	1.04
C6	16 Sep 2017	9	15.03	75.78	7.5	33.68	7.9	25.0	1.16
C6	16 Sep 2017	10	14.78	66.05	7.1	33.50	7.9	24.9	1.49
C6	20 Sep 2017	1	20.30	85.44	8.1	33.43	8.3	23.5	0.98
C6	20 Sep 2017	2	20.30	86.42	8.1	33.42	8.3	23.5	1.03
C6	20 Sep 2017	3	20.29	85.97	8.1	33.43	8.3	23.5	1.08
C6	20 Sep 2017	4	20.28	85.51	8.1	33.43	8.3	23.5	1.14
C6	20 Sep 2017	5	20.24	85.83	8.1	33.43	8.3	23.5	1.23
C6	20 Sep 2017	6	20.02	85.12	8.1	33.43	8.3	23.6	1.64
C6	20 Sep 2017	7	19.33	83.45	7.9	33.45	8.3	23.8	1.78
C6	20 Sep 2017	8	18.10	82.86	7.8	33.45	8.2	24.1	1.44
C6	20 Sep 2017	9	16.81	80.59	7.6	33.45	8.1	24.4	1.04
C6	20 Sep 2017	10	15.95	71.36	7.6	33.38	8.1	24.5	0.72
C6	20 Sep 2017	11	15.94	67.86	7.7	33.36	8.0	24.5	0.62
C6	28 Sep 2017	1	20.38	87.02	8.3	33.44	8.2	23.5	0.68
C6	28 Sep 2017	2	20.33	86.93	8.3	33.44	8.2	23.5	0.70
C6	28 Sep 2017	3	20.30	86.76	8.3	33.44	8.2	23.5	0.74
C6	28 Sep 2017	4	20.16	86.66	8.3	33.45	8.2	23.5	0.82
C6	28 Sep 2017	5	19.87	86.65	8.4	33.45	8.2	23.6	0.95
C6	28 Sep 2017	6	19.49	86.20	8.4	33.45	8.2	23.7	1.09
C6	28 Sep 2017	7	18.92	85.73	8.4	33.45	8.2	23.9	1.25
C6	28 Sep 2017	8	18.42	85.47	8.3	33.43	8.2	24.0	1.32
C6	28 Sep 2017	9	17.58	84.82	7.7	33.45	8.2	24.2	1.24
C6	28 Sep 2017	10	16.51	85.42	7.5	33.48	8.2	24.5	0.99
A7	05 Sep 2017	1	22.39	85.47	8.2	33.46	8.4	22.9	1.40
A7	05 Sep 2017	2	22.38	85.28	8.2	33.46	8.4	22.9	1.36
A7	05 Sep 2017	3	22.31	85.06	8.2	33.47	8.3	23.0	1.51
A7	05 Sep 2017	4	22.08	85.27	8.2	33.47	8.3	23.0	1.61
A7	05 Sep 2017	5	21.82	85.48	8.2	33.46	8.3	23.1	1.66
A7	05 Sep 2017	6	21.11	85.01	8.3	33.49	8.3	23.3	1.81
A7	05 Sep 2017	7	20.68	84.27	8.4	33.43	8.3	23.4	1.88
A7	05 Sep 2017	8	20.37	84.04	8.4	33.46	8.3	23.5	1.97
A7	05 Sep 2017	9	19.42	83.61	8.7	33.42	8.3	23.7	2.08

Station	Date	Depth (m)	Temp (°C)	XMS (‰)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
A7	05 Sep 2017	10	19.16	83.71	8.8	33.41	8.3	23.8	2.18
A7	05 Sep 2017	11	18.65	83.67	9.0	33.40	8.3	23.9	2.19
A7	05 Sep 2017	12	18.44	83.53	9.0	33.38	8.3	23.9	2.23
A7	05 Sep 2017	13	18.41	83.70	9.0	33.38	8.3	23.9	2.27
A7	05 Sep 2017	14	18.35	83.80	9.0	33.38	8.3	23.9	2.23
A7	05 Sep 2017	15	18.22	83.69	9.0	33.38	8.3	24.0	2.24
A7	05 Sep 2017	16	18.04	83.38	8.8	33.39	8.3	24.0	2.26
A7	05 Sep 2017	17	17.37	83.15	8.7	33.40	8.3	24.2	2.28
A7	05 Sep 2017	18	17.17	83.10	8.6	33.38	8.3	24.2	2.14
A7	11 Sep 2017	1	19.04	86.31	8.1	33.43	8.2	23.8	0.93
A7	11 Sep 2017	2	18.83	86.01	8.1	33.41	8.2	23.9	1.00
A7	11 Sep 2017	3	18.04	85.54	7.8	33.47	8.2	24.1	1.18
A7	11 Sep 2017	4	17.02	84.68	7.7	33.43	8.2	24.3	1.47
A7	11 Sep 2017	5	16.35	83.89	7.5	33.44	8.2	24.5	1.68
A7	11 Sep 2017	6	15.46	83.18	7.4	33.42	8.1	24.6	1.71
A7	11 Sep 2017	7	15.22	84.07	7.1	33.40	8.1	24.7	1.65
A7	11 Sep 2017	8	13.89	85.21	6.8	33.46	8.1	25.0	1.67
A7	11 Sep 2017	9	13.38	85.10	6.5	33.40	8.1	25.1	2.10
A7	11 Sep 2017	10	13.14	85.64	6.3	33.39	8.0	25.1	1.79
A7	11 Sep 2017	11	13.14	87.53	6.1	33.39	8.0	25.1	1.57
A7	11 Sep 2017	12	12.95	88.54	6.0	33.41	8.0	25.2	1.37
A7	11 Sep 2017	13	12.92	89.02	5.9	33.41	8.0	25.2	1.17
A7	11 Sep 2017	14	12.90	89.21	5.8	33.41	8.0	25.2	1.13
A7	11 Sep 2017	15	12.90	89.27	5.8	33.41	8.0	25.2	1.13
A7	11 Sep 2017	16	12.89	89.18	5.8	33.41	8.0	25.2	1.19
A7	11 Sep 2017	17	12.89	89.30	5.8	33.41	8.0	25.2	1.18
A7	11 Sep 2017	18	12.85	89.29	5.7	33.42	8.0	25.2	1.13
A7	11 Sep 2017	19	12.59	89.84	5.4	33.44	8.0	25.3	0.90
A7	16 Sep 2017	1	19.71	85.17	8.0	33.41	8.2	23.6	0.71
A7	16 Sep 2017	2	19.53	82.85	7.9	33.40	8.2	23.7	0.75
A7	16 Sep 2017	3	18.75	83.98	8.0	33.43	8.2	23.9	0.91
A7	16 Sep 2017	4	17.99	85.15	8.0	33.40	8.2	24.1	1.15
A7	16 Sep 2017	5	16.80	84.68	7.8	33.42	8.2	24.4	1.60
A7	16 Sep 2017	6	14.81	82.15	7.8	33.43	8.1	24.8	2.35
A7	16 Sep 2017	7	14.38	81.06	7.7	33.34	8.0	24.8	3.03
A7	16 Sep 2017	8	14.28	81.00	7.5	33.33	8.0	24.8	3.16
A7	16 Sep 2017	9	14.14	81.11	7.4	33.34	7.9	24.9	3.02
A7	16 Sep 2017	10	14.07	81.97	7.3	33.33	7.9	24.9	2.86
A7	16 Sep 2017	11	13.96	82.00	7.0	33.35	7.9	24.9	2.45
A7	16 Sep 2017	12	13.84	84.11	6.7	33.35	7.8	24.9	1.62
A7	16 Sep 2017	13	13.80	85.01	6.7	33.35	7.8	25.0	1.36
A7	16 Sep 2017	14	13.75	85.57	6.7	33.36	7.8	25.0	1.27
A7	16 Sep 2017	15	13.67	85.80	6.6	33.37	7.8	25.0	1.25
A7	16 Sep 2017	16	13.55	85.92	6.7	33.37	7.8	25.0	1.27
A7	16 Sep 2017	17	13.47	86.27	6.7	33.37	7.8	25.0	1.25
A7	16 Sep 2017	18	13.53	87.00	6.6	33.37	7.8	25.0	1.20
A7	16 Sep 2017	19	13.25	85.85	6.4	33.39	7.8	25.1	1.08
A7	16 Sep 2017	20	13.24	84.02	6.3	33.37	7.8	25.1	0.95
A7	20 Sep 2017	1	20.13	88.38	8.0	33.41	8.2	23.5	0.80
A7	20 Sep 2017	2	20.12	88.32	8.0	33.41	8.2	23.5	0.82
A7	20 Sep 2017	3	20.12	88.60	8.0	33.41	8.2	23.5	0.82
A7	20 Sep 2017	4	20.12	88.66	8.0	33.41	8.2	23.5	0.82

Station	Date	Depth (m)	Temp (°C)	XMS (‰)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
A7	20 Sep 2017	5	20.12	88.67	8.0	33.41	8.2	23.5	0.83
A7	20 Sep 2017	6	20.12	88.61	8.0	33.41	8.2	23.5	0.83
A7	20 Sep 2017	7	20.12	88.68	7.9	33.41	8.2	23.5	0.86
A7	20 Sep 2017	8	20.08	88.59	7.9	33.42	8.2	23.5	0.84
A7	20 Sep 2017	9	19.55	87.94	7.9	33.43	8.2	23.7	0.98
A7	20 Sep 2017	10	19.08	87.71	7.8	33.41	8.2	23.8	1.08
A7	20 Sep 2017	11	18.91	87.54	7.8	33.41	8.2	23.8	1.14
A7	20 Sep 2017	12	18.74	87.33	7.8	33.41	8.2	23.9	1.18
A7	20 Sep 2017	13	18.56	87.05	7.9	33.39	8.1	23.9	1.26
A7	20 Sep 2017	14	18.38	86.86	7.5	33.41	8.1	24.0	1.30
A7	20 Sep 2017	15	16.54	86.12	7.1	33.48	8.1	24.5	1.36
A7	20 Sep 2017	16	14.17	86.30	7.0	33.44	7.9	24.9	1.38
A7	20 Sep 2017	17	13.74	86.91	6.9	33.35	7.8	25.0	1.34
A7	20 Sep 2017	18	13.76	86.88	6.8	33.35	7.8	25.0	1.28
A7	20 Sep 2017	19	13.66	86.68	6.7	33.35	7.8	25.0	1.26
A7	28 Sep 2017	1	20.39	87.70	7.9	33.44	8.2	23.5	0.68
A7	28 Sep 2017	2	20.39	87.62	7.9	33.44	8.2	23.5	0.67
A7	28 Sep 2017	3	20.38	87.68	7.9	33.44	8.2	23.5	0.72
A7	28 Sep 2017	4	20.35	87.75	7.8	33.45	8.2	23.5	0.75
A7	28 Sep 2017	5	19.70	87.90	7.8	33.50	8.2	23.7	0.82
A7	28 Sep 2017	6	18.54	86.80	8.0	33.48	8.2	24.0	1.19
A7	28 Sep 2017	7	17.82	82.88	7.8	33.46	8.2	24.1	1.77
A7	28 Sep 2017	8	16.92	81.62	7.7	33.44	8.1	24.3	2.15
A7	28 Sep 2017	9	16.26	82.79	7.5	33.41	8.1	24.5	2.09
A7	28 Sep 2017	10	15.69	83.72	7.5	33.38	8.1	24.6	2.02
A7	28 Sep 2017	11	15.56	83.16	7.6	33.36	8.1	24.6	2.31
A7	28 Sep 2017	12	15.33	83.06	7.6	33.36	8.1	24.6	2.41
A7	28 Sep 2017	13	15.26	83.51	7.4	33.35	8.1	24.6	2.32
A7	28 Sep 2017	14	15.15	83.99	7.3	33.36	8.1	24.7	2.11
A7	28 Sep 2017	15	15.03	84.77	7.2	33.36	8.1	24.7	1.81
A7	28 Sep 2017	16	14.78	85.83	7.1	33.37	8.1	24.8	1.54
A7	28 Sep 2017	17	14.65	85.86	7.1	33.36	8.1	24.8	1.49
A7	28 Sep 2017	18	14.58	85.80	7.0	33.36	8.1	24.8	1.47
A7	28 Sep 2017	19	14.40	86.32	6.9	33.37	8.0	24.8	1.36
A7	28 Sep 2017	20	14.05	86.87	6.8	33.38	8.0	24.9	1.22
A7	28 Sep 2017	21	13.82	87.35	6.8	33.37	8.0	25.0	1.09
C7	05 Sep 2017	1	22.48	88.54	8.0	33.47	8.3	22.9	0.88
C7	05 Sep 2017	2	22.48	88.44	8.0	33.47	8.3	22.9	0.87
C7	05 Sep 2017	3	22.46	88.54	8.0	33.47	8.3	22.9	0.90
C7	05 Sep 2017	4	22.39	88.58	8.0	33.47	8.3	22.9	0.94
C7	05 Sep 2017	5	22.30	88.56	8.0	33.47	8.3	23.0	0.97
C7	05 Sep 2017	6	22.11	88.70	8.0	33.47	8.3	23.0	1.01
C7	05 Sep 2017	7	21.12	88.52	8.2	33.51	8.3	23.3	1.01
C7	05 Sep 2017	8	19.82	88.38	8.7	33.46	8.3	23.6	1.17
C7	05 Sep 2017	9	19.23	87.75	8.9	33.42	8.3	23.8	1.39
C7	05 Sep 2017	10	19.02	86.67	9.0	33.38	8.3	23.8	1.55
C7	05 Sep 2017	11	18.94	86.58	9.0	33.38	8.3	23.8	1.71
C7	05 Sep 2017	12	18.83	86.40	8.9	33.38	8.3	23.8	1.78
C7	05 Sep 2017	13	18.54	85.90	8.8	33.41	8.3	23.9	1.97
C7	05 Sep 2017	14	17.85	84.33	8.6	33.42	8.3	24.1	2.34
C7	05 Sep 2017	15	17.18	83.73	8.7	33.38	8.3	24.2	2.56
C7	05 Sep 2017	16	17.01	84.24	8.5	33.38	8.3	24.3	2.58
C7	05 Sep 2017	17	16.66	84.59	8.3	33.38	8.3	24.3	2.45

Station	Date	Depth (m)	Temp (°C)	XMS (‰)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
C7	05 Sep 2017	18	16.28	84.84	8.0	33.39	8.3	24.4	2.08
C7	11 Sep 2017	1	19.97	88.09	7.9	33.41	8.3	23.6	0.83
C7	11 Sep 2017	2	19.37	87.27	7.7	33.45	8.3	23.7	0.88
C7	11 Sep 2017	3	17.31	88.08	7.9	33.45	8.2	24.3	1.15
C7	11 Sep 2017	4	16.52	86.70	7.9	33.38	8.2	24.4	1.37
C7	11 Sep 2017	5	15.91	86.56	7.8	33.37	8.2	24.5	1.49
C7	11 Sep 2017	6	15.69	86.77	7.6	33.37	8.2	24.6	1.56
C7	11 Sep 2017	7	15.38	86.75	7.5	33.37	8.2	24.6	1.58
C7	11 Sep 2017	8	15.24	86.87	7.3	33.37	8.2	24.7	1.61
C7	11 Sep 2017	9	15.10	86.83	7.2	33.38	8.2	24.7	1.59
C7	11 Sep 2017	10	14.68	87.38	7.0	33.38	8.1	24.8	1.46
C7	11 Sep 2017	11	14.16	88.12	6.8	33.40	8.1	24.9	1.18
C7	11 Sep 2017	12	13.58	88.51	6.4	33.41	8.1	25.0	1.13
C7	11 Sep 2017	13	13.04	89.31	6.1	33.41	8.1	25.2	1.15
C7	11 Sep 2017	14	12.84	90.18	5.9	33.41	8.0	25.2	1.10
C7	11 Sep 2017	15	12.69	90.64	5.7	33.41	8.0	25.2	1.10
C7	11 Sep 2017	16	12.68	91.03	5.7	33.41	8.0	25.2	1.08
C7	11 Sep 2017	17	12.68	91.08	5.7	33.41	8.0	25.2	1.09
C7	11 Sep 2017	18	12.69	90.98	5.7	33.42	8.0	25.2	1.09
C7	16 Sep 2017	1	19.65	85.81	8.1	33.39	8.2	23.6	0.76
C7	16 Sep 2017	2	19.70	85.77	8.1	33.40	8.2	23.6	0.74
C7	16 Sep 2017	3	19.67	85.73	8.1	33.40	8.2	23.6	0.79
C7	16 Sep 2017	4	19.57	85.43	8.1	33.40	8.2	23.7	0.90
C7	16 Sep 2017	5	19.16	84.77	8.1	33.41	8.2	23.8	1.07
C7	16 Sep 2017	6	17.97	84.60	8.1	33.42	8.2	24.1	1.32
C7	16 Sep 2017	7	17.07	84.10	8.2	33.39	8.2	24.3	1.65
C7	16 Sep 2017	8	16.59	82.94	8.3	33.36	8.1	24.4	2.19
C7	16 Sep 2017	9	16.27	81.56	8.0	33.37	8.1	24.4	2.69
C7	16 Sep 2017	10	15.00	79.99	7.9	33.38	8.0	24.7	3.80
C7	16 Sep 2017	11	14.81	79.83	7.6	33.35	8.0	24.7	4.27
C7	16 Sep 2017	12	14.39	80.26	7.3	33.36	7.9	24.8	3.48
C7	16 Sep 2017	13	14.08	82.07	7.1	33.37	7.9	24.9	2.69
C7	16 Sep 2017	14	13.63	84.67	7.0	33.35	7.8	25.0	2.04
C7	16 Sep 2017	15	13.58	85.52	6.9	33.35	7.8	25.0	1.82
C7	16 Sep 2017	16	13.52	84.58	6.9	33.35	7.8	25.0	1.66
C7	16 Sep 2017	17	13.57	86.01	6.8	33.35	7.8	25.0	1.59
C7	16 Sep 2017	18	13.48	86.21	6.7	33.37	7.8	25.0	1.51
C7	16 Sep 2017	19	13.36	85.28	6.6	33.37	7.8	25.1	1.33
C7	20 Sep 2017	1	20.37	86.05	8.0	33.42	8.2	23.5	0.78
C7	20 Sep 2017	2	20.37	87.68	8.0	33.42	8.2	23.5	0.78
C7	20 Sep 2017	3	20.37	88.15	7.9	33.42	8.2	23.5	0.80
C7	20 Sep 2017	4	20.37	88.44	8.0	33.42	8.2	23.5	0.80
C7	20 Sep 2017	5	20.37	87.05	7.9	33.42	8.2	23.5	0.80
C7	20 Sep 2017	6	20.37	88.29	7.9	33.42	8.2	23.5	0.81
C7	20 Sep 2017	7	20.37	88.20	8.0	33.42	8.2	23.5	0.83
C7	20 Sep 2017	8	20.37	88.03	8.0	33.42	8.2	23.5	0.83
C7	20 Sep 2017	9	20.34	88.01	8.0	33.42	8.2	23.5	0.84
C7	20 Sep 2017	10	20.28	88.05	7.9	33.42	8.2	23.5	0.88
C7	20 Sep 2017	11	20.10	87.53	7.6	33.41	8.2	23.5	1.01
C7	20 Sep 2017	12	17.17	86.60	8.0	33.52	8.2	24.3	1.51
C7	20 Sep 2017	13	15.87	85.65	8.3	33.35	8.1	24.5	1.97
C7	20 Sep 2017	14	15.75	85.55	8.3	33.32	8.0	24.5	2.08

Station	Date	Depth (m)	Temp (°C)	XMS (‰)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
C7	20 Sep 2017	15	15.53	85.84	8.3	33.32	8.0	24.6	2.14
C7	20 Sep 2017	16	15.48	85.91	8.0	33.31	8.0	24.6	2.12
C7	20 Sep 2017	17	14.52	85.80	7.5	33.37	7.9	24.8	1.86
C7	20 Sep 2017	18	13.76	85.99	7.0	33.37	7.8	25.0	1.43
C7	20 Sep 2017	19	13.42	85.37	6.8	33.37	7.8	25.0	1.23
C7	28 Sep 2017	1	20.41	86.69	7.9	33.44	8.2	23.5	0.73
C7	28 Sep 2017	2	20.41	86.77	7.9	33.44	8.2	23.5	0.75
C7	28 Sep 2017	3	20.37	86.94	7.9	33.45	8.2	23.5	0.76
C7	28 Sep 2017	4	20.11	87.03	8.0	33.45	8.2	23.5	0.76
C7	28 Sep 2017	5	19.74	87.33	7.9	33.45	8.2	23.7	0.77
C7	28 Sep 2017	6	18.69	87.31	8.1	33.45	8.2	23.9	0.81
C7	28 Sep 2017	7	18.27	87.16	8.2	33.41	8.2	24.0	0.94
C7	28 Sep 2017	8	17.82	86.74	8.2	33.40	8.2	24.1	1.12
C7	28 Sep 2017	9	17.02	86.37	8.2	33.41	8.2	24.3	1.28
C7	28 Sep 2017	10	16.43	86.22	8.3	33.37	8.2	24.4	1.39
C7	28 Sep 2017	11	16.15	86.21	8.2	33.35	8.2	24.4	1.45
C7	28 Sep 2017	12	15.71	86.05	8.2	33.35	8.2	24.5	1.57
C7	28 Sep 2017	13	15.12	86.05	8.1	33.36	8.1	24.7	1.67
C7	28 Sep 2017	14	14.85	85.86	8.0	33.33	8.1	24.7	1.82
C7	28 Sep 2017	15	14.77	86.09	7.8	33.33	8.1	24.7	1.76
C7	28 Sep 2017	16	14.62	86.32	7.7	33.34	8.1	24.8	1.71
C7	28 Sep 2017	17	14.56	86.52	7.6	33.33	8.1	24.8	1.58
C7	28 Sep 2017	18	14.50	86.88	7.5	33.34	8.1	24.8	1.36
C8	05 Sep 2017	1	22.16	83.20	7.7	33.47	8.3	23.0	1.53
C8	05 Sep 2017	2	22.15	83.20	7.7	33.47	8.3	23.0	1.65
C8	05 Sep 2017	3	22.08	82.99	7.7	33.47	8.3	23.0	1.76
C8	05 Sep 2017	4	21.95	82.64	7.8	33.47	8.3	23.1	1.78
C8	05 Sep 2017	5	21.79	82.18	8.0	33.47	8.3	23.1	1.74
C8	05 Sep 2017	6	21.59	82.35	8.2	33.46	8.3	23.2	1.73
C8	05 Sep 2017	7	21.38	83.35	8.2	33.45	8.3	23.2	1.64
C8	05 Sep 2017	8	21.14	83.96	8.1	33.47	8.3	23.3	1.73
C8	05 Sep 2017	9	20.21	83.81	8.4	33.45	8.3	23.5	1.63
C8	05 Sep 2017	10	19.80	84.87	8.6	33.41	8.3	23.6	1.51
C8	05 Sep 2017	11	19.44	85.95	8.8	33.41	8.3	23.7	1.53
C8	05 Sep 2017	12	19.16	86.76	8.8	33.39	8.3	23.8	1.52
C8	05 Sep 2017	13	18.63	87.18	8.8	33.40	8.3	23.9	1.56
C8	05 Sep 2017	14	17.91	87.33	9.0	33.35	8.3	24.0	1.60
C8	05 Sep 2017	15	17.55	87.29	8.8	33.37	8.3	24.1	1.65
C8	05 Sep 2017	16	17.33	86.69	8.8	33.37	8.3	24.2	1.88
C8	05 Sep 2017	17	16.98	85.60	8.6	33.38	8.3	24.3	2.31
C8	05 Sep 2017	18	16.82	84.34	8.4	33.38	8.3	24.3	2.26
C8	05 Sep 2017	19	16.04	84.60	8.1	33.39	8.3	24.5	1.94
C8	05 Sep 2017	20	15.73	85.11	8.0	33.38	8.3	24.6	1.65
C8	11 Sep 2017	1	19.84	89.08	8.0	33.40	8.3	23.6	0.72
C8	11 Sep 2017	2	19.78	89.05	8.0	33.41	8.3	23.6	0.72
C8	11 Sep 2017	3	19.50	88.96	7.9	33.42	8.3	23.7	0.76
C8	11 Sep 2017	4	17.90	87.97	7.9	33.44	8.2	24.1	0.88
C8	11 Sep 2017	5	16.68	87.66	8.0	33.38	8.2	24.3	1.02
C8	11 Sep 2017	6	15.88	88.47	8.1	33.35	8.2	24.5	1.03
C8	11 Sep 2017	7	15.78	88.89	8.0	33.34	8.2	24.5	1.06
C8	11 Sep 2017	8	15.36	89.17	8.0	33.33	8.2	24.6	1.11
C8	11 Sep 2017	9	15.24	89.31	7.9	33.34	8.2	24.6	1.20

Station	Date	Depth (m)	Temp (°C)	XMS (‰)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
C8	11 Sep 2017	10	14.99	89.14	7.7	33.35	8.2	24.7	1.23
C8	11 Sep 2017	11	14.73	88.85	7.4	33.37	8.2	24.8	1.26
C8	11 Sep 2017	12	14.26	88.35	7.0	33.39	8.1	24.9	1.31
C8	11 Sep 2017	13	13.73	88.76	6.7	33.41	8.1	25.0	1.21
C8	11 Sep 2017	14	13.40	89.69	6.5	33.40	8.1	25.1	1.21
C8	11 Sep 2017	15	13.09	90.07	6.3	33.40	8.1	25.1	1.14
C8	11 Sep 2017	16	13.05	90.44	6.2	33.39	8.1	25.1	1.20
C8	11 Sep 2017	17	13.04	90.47	6.2	33.40	8.1	25.1	1.16
C8	11 Sep 2017	18	13.05	90.48	6.2	33.40	8.1	25.1	1.14
C8	11 Sep 2017	19	13.05	90.49	6.2	33.40	8.1	25.1	1.13
C8	16 Sep 2017	1	19.66	84.55	8.2	33.40	8.2	23.6	0.81
C8	16 Sep 2017	2	19.70	84.66	8.2	33.40	8.2	23.6	0.84
C8	16 Sep 2017	3	19.66	84.71	8.2	33.41	8.2	23.6	0.89
C8	16 Sep 2017	4	19.53	84.77	8.2	33.41	8.2	23.7	0.97
C8	16 Sep 2017	5	19.42	85.09	8.2	33.40	8.2	23.7	1.01
C8	16 Sep 2017	6	19.08	85.19	8.1	33.42	8.2	23.8	1.09
C8	16 Sep 2017	7	17.73	84.57	8.1	33.45	8.2	24.1	1.41
C8	16 Sep 2017	8	16.19	82.88	8.0	33.42	8.1	24.5	2.27
C8	16 Sep 2017	9	14.79	80.46	8.1	33.36	8.0	24.8	3.65
C8	16 Sep 2017	10	14.44	80.38	8.1	33.34	8.0	24.8	4.15
C8	16 Sep 2017	11	14.20	80.81	7.8	33.34	7.9	24.9	4.05
C8	16 Sep 2017	12	14.06	82.30	7.7	33.34	7.9	24.9	3.55
C8	16 Sep 2017	13	13.85	82.94	7.6	33.34	7.9	24.9	3.30
C8	16 Sep 2017	14	13.78	84.05	7.5	33.34	7.9	24.9	3.17
C8	16 Sep 2017	15	13.73	84.32	7.4	33.34	7.8	25.0	2.90
C8	16 Sep 2017	16	13.46	84.88	7.1	33.37	7.8	25.0	2.41
C8	16 Sep 2017	17	13.33	86.56	6.9	33.36	7.8	25.1	1.93
C8	16 Sep 2017	18	13.26	86.87	6.8	33.36	7.8	25.1	1.67
C8	16 Sep 2017	19	13.24	86.96	6.8	33.37	7.8	25.1	1.55
C8	16 Sep 2017	20	13.24	87.04	6.7	33.37	7.8	25.1	1.47
C8	20 Sep 2017	1	20.44	86.51	7.9	33.42	8.2	23.4	0.93
C8	20 Sep 2017	2	20.44	87.37	7.9	33.42	8.2	23.4	0.80
C8	20 Sep 2017	3	20.44	87.72	7.9	33.42	8.2	23.4	0.80
C8	20 Sep 2017	4	20.44	87.97	7.9	33.42	8.2	23.4	0.82
C8	20 Sep 2017	5	20.44	88.07	7.9	33.42	8.2	23.4	0.79
C8	20 Sep 2017	6	20.43	88.11	7.9	33.42	8.2	23.4	0.83
C8	20 Sep 2017	7	20.38	88.08	7.9	33.42	8.2	23.5	0.87
C8	20 Sep 2017	8	20.05	87.60	8.0	33.42	8.2	23.5	0.96
C8	20 Sep 2017	9	19.65	86.66	8.1	33.41	8.2	23.6	1.08
C8	20 Sep 2017	10	19.00	85.95	8.0	33.41	8.2	23.8	1.26
C8	20 Sep 2017	11	17.51	85.20	8.1	33.38	8.2	24.2	1.67
C8	20 Sep 2017	12	16.43	84.52	8.4	33.34	8.1	24.4	2.07
C8	20 Sep 2017	13	16.31	84.45	8.3	33.32	8.1	24.4	2.35
C8	20 Sep 2017	14	15.39	84.98	8.1	33.35	8.0	24.6	2.16
C8	20 Sep 2017	15	15.02	85.90	7.9	33.33	7.9	24.7	1.96
C8	20 Sep 2017	16	14.12	86.84	7.9	33.33	7.9	24.9	1.91
C8	20 Sep 2017	17	13.90	87.48	7.8	33.32	7.9	24.9	1.87
C8	20 Sep 2017	18	13.75	87.47	7.2	33.34	7.8	25.0	1.75
C8	20 Sep 2017	19	13.27	87.27	6.8	33.36	7.8	25.1	1.48
C8	28 Sep 2017	1	20.45	86.96	7.9	33.45	8.2	23.5	0.64
C8	28 Sep 2017	2	20.45	86.98	7.9	33.45	8.2	23.5	0.65
C8	28 Sep 2017	3	20.42	86.98	7.9	33.45	8.2	23.5	0.66

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
C8	28 Sep 2017	4	20.32	87.33	7.9	33.45	8.2	23.5	0.67
C8	28 Sep 2017	5	20.17	87.92	7.8	33.45	8.2	23.5	0.68
C8	28 Sep 2017	6	19.67	88.50	7.9	33.47	8.2	23.7	0.67
C8	28 Sep 2017	7	19.14	88.33	8.1	33.43	8.2	23.8	0.70
C8	28 Sep 2017	8	18.94	88.01	8.1	33.41	8.2	23.8	0.75
C8	28 Sep 2017	9	18.57	87.77	8.2	33.42	8.2	23.9	0.81
C8	28 Sep 2017	10	17.70	87.50	8.1	33.42	8.2	24.1	0.96
C8	28 Sep 2017	11	16.33	86.92	8.3	33.39	8.2	24.4	1.16
C8	28 Sep 2017	12	15.64	86.43	8.4	33.34	8.2	24.6	1.46
C8	28 Sep 2017	13	15.49	86.27	8.2	33.33	8.2	24.6	1.69
C8	28 Sep 2017	14	15.04	85.97	8.0	33.35	8.1	24.7	1.74
C8	28 Sep 2017	15	14.70	86.79	7.7	33.34	8.1	24.8	1.45
C8	28 Sep 2017	16	14.47	87.21	7.6	33.34	8.1	24.8	1.44
C8	28 Sep 2017	17	14.28	87.07	7.4	33.34	8.1	24.8	1.49
C8	28 Sep 2017	18	14.05	87.33	7.2	33.35	8.1	24.9	1.30
C8	28 Sep 2017	19	14.01	87.98	7.0	33.35	8.1	24.9	1.00

NA = not available

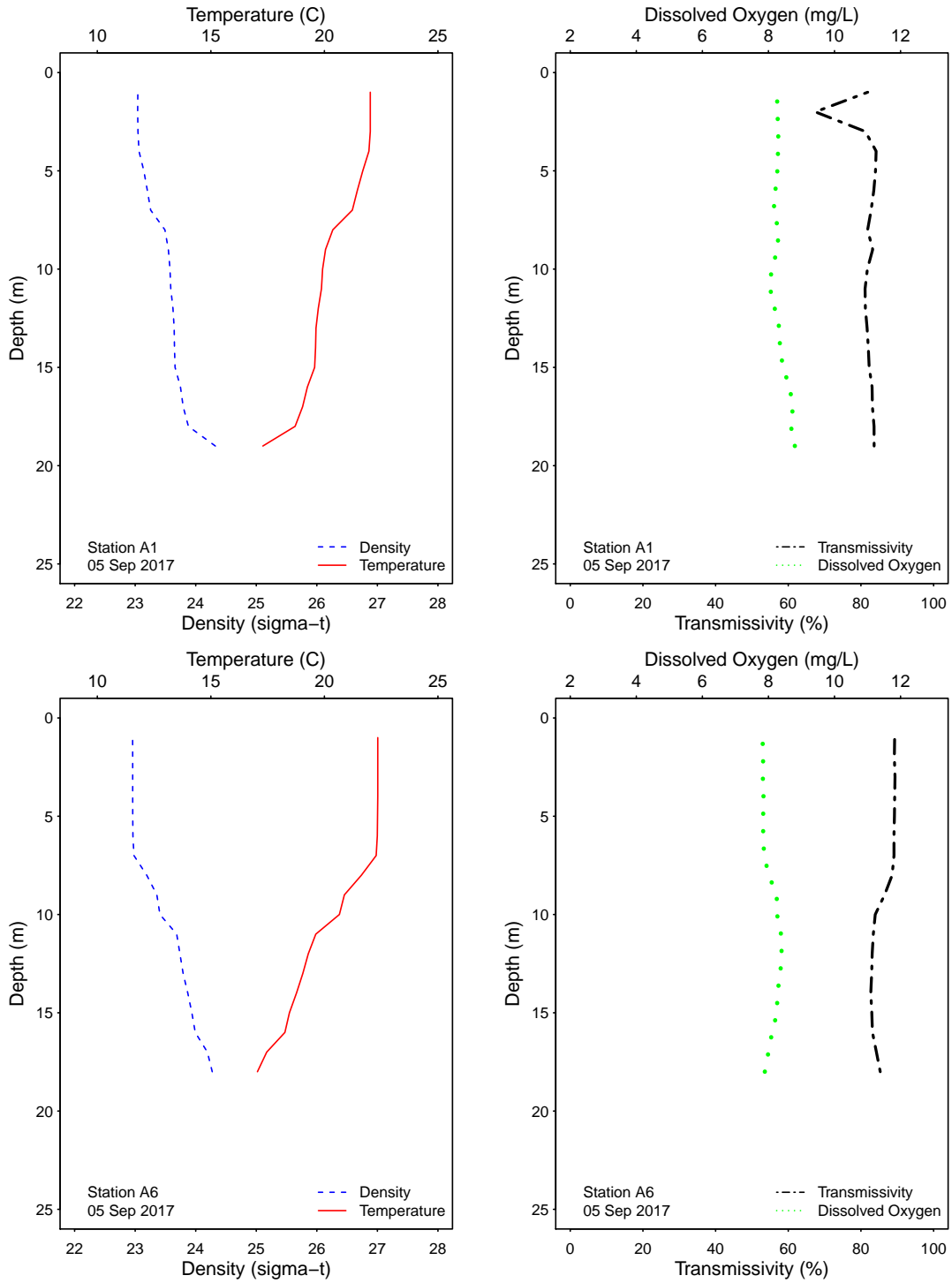


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

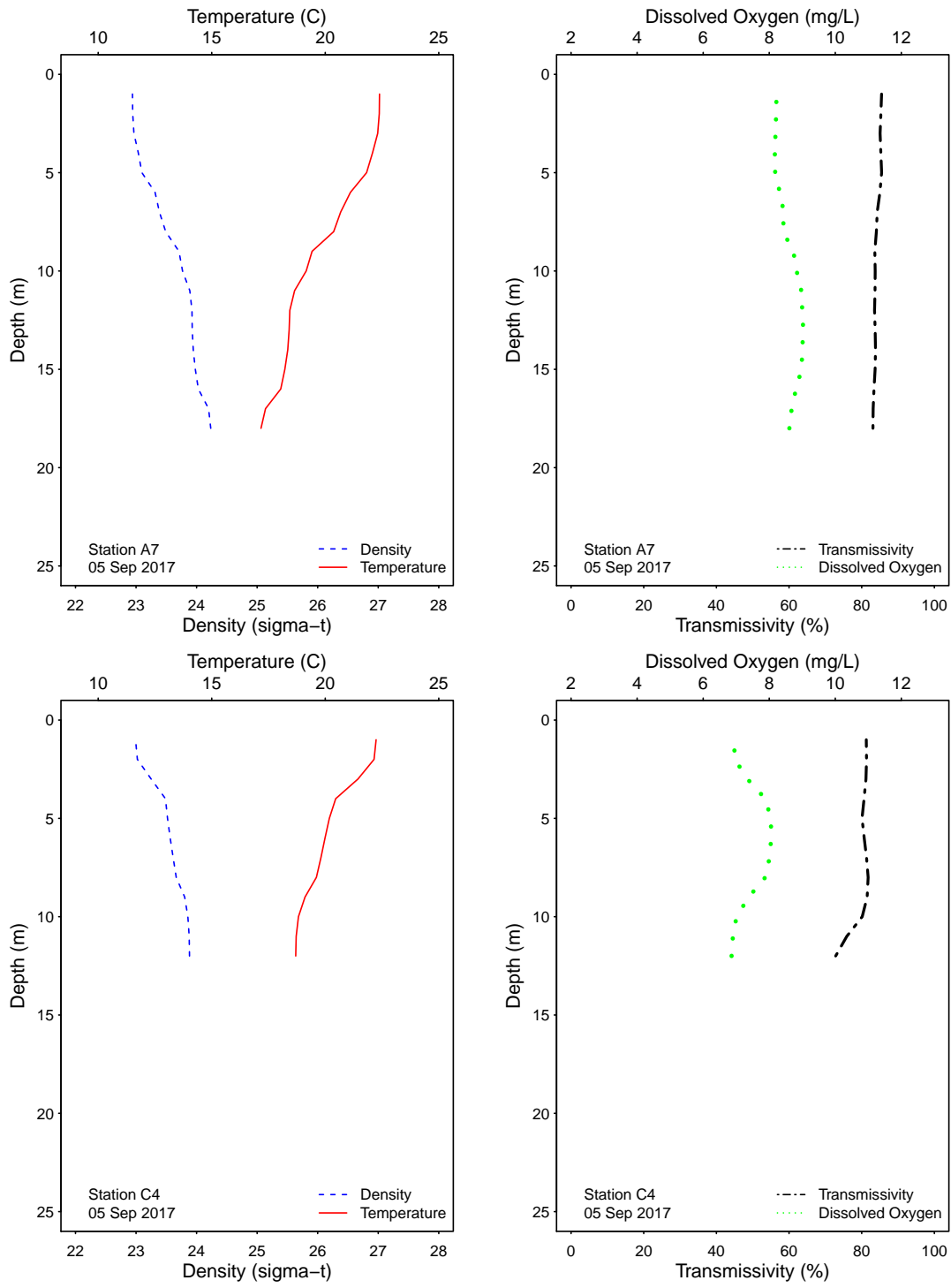


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

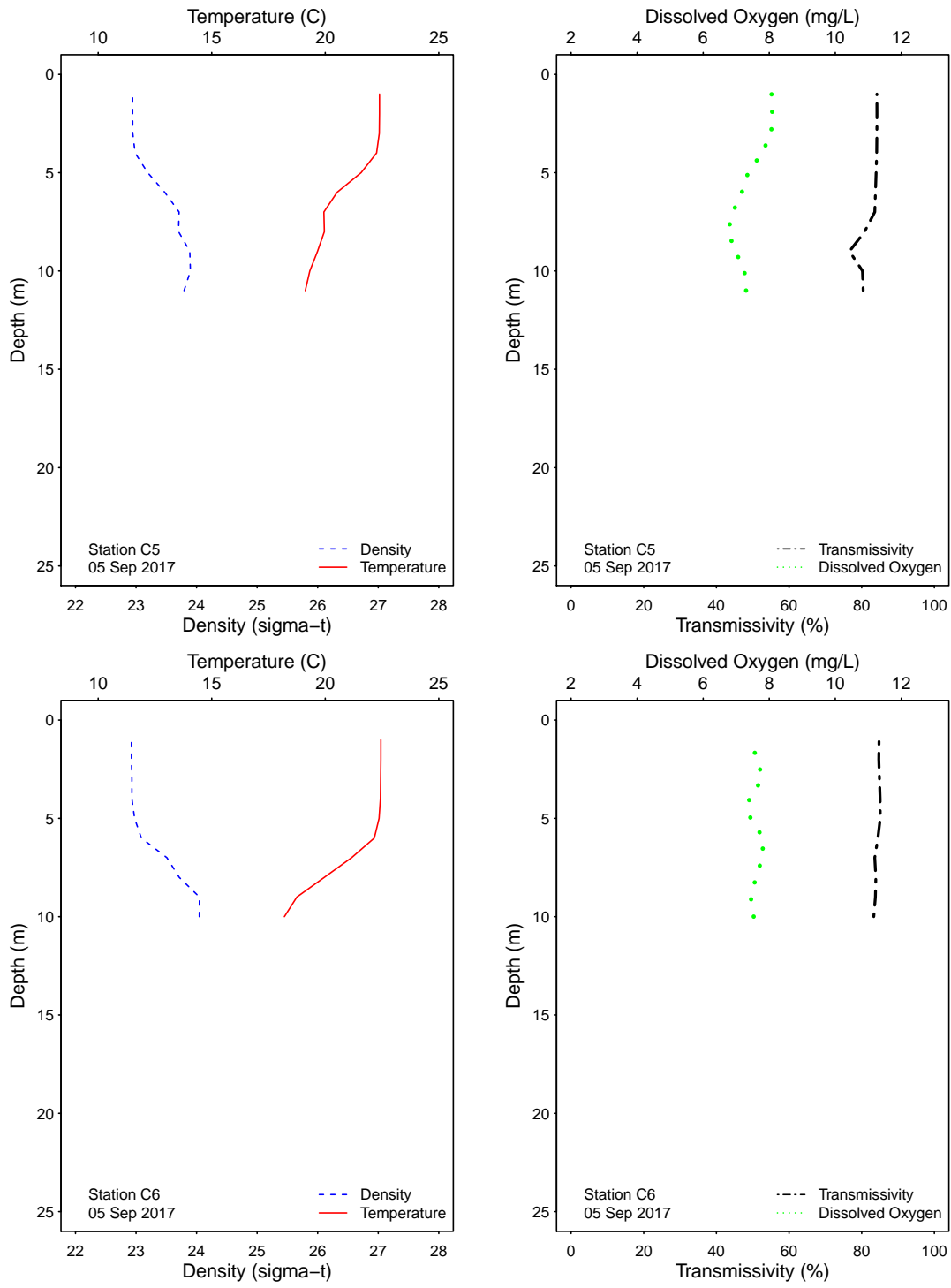


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

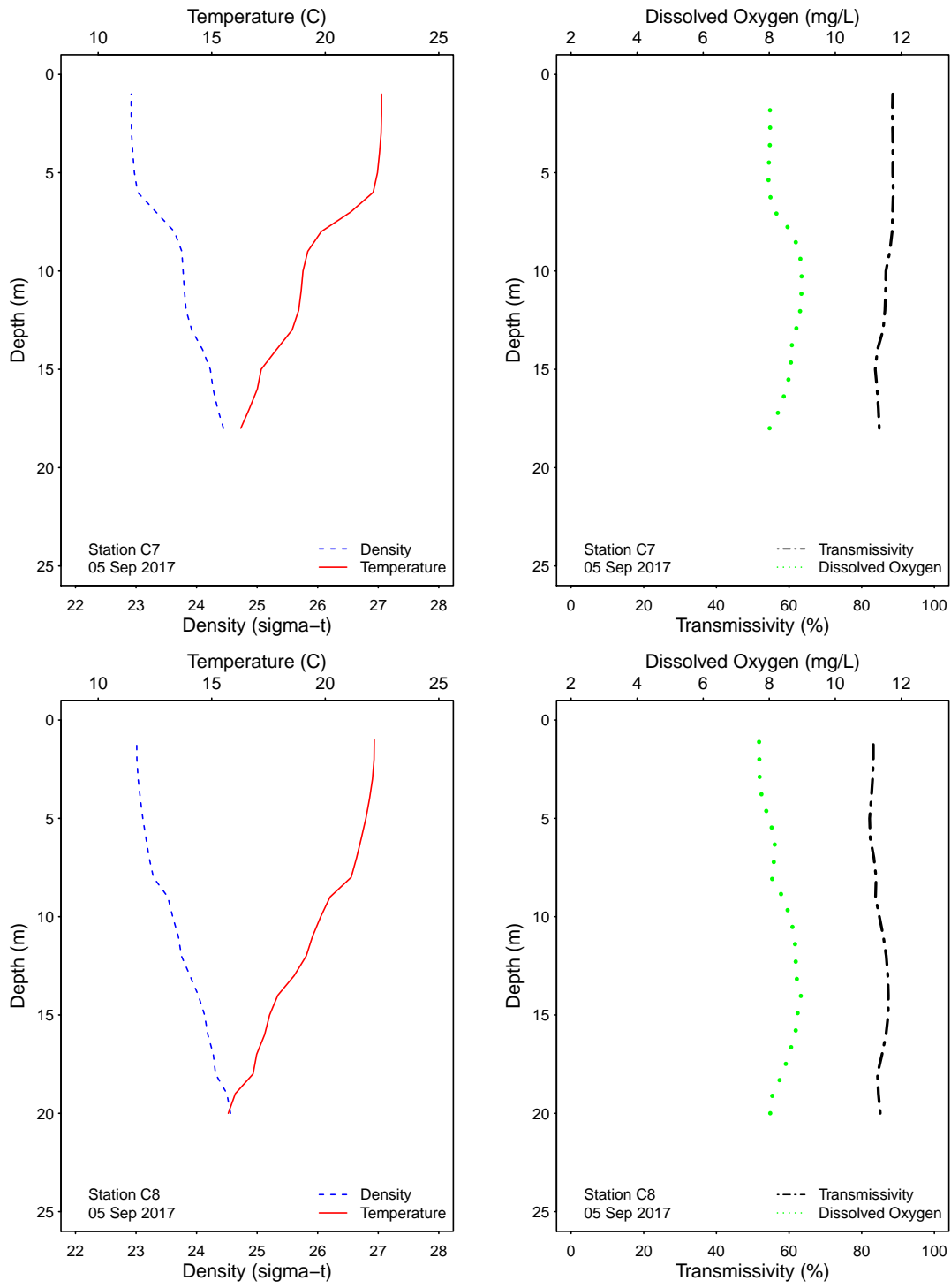


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

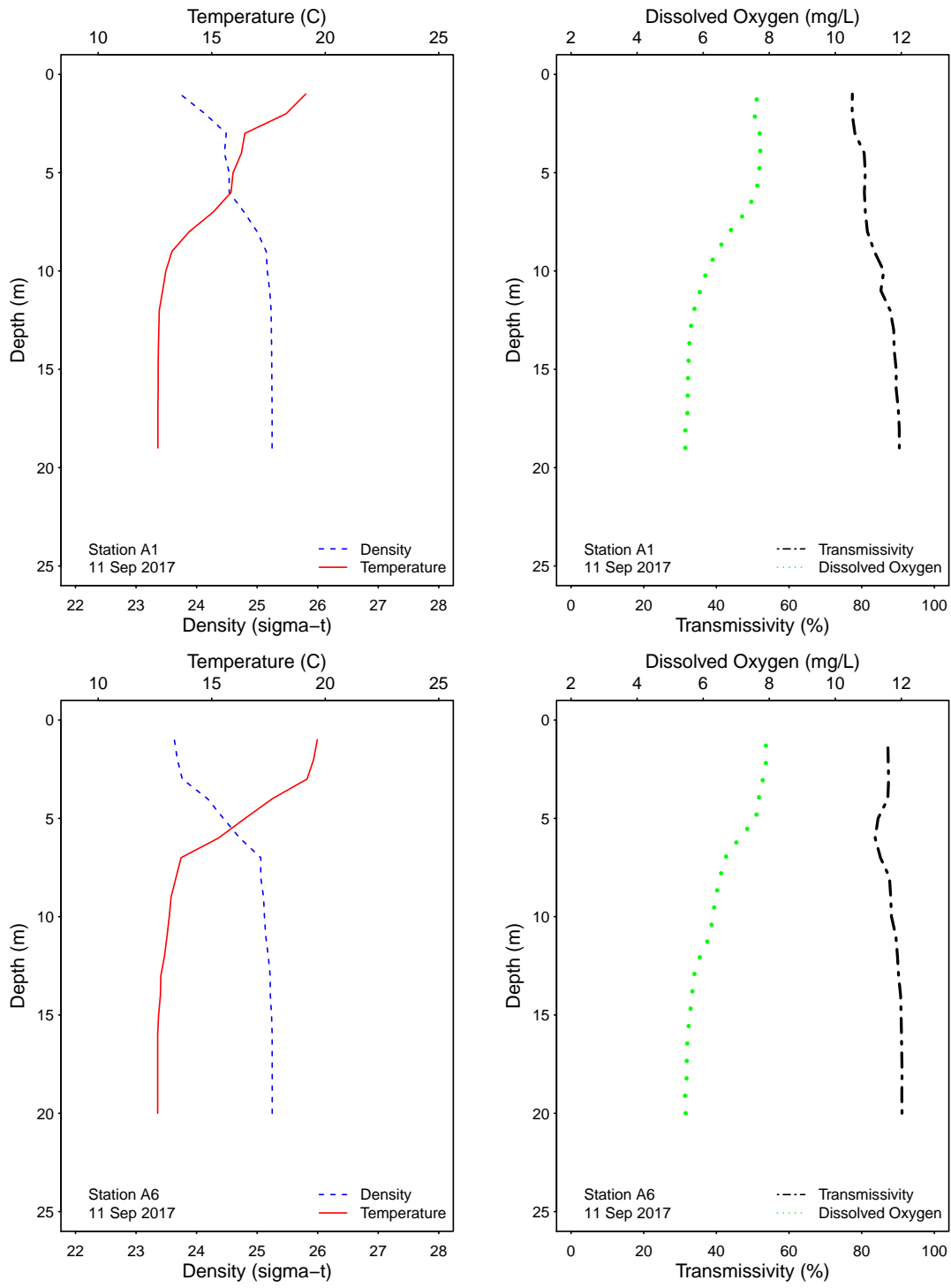


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

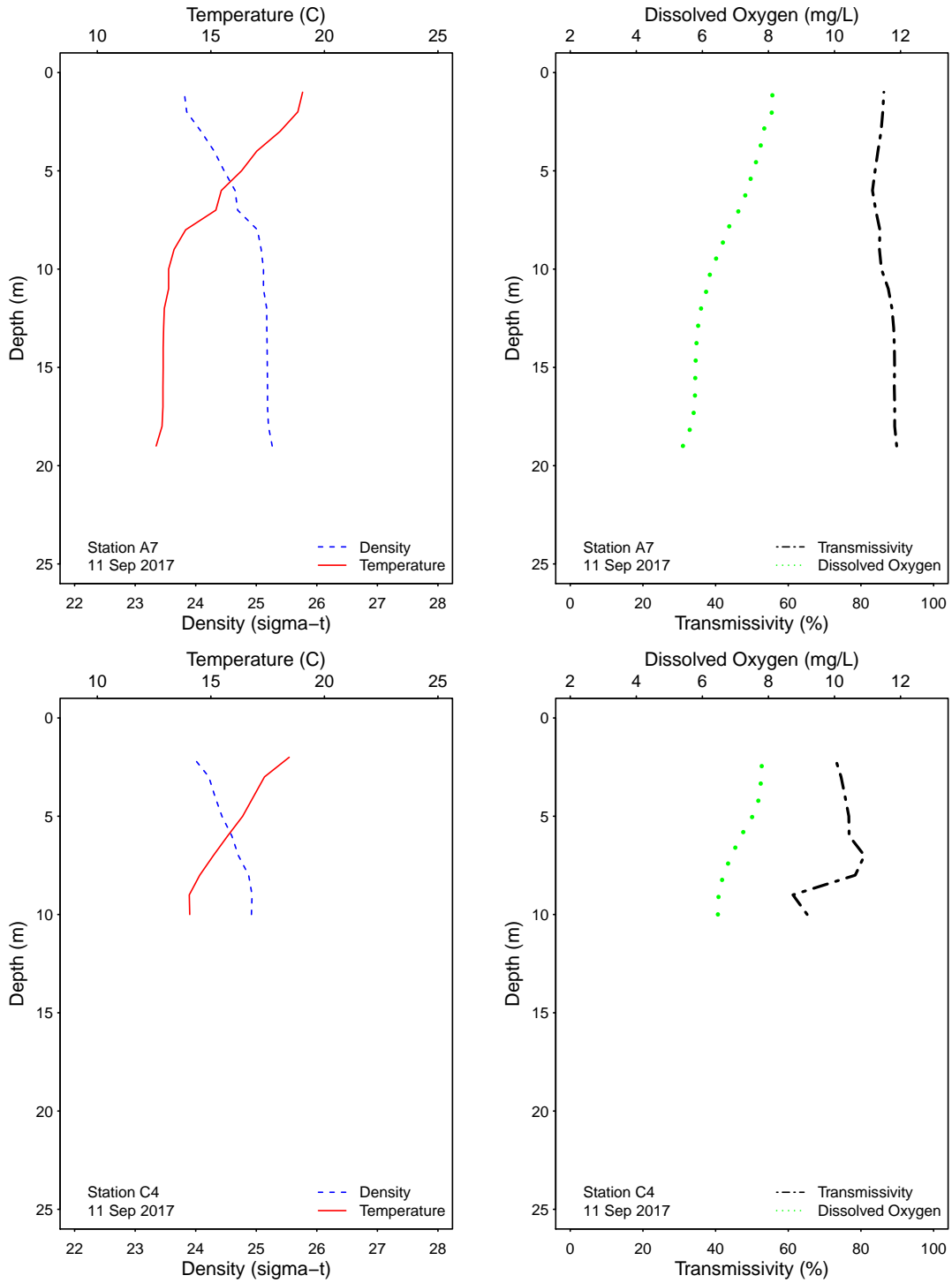


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

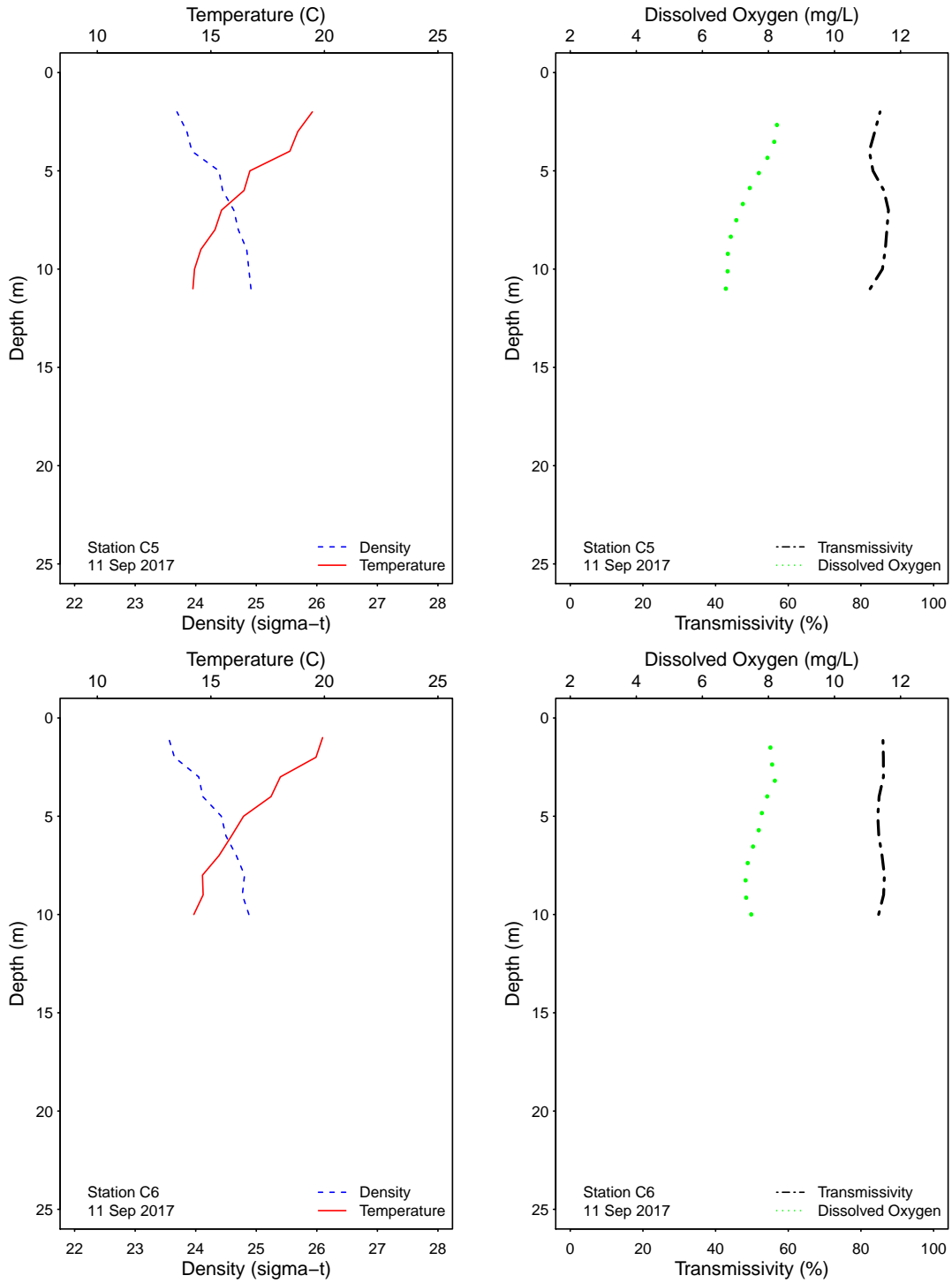


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

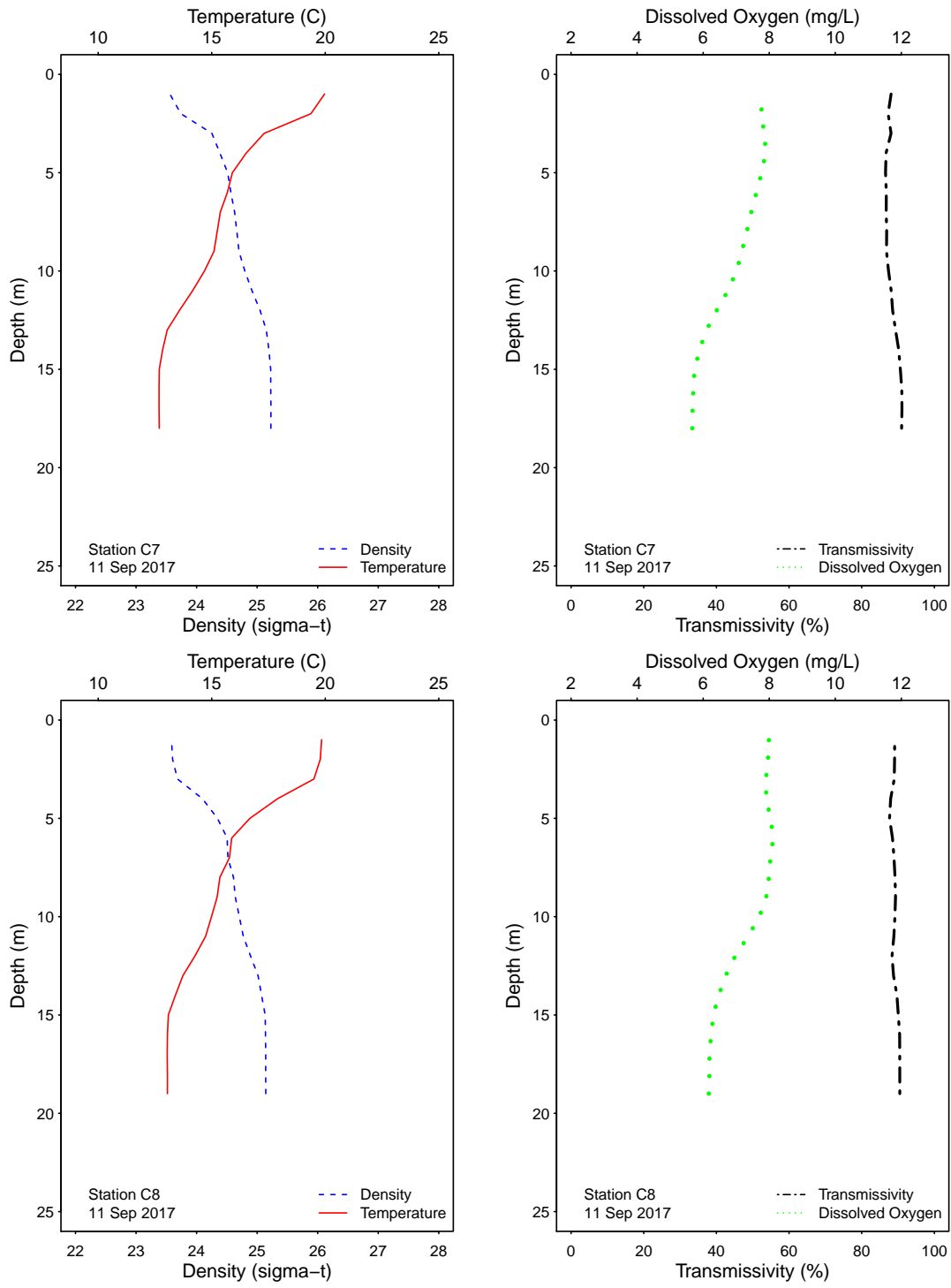


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

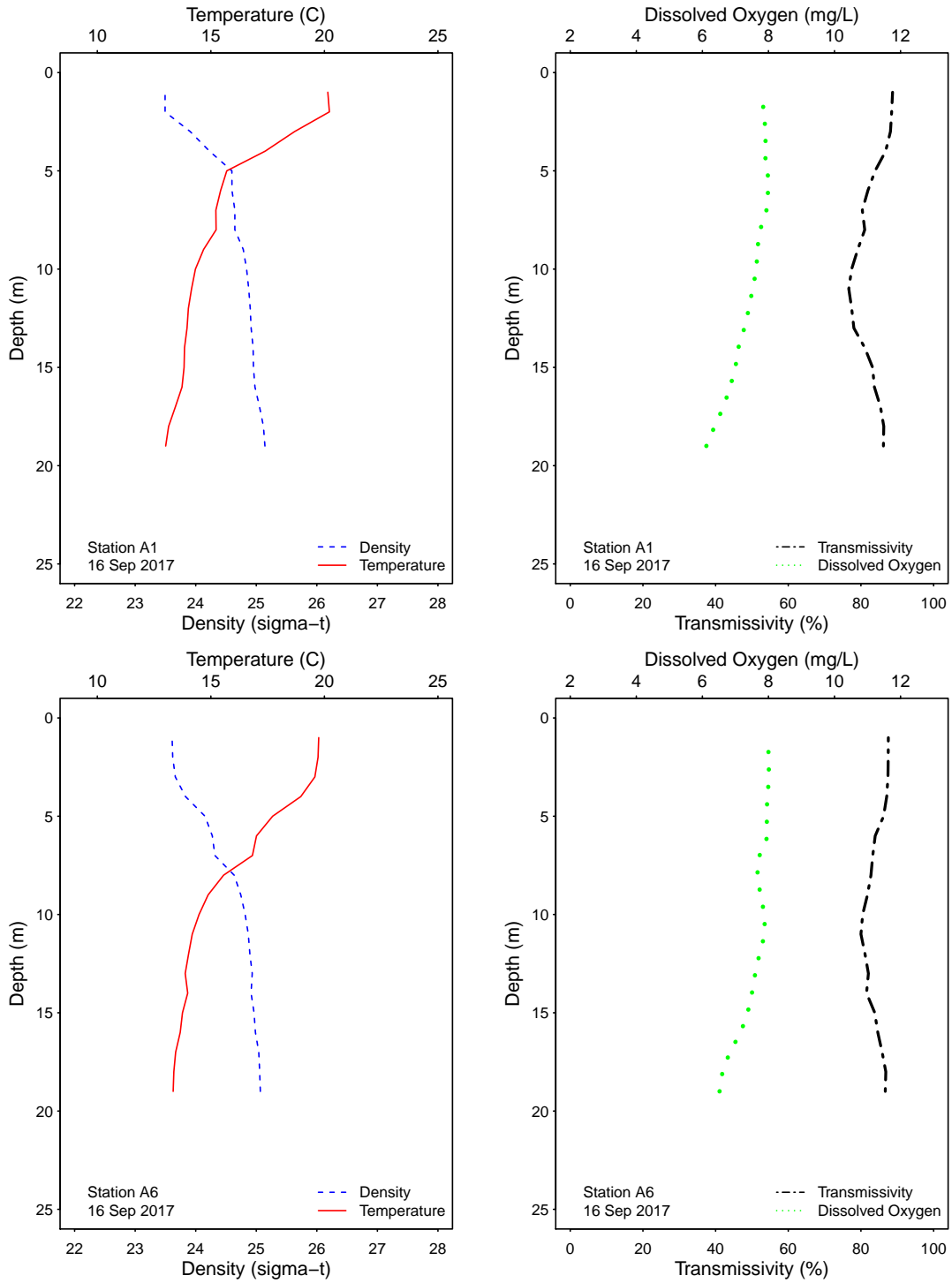


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

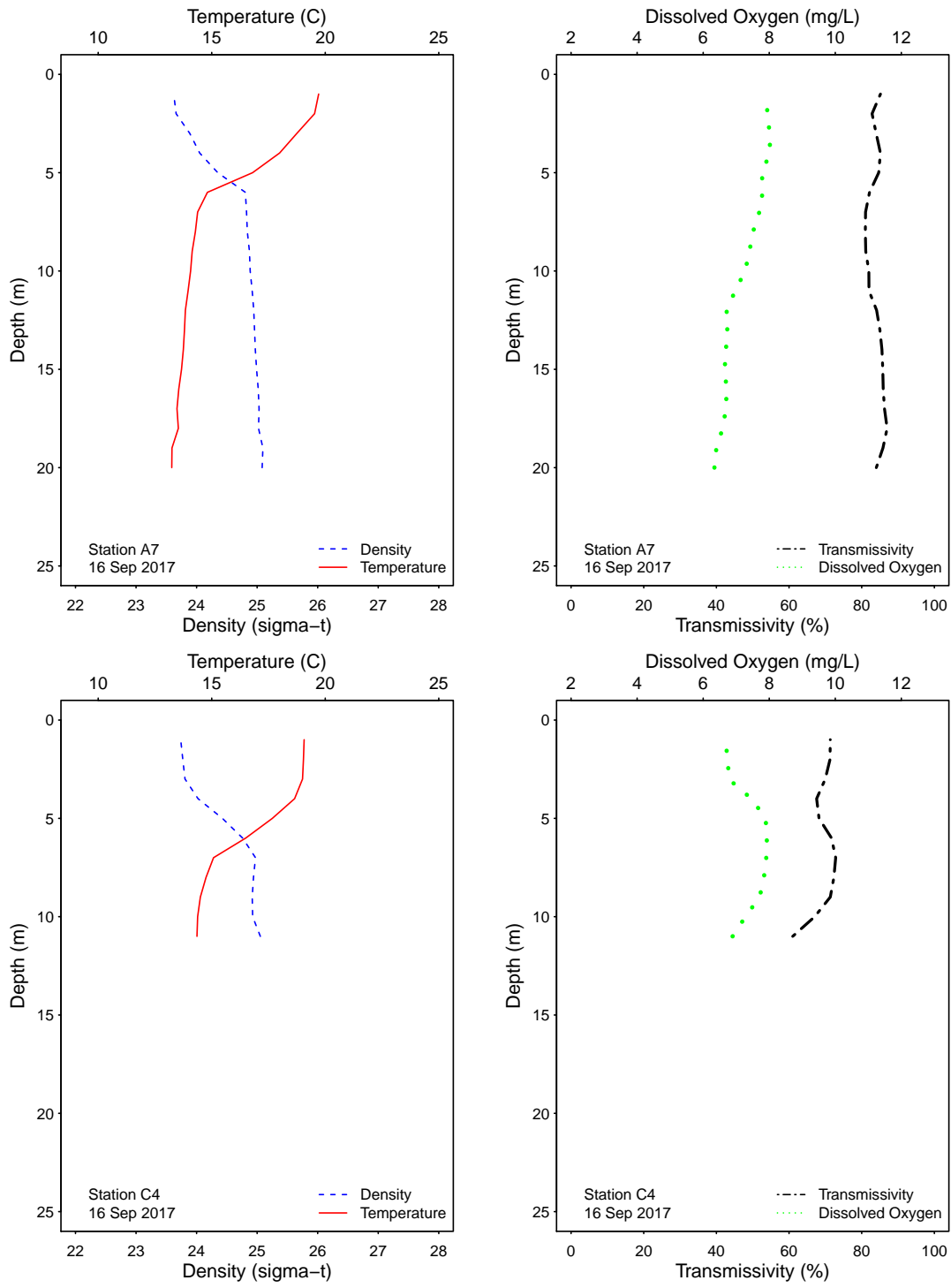


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

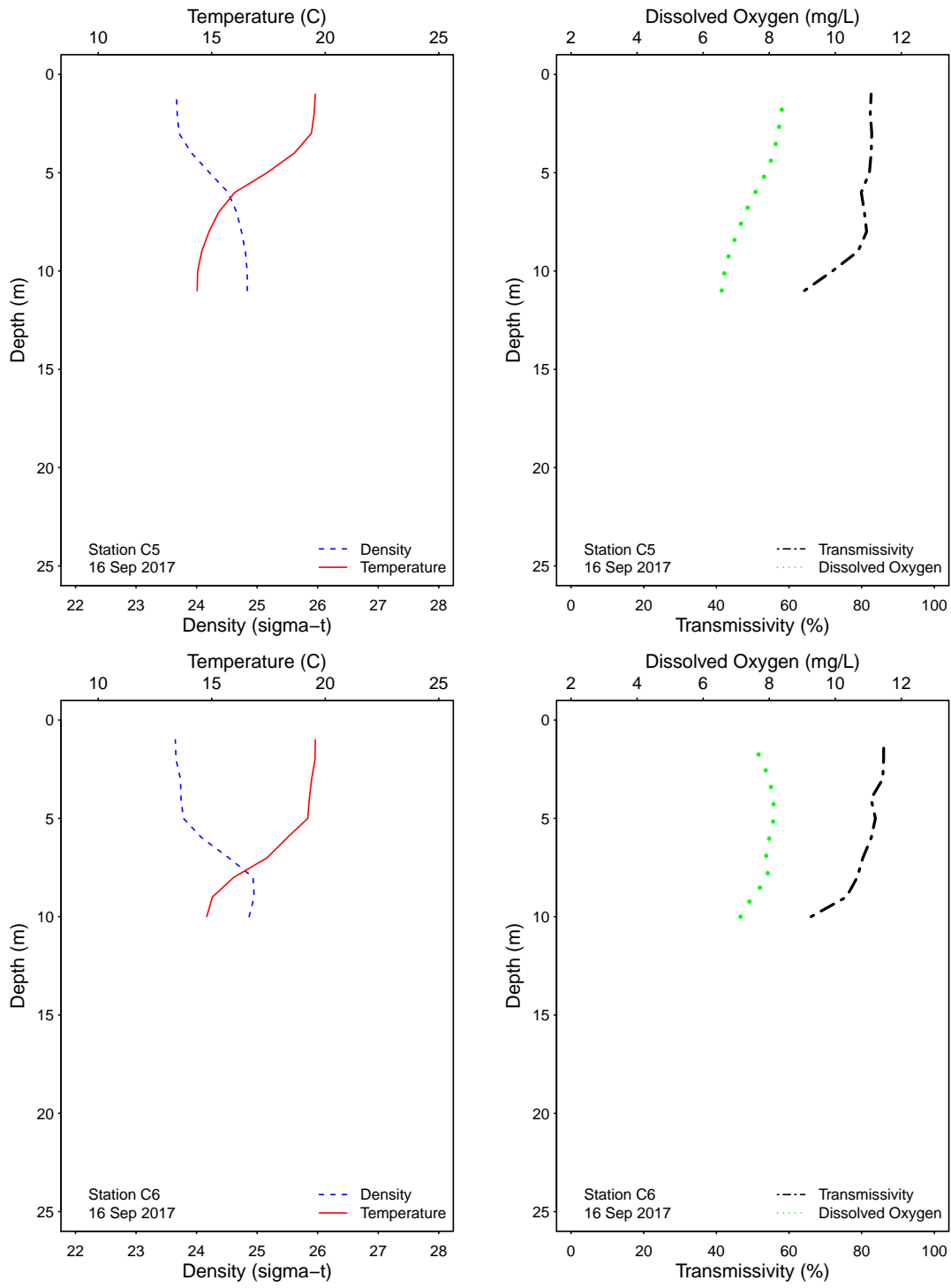


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

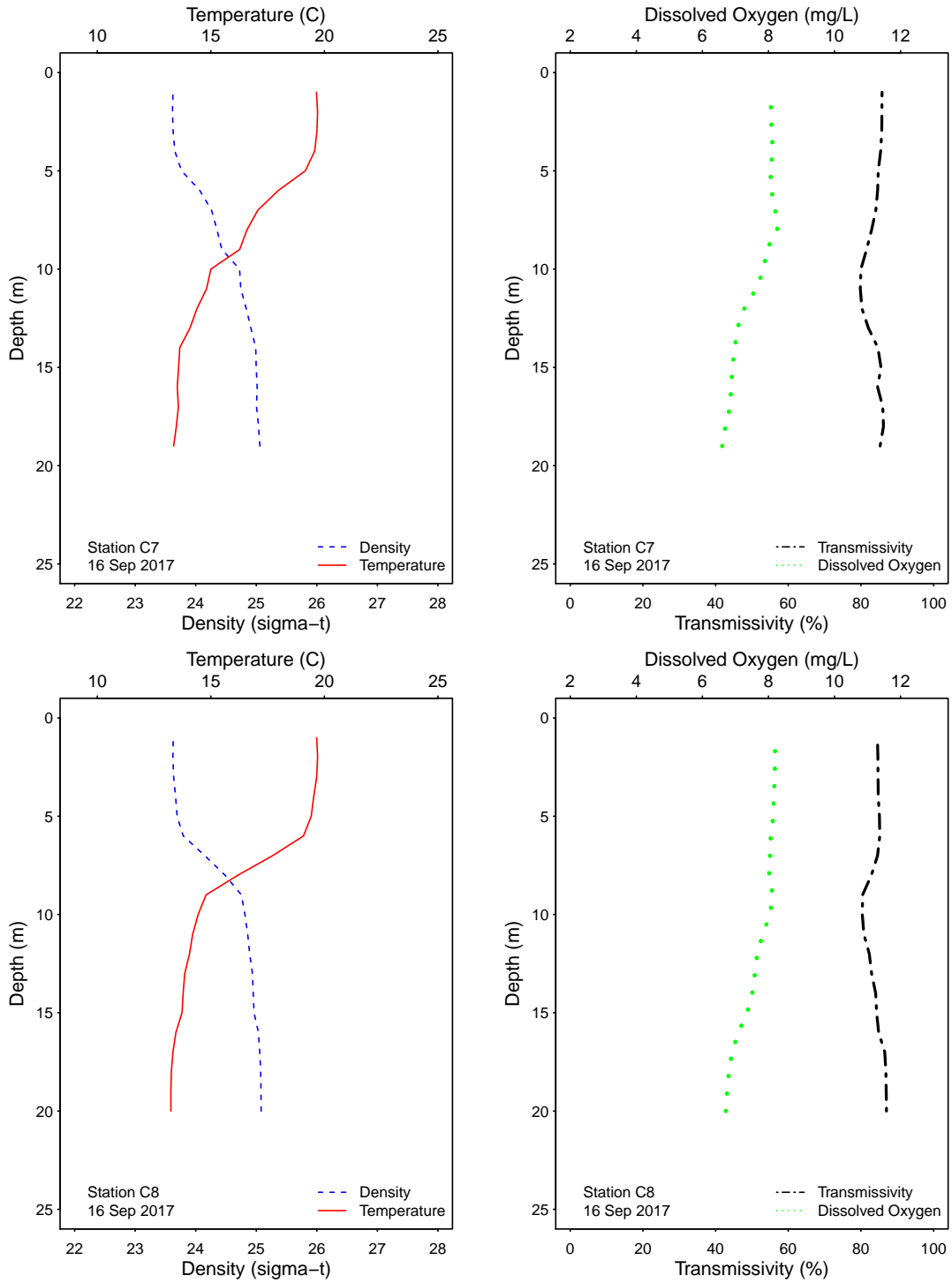


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

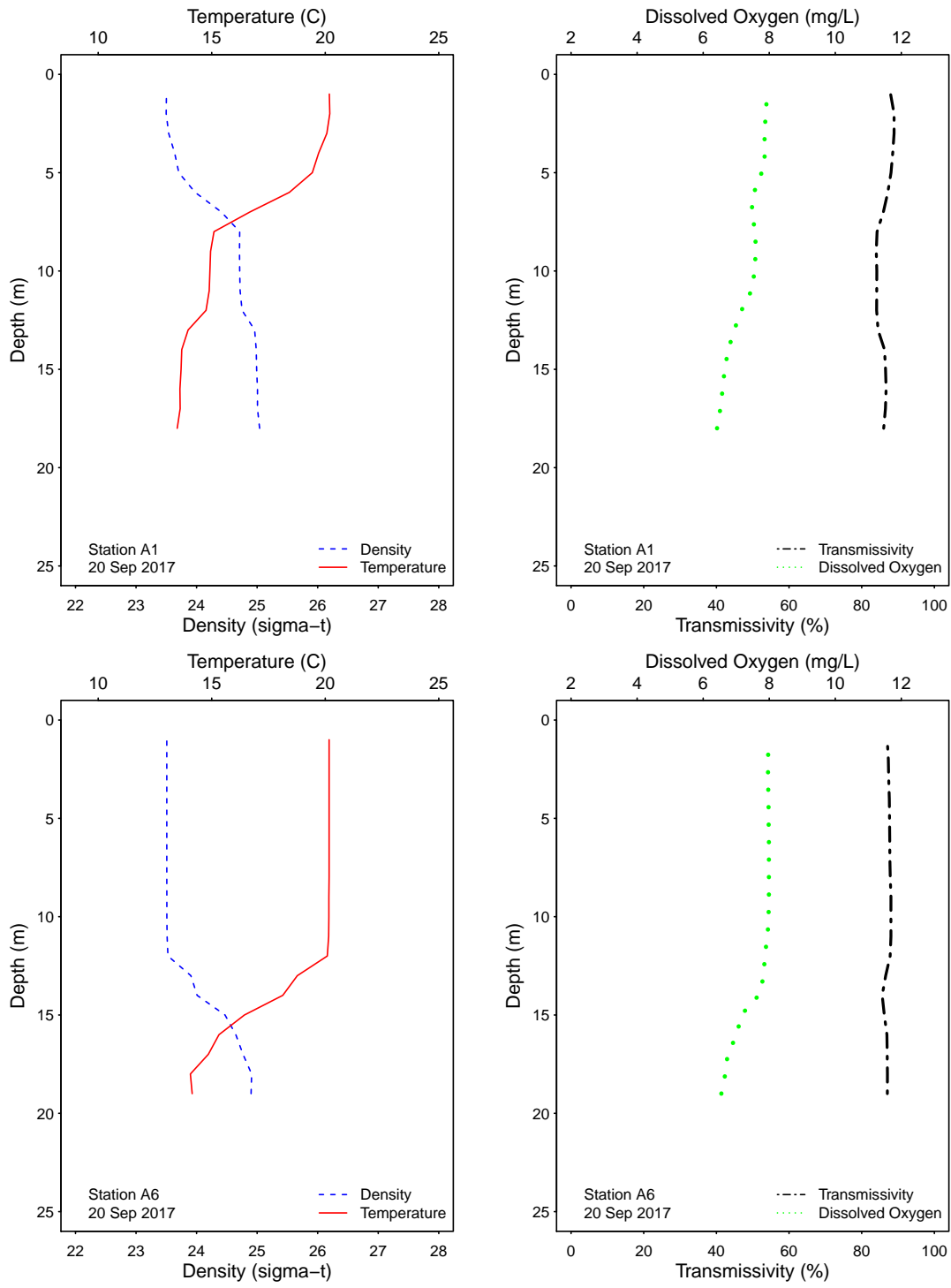


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

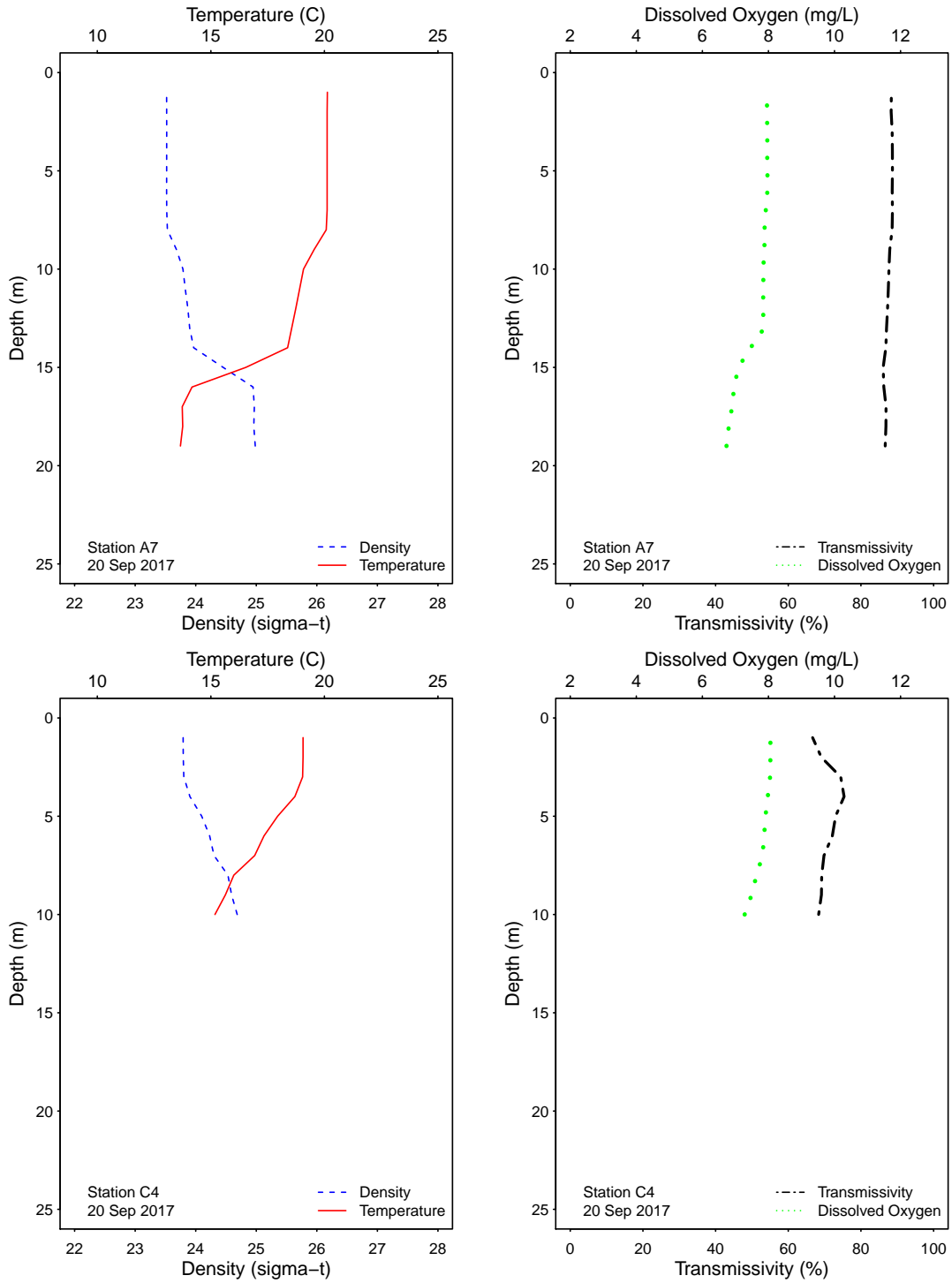


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

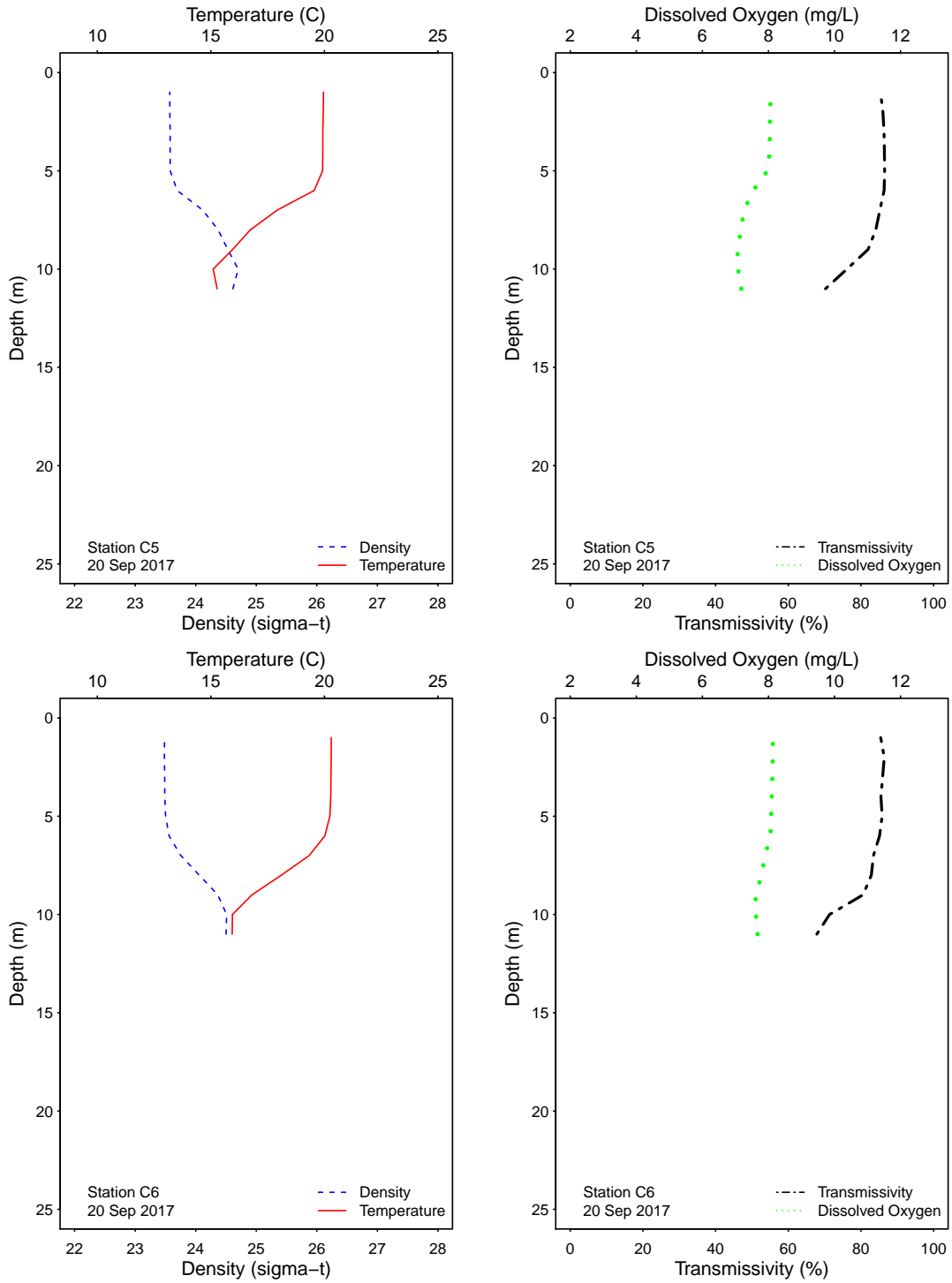


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

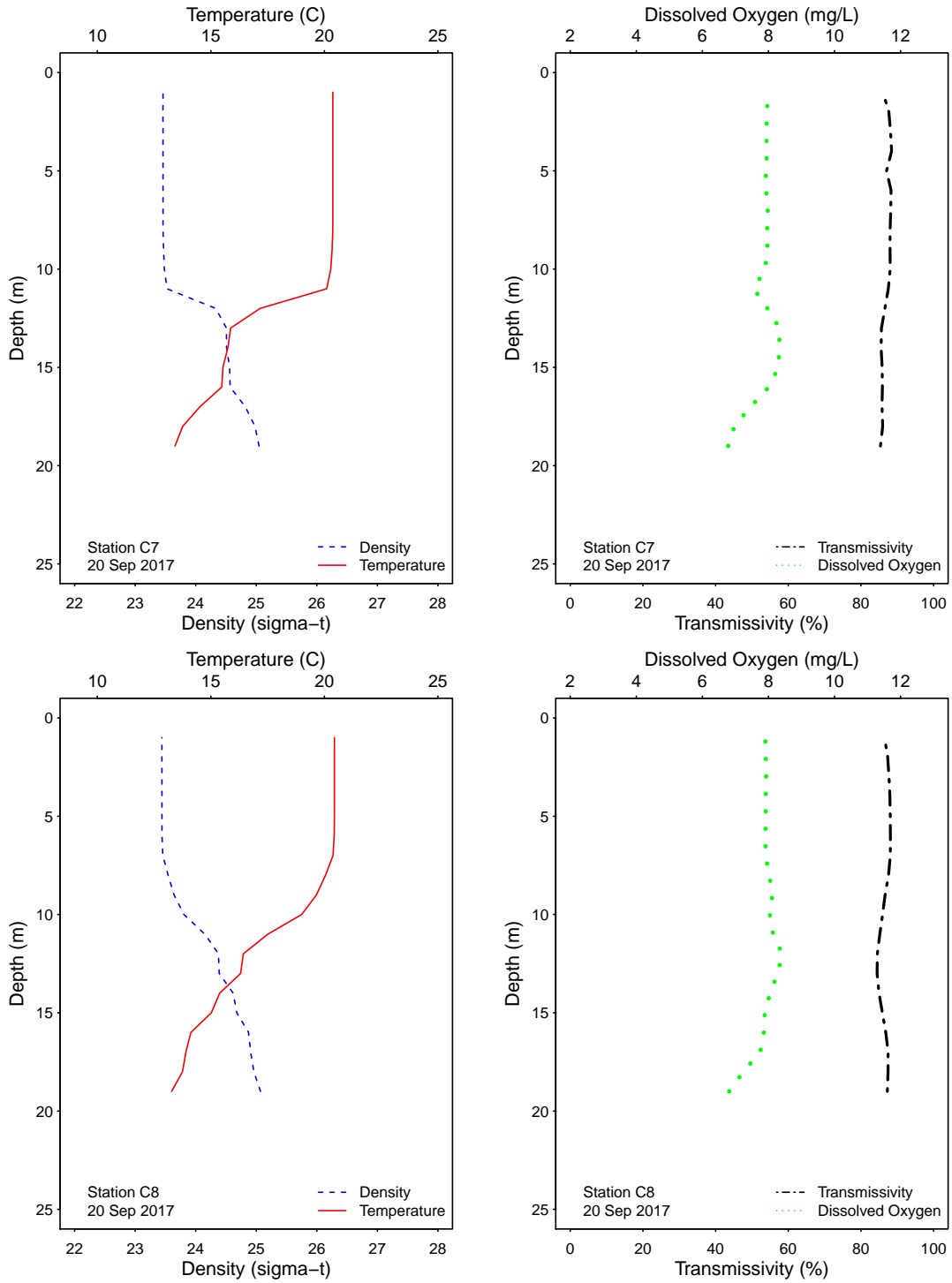


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

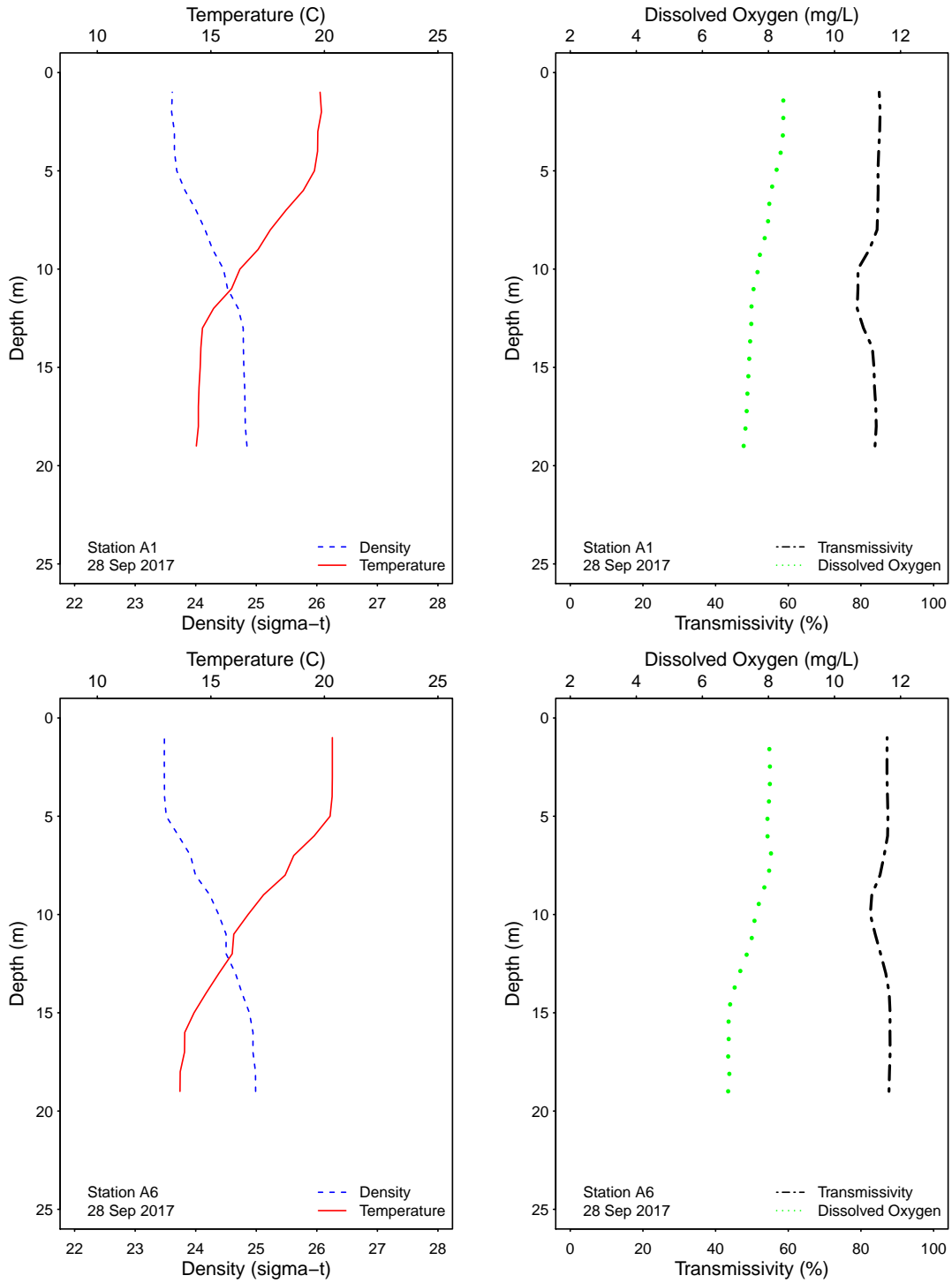


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

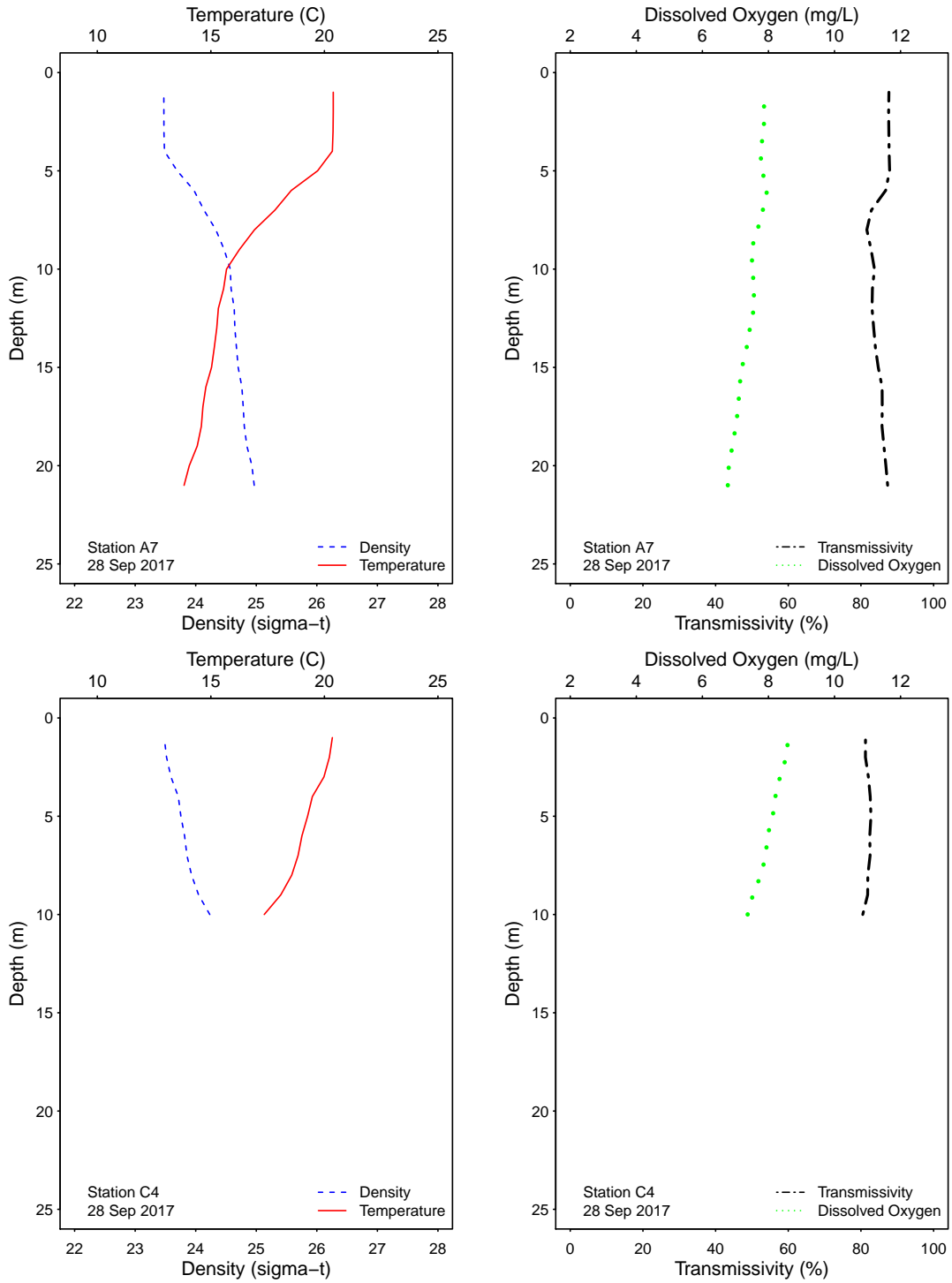


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

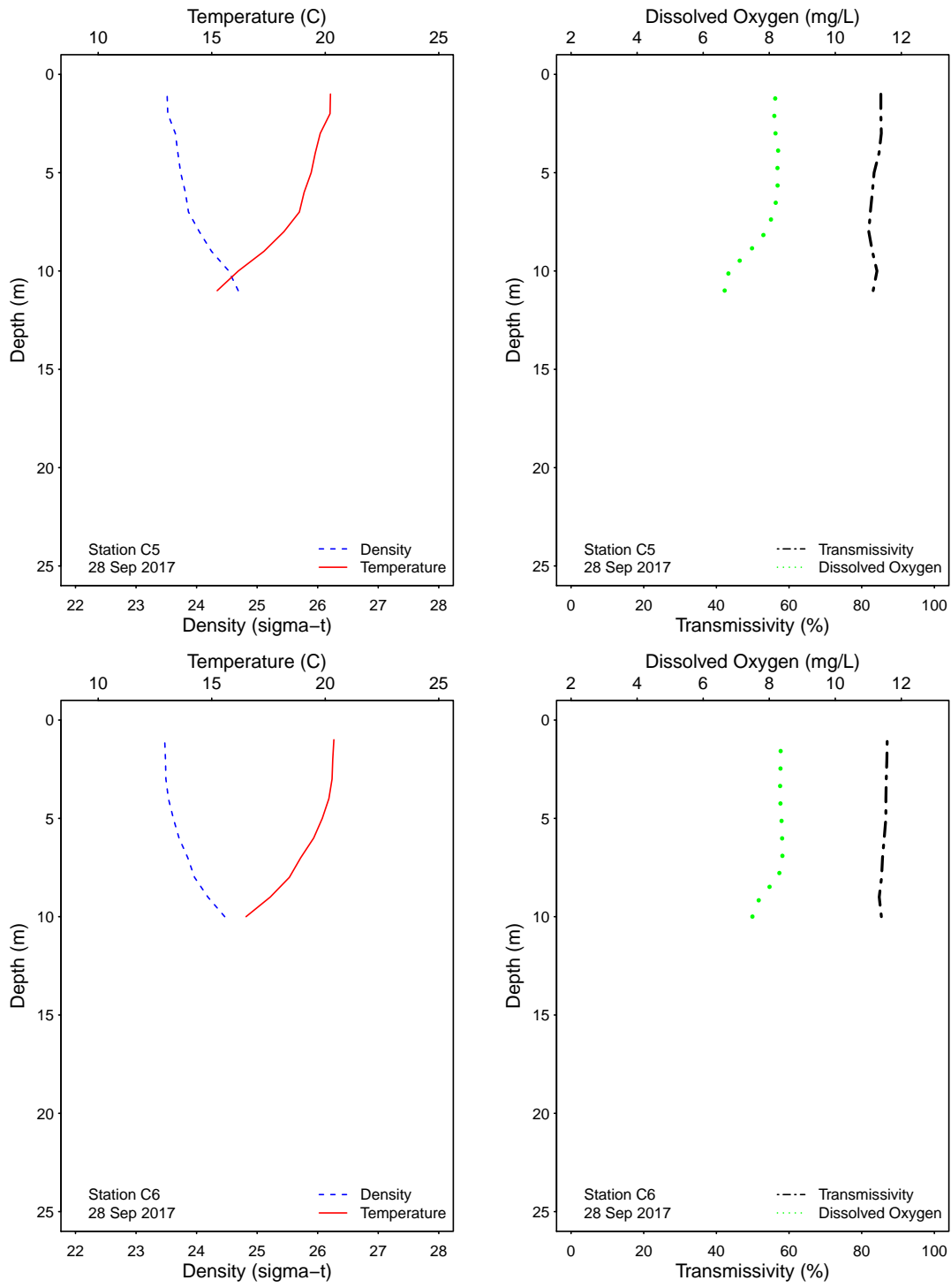


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

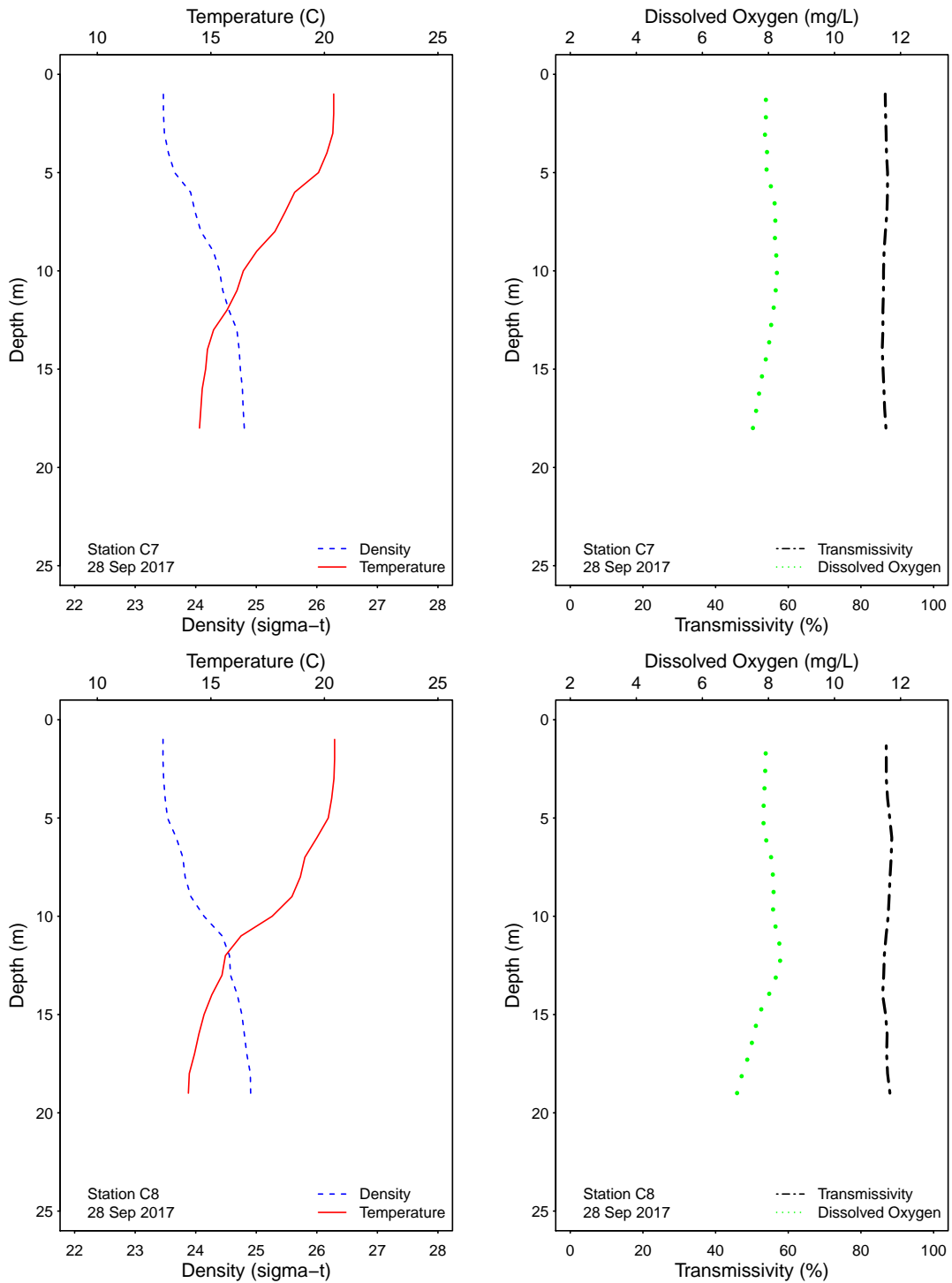


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

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	05 Sep 2017	18	ZV	LAB DUPLICATE	<2	<2	<2
A7	11 Sep 2017	18	JT	LAB DUPLICATE	<20	2e	<2
A7	16 Sep 2017	18	LMA	LAB DUPLICATE	<2	<2	<2
A7	20 Sep 2017	18	LMA	LAB DUPLICATE	<2	<2	<2
A7	28 Sep 2017	18	JT	LAB DUPLICATE	2e	<2	<2
C7	05 Sep 2017	18	ZV	LAB DUPLICATE	<2	<2	<2
C7	11 Sep 2017	18	AR	LAB DUPLICATE	14e	<2	<2
C7	16 Sep 2017	18	AE	LAB DUPLICATE	<2	<2	<2
C7	20 Sep 2017	18	ZV	LAB DUPLICATE	<2	<2	<2
C7	28 Sep 2017	18	AE	LAB DUPLICATE	<2	<2	<2
C8	05 Sep 2017	12	ZV	LAB DUPLICATE	<2	<2	<2
C8	11 Sep 2017	12	AR	LAB DUPLICATE	<2	<2	<2
C8	16 Sep 2017	12	AE	LAB DUPLICATE	<2	<2	<2
C8	20 Sep 2017	12	ZV	LAB DUPLICATE	<2	<2	<2
C8	28 Sep 2017	12	AE	LAB DUPLICATE	<2	<2	<2
D12	02 Sep 2017		JT	FIELD DUPLICATE	<2	<2	4e
D12	02 Sep 2017		JT	LAB DUPLICATE	2e	<2	<2
D12	08 Sep 2017		AR	FIELD DUPLICATE	<20	<2	2e
D12	08 Sep 2017		AR	LAB DUPLICATE	<20	<2	2e
D12	14 Sep 2017		JT	FIELD DUPLICATE	<2	<2	2e
D12	14 Sep 2017		JT	LAB DUPLICATE	<2	<2	<2
D12	20 Sep 2017		LMA	FIELD DUPLICATE	20e	<2	4e
D12	20 Sep 2017		LMA	LAB DUPLICATE	<20	2e	2e
D12	26 Sep 2017		JT	FIELD DUPLICATE	<20	<2	2e
D12	26 Sep 2017		JT	LAB DUPLICATE	<20	<2	4e

ns = not sampled

ND = no data

