



POINT LOMA OCEAN OUTFALL MONTHLY RECEIVING WATERS MONITORING REPORT

POINT LOMA WASTEWATER TREATMENT PLANT

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

JULY 2018

Environmental Monitoring and Technical Services
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August 31, 2018

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 July 2018 Monthly Receiving Waters Monitoring Report for the Point Loma Ocean Outfall, Point Loma Wastewater Treatment Plant as required per Order No. R9-2017-0007, NPDES Permit No. CA0107409.

This report includes raw ocean monitoring data and summaries of water quality parameters and ocean conditions measured during the month for the Point Loma outfall region. Also included are summaries of compliance with the bacterial water-contact standards specified in the California Ocean Plan.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sincerely,



Peter S. Vroom, Ph.D.
Deputy Director, Public Utilities Department

TS/rjg

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

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INTRODUCTION

Monthly reports of water quality and ocean conditions for the San Diego coastal region surrounding the Point Loma Ocean Outfall are submitted to the San Diego Regional Water Quality Control Board and U.S. EPA Region 9 in accordance with Order No. R9-2017-0007, NPDES Permit No. CA0107409 for the Point Loma Wastewater Treatment Plant (PLWTP), Point Loma Ocean Outfall (PLOO). This report includes receiving waters monitoring data collected from all shore, kelp and offshore stations specified in the above order. Data for influent and effluent monitoring activities for the PLWTP are presented in separate reports.

MATERIALS AND METHODS

Shore Stations

Water quality conditions are required to be monitored at eight shoreline stations, including D4, D5, D7, D8, D9, D10, D11 and D12, which range from the tip of the Point Loma Peninsula to west of Mission Bay (see station locations map). However, station D8 was replaced by alternate station D8-A in June 2016 because of inaccessibility to the original site. Additionally, due to increasing instability in several cliffside areas off Point Loma, City staff have been unable to safely access and sample both D8-A and station D7 since February 7, 2018. Consequently, the City is working with the San Diego Water Board to identify new alternate sample locations until safe access can be restored to these two original sites. During March 2018, the City was able to identify a new alternate location for stations D8/D8-A. This new station, designated D8-B, is located about 150 feet north of D8-A. In contrast, no suitable alternate site with safe access has yet been determined for station D7. Thus, the City will continue to monitor conditions at station D7 while working with the Water Board to resolve the situation.

Seawater samples were collected from the surf zone at each station on a weekly basis. These samples were 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 were also recorded at the time of sample collection. Wind speed and direction were measured using a hand-held anemometer with a compass.

Kelp Bed Stations

The eight kelp stations were sampled weekly 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 consisted primarily of collecting seawater samples at discrete depths to determine concentrations of indicator bacteria (i.e., total coliforms, fecal coliforms, and *Enterococcus*). Water column profiles of various physical/chemical parameters were also generated during each sampling event, and visual observations of weather and water conditions were recorded at each station.

Seawater samples at the kelp bed stations were collected using a CTD-integrated rosette sampler with Niskin bottles. Aliquots for bacteriological analyses were drawn from these bottles into sterile sample bottles for processing at the City's Marine Microbiology Laboratory. Water column profiles of temperature, transmissivity, dissolved oxygen, pH, salinity, density, chlorophyll *a* were generated using a Sea-Bird conductivity, temperature and depth instrument (CTD), which collects these data at a rate of ≥ 4 scans per second. These scans were then internally averaged to create water column profiles with data readings at a rate of one per meter. Additionally, CTD profile data for each water sample depth are presented with the bacteriological data.

Offshore Stations

Offshore water quality sampling is conducted quarterly typically during the months of February, May, August and November. A total of 36 offshore stations (F01–F36) are sampled during each survey usually over a 3-day period. Three of the stations (F01–F03) are located along the 18-m depth contour, while 11 stations are located along each of the following contours: 60 m (stations F04–F14); 80 m (stations F15–F25); 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, chromomorphpic dissolved organic matter (CDOM), and visual observations of weather and water conditions.

Seawater samples for bacteriological analyses at the offshore stations were collected using a CTD-integrated rosette sampler with Niskin bottles. Profiles of the various physical/chemical parameters (listed above) are taken using a Sea-Bird CTD. Additionally, data for depths closest to those at which bacteriological samples were collected were 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]Bordner, R., J. Winter, and P. Scarpino (eds.). (1978). *Microbiological Methods for Monitoring the Environment: Water and Wastes*, EPA Research and Development, EPA-600/8-78-017. 337 p.

- (1) Total coliform density shall not exceed 1000 CFU/100 mL;
- (2) Fecal coliform density shall not exceed 200 CFU/100 mL;
- (3) *Enterococcus* density shall not exceed 35 CFU/100 mL.

Single Sample Maximums:

- (1) 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 2018 Quality Assurance Report, which will be completed in March 2019.

SUMMARY OF RESULTS

Shore Stations

- During July, two of the eight shore stations were out of compliance with various California Ocean Plan (Ocean Plan) water-contact standards.
 - o The SSM standard for *Enterococcus* was exceeded at stations D11 and D12 on July 5.
- 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>).
- There were no notable visual observations for July.

Kelp Bed Stations

- The eight kelp bed water quality stations (A1, A6, A7, C4, C5, C6, C7, C8) were sampled five times during the month (i.e. July 2, 9, 16, 23, 30).
- During July, all of the kelp bed stations were in compliance with various water-contact standards specified in the Ocean Plan.

- Water column temperatures ranged from 11.96 to 24.49°C during the month. The difference between surface and bottom waters ranged from 5.0 to 10.64°C, indicating that the water column was stratified at some of the kelp bed stations during the month.
- Chlorophyll *a* concentrations ranged from 0.24 to 15.0 µg/L during July, suggesting the presence of phytoplankton blooms during the month.
- There were no notable visual observations for July.

Offshore Stations

Quarterly sampling was not conducted during July at the offshore stations. The next quarterly sampling is scheduled for August 2018.



TABLES AND FIGURES

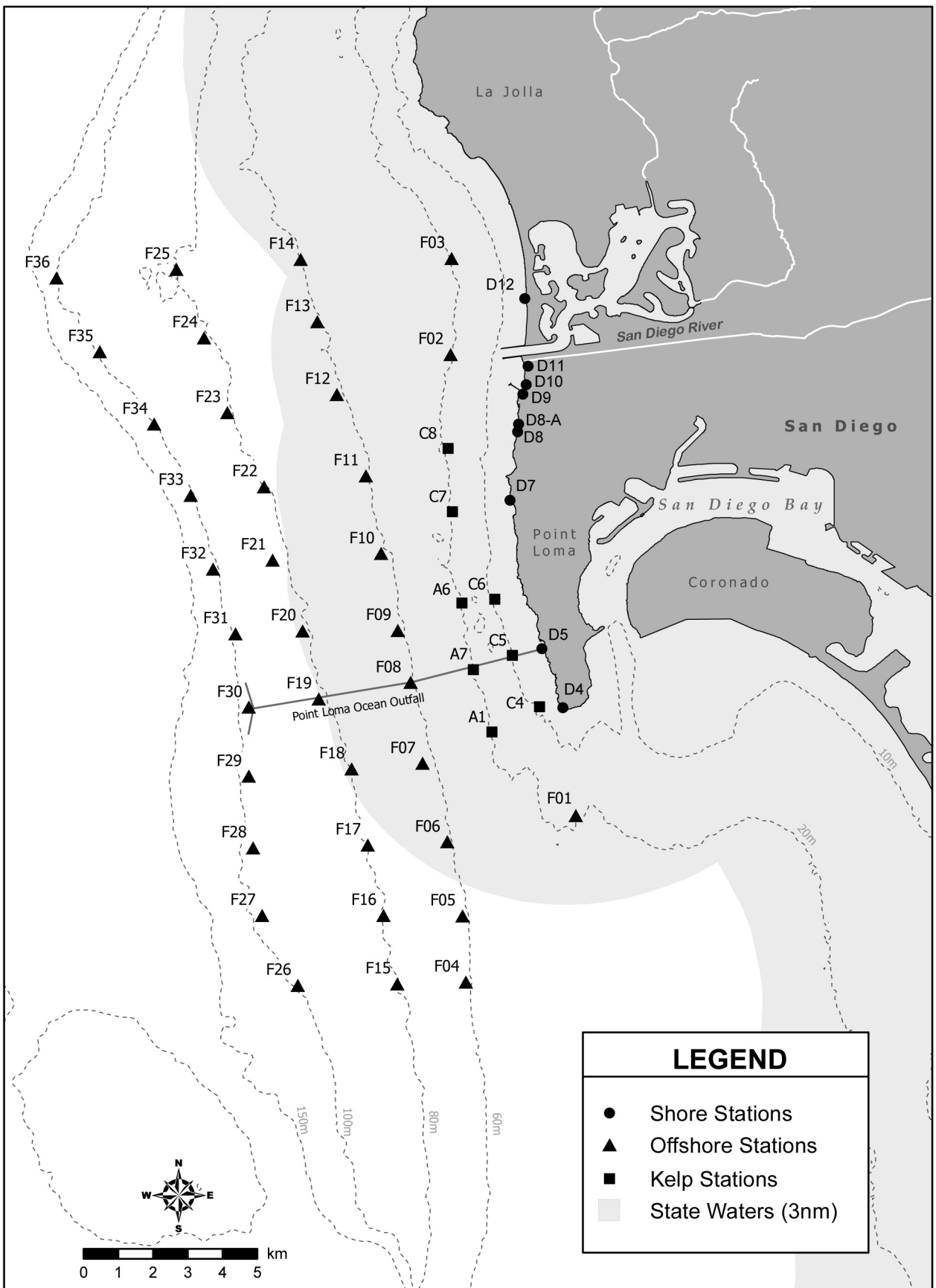


Figure 1.1 Station Map

Shore Stations

Table 2.1

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

Date	D4	D5	D7	D8-B	D9	D10	D11	D12
01 Jul 2018	11*	24*	ns	24*	28*	37*	31*	8*
02 Jul 2018	11*	24*	ns	24*	28*	37*	31*	8*
03 Jul 2018	11*	24*	ns	24*	28*	37*	31*	8*
04 Jul 2018	11*	24*	ns	24*	28*	37*	31*	8*
05 Jul 2018	13	23	20	23	26	33	45	9
06 Jul 2018	20*	24*	20*	24*	24*	37*	42*	8*
07 Jul 2018	20*	24*	20*	24*	24*	37*	42*	8*
08 Jul 2018	20*	24*	20*	24*	24*	37*	42*	8*
09 Jul 2018	20*	24*	20*	24*	24*	37*	42*	8*
10 Jul 2018	20*	24*	20*	24*	24*	37*	42*	8*
11 Jul 2018	20	23	20	23	30	49	42	11
12 Jul 2018	20	23	20	23	30	49	42	11
13 Jul 2018	20*	20*	20*	20*	34*	61*	50*	9*
14 Jul 2018	20*	20*	20*	20*	34*	61*	50*	9*
15 Jul 2018	20*	20*	20*	20*	34*	61*	50*	9*
16 Jul 2018	20*	20*	20*	20*	34*	61*	50*	9*
17 Jul 2018	20*	20*	20*	20*	34*	61*	50*	9*
18 Jul 2018	20	20	20	20	27	49	42	11
19 Jul 2018	20	20	20	20	27	49	42	11
20 Jul 2018	20*	20*	20*	20*	25*	43*	42*	16*
21 Jul 2018	20*	20*	20*	20*	25*	43*	42*	16*
22 Jul 2018	20*	20*	20*	20*	25*	43*	42*	16*
23 Jul 2018	20*	20*	20*	20*	25*	43*	42*	16*
24 Jul 2018	20*	20*	20*	20*	25*	43*	42*	16*
25 Jul 2018	32	32	20	32	24	37	58	17
26 Jul 2018	32	32	20	32	24	37	58	17
27 Jul 2018	36*	36*	20*	36*	25*	33*	75*	24*
28 Jul 2018	36*	36*	20*	36*	25*	33*	75*	24*
29 Jul 2018	36*	36*	20*	36*	25*	33*	75*	24*
30 Jul 2018	36*	36*	20*	36*	25*	33*	75*	24*
31 Jul 2018	36*	36*	20*	36*	25*	33*	75*	24*

* Geometric mean calculated using n<5

ns = not sampled

Table 2.2

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

Date	D4	D5	D7	D8-B	D9	D10	D11	D12
01 Jul 2018	2*	2*	ns	2*	2*	7*	4*	2*
02 Jul 2018	2*	2*	ns	2*	2*	7*	4*	2*
03 Jul 2018	2*	2*	ns	2*	2*	7*	4*	2*
04 Jul 2018	2*	2*	ns	2*	2*	7*	4*	2*
05 Jul 2018	2	2	2	2	2	6	7	2
06 Jul 2018	2*	2*	2*	2*	2*	7*	9*	2*
07 Jul 2018	2*	2*	2*	2*	2*	7*	9*	2*
08 Jul 2018	2*	2*	2*	2*	2*	7*	9*	2*
09 Jul 2018	2*	2*	2*	2*	2*	7*	9*	2*
10 Jul 2018	2*	2*	2*	2*	2*	7*	9*	2*
11 Jul 2018	2	2	2	2	2	9	9	2
12 Jul 2018	2	2	2	2	2	9	9	2
13 Jul 2018	2*	2*	2*	2*	2*	13*	10*	2*
14 Jul 2018	2*	2*	2*	2*	2*	13*	10*	2*
15 Jul 2018	2*	2*	2*	2*	2*	13*	10*	2*
16 Jul 2018	2*	2*	2*	2*	2*	13*	10*	2*
17 Jul 2018	2*	2*	2*	2*	2*	13*	10*	2*
18 Jul 2018	2	2	2	2	2	9	8	2
19 Jul 2018	2	2	2	2	2	9	8	2
20 Jul 2018	2*	2*	2*	2*	2*	8*	6*	2*
21 Jul 2018	2*	2*	2*	2*	2*	8*	6*	2*
22 Jul 2018	2*	2*	2*	2*	2*	8*	6*	2*
23 Jul 2018	2*	2*	2*	2*	2*	8*	6*	2*
24 Jul 2018	2*	2*	2*	2*	2*	8*	6*	2*
25 Jul 2018	2	2	2	2	2	6	6	2
26 Jul 2018	2	2	2	2	2	6	6	2
27 Jul 2018	2*	2*	2*	2*	2*	4*	8*	2*
28 Jul 2018	2*	2*	2*	2*	2*	4*	8*	2*
29 Jul 2018	2*	2*	2*	2*	2*	4*	8*	2*
30 Jul 2018	2*	2*	2*	2*	2*	4*	8*	2*
31 Jul 2018	2*	2*	2*	2*	2*	4*	8*	2*

* Geometric mean calculated using n<5

ns = not sampled

Table 2.3

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

Date	D4	D5	D7	D8-B	D9	D10	D11	D12
01 Jul 2018	2*	3*	ns	4*	4*	9*	6*	4*
02 Jul 2018	2*	3*	ns	4*	4*	9*	6*	4*
03 Jul 2018	2*	3*	ns	4*	4*	9*	6*	4*
04 Jul 2018	2*	3*	ns	4*	4*	9*	6*	4*
05 Jul 2018	2	2	2	4	3	6	27	10
06 Jul 2018	2*	2*	2*	4*	3*	6*	20	7
07 Jul 2018	2*	2*	2*	4*	3*	6*	20	7
08 Jul 2018	2*	2*	2*	4*	3*	6*	20	7
09 Jul 2018	2*	2*	2*	4*	3*	6*	20	7
10 Jul 2018	2*	2*	2*	4*	3*	6*	20	7
11 Jul 2018	2	2	2	3	3	6	21	6
12 Jul 2018	2	2	2	3	3	6	21	6
13 Jul 2018	2*	2*	2*	2*	2*	8*	34	5
14 Jul 2018	2*	2*	2*	2*	2*	8*	34	5
15 Jul 2018	2*	2*	2*	2*	2*	8*	34	5
16 Jul 2018	2*	2*	2*	2*	2*	8*	34	5
17 Jul 2018	2*	2*	2*	2*	2*	8*	34	5
18 Jul 2018	2	2	2	3	2	6	21	4
19 Jul 2018	2	2	2	3	2	6	21	4
20 Jul 2018	2*	2*	2*	3*	2*	4*	18	5
21 Jul 2018	2*	2*	2*	3*	2*	4*	18	5
22 Jul 2018	2*	2*	2*	3*	2*	4*	18	5
23 Jul 2018	2*	2*	2*	3*	2*	4*	18	5
24 Jul 2018	2*	2*	2*	3*	2*	4*	18	5
25 Jul 2018	2	2	2	3	2	4	17	4
26 Jul 2018	2	2	2	3	2	4	17	4
27 Jul 2018	2*	2*	2*	3*	2*	2*	26	5
28 Jul 2018	2*	2*	2*	3*	2*	2*	26	5
29 Jul 2018	2*	2*	2*	3*	2*	2*	26	5
30 Jul 2018	2*	2*	2*	3*	2*	2*	26	5
31 Jul 2018	2*	2*	2*	3*	2*	2*	26	5

* Geometric mean calculated using n<5

ns = not sampled

Table 2.4

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

Date	D4	D5	D7	D8-B	D9	D10	D11	D12
05 Jul 2018	IC	IC	IC	IC	IC	IC	IC	IC
11 Jul 2018	IC	IC	ns	IC	IC	IC	IC	IC
18 Jul 2018	IC	IC	ns	IC	IC	IC	IC	IC
25 Jul 2018	IC	IC	ns	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 2.5

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

Date	D4	D5	D7	D8-B	D9	D10	D11	D12
05 Jul 2018	IC	IC	IC	IC	IC	IC	IC	IC
11 Jul 2018	IC	IC	ns	IC	IC	IC	IC	IC
18 Jul 2018	IC	IC	ns	IC	IC	IC	IC	IC
25 Jul 2018	IC	IC	ns	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 2.6

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

Date	D4	D5	D7	D8-B	D9	D10	D11	D12
05 Jul 2018	IC	IC	IC	IC	IC	IC	E	E
06 Jul 2018	ns	ns	ns	ns	ns	ns	IC	IC
11 Jul 2018	IC	IC	ns	IC	IC	IC	IC	IC
18 Jul 2018	IC	IC	ns	IC	IC	IC	IC	IC
25 Jul 2018	IC	IC	ns	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 2.7

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

Date	D4	D5	D7	D8-B	D9	D10	D11	D12
05 Jul 2018	IC	IC	IC	IC	IC	IC	IC	IC
11 Jul 2018	IC	IC	ns	IC	IC	IC	IC	IC
18 Jul 2018	IC	IC	ns	IC	IC	IC	IC	IC
25 Jul 2018	IC	IC	ns	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	05 Jul 2018	927	<20	<2	<2	0.10
D4	11 Jul 2018	934	<20	<2	<2	0.10
D4	18 Jul 2018	810	<20	<2	2e	0.10
D4	25 Jul 2018	1040	<200	<2	2e	0.01
D5	05 Jul 2018	911	<20	<2	<2	0.10
D5	11 Jul 2018	914	<20	4e	<2	0.20
D5	18 Jul 2018	753	<20	<2	<2	0.10
D5	25 Jul 2018	1026	<200	<2	4e	0.01
D7	05 Jul 2018	952	<20	<2	<2	0.10
D7	11 Jul 2018	852	ns	ns	ns	ns
D7	18 Jul 2018	840	ns	ns	ns	ns
D7	25 Jul 2018	957	ns	ns	ns	ns
D8-B	05 Jul 2018	1015	<20	<2	2e	0.10
D8-B	11 Jul 2018	842	<20	2e	2e	0.10
D8-B	18 Jul 2018	855	20e	<2	14e	0.10
D8-B	25 Jul 2018	945	<200	<2	<2	0.01
D9	05 Jul 2018	1028	<20	<2	<2	0.10
D9	11 Jul 2018	824	80e	2e	<2	0.02
D9	18 Jul 2018	912	12e	<2	<2	0.17
D9	25 Jul 2018	927	<20	2e	2e	0.10
D10	05 Jul 2018	1041	<20	<2	2e	0.10
D10	11 Jul 2018	808	140e	22e	4e	0.16
D10	18 Jul 2018	922	20e	<2	<2	0.10
D10	25 Jul 2018	907	20e	<2	<2	0.10
D11	05 Jul 2018	1054	200e	54	3200e	0.27
D11	06 Jul 2018	840	ns	ns	6e	ns
D11	11 Jul 2018	757	40e	8e	28e	0.20
D11	18 Jul 2018	953	<20	<2	<2	0.10
D11	25 Jul 2018	852	<200	4e	12e	0.02
D12	05 Jul 2018	1125	<20	<2	170e	0.10
D12	06 Jul 2018	856	ns	ns	<2	ns
D12	11 Jul 2018	740	40e	<2	<2	0.05
D12	18 Jul 2018	1019	<20	2e	<2	0.10
D12	25 Jul 2018	833	<20	<2	<2	0.10

Comments

Station	Date	Depth	Parameter	Comments
D7	05 Jul 2018			Site inaccessible due to unsafe conditions
D11	06 Jul 2018			Resample
D12	06 Jul 2018			Resample
D7	11 Jul 2018			Site inaccessible due to unsafe conditions
D7	18 Jul 2018			Site inaccessible due to unsafe conditions
D7	25 Jul 2018			Site inaccessible due to unsafe conditions

Table 2.9

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

Station	Date	Parameter	Value
D4	05 Jul 2018	Arrive Time	927
D4	05 Jul 2018	Weather	Sunny
D4	05 Jul 2018	Wind Speed (kts)	6.8
D4	05 Jul 2018	Wind Dir	NW
D4	05 Jul 2018	Animal Life	None
D4	05 Jul 2018	Floatables	None
D4	05 Jul 2018	Water Color	Green
D4	05 Jul 2018	Current Direction	N
D4	05 Jul 2018	Water Temp (C)	19
D4	05 Jul 2018	Wave Height Low (ft)	2
D4	05 Jul 2018	High Tide (ft)	4.2
D4	05 Jul 2018	High Tide Time	1546
D4	05 Jul 2018	Low Tide (ft)	0.9
D4	05 Jul 2018	Low Tide Time	851
D4	05 Jul 2018	Comments	Kelp; Seagrass; Algae; Water clear
D4	11 Jul 2018	Arrive Time	934
D4	11 Jul 2018	Weather	Partly Cloudy
D4	11 Jul 2018	Wind Speed (kts)	3.1
D4	11 Jul 2018	Wind Dir	S
D4	11 Jul 2018	Animal Life	None
D4	11 Jul 2018	Floatables	None
D4	11 Jul 2018	Water Color	Green
D4	11 Jul 2018	Current Direction	S
D4	11 Jul 2018	Water Temp (C)	23
D4	11 Jul 2018	Wave Height Low (ft)	0.5
D4	11 Jul 2018	High Tide (ft)	4
D4	11 Jul 2018	High Tide Time	905
D4	11 Jul 2018	Low Tide (ft)	1.6
D4	11 Jul 2018	Low Tide Time	1408
D4	11 Jul 2018	Comments	Kelp; Seagrass; Water clear
D4	18 Jul 2018	Arrive Time	810
D4	18 Jul 2018	Weather	Overcast
D4	18 Jul 2018	Wind Speed (kts)	0.1
D4	18 Jul 2018	Wind Dir	S
D4	18 Jul 2018	Animal Life	None
D4	18 Jul 2018	Floatables	None
D4	18 Jul 2018	Water Color	Green
D4	18 Jul 2018	Current Direction	N
D4	18 Jul 2018	Water Temp (C)	20
D4	18 Jul 2018	Wave Height Low (ft)	1
D4	18 Jul 2018	High Tide (ft)	4.6
D4	18 Jul 2018	High Tide Time	129
D4	18 Jul 2018	Low Tide (ft)	0.4
D4	18 Jul 2018	Low Tide Time	815
D4	18 Jul 2018	Comments	Kelp; Seagrass; Algae; Water clear
D4	25 Jul 2018	Arrive Time	1040
D4	25 Jul 2018	Weather	Overcast
D4	25 Jul 2018	Wind Speed (kts)	1.3

Station	Date	Parameter	Value
D4	25 Jul 2018	Wind Dir	W
D4	25 Jul 2018	Animal Life	None
D4	25 Jul 2018	Floatables	None
D4	25 Jul 2018	Water Color	Green
D4	25 Jul 2018	Current Direction	N
D4	25 Jul 2018	Water Temp (C)	20
D4	25 Jul 2018	Wave Height Low (ft)	2
D4	25 Jul 2018	High Tide (ft)	3.8
D4	25 Jul 2018	High Tide Time	924
D4	25 Jul 2018	Low Tide (ft)	2.1
D4	25 Jul 2018	Low Tide Time	1418
D4	25 Jul 2018	Comments	Kelp; Seagrass; Algae; Water clear
D5	05 Jul 2018	Arrive Time	911
D5	05 Jul 2018	Weather	Sunny
D5	05 Jul 2018	Wind Speed (kts)	4.4
D5	05 Jul 2018	Wind Dir	NW
D5	05 Jul 2018	Animal Life	None
D5	05 Jul 2018	Floatables	None
D5	05 Jul 2018	Water Color	Green
D5	05 Jul 2018	Current Direction	N
D5	05 Jul 2018	Water Temp (C)	19
D5	05 Jul 2018	Wave Height Low (ft)	2
D5	05 Jul 2018	High Tide (ft)	4.2
D5	05 Jul 2018	High Tide Time	1546
D5	05 Jul 2018	Low Tide (ft)	0.9
D5	05 Jul 2018	Low Tide Time	851
D5	05 Jul 2018	Comments	Kelp; Seagrass; Algae; Water clear
D5	11 Jul 2018	Arrive Time	914
D5	11 Jul 2018	Weather	Sunny
D5	11 Jul 2018	Wind Speed (kts)	3.6
D5	11 Jul 2018	Wind Dir	S
D5	11 Jul 2018	Animal Life	None
D5	11 Jul 2018	Floatables	Foam; Film; Trash
D5	11 Jul 2018	Water Color	Brown
D5	11 Jul 2018	Current Direction	S
D5	11 Jul 2018	Water Temp (C)	23
D5	11 Jul 2018	Wave Height Low (ft)	1
D5	11 Jul 2018	High Tide (ft)	4
D5	11 Jul 2018	High Tide Time	905
D5	11 Jul 2018	Low Tide (ft)	1.6
D5	11 Jul 2018	Low Tide Time	1408
D5	11 Jul 2018	Comments	Kelp; Seagrass; Debris; Water clear; Brown foam; Trash
D5	18 Jul 2018	Arrive Time	753
D5	18 Jul 2018	Weather	Overcast
D5	18 Jul 2018	Wind Speed (kts)	0.1
D5	18 Jul 2018	Wind Dir	S
D5	18 Jul 2018	Animal Life	None
D5	18 Jul 2018	Floatables	None
D5	18 Jul 2018	Water Color	Green
D5	18 Jul 2018	Current Direction	N
D5	18 Jul 2018	Water Temp (C)	21
D5	18 Jul 2018	Wave Height Low (ft)	1

Station	Date	Parameter	Value
D5	18 Jul 2018	High Tide (ft)	4.6
D5	18 Jul 2018	High Tide Time	129
D5	18 Jul 2018	Low Tide (ft)	0.4
D5	18 Jul 2018	Low Tide Time	815
D5	18 Jul 2018	Comments	Algae; Water clear
D5	25 Jul 2018	Arrive Time	1026
D5	25 Jul 2018	Weather	Overcast
D5	25 Jul 2018	Wind Speed (kts)	0.7
D5	25 Jul 2018	Wind Dir	S
D5	25 Jul 2018	Animal Life	None
D5	25 Jul 2018	Floatables	None
D5	25 Jul 2018	Water Color	Green
D5	25 Jul 2018	Current Direction	N
D5	25 Jul 2018	Water Temp (C)	23
D5	25 Jul 2018	Wave Height Low (ft)	2
D5	25 Jul 2018	High Tide (ft)	3.8
D5	25 Jul 2018	High Tide Time	924
D5	25 Jul 2018	Low Tide (ft)	2.1
D5	25 Jul 2018	Low Tide Time	1418
D5	25 Jul 2018	Comments	Kelp; Water clear
D7	05 Jul 2018	Arrive Time	952
D7	05 Jul 2018	Weather	Sunny
D7	05 Jul 2018	Wind Speed (kts)	5.6
D7	05 Jul 2018	Wind Dir	NW
D7	05 Jul 2018	Animal Life	None
D7	05 Jul 2018	Floatables	None
D7	05 Jul 2018	Water Color	Green
D7	05 Jul 2018	Current Direction	N
D7	05 Jul 2018	Water Temp (C)	19
D7	05 Jul 2018	Wave Height Low (ft)	3
D7	05 Jul 2018	High Tide (ft)	4.2
D7	05 Jul 2018	High Tide Time	1546
D7	05 Jul 2018	Low Tide (ft)	0.9
D7	05 Jul 2018	Low Tide Time	851
D7	05 Jul 2018	Comments	Site inaccessible due to unsafe conditions; Kelp; Seagrass; Algae; 9 Persons; Water clear
D7	11 Jul 2018	Arrive Time	852
D7	11 Jul 2018	Weather	Sunny
D7	11 Jul 2018	Wind Speed (kts)	2.9
D7	11 Jul 2018	Wind Dir	N
D7	11 Jul 2018	Animal Life	None
D7	11 Jul 2018	Floatables	None
D7	11 Jul 2018	Water Color	Green
D7	11 Jul 2018	Current Direction	N
D7	11 Jul 2018	Water Temp (C)	NS
D7	11 Jul 2018	Wave Height Low (ft)	0.5
D7	11 Jul 2018	High Tide (ft)	4
D7	11 Jul 2018	High Tide Time	905
D7	11 Jul 2018	Low Tide (ft)	1.6
D7	11 Jul 2018	Low Tide Time	1408
D7	11 Jul 2018	Comments	Site inaccessible due to unsafe conditions; Kelp; Seagrass; 1 Person; 7 Surfers

Station	Date	Parameter	Value
D7	18 Jul 2018	Arrive Time	840
D7	18 Jul 2018	Weather	Overcast
D7	18 Jul 2018	Wind Speed (kts)	7.1
D7	18 Jul 2018	Wind Dir	S
D7	18 Jul 2018	Animal Life	None
D7	18 Jul 2018	Floatables	None
D7	18 Jul 2018	Water Color	Green
D7	18 Jul 2018	Current Direction	N
D7	18 Jul 2018	Water Temp (C)	NS
D7	18 Jul 2018	Wave Height Low (ft)	1
D7	18 Jul 2018	High Tide (ft)	4.7
D7	18 Jul 2018	High Tide Time	1456
D7	18 Jul 2018	Low Tide (ft)	0.4
D7	18 Jul 2018	Low Tide Time	815
D7	18 Jul 2018	Comments	Water clear; Site inaccessible due to unsafe conditions
D7	25 Jul 2018	Arrive Time	957
D7	25 Jul 2018	Weather	Overcast
D7	25 Jul 2018	Wind Speed (kts)	2.3
D7	25 Jul 2018	Wind Dir	S
D7	25 Jul 2018	Animal Life	None
D7	25 Jul 2018	Floatables	None
D7	25 Jul 2018	Water Color	Green
D7	25 Jul 2018	Current Direction	N
D7	25 Jul 2018	Water Temp (C)	NS
D7	25 Jul 2018	Wave Height Low (ft)	3
D7	25 Jul 2018	High Tide (ft)	3.8
D7	25 Jul 2018	High Tide Time	924
D7	25 Jul 2018	Low Tide (ft)	2.1
D7	25 Jul 2018	Low Tide Time	1418
D7	25 Jul 2018	Comments	4 Surfers; Water clear; Site inaccessible due to unsafe conditions
D8-B	05 Jul 2018	Arrive Time	1015
D8-B	05 Jul 2018	Weather	Sunny
D8-B	05 Jul 2018	Wind Speed (kts)	8.9
D8-B	05 Jul 2018	Wind Dir	W
D8-B	05 Jul 2018	Animal Life	1 Dog
D8-B	05 Jul 2018	Floatables	None
D8-B	05 Jul 2018	Water Color	Green
D8-B	05 Jul 2018	Current Direction	N
D8-B	05 Jul 2018	Water Temp (C)	19
D8-B	05 Jul 2018	Wave Height Low (ft)	2
D8-B	05 Jul 2018	High Tide (ft)	4.2
D8-B	05 Jul 2018	High Tide Time	1546
D8-B	05 Jul 2018	Low Tide (ft)	0.9
D8-B	05 Jul 2018	Low Tide Time	851
D8-B	05 Jul 2018	Comments	Kelp; Seagrass; Algae; 2 Persons; Water clear
D8-B	11 Jul 2018	Arrive Time	842
D8-B	11 Jul 2018	Weather	Sunny
D8-B	11 Jul 2018	Wind Speed (kts)	2.9
D8-B	11 Jul 2018	Wind Dir	W
D8-B	11 Jul 2018	Animal Life	None
D8-B	11 Jul 2018	Floatables	None

Station	Date	Parameter	Value
D8-B	11 Jul 2018	Water Color	Green
D8-B	11 Jul 2018	Current Direction	W
D8-B	11 Jul 2018	Water Temp (C)	23
D8-B	11 Jul 2018	Wave Height Low (ft)	1
D8-B	11 Jul 2018	High Tide (ft)	4
D8-B	11 Jul 2018	High Tide Time	905
D8-B	11 Jul 2018	Low Tide (ft)	1.6
D8-B	11 Jul 2018	Low Tide Time	1408
D8-B	11 Jul 2018	Comments	Kelp; Seagrass; 1 Person; Water clear
D8-B	18 Jul 2018	Arrive Time	855
D8-B	18 Jul 2018	Weather	Overcast
D8-B	18 Jul 2018	Wind Speed (kts)	1.1
D8-B	18 Jul 2018	Wind Dir	W
D8-B	18 Jul 2018	Animal Life	None
D8-B	18 Jul 2018	Floatables	None
D8-B	18 Jul 2018	Water Color	Green
D8-B	18 Jul 2018	Current Direction	N
D8-B	18 Jul 2018	Water Temp (C)	21
D8-B	18 Jul 2018	Wave Height Low (ft)	1
D8-B	18 Jul 2018	High Tide (ft)	4.7
D8-B	18 Jul 2018	High Tide Time	1456
D8-B	18 Jul 2018	Low Tide (ft)	0.4
D8-B	18 Jul 2018	Low Tide Time	815
D8-B	18 Jul 2018	Comments	Kelp; Algae; 7 Persons; Water clear
D8-B	25 Jul 2018	Arrive Time	945
D8-B	25 Jul 2018	Weather	Overcast
D8-B	25 Jul 2018	Wind Speed (kts)	3.1
D8-B	25 Jul 2018	Wind Dir	N
D8-B	25 Jul 2018	Animal Life	None
D8-B	25 Jul 2018	Floatables	None
D8-B	25 Jul 2018	Water Color	Green
D8-B	25 Jul 2018	Current Direction	N
D8-B	25 Jul 2018	Water Temp (C)	23
D8-B	25 Jul 2018	Wave Height Low (ft)	3
D8-B	25 Jul 2018	High Tide (ft)	3.8
D8-B	25 Jul 2018	High Tide Time	924
D8-B	25 Jul 2018	Low Tide (ft)	2.1
D8-B	25 Jul 2018	Low Tide Time	1418
D8-B	25 Jul 2018	Comments	Kelp; Seagrass; 1 Person; Water clear
D9	05 Jul 2018	Arrive Time	1028
D9	05 Jul 2018	Weather	Sunny
D9	05 Jul 2018	Wind Speed (kts)	7.2
D9	05 Jul 2018	Wind Dir	W
D9	05 Jul 2018	Animal Life	None
D9	05 Jul 2018	Floatables	None
D9	05 Jul 2018	Water Color	Green
D9	05 Jul 2018	Current Direction	N
D9	05 Jul 2018	Water Temp (C)	19
D9	05 Jul 2018	Wave Height Low (ft)	3
D9	05 Jul 2018	High Tide (ft)	4.2
D9	05 Jul 2018	High Tide Time	1546
D9	05 Jul 2018	Low Tide (ft)	0.9

Station	Date	Parameter	Value
D9	05 Jul 2018	Low Tide Time	851
D9	05 Jul 2018	Comments	Kelp; Seagrass; Water clear
D9	11 Jul 2018	Arrive Time	824
D9	11 Jul 2018	Weather	Sunny
D9	11 Jul 2018	Wind Speed (kts)	1.1
D9	11 Jul 2018	Wind Dir	N
D9	11 Jul 2018	Animal Life	None
D9	11 Jul 2018	Floatables	None
D9	11 Jul 2018	Water Color	Green
D9	11 Jul 2018	Current Direction	N
D9	11 Jul 2018	Water Temp (C)	26
D9	11 Jul 2018	Wave Height Low (ft)	1
D9	11 Jul 2018	High Tide (ft)	4
D9	11 Jul 2018	High Tide Time	905
D9	11 Jul 2018	Low Tide (ft)	-1
D9	11 Jul 2018	Low Tide Time	250
D9	11 Jul 2018	Comments	Kelp; Seagrass; Algae; 6 Persons; Water clear
D9	18 Jul 2018	Arrive Time	912
D9	18 Jul 2018	Weather	Sunny
D9	18 Jul 2018	Wind Speed (kts)	2.3
D9	18 Jul 2018	Wind Dir	S
D9	18 Jul 2018	Animal Life	None
D9	18 Jul 2018	Floatables	None
D9	18 Jul 2018	Water Color	Green
D9	18 Jul 2018	Current Direction	N
D9	18 Jul 2018	Water Temp (C)	21
D9	18 Jul 2018	Wave Height Low (ft)	1
D9	18 Jul 2018	High Tide (ft)	4.7
D9	18 Jul 2018	High Tide Time	1456
D9	18 Jul 2018	Low Tide (ft)	0.4
D9	18 Jul 2018	Low Tide Time	815
D9	18 Jul 2018	Comments	Kelp; Seagrass; Algae; 2 Persons; Water clear
D9	25 Jul 2018	Arrive Time	927
D9	25 Jul 2018	Weather	Overcast
D9	25 Jul 2018	Wind Speed (kts)	4
D9	25 Jul 2018	Wind Dir	S
D9	25 Jul 2018	Animal Life	None
D9	25 Jul 2018	Floatables	None
D9	25 Jul 2018	Water Color	Green
D9	25 Jul 2018	Current Direction	N
D9	25 Jul 2018	Water Temp (C)	23
D9	25 Jul 2018	Wave Height Low (ft)	3
D9	25 Jul 2018	High Tide (ft)	3.8
D9	25 Jul 2018	High Tide Time	924
D9	25 Jul 2018	Low Tide (ft)	2.1
D9	25 Jul 2018	Low Tide Time	1418
D9	25 Jul 2018	Comments	Kelp; Seagrass; Algae; 2 Persons; 4 Surfers; Water clear
D10	05 Jul 2018	Arrive Time	1041
D10	05 Jul 2018	Weather	Sunny
D10	05 Jul 2018	Wind Speed (kts)	6.9
D10	05 Jul 2018	Wind Dir	W

Station	Date	Parameter	Value
D10	05 Jul 2018	Animal Life	None
D10	05 Jul 2018	Floatables	None
D10	05 Jul 2018	Water Color	Green
D10	05 Jul 2018	Current Direction	N
D10	05 Jul 2018	Water Temp (C)	20
D10	05 Jul 2018	Wave Height Low (ft)	4
D10	05 Jul 2018	High Tide (ft)	4.2
D10	05 Jul 2018	High Tide Time	1546
D10	05 Jul 2018	Low Tide (ft)	0.9
D10	05 Jul 2018	Low Tide Time	851
D10	05 Jul 2018	Comments	Kelp; Seagrass; 25 Persons; 8 Surfers; 35 Swimmers; Water clear
D10	11 Jul 2018	Arrive Time	808
D10	11 Jul 2018	Weather	Partly Cloudy
D10	11 Jul 2018	Wind Speed (kts)	1.1
D10	11 Jul 2018	Wind Dir	N
D10	11 Jul 2018	Animal Life	4 Birds
D10	11 Jul 2018	Floatables	None
D10	11 Jul 2018	Water Color	Green
D10	11 Jul 2018	Current Direction	N
D10	11 Jul 2018	Water Temp (C)	24
D10	11 Jul 2018	Wave Height Low (ft)	1
D10	11 Jul 2018	High Tide (ft)	4
D10	11 Jul 2018	High Tide Time	905
D10	11 Jul 2018	Low Tide (ft)	-1
D10	11 Jul 2018	Low Tide Time	250
D10	11 Jul 2018	Comments	Kelp; Seagrass; 18 Persons; 8 Surfers; 3 Swimmers; 1 Fisherman; Water clear
D10	18 Jul 2018	Arrive Time	922
D10	18 Jul 2018	Weather	Partly Cloudy
D10	18 Jul 2018	Wind Speed (kts)	5.4
D10	18 Jul 2018	Wind Dir	S
D10	18 Jul 2018	Animal Life	7 Birds
D10	18 Jul 2018	Floatables	None
D10	18 Jul 2018	Water Color	Green
D10	18 Jul 2018	Current Direction	N
D10	18 Jul 2018	Water Temp (C)	21
D10	18 Jul 2018	Wave Height Low (ft)	2
D10	18 Jul 2018	High Tide (ft)	4.7
D10	18 Jul 2018	High Tide Time	1456
D10	18 Jul 2018	Low Tide (ft)	0.4
D10	18 Jul 2018	Low Tide Time	815
D10	18 Jul 2018	Comments	Seagrass; 28 Persons; 3 Surfers; Water clear
D10	25 Jul 2018	Arrive Time	907
D10	25 Jul 2018	Weather	Overcast
D10	25 Jul 2018	Wind Speed (kts)	1.3
D10	25 Jul 2018	Wind Dir	S
D10	25 Jul 2018	Animal Life	None
D10	25 Jul 2018	Floatables	None
D10	25 Jul 2018	Water Color	Green
D10	25 Jul 2018	Current Direction	N
D10	25 Jul 2018	Water Temp (C)	23
D10	25 Jul 2018	Wave Height Low (ft)	4

Station	Date	Parameter	Value
D10	25 Jul 2018	High Tide (ft)	3.8
D10	25 Jul 2018	High Tide Time	924
D10	25 Jul 2018	Low Tide (ft)	2.1
D10	25 Jul 2018	Low Tide Time	1418
D10	25 Jul 2018	Comments	Seagrass; 13 Persons; 12 Surfers; Water clear
D11	05 Jul 2018	Arrive Time	1054
D11	05 Jul 2018	Weather	Sunny
D11	05 Jul 2018	Wind Speed (kts)	9.7
D11	05 Jul 2018	Wind Dir	W
D11	05 Jul 2018	Animal Life	None
D11	05 Jul 2018	Floatables	None
D11	05 Jul 2018	Water Color	Green
D11	05 Jul 2018	Current Direction	N
D11	05 Jul 2018	Water Temp (C)	20
D11	05 Jul 2018	Wave Height Low (ft)	3
D11	05 Jul 2018	High Tide (ft)	4.2
D11	05 Jul 2018	High Tide Time	1546
D11	05 Jul 2018	Low Tide (ft)	0.9
D11	05 Jul 2018	Low Tide Time	851
D11	05 Jul 2018	Comments	Kelp; Seagrass; 15 Persons; 1 Swimmer; Water clear
D11	06 Jul 2018	Arrive Time	840
D11	06 Jul 2018	Weather	Sunny
D11	06 Jul 2018	Wind Speed (kts)	6
D11	06 Jul 2018	Wind Dir	NE
D11	06 Jul 2018	Animal Life	None
D11	06 Jul 2018	Floatables	None
D11	06 Jul 2018	Water Color	Green
D11	06 Jul 2018	Current Direction	NE
D11	06 Jul 2018	Water Temp (C)	22
D11	06 Jul 2018	Wave Height Low (ft)	3
D11	06 Jul 2018	High Tide (ft)	3.4
D11	06 Jul 2018	High Tide Time	309
D11	06 Jul 2018	Low Tide (ft)	1.2
D11	06 Jul 2018	Low Tide Time	942
D11	06 Jul 2018	Comments	Resample; Kelp; Seagrass; Algae; 30 Persons; 5 Surfers; 1 Swimmer; Water clear
D11	11 Jul 2018	Arrive Time	757
D11	11 Jul 2018	Weather	Partly Cloudy
D11	11 Jul 2018	Wind Speed (kts)	0.7
D11	11 Jul 2018	Wind Dir	N
D11	11 Jul 2018	Animal Life	1 Dog
D11	11 Jul 2018	Floatables	None
D11	11 Jul 2018	Water Color	Green
D11	11 Jul 2018	Current Direction	N
D11	11 Jul 2018	Water Temp (C)	23
D11	11 Jul 2018	Wave Height Low (ft)	3
D11	11 Jul 2018	High Tide (ft)	4
D11	11 Jul 2018	High Tide Time	905
D11	11 Jul 2018	Low Tide (ft)	-1
D11	11 Jul 2018	Low Tide Time	250
D11	11 Jul 2018	Comments	Kelp; Seagrass; 1 Jogger; 9 Persons; 27 Surfers; Water clear

Station	Date	Parameter	Value
D11	18 Jul 2018	Arrive Time	953
D11	18 Jul 2018	Weather	Partly Cloudy
D11	18 Jul 2018	Wind Speed (kts)	6.4
D11	18 Jul 2018	Wind Dir	S
D11	18 Jul 2018	Animal Life	1 Dog
D11	18 Jul 2018	Floatables	None
D11	18 Jul 2018	Water Color	Green
D11	18 Jul 2018	Current Direction	N
D11	18 Jul 2018	Water Temp (C)	21
D11	18 Jul 2018	Wave Height Low (ft)	2
D11	18 Jul 2018	High Tide (ft)	4.7
D11	18 Jul 2018	High Tide Time	1456
D11	18 Jul 2018	Low Tide (ft)	0.4
D11	18 Jul 2018	Low Tide Time	815
D11	18 Jul 2018	Comments	Kelp; Seagrass; 2 Persons; 4 Swimmers; Water clear
D11	25 Jul 2018	Arrive Time	852
D11	25 Jul 2018	Weather	Overcast
D11	25 Jul 2018	Wind Speed (kts)	1.2
D11	25 Jul 2018	Wind Dir	S
D11	25 Jul 2018	Animal Life	None
D11	25 Jul 2018	Floatables	None
D11	25 Jul 2018	Water Color	Green
D11	25 Jul 2018	Current Direction	N
D11	25 Jul 2018	Water Temp (C)	23
D11	25 Jul 2018	Wave Height Low (ft)	5
D11	25 Jul 2018	High Tide (ft)	3.8
D11	25 Jul 2018	High Tide Time	924
D11	25 Jul 2018	Low Tide (ft)	2.1
D11	25 Jul 2018	Low Tide Time	1418
D11	25 Jul 2018	Comments	Kelp; Seagrass; 13 Persons; 3 Surfers; Water clear
D12	05 Jul 2018	Arrive Time	1125
D12	05 Jul 2018	Weather	Sunny
D12	05 Jul 2018	Wind Speed (kts)	9.8
D12	05 Jul 2018	Wind Dir	W
D12	05 Jul 2018	Animal Life	None
D12	05 Jul 2018	Floatables	None
D12	05 Jul 2018	Water Color	Green
D12	05 Jul 2018	Current Direction	N
D12	05 Jul 2018	Water Temp (C)	20
D12	05 Jul 2018	Wave Height Low (ft)	4
D12	05 Jul 2018	High Tide (ft)	4.2
D12	05 Jul 2018	High Tide Time	1546
D12	05 Jul 2018	Low Tide (ft)	0.9
D12	05 Jul 2018	Low Tide Time	851
D12	05 Jul 2018	Comments	Kelp; Seagrass; 42 Persons; 16 Swimmers; Water clear
D12	06 Jul 2018	Arrive Time	856
D12	06 Jul 2018	Weather	Sunny
D12	06 Jul 2018	Wind Speed (kts)	8.3
D12	06 Jul 2018	Wind Dir	N
D12	06 Jul 2018	Animal Life	None
D12	06 Jul 2018	Floatables	None
D12	06 Jul 2018	Water Color	Green

Station	Date	Parameter	Value
D12	06 Jul 2018	Current Direction	N
D12	06 Jul 2018	Water Temp (C)	22
D12	06 Jul 2018	Wave Height Low (ft)	3
D12	06 Jul 2018	High Tide (ft)	3.4
D12	06 Jul 2018	High Tide Time	309
D12	06 Jul 2018	Low Tide (ft)	1.2
D12	06 Jul 2018	Low Tide Time	942
D12	06 Jul 2018	Comments	Resample; Kelp; Seagrass; 25 Persons; 15 Swimmers; Water clear
D12	11 Jul 2018	Arrive Time	740
D12	11 Jul 2018	Weather	Partly Cloudy
D12	11 Jul 2018	Wind Speed (kts)	1.7
D12	11 Jul 2018	Wind Dir	N
D12	11 Jul 2018	Animal Life	3 Shorebirds
D12	11 Jul 2018	Floatables	None
D12	11 Jul 2018	Water Color	Green
D12	11 Jul 2018	Current Direction	N
D12	11 Jul 2018	Water Temp (C)	23
D12	11 Jul 2018	Wave Height Low (ft)	1
D12	11 Jul 2018	High Tide (ft)	4
D12	11 Jul 2018	High Tide Time	905
D12	11 Jul 2018	Low Tide (ft)	-1
D12	11 Jul 2018	Low Tide Time	250
D12	11 Jul 2018	Comments	Kelp; Seagrass; 13 Persons; 3 Surfers; 2 Swimmers; Water clear
D12	18 Jul 2018	Arrive Time	1019
D12	18 Jul 2018	Weather	Sunny
D12	18 Jul 2018	Wind Speed (kts)	6.8
D12	18 Jul 2018	Wind Dir	N
D12	18 Jul 2018	Animal Life	None
D12	18 Jul 2018	Floatables	None
D12	18 Jul 2018	Water Color	Green
D12	18 Jul 2018	Current Direction	S
D12	18 Jul 2018	Water Temp (C)	24
D12	18 Jul 2018	Wave Height Low (ft)	3
D12	18 Jul 2018	High Tide (ft)	4.7
D12	18 Jul 2018	High Tide Time	1456
D12	18 Jul 2018	Low Tide (ft)	0.4
D12	18 Jul 2018	Low Tide Time	815
D12	18 Jul 2018	Comments	Kelp; Seagrass; 50 Persons; 40 Swimmers; Water clear
D12	25 Jul 2018	Arrive Time	833
D12	25 Jul 2018	Weather	Partly Cloudy
D12	25 Jul 2018	Wind Speed (kts)	3.2
D12	25 Jul 2018	Wind Dir	S
D12	25 Jul 2018	Animal Life	None
D12	25 Jul 2018	Floatables	None
D12	25 Jul 2018	Water Color	Green
D12	25 Jul 2018	Current Direction	N
D12	25 Jul 2018	Water Temp (C)	22
D12	25 Jul 2018	Wave Height Low (ft)	3
D12	25 Jul 2018	High Tide (ft)	3.8
D12	25 Jul 2018	High Tide Time	924
D12	25 Jul 2018	Low Tide (ft)	-0.2

Station	Date	Parameter	Value
D12	25 Jul 2018	Low Tide Time	307
D12	25 Jul 2018	Comments	Seagrass; 14 Persons; 2 Surfers; Water clear

Kelp Stations

Table 3.1

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

Date	A1	A6	A7	C4	C5	C6	C7	C8
01 Jul 2018	2*	4*	3*	3*	2*	2*	2*	2*
02 Jul 2018	2	4	3	3	2	2	2	2
03 Jul 2018	2	4	3	3	2	2	2	2
04 Jul 2018	2*	2*	2*	2*	2*	2*	2*	2*
05 Jul 2018	2*	2*	2*	2*	2*	2*	2*	2*
06 Jul 2018	2*	2*	2*	2*	2*	2*	2*	2*
07 Jul 2018	2*	2*	2*	2*	2*	2*	2*	2*
08 Jul 2018	2*	2*	2*	2*	2*	2*	2*	2*
09 Jul 2018	2	2	2	4	2	2	5	3
10 Jul 2018	2	2	2	4	2	2	5	3
11 Jul 2018	2*	3*	2*	5*	2*	2*	6*	2*
12 Jul 2018	2*	3*	2*	5*	2*	2*	6*	2*
13 Jul 2018	2*	3*	2*	5*	2*	2*	6*	2*
14 Jul 2018	2*	3*	2*	5*	2*	2*	6*	2*
15 Jul 2018	2*	3*	2*	5*	2*	2*	6*	2*
16 Jul 2018	4	3	3	6	2	2	5	3
17 Jul 2018	4	3	3	6	2	2	5	3
18 Jul 2018	4*	3*	3*	9*	2*	2*	6*	3*
19 Jul 2018	4*	3*	3*	9*	2*	2*	6*	3*
20 Jul 2018	4*	3*	3*	9*	2*	2*	6*	3*
21 Jul 2018	4*	3*	3*	9*	2*	2*	6*	3*
22 Jul 2018	4*	3*	3*	9*	2*	2*	6*	3*
23 Jul 2018	5	4	6	10	3	2	7	3
24 Jul 2018	5	4	6	10	3	2	7	3
25 Jul 2018	6*	4*	7*	14*	3*	2*	10*	3*
26 Jul 2018	6*	4*	7*	14*	3*	2*	10*	3*
27 Jul 2018	6*	4*	7*	14*	3*	2*	10*	3*
28 Jul 2018	6*	4*	7*	14*	3*	2*	10*	3*
29 Jul 2018	6*	4*	7*	14*	3*	2*	10*	3*
30 Jul 2018	6	4	6	10	3	2	7	3
31 Jul 2018	6	4	6	10	3	2	7	3

* 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 Jul 2018	2*	2*	2*	2*	2*	2*	2*	2*
02 Jul 2018	2	2	2	2	2	2	2	2
03 Jul 2018	2	2	2	2	2	2	2	2
04 Jul 2018	2*	2*	2*	2*	2*	2*	2*	2*
05 Jul 2018	2*	2*	2*	2*	2*	2*	2*	2*
06 Jul 2018	2*	2*	2*	2*	2*	2*	2*	2*
07 Jul 2018	2*	2*	2*	2*	2*	2*	2*	2*
08 Jul 2018	2*	2*	2*	2*	2*	2*	2*	2*
09 Jul 2018	2	2	2	2	2	2	2	2
10 Jul 2018	2	2	2	2	2	2	2	2
11 Jul 2018	2*	2*	2*	2*	2*	2*	2*	2*
12 Jul 2018	2*	2*	2*	2*	2*	2*	2*	2*
13 Jul 2018	2*	2*	2*	2*	2*	2*	2*	2*
14 Jul 2018	2*	2*	2*	2*	2*	2*	2*	2*
15 Jul 2018	2*	2*	2*	2*	2*	2*	2*	2*
16 Jul 2018	2	2	2	2	2	2	2	2
17 Jul 2018	2	2	2	2	2	2	2	2
18 Jul 2018	2*	2*	2*	2*	2*	2*	2*	2*
19 Jul 2018	2*	2*	2*	2*	2*	2*	2*	2*
20 Jul 2018	2*	2*	2*	2*	2*	2*	2*	2*
21 Jul 2018	2*	2*	2*	2*	2*	2*	2*	2*
22 Jul 2018	2*	2*	2*	2*	2*	2*	2*	2*
23 Jul 2018	2	2	2	2	2	2	2	2
24 Jul 2018	2	2	2	2	2	2	2	2
25 Jul 2018	2*	2*	2*	2*	2*	2*	2*	2*
26 Jul 2018	2*	2*	2*	2*	2*	2*	2*	2*
27 Jul 2018	2*	2*	2*	2*	2*	2*	2*	2*
28 Jul 2018	2*	2*	2*	2*	2*	2*	2*	2*
29 Jul 2018	2*	2*	2*	2*	2*	2*	2*	2*
30 Jul 2018	2	2	2	2	2	2	2	2
31 Jul 2018	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 Jul 2018	2*	2*	2*	2*	2*	2*	2*	2*
02 Jul 2018	2	2	2	2	2	2	2	2
03 Jul 2018	2	2	2	2	2	2	2	2
04 Jul 2018	2*	2*	2*	2*	2*	2*	2*	2*
05 Jul 2018	2*	2*	2*	2*	2*	2*	2*	2*
06 Jul 2018	2*	2*	2*	2*	2*	2*	2*	2*
07 Jul 2018	2*	2*	2*	2*	2*	2*	2*	2*
08 Jul 2018	2*	2*	2*	2*	2*	2*	2*	2*
09 Jul 2018	2	2	2	2	2	2	2	2
10 Jul 2018	2	2	2	2	2	2	2	2
11 Jul 2018	2*	2*	2*	2*	2*	2*	2*	2*
12 Jul 2018	2*	2*	2*	2*	2*	2*	2*	2*
13 Jul 2018	2*	2*	2*	2*	2*	2*	2*	2*
14 Jul 2018	2*	2*	2*	2*	2*	2*	2*	2*
15 Jul 2018	2*	2*	2*	2*	2*	2*	2*	2*
16 Jul 2018	3	2	2	2	2	2	2	2
17 Jul 2018	3	2	2	2	2	2	2	2
18 Jul 2018	3*	2*	2*	2*	2*	2*	2*	2*
19 Jul 2018	3*	2*	2*	2*	2*	2*	2*	2*
20 Jul 2018	3*	2*	2*	2*	2*	2*	2*	2*
21 Jul 2018	3*	2*	2*	2*	2*	2*	2*	2*
22 Jul 2018	3*	2*	2*	2*	2*	2*	2*	2*
23 Jul 2018	3	2	2	2	2	2	2	2
24 Jul 2018	3	2	2	2	2	2	2	2
25 Jul 2018	3*	2*	2*	2*	2*	2*	2*	2*
26 Jul 2018	3*	2*	2*	2*	2*	2*	2*	2*
27 Jul 2018	3*	2*	2*	2*	2*	2*	2*	2*
28 Jul 2018	3*	2*	2*	2*	2*	2*	2*	2*
29 Jul 2018	3*	2*	2*	2*	2*	2*	2*	2*
30 Jul 2018	3	2	2	2	2	2	2	2
31 Jul 2018	3	2	2	2	2	2	2	2

* Geometric mean calculated using n<5

Table 3.4

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

Date	A1	A6	A7	C4	C5	C6	C7	C8
02 Jul 2018	IC	IC	IC	IC	IC	IC	IC	IC
09 Jul 2018	IC	IC	IC	IC	IC	IC	IC	IC
16 Jul 2018	IC	IC	IC	IC	IC	IC	IC	IC
23 Jul 2018	IC	IC	IC	IC	IC	IC	IC	IC
30 Jul 2018	IC	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 3.5

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

Date	A1	A6	A7	C4	C5	C6	C7	C8
02 Jul 2018	IC	IC	IC	IC	IC	IC	IC	IC
09 Jul 2018	IC	IC	IC	IC	IC	IC	IC	IC
16 Jul 2018	IC	IC	IC	IC	IC	IC	IC	IC
23 Jul 2018	IC	IC	IC	IC	IC	IC	IC	IC
30 Jul 2018	IC	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 3.6

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

Date	A1	A6	A7	C4	C5	C6	C7	C8
02 Jul 2018	IC	IC	IC	IC	IC	IC	IC	IC
09 Jul 2018	IC	IC	IC	IC	IC	IC	IC	IC
16 Jul 2018	IC	IC	IC	IC	IC	IC	IC	IC
23 Jul 2018	IC	IC	IC	IC	IC	IC	IC	IC
30 Jul 2018	IC	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 3.7

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

Date	A1	A6	A7	C4	C5	C6	C7	C8
02 Jul 2018	IC	IC	IC	IC	IC	IC	IC	IC
09 Jul 2018	IC	IC	IC	IC	IC	IC	IC	IC
16 Jul 2018	IC	IC	IC	IC	IC	IC	IC	IC
23 Jul 2018	IC	IC	IC	IC	IC	IC	IC	IC
30 Jul 2018	IC	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 3.8

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

Station	Date	Time	Depth	Total	Fecal	Entero	F:T	Temp	XMS	DO	Sal	pH
A1	02 Jul 2018	804	1	<2	<2	<2	1.00	18.9	80.01	8.5	33.75	8.2
A1	02 Jul 2018	804	12	<2	<2	<2	1.00	16.6	69.67	7.6	33.70	8.1
A1	02 Jul 2018	804	18	<2	<2	<2	1.00	13.2	72.96	5.5	33.61	7.8
A1	09 Jul 2018	804	1	<2	<2	<2	1.00	20.8	77.82	8.8	33.72	8.2
A1	09 Jul 2018	804	12	2e	<2	<2	1.00	13.5	67.19	6.5	33.58	8.0
A1	09 Jul 2018	804	18	2e	2e	<2	1.00	12.9	75.53	5.5	33.61	7.9
A1	16 Jul 2018	746	1	<2	<2	<2	1.00	21.1	82.38	8.8	33.73	8.3
A1	16 Jul 2018	746	12	8e	<2	<2	0.25	14.2	85.62	8.5	33.58	8.1
A1	16 Jul 2018	746	18	66	2e	30e	0.03	13.5	86.19	7.6	33.58	8.0
A1	23 Jul 2018	755	1	<2	<2	<2	1.00	19.7	77.20	7.5	33.68	8.2
A1	23 Jul 2018	755	12	14e	<2	2e	0.14	12.6	87.11	6.2	33.56	7.9
A1	23 Jul 2018	755	18	26e	<2	<2	0.08	12.1	84.73	5.5	33.57	7.9
A1	30 Jul 2018	742	1	<20	<2	<2	0.10	23.5	83.73	8.0	33.82	8.3
A1	30 Jul 2018	742	12	<2	<2	<2	1.00	14.2	82.28	8.0	33.58	8.1
A1	30 Jul 2018	742	18	<2	<2	<2	1.00	13.8	84.33	7.2	33.57	8.0
A6	02 Jul 2018	831	1	<2	<2	<2	1.00	20.4	83.39	8.8	33.80	8.3
A6	02 Jul 2018	831	12	<2	<2	<2	1.00	13.6	76.84	6.1	33.65	7.9
A6	02 Jul 2018	831	18	<2	<2	<2	1.00	13.2	76.43	5.6	33.61	7.9
A6	09 Jul 2018	830	1	<2	<2	<2	1.00	22.6	83.21	9.1	33.79	8.3
A6	09 Jul 2018	830	12	<2	<2	<2	1.00	15.9	71.62	7.4	33.75	8.1
A6	09 Jul 2018	830	18	6e	<2	2e	0.33	13.3	74.86	6.7	33.60	8.0
A6	16 Jul 2018	815	1	<2	<2	<2	1.00	21.0	82.53	8.9	33.72	8.3
A6	16 Jul 2018	815	12	10e	<2	<2	0.20	14.8	84.67	7.8	33.61	8.1
A6	16 Jul 2018	815	18	18e	<2	6e	0.11	14.0	86.14	7.7	33.59	8.1
A6	23 Jul 2018	828	1	<2	<2	<2	1.00	19.5	78.72	8.8	33.68	8.2
A6	23 Jul 2018	828	12	6e	<2	<2	0.33	13.8	85.66	6.9	33.57	8.0
A6	23 Jul 2018	828	18	10e	4e	2e	0.40	13.1	86.21	6.3	33.57	8.0
A6	30 Jul 2018	809	1	<2	<2	<2	1.00	24.0	82.11	8.5	33.79	8.3
A6	30 Jul 2018	809	12	<2	<2	<2	1.00	14.4	83.49	7.7	33.56	8.1
A6	30 Jul 2018	809	18	<2	<2	<2	1.00	14.1	84.23	7.5	33.57	8.1
A7	02 Jul 2018	820	1	2e	<2	<2	1.00	19.8	80.82	8.7	33.77	8.3
A7	02 Jul 2018	820	12	<2	2e	<2	1.00	14.7	79.67	6.2	33.71	8.0
A7	02 Jul 2018	820	18	<2	<2	<2	1.00	12.9	77.96	5.4	33.60	7.8
A7	09 Jul 2018	816	1	<2	<2	<2	1.00	22.4	82.68	8.7	33.78	8.3
A7	09 Jul 2018	816	12	2e	<2	<2	1.00	13.1	74.08	6.8	33.59	8.0
A7	09 Jul 2018	816	18	2e	<2	<2	1.00	12.8	75.87	6.3	33.60	8.0

Station	Date	Time	Depth	Total	Fecal	Entero	F:T	Temp	XMS	DO	Sal	pH
A7	16 Jul 2018	801	1	<2	<2	<2	1.00	21.0	83.18	9.0	33.72	8.3
A7	16 Jul 2018	801	12	2e	<2	<2	1.00	14.6	84.73	9.0	33.59	8.1
A7	16 Jul 2018	801	18	40	<2	<2	0.05	13.6	86.12	7.5	33.58	8.1
A7	23 Jul 2018	817	1	<2	<2	<2	1.00	19.6	80.56	8.2	33.68	8.2
A7	23 Jul 2018	817	12	18e	<2	2e	0.11	13.0	86.77	6.5	33.57	8.0
A7	23 Jul 2018	817	18	140	2e	6e	0.01	12.3	85.59	5.8	33.57	7.9
A7	30 Jul 2018	757	1	<2	<2	<2	1.00	24.1	81.31	8.4	33.77	8.3
A7	30 Jul 2018	757	12	<2	<2	<2	1.00	14.2	82.85	7.8	33.57	8.1
A7	30 Jul 2018	757	18	<2	<2	<2	1.00	13.6	83.66	7.3	33.56	8.0
C4	02 Jul 2018	952	1	2e	<2	<2	1.00	20.8	71.58	8.0	33.81	8.2
C4	02 Jul 2018	952	3	<2	<2	<2	1.00	20.4	77.00	7.5	33.87	8.2
C4	02 Jul 2018	952	9	2e	<2	<2	1.00	15.5	82.77	5.0	33.72	7.9
C4	09 Jul 2018	945	1	<2	<2	<2	1.00	21.1	75.94	9.4	33.73	8.3
C4	09 Jul 2018	945	3	<200	<2	<2	0.01	20.9	76.40	9.1	33.74	8.3
C4	09 Jul 2018	945	9	<2	<2	<2	1.00	16.3	74.30	3.4	33.79	7.9
C4	16 Jul 2018	927	1	<20	<2	<2	0.10	21.4	63.18	7.7	33.74	8.2
C4	16 Jul 2018	927	3	<20	<2	<2	0.10	21.3	68.06	7.7	33.74	8.2
C4	16 Jul 2018	927	9	20e	<2	<2	0.10	16.7	67.67	6.6	33.62	8.1
C4	23 Jul 2018	940	1	6e	<2	<2	0.33	20.1	65.41	7.1	33.68	8.2
C4	23 Jul 2018	940	3	<20	<2	2e	0.10	19.2	68.89	6.8	33.73	8.2
C4	23 Jul 2018	940	9	<20	<2	<2	0.10	13.4	71.01	5.8	33.56	7.9
C4	30 Jul 2018	921	1	<2	<2	<2	1.00	24.1	78.69	7.6	33.82	8.3
C4	30 Jul 2018	921	3	<2	<2	<2	1.00	24.2	78.73	7.1	33.87	8.3
C4	30 Jul 2018	921	9	<2	<2	<2	1.00	15.7	81.36	5.1	33.62	7.9
C5	02 Jul 2018	941	1	<2	<2	<2	1.00	20.9	78.22	8.2	33.81	8.2
C5	02 Jul 2018	941	3	<2	<2	<2	1.00	18.8	77.89	8.3	33.86	8.2
C5	02 Jul 2018	941	9	<2	<2	<2	1.00	17.1	80.12	7.7	33.71	8.1
C5	09 Jul 2018	934	1	<2	<2	<2	1.00	22.4	76.58	8.5	33.77	8.3
C5	09 Jul 2018	934	3	2e	<2	<2	1.00	22.0	76.31	8.3	33.78	8.3
C5	09 Jul 2018	934	9	6e	<2	<2	0.33	17.3	79.43	6.9	33.76	8.1
C5	16 Jul 2018	917	1	<2	<2	2e	1.00	21.2	77.47	8.2	33.73	8.3
C5	16 Jul 2018	917	3	<2	<2	<2	1.00	20.7	80.68	8.3	33.73	8.3
C5	16 Jul 2018	917	9	2e	<2	<2	1.00	16.1	82.54	6.6	33.62	8.1
C5	23 Jul 2018	930	1	<2	<2	<2	1.00	19.9	71.38	7.5	33.68	8.2
C5	23 Jul 2018	930	3	<20	<2	<2	0.10	18.4	72.08	7.2	33.75	8.2
C5	23 Jul 2018	930	9	<2	<2	<2	1.00	14.1	81.15	6.4	33.58	8.0
C5	30 Jul 2018	904	1	<2	<2	<2	1.00	24.4	82.94	7.5	33.82	8.3
C5	30 Jul 2018	904	3	<2	<2	<2	1.00	24.0	83.12	7.5	33.90	8.3
C5	30 Jul 2018	904	9	2e	2e	<2	1.00	15.9	83.79	6.8	33.66	8.1
C6	02 Jul 2018	930	1	<2	<2	<2	1.00	21.1	80.03	8.9	33.82	8.3
C6	02 Jul 2018	930	3	<2	<2	<2	1.00	21.1	80.63	8.8	33.82	8.3

Station	Date	Time	Depth	Total	Fecal	Enteroc	F:T	Temp	XMS	DO	Sal	pH
C6	02 Jul 2018	930	9	<2	<2	<2	1.00	15.4	83.00	5.6	33.67	8.0
C6	09 Jul 2018	924	1	<2	<2	<2	1.00	22.6	79.83	9.1	33.79	8.3
C6	09 Jul 2018	924	3	<2	<2	<2	1.00	22.4	79.99	8.8	33.79	8.3
C6	09 Jul 2018	924	9	<2	<2	<2	1.00	16.1	80.27	5.5	33.70	8.0
C6	16 Jul 2018	905	1	<2	<2	<2	1.00	21.3	78.44	8.6	33.73	8.3
C6	16 Jul 2018	905	3	<2	<2	<2	1.00	20.9	80.23	8.7	33.72	8.3
C6	16 Jul 2018	905	9	<2	<2	<2	1.00	16.4	82.98	6.6	33.63	8.1
C6	23 Jul 2018	919	1	<2	<2	<2	1.00	20.3	70.16	8.3	33.68	8.2
C6	23 Jul 2018	919	3	<2	<2	<2	1.00	19.2	74.85	7.6	33.70	8.2
C6	23 Jul 2018	919	9	<2	<2	<2	1.00	15.2	73.68	6.8	33.62	8.0
C6	30 Jul 2018	854	1	<2	<2	<2	1.00	24.1	81.70	7.9	33.81	8.3
C6	30 Jul 2018	854	3	<2	<2	<2	1.00	24.1	81.78	7.8	33.86	8.3
C6	30 Jul 2018	854	9	<2	<2	<2	1.00	16.5	83.03	7.0	33.66	8.1
C7	02 Jul 2018	847	1	<2	<2	<2	1.00	21.1	81.20	9.7	33.80	8.4
C7	02 Jul 2018	847	12	6e	<2	<2	0.33	15.3	78.25	6.7	33.70	8.0
C7	02 Jul 2018	847	18	2e	<2	<2	1.00	13.1	83.14	5.5	33.66	7.9
C7	09 Jul 2018	855	1	<2	<2	2e	1.00	22.9	85.60	8.4	33.80	8.3
C7	09 Jul 2018	855	12	<200	<2	<2	0.01	15.0	68.58	8.5	33.65	8.2
C7	09 Jul 2018	855	18	ND	<2	<2	ND	12.8	84.84	5.3	33.61	7.9
C7	16 Jul 2018	830	1	<2	<2	<2	1.00	21.2	80.08	8.8	33.73	8.3
C7	16 Jul 2018	830	12	2e	<2	<2	1.00	15.6	82.76	7.9	33.61	8.1
C7	16 Jul 2018	830	18	<2	<2	<2	1.00	14.6	82.91	8.0	33.60	8.1
C7	23 Jul 2018	842	1	<2	<2	<2	1.00	19.3	76.83	9.2	33.65	8.2
C7	23 Jul 2018	842	12	<2	<2	<2	1.00	13.7	86.00	7.1	33.55	8.0
C7	23 Jul 2018	842	18	38e	<2	2e	0.05	12.6	86.48	6.0	33.56	7.9
C7	30 Jul 2018	825	1	<2	<2	<2	1.00	24.3	80.17	8.7	33.81	8.3
C7	30 Jul 2018	825	12	<2	<2	<2	1.00	15.5	81.22	8.3	33.60	8.1
C7	30 Jul 2018	825	18	<2	<2	<2	1.00	14.2	85.68	7.4	33.57	8.1
C8	02 Jul 2018	910	1	<2	<2	<2	1.00	21.0	83.09	10.2	33.80	8.4
C8	02 Jul 2018	910	12	<2	<2	<2	1.00	14.0	80.32	6.9	33.71	8.0
C8	02 Jul 2018	910	18	<2	<2	<2	1.00	12.0	85.60	5.0	33.60	7.8
C8	09 Jul 2018	907	1	<2	<2	<2	1.00	22.9	84.24	7.2	33.77	8.3
C8	09 Jul 2018	907	12	<2	<2	<2	1.00	14.9	67.09	7.7	33.82	8.1
C8	09 Jul 2018	907	18	10e	<2	<2	0.20	12.4	82.17	5.5	33.63	7.9
C8	16 Jul 2018	845	1	4e	<2	2e	0.50	20.9	79.52	8.9	33.70	8.3
C8	16 Jul 2018	845	12	<2	<2	<2	1.00	15.9	79.16	8.3	33.65	8.2
C8	16 Jul 2018	845	18	<2	<2	<2	1.00	15.0	84.30	7.5	33.61	8.1
C8	23 Jul 2018	855	1	<2	2e	<2	1.00	19.4	70.88	9.0	33.68	8.2
C8	23 Jul 2018	855	12	<2	<2	<2	1.00	14.8	81.43	8.5	33.58	8.1
C8	23 Jul 2018	855	18	<2	<2	<2	1.00	14.0	84.59	7.8	33.55	8.1
C8	30 Jul 2018	837	1	<2	<2	<2	1.00	24.2	80.42	8.5	33.82	8.3

Station	Date	Time	Depth	Total	Fecal	Enteroc	F:T	Temp	XMS	DO	Sal	pH
C8	30 Jul 2018	837	12	<2	<2	<2	1.00	17.4	72.89	9.5	33.75	8.2
C8	30 Jul 2018	837	18	2e	<2	<2	1.00	14.9	83.54	7.7	33.65	8.1

ns = not sampled

ND = no data

Table 3.9

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

Station	Date	Parameter	Value
A1	02 Jul 2018	Depth (m)	18
A1	02 Jul 2018	Arrive Time	804
A1	02 Jul 2018	Depart Time	811
A1	02 Jul 2018	Air Temp (C)	19
A1	02 Jul 2018	Weather	Overcast
A1	02 Jul 2018	Visibility (mi)	9
A1	02 Jul 2018	Wind Speed (kts)	0
A1	02 Jul 2018	Wind Dir	
A1	02 Jul 2018	Water Color	Bluish-Green
A1	02 Jul 2018	Wave Ht Low (ft)	2
A1	02 Jul 2018	Wave Period (sec)	13
A1	02 Jul 2018	Sea State	Wind ripples
A1	02 Jul 2018	High Tide (ft)	3.68
A1	02 Jul 2018	High Tide Time	1321
A1	02 Jul 2018	Low Tide (ft)	0.04
A1	02 Jul 2018	Low Tide Time	645
A1	02 Jul 2018	Comments	Kelp
A1	09 Jul 2018	Depth (m)	18
A1	09 Jul 2018	Arrive Time	804
A1	09 Jul 2018	Depart Time	809
A1	09 Jul 2018	Air Temp (C)	22
A1	09 Jul 2018	Weather	Overcast
A1	09 Jul 2018	Visibility (mi)	2
A1	09 Jul 2018	Wind Speed (kts)	2
A1	09 Jul 2018	Wind Dir	E
A1	09 Jul 2018	Water Color	Green
A1	09 Jul 2018	Wave Ht Low (ft)	3
A1	09 Jul 2018	Wave Period (sec)	9
A1	09 Jul 2018	Sea State	Calm
A1	09 Jul 2018	High Tide (ft)	3.46
A1	09 Jul 2018	High Tide Time	718
A1	09 Jul 2018	Low Tide (ft)	0.33
A1	09 Jul 2018	Low Tide Time	118
A1	09 Jul 2018	Comments	Kelp; Boats
A1	16 Jul 2018	Depth (m)	19
A1	16 Jul 2018	Arrive Time	746
A1	16 Jul 2018	Depart Time	753
A1	16 Jul 2018	Air Temp (C)	19
A1	16 Jul 2018	Weather	Overcast
A1	16 Jul 2018	Visibility (mi)	7
A1	16 Jul 2018	Wind Speed (kts)	2
A1	16 Jul 2018	Wind Dir	SE
A1	16 Jul 2018	Water Color	Bluish-Green
A1	16 Jul 2018	Wave Ht Low (ft)	3
A1	16 Jul 2018	Wave Period (sec)	9
A1	16 Jul 2018	Sea State	Calm
A1	16 Jul 2018	High Tide (ft)	4.53
A1	16 Jul 2018	High Tide Time	1304
A1	16 Jul 2018	Low Tide (ft)	-0.81

Station	Date	Parameter	Value
A1	16 Jul 2018	Low Tide Time	637
A1	16 Jul 2018	Comments	none
A1	23 Jul 2018	Depth (m)	18
A1	23 Jul 2018	Arrive Time	755
A1	23 Jul 2018	Depart Time	807
A1	23 Jul 2018	Air Temp (C)	21
A1	23 Jul 2018	Weather	Clear
A1	23 Jul 2018	Visibility (mi)	12
A1	23 Jul 2018	Wind Speed (kts)	1
A1	23 Jul 2018	Wind Dir	S
A1	23 Jul 2018	Water Color	Green
A1	23 Jul 2018	Wave Ht Low (ft)	4
A1	23 Jul 2018	Wave Period (sec)	4
A1	23 Jul 2018	Sea State	Calm
A1	23 Jul 2018	High Tide (ft)	3.5
A1	23 Jul 2018	High Tide Time	811
A1	23 Jul 2018	Low Tide (ft)	0.24
A1	23 Jul 2018	Low Tide Time	156
A1	23 Jul 2018	Comments	Kelp; Boats
A1	30 Jul 2018	Depth (m)	19
A1	30 Jul 2018	Arrive Time	742
A1	30 Jul 2018	Depart Time	748
A1	30 Jul 2018	Air Temp (C)	23
A1	30 Jul 2018	Weather	Partly Cloudy
A1	30 Jul 2018	Visibility (mi)	12
A1	30 Jul 2018	Wind Speed (kts)	6
A1	30 Jul 2018	Wind Dir	W
A1	30 Jul 2018	Water Color	Brownish-Green
A1	30 Jul 2018	Wave Ht Low (ft)	2
A1	30 Jul 2018	Wave Period (sec)	9
A1	30 Jul 2018	Sea State	Calm
A1	30 Jul 2018	High Tide (ft)	4.11
A1	30 Jul 2018	High Tide Time	1151
A1	30 Jul 2018	Low Tide (ft)	-0.09
A1	30 Jul 2018	Low Tide Time	535
A1	30 Jul 2018	Comments	none
A6	02 Jul 2018	Depth (m)	19
A6	02 Jul 2018	Arrive Time	831
A6	02 Jul 2018	Depart Time	839
A6	02 Jul 2018	Air Temp (C)	19
A6	02 Jul 2018	Weather	Overcast
A6	02 Jul 2018	Visibility (mi)	9
A6	02 Jul 2018	Wind Speed (kts)	2
A6	02 Jul 2018	Wind Dir	SW
A6	02 Jul 2018	Water Color	Green
A6	02 Jul 2018	Wave Ht Low (ft)	2
A6	02 Jul 2018	Wave Period (sec)	13
A6	02 Jul 2018	Sea State	Wind ripples
A6	02 Jul 2018	High Tide (ft)	3.68
A6	02 Jul 2018	High Tide Time	1321
A6	02 Jul 2018	Low Tide (ft)	0.04
A6	02 Jul 2018	Low Tide Time	645

Station	Date	Parameter	Value
A6	02 Jul 2018	Comments	Kelp
A6	09 Jul 2018	Depth (m)	19
A6	09 Jul 2018	Arrive Time	830
A6	09 Jul 2018	Depart Time	841
A6	09 Jul 2018	Air Temp (C)	22
A6	09 Jul 2018	Weather	Overcast
A6	09 Jul 2018	Visibility (mi)	2
A6	09 Jul 2018	Wind Speed (kts)	3
A6	09 Jul 2018	Wind Dir	E
A6	09 Jul 2018	Water Color	Green
A6	09 Jul 2018	Wave Ht Low (ft)	2
A6	09 Jul 2018	Wave Period (sec)	9
A6	09 Jul 2018	Sea State	Calm
A6	09 Jul 2018	High Tide (ft)	3.46
A6	09 Jul 2018	High Tide Time	718
A6	09 Jul 2018	Low Tide (ft)	0.33
A6	09 Jul 2018	Low Tide Time	118
A6	09 Jul 2018	Comments	Seal on station; Kelp; Boats
A6	16 Jul 2018	Depth (m)	19
A6	16 Jul 2018	Arrive Time	815
A6	16 Jul 2018	Depart Time	823
A6	16 Jul 2018	Air Temp (C)	20
A6	16 Jul 2018	Weather	Overcast
A6	16 Jul 2018	Visibility (mi)	7
A6	16 Jul 2018	Wind Speed (kts)	3
A6	16 Jul 2018	Wind Dir	E
A6	16 Jul 2018	Water Color	Bluish-Green
A6	16 Jul 2018	Wave Ht Low (ft)	3
A6	16 Jul 2018	Wave Period (sec)	13
A6	16 Jul 2018	Sea State	Wind ripples
A6	16 Jul 2018	High Tide (ft)	4.53
A6	16 Jul 2018	High Tide Time	1304
A6	16 Jul 2018	Low Tide (ft)	-0.81
A6	16 Jul 2018	Low Tide Time	637
A6	16 Jul 2018	Comments	Kelp
A6	23 Jul 2018	Depth (m)	20
A6	23 Jul 2018	Arrive Time	828
A6	23 Jul 2018	Depart Time	834
A6	23 Jul 2018	Air Temp (C)	22
A6	23 Jul 2018	Weather	Clear
A6	23 Jul 2018	Visibility (mi)	12
A6	23 Jul 2018	Wind Speed (kts)	0
A6	23 Jul 2018	Wind Dir	
A6	23 Jul 2018	Water Color	Green
A6	23 Jul 2018	Wave Ht Low (ft)	4
A6	23 Jul 2018	Wave Period (sec)	4
A6	23 Jul 2018	Sea State	Calm
A6	23 Jul 2018	High Tide (ft)	3.5
A6	23 Jul 2018	High Tide Time	811
A6	23 Jul 2018	Low Tide (ft)	0.24
A6	23 Jul 2018	Low Tide Time	156
A6	23 Jul 2018	Comments	Kelp; Seagrass

Station	Date	Parameter	Value
A6	30 Jul 2018	Depth (m)	20
A6	30 Jul 2018	Arrive Time	809
A6	30 Jul 2018	Depart Time	814
A6	30 Jul 2018	Air Temp (C)	23
A6	30 Jul 2018	Weather	Partly Cloudy
A6	30 Jul 2018	Visibility (mi)	12
A6	30 Jul 2018	Wind Speed (kts)	6
A6	30 Jul 2018	Wind Dir	W
A6	30 Jul 2018	Water Color	Brownish-Green
A6	30 Jul 2018	Wave Ht Low (ft)	2
A6	30 Jul 2018	Wave Period (sec)	9
A6	30 Jul 2018	Sea State	Calm
A6	30 Jul 2018	High Tide (ft)	4.11
A6	30 Jul 2018	High Tide Time	1151
A6	30 Jul 2018	Low Tide (ft)	-0.09
A6	30 Jul 2018	Low Tide Time	535
A6	30 Jul 2018	Comments	none
A7	02 Jul 2018	Depth (m)	18
A7	02 Jul 2018	Arrive Time	820
A7	02 Jul 2018	Depart Time	825
A7	02 Jul 2018	Air Temp (C)	19
A7	02 Jul 2018	Weather	Overcast
A7	02 Jul 2018	Visibility (mi)	9
A7	02 Jul 2018	Wind Speed (kts)	2
A7	02 Jul 2018	Wind Dir	SW
A7	02 Jul 2018	Water Color	Green
A7	02 Jul 2018	Wave Ht Low (ft)	2
A7	02 Jul 2018	Wave Period (sec)	13
A7	02 Jul 2018	Sea State	Wind ripples
A7	02 Jul 2018	High Tide (ft)	3.68
A7	02 Jul 2018	High Tide Time	1321
A7	02 Jul 2018	Low Tide (ft)	0.04
A7	02 Jul 2018	Low Tide Time	645
A7	02 Jul 2018	Comments	none
A7	09 Jul 2018	Depth (m)	20
A7	09 Jul 2018	Arrive Time	816
A7	09 Jul 2018	Depart Time	821
A7	09 Jul 2018	Air Temp (C)	22
A7	09 Jul 2018	Weather	Overcast
A7	09 Jul 2018	Visibility (mi)	2
A7	09 Jul 2018	Wind Speed (kts)	4
A7	09 Jul 2018	Wind Dir	SE
A7	09 Jul 2018	Water Color	Green
A7	09 Jul 2018	Wave Ht Low (ft)	3
A7	09 Jul 2018	Wave Period (sec)	9
A7	09 Jul 2018	Sea State	Calm
A7	09 Jul 2018	High Tide (ft)	3.46
A7	09 Jul 2018	High Tide Time	718
A7	09 Jul 2018	Low Tide (ft)	0.33
A7	09 Jul 2018	Low Tide Time	118
A7	09 Jul 2018	Comments	Kelp; Boats

Station	Date	Parameter	Value
A7	16 Jul 2018	Depth (m)	18
A7	16 Jul 2018	Arrive Time	801
A7	16 Jul 2018	Depart Time	808
A7	16 Jul 2018	Air Temp (C)	19
A7	16 Jul 2018	Weather	Overcast
A7	16 Jul 2018	Visibility (mi)	7
A7	16 Jul 2018	Wind Speed (kts)	4
A7	16 Jul 2018	Wind Dir	E
A7	16 Jul 2018	Water Color	Bluish-Green
A7	16 Jul 2018	Wave Ht Low (ft)	3
A7	16 Jul 2018	Wave Period (sec)	13
A7	16 Jul 2018	Sea State	Wind ripples
A7	16 Jul 2018	High Tide (ft)	4.53
A7	16 Jul 2018	High Tide Time	1304
A7	16 Jul 2018	Low Tide (ft)	-0.81
A7	16 Jul 2018	Low Tide Time	637
A7	16 Jul 2018	Comments	Kelp
A7	23 Jul 2018	Depth (m)	18
A7	23 Jul 2018	Arrive Time	817
A7	23 Jul 2018	Depart Time	820
A7	23 Jul 2018	Air Temp (C)	22
A7	23 Jul 2018	Weather	Clear
A7	23 Jul 2018	Visibility (mi)	12
A7	23 Jul 2018	Wind Speed (kts)	0
A7	23 Jul 2018	Wind Dir	
A7	23 Jul 2018	Water Color	Green
A7	23 Jul 2018	Wave Ht Low (ft)	4
A7	23 Jul 2018	Wave Period (sec)	4
A7	23 Jul 2018	Sea State	Calm
A7	23 Jul 2018	High Tide (ft)	3.5
A7	23 Jul 2018	High Tide Time	811
A7	23 Jul 2018	Low Tide (ft)	0.24
A7	23 Jul 2018	Low Tide Time	156
A7	23 Jul 2018	Comments	Kelp
A7	30 Jul 2018	Depth (m)	18
A7	30 Jul 2018	Arrive Time	757
A7	30 Jul 2018	Depart Time	801
A7	30 Jul 2018	Air Temp (C)	23
A7	30 Jul 2018	Weather	Partly Cloudy
A7	30 Jul 2018	Visibility (mi)	12
A7	30 Jul 2018	Wind Speed (kts)	1
A7	30 Jul 2018	Wind Dir	SW
A7	30 Jul 2018	Water Color	Brownish-Green
A7	30 Jul 2018	Wave Ht Low (ft)	2
A7	30 Jul 2018	Wave Period (sec)	9
A7	30 Jul 2018	Sea State	Calm
A7	30 Jul 2018	High Tide (ft)	4.11
A7	30 Jul 2018	High Tide Time	1151
A7	30 Jul 2018	Low Tide (ft)	-0.09
A7	30 Jul 2018	Low Tide Time	535
A7	30 Jul 2018	Comments	none
C4	02 Jul 2018	Depth (m)	12

Station	Date	Parameter	Value
C4	02 Jul 2018	Arrive Time	952
C4	02 Jul 2018	Depart Time	959
C4	02 Jul 2018	Air Temp (C)	19
C4	02 Jul 2018	Weather	Overcast
C4	02 Jul 2018	Visibility (mi)	9
C4	02 Jul 2018	Wind Speed (kts)	5
C4	02 Jul 2018	Wind Dir	SW
C4	02 Jul 2018	Water Color	Green
C4	02 Jul 2018	Wave Ht Low (ft)	2
C4	02 Jul 2018	Wave Period (sec)	11
C4	02 Jul 2018	Sea State	Wind ripples
C4	02 Jul 2018	High Tide (ft)	3.68
C4	02 Jul 2018	High Tide Time	1321
C4	02 Jul 2018	Low Tide (ft)	0.04
C4	02 Jul 2018	Low Tide Time	645
C4	02 Jul 2018	Comments	Kelp
C4	09 Jul 2018	Depth (m)	12
C4	09 Jul 2018	Arrive Time	945
C4	09 Jul 2018	Depart Time	949
C4	09 Jul 2018	Air Temp (C)	22
C4	09 Jul 2018	Weather	Partly Cloudy
C4	09 Jul 2018	Visibility (mi)	6
C4	09 Jul 2018	Wind Speed (kts)	2
C4	09 Jul 2018	Wind Dir	SE
C4	09 Jul 2018	Water Color	Green
C4	09 Jul 2018	Wave Ht Low (ft)	2
C4	09 Jul 2018	Wave Period (sec)	9
C4	09 Jul 2018	Sea State	Calm
C4	09 Jul 2018	High Tide (ft)	3.46
C4	09 Jul 2018	High Tide Time	718
C4	09 Jul 2018	Low Tide (ft)	0.33
C4	09 Jul 2018	Low Tide Time	118
C4	09 Jul 2018	Comments	Kelp; Boats
C4	16 Jul 2018	Depth (m)	11
C4	16 Jul 2018	Arrive Time	927
C4	16 Jul 2018	Depart Time	932
C4	16 Jul 2018	Air Temp (C)	20
C4	16 Jul 2018	Weather	Overcast
C4	16 Jul 2018	Visibility (mi)	8
C4	16 Jul 2018	Wind Speed (kts)	0
C4	16 Jul 2018	Wind Dir	
C4	16 Jul 2018	Water Color	Green
C4	16 Jul 2018	Wave Ht Low (ft)	3
C4	16 Jul 2018	Wave Period (sec)	13
C4	16 Jul 2018	Sea State	Wind ripples
C4	16 Jul 2018	High Tide (ft)	4.53
C4	16 Jul 2018	High Tide Time	1304
C4	16 Jul 2018	Low Tide (ft)	-0.81
C4	16 Jul 2018	Low Tide Time	637
C4	16 Jul 2018	Comments	Kelp
C4	23 Jul 2018	Depth (m)	9
C4	23 Jul 2018	Arrive Time	940

Station	Date	Parameter	Value
C4	23 Jul 2018	Depart Time	945
C4	23 Jul 2018	Air Temp (C)	22
C4	23 Jul 2018	Weather	Clear
C4	23 Jul 2018	Visibility (mi)	12
C4	23 Jul 2018	Wind Speed (kts)	4
C4	23 Jul 2018	Wind Dir	SW
C4	23 Jul 2018	Water Color	Green
C4	23 Jul 2018	Wave Ht Low (ft)	4
C4	23 Jul 2018	Wave Period (sec)	4
C4	23 Jul 2018	Sea State	Calm
C4	23 Jul 2018	High Tide (ft)	3.5
C4	23 Jul 2018	High Tide Time	811
C4	23 Jul 2018	Low Tide (ft)	0.24
C4	23 Jul 2018	Low Tide Time	156
C4	23 Jul 2018	Comments	Kelp; Boats
C4	30 Jul 2018	Depth (m)	9
C4	30 Jul 2018	Arrive Time	921
C4	30 Jul 2018	Depart Time	923
C4	30 Jul 2018	Air Temp (C)	23
C4	30 Jul 2018	Weather	Partly Cloudy
C4	30 Jul 2018	Visibility (mi)	12
C4	30 Jul 2018	Wind Speed (kts)	3
C4	30 Jul 2018	Wind Dir	W
C4	30 Jul 2018	Water Color	Brownish-Green
C4	30 Jul 2018	Wave Ht Low (ft)	2
C4	30 Jul 2018	Wave Period (sec)	9
C4	30 Jul 2018	Sea State	Calm
C4	30 Jul 2018	High Tide (ft)	4.11
C4	30 Jul 2018	High Tide Time	1151
C4	30 Jul 2018	Low Tide (ft)	-0.09
C4	30 Jul 2018	Low Tide Time	535
C4	30 Jul 2018	Comments	none
C5	02 Jul 2018	Depth (m)	11
C5	02 Jul 2018	Arrive Time	941
C5	02 Jul 2018	Depart Time	945
C5	02 Jul 2018	Air Temp (C)	19
C5	02 Jul 2018	Weather	Overcast
C5	02 Jul 2018	Visibility (mi)	9
C5	02 Jul 2018	Wind Speed (kts)	8
C5	02 Jul 2018	Wind Dir	SW
C5	02 Jul 2018	Water Color	Green
C5	02 Jul 2018	Wave Ht Low (ft)	2
C5	02 Jul 2018	Wave Period (sec)	11
C5	02 Jul 2018	Sea State	Wind ripples
C5	02 Jul 2018	High Tide (ft)	3.68
C5	02 Jul 2018	High Tide Time	1321
C5	02 Jul 2018	Low Tide (ft)	0.04
C5	02 Jul 2018	Low Tide Time	645
C5	02 Jul 2018	Comments	Kelp
C5	09 Jul 2018	Depth (m)	11
C5	09 Jul 2018	Arrive Time	934
C5	09 Jul 2018	Depart Time	939

Station	Date	Parameter	Value
C5	09 Jul 2018	Air Temp (C)	22
C5	09 Jul 2018	Weather	Partly Cloudy
C5	09 Jul 2018	Visibility (mi)	6
C5	09 Jul 2018	Wind Speed (kts)	3
C5	09 Jul 2018	Wind Dir	E
C5	09 Jul 2018	Water Color	Green
C5	09 Jul 2018	Wave Ht Low (ft)	2
C5	09 Jul 2018	Wave Period (sec)	9
C5	09 Jul 2018	Sea State	Calm
C5	09 Jul 2018	High Tide (ft)	3.46
C5	09 Jul 2018	High Tide Time	718
C5	09 Jul 2018	Low Tide (ft)	0.33
C5	09 Jul 2018	Low Tide Time	118
C5	09 Jul 2018	Comments	Kelp
C5	16 Jul 2018	Depth (m)	11
C5	16 Jul 2018	Arrive Time	917
C5	16 Jul 2018	Depart Time	923
C5	16 Jul 2018	Air Temp (C)	20
C5	16 Jul 2018	Weather	Overcast
C5	16 Jul 2018	Visibility (mi)	8
C5	16 Jul 2018	Wind Speed (kts)	3
C5	16 Jul 2018	Wind Dir	E
C5	16 Jul 2018	Water Color	Green
C5	16 Jul 2018	Wave Ht Low (ft)	3
C5	16 Jul 2018	Wave Period (sec)	13
C5	16 Jul 2018	Sea State	Wind ripples
C5	16 Jul 2018	High Tide (ft)	4.53
C5	16 Jul 2018	High Tide Time	1304
C5	16 Jul 2018	Low Tide (ft)	-0.81
C5	16 Jul 2018	Low Tide Time	637
C5	16 Jul 2018	Comments	Kelp
C5	23 Jul 2018	Depth (m)	10
C5	23 Jul 2018	Arrive Time	930
C5	23 Jul 2018	Depart Time	934
C5	23 Jul 2018	Air Temp (C)	22
C5	23 Jul 2018	Weather	Clear
C5	23 Jul 2018	Visibility (mi)	12
C5	23 Jul 2018	Wind Speed (kts)	0
C5	23 Jul 2018	Wind Dir	
C5	23 Jul 2018	Water Color	Green
C5	23 Jul 2018	Wave Ht Low (ft)	4
C5	23 Jul 2018	Wave Period (sec)	4
C5	23 Jul 2018	Sea State	Calm
C5	23 Jul 2018	High Tide (ft)	3.5
C5	23 Jul 2018	High Tide Time	811
C5	23 Jul 2018	Low Tide (ft)	0.24
C5	23 Jul 2018	Low Tide Time	156
C5	23 Jul 2018	Comments	Kelp; Seagrass
C5	30 Jul 2018	Depth (m)	10
C5	30 Jul 2018	Arrive Time	904
C5	30 Jul 2018	Depart Time	909
C5	30 Jul 2018	Air Temp (C)	23

Station	Date	Parameter	Value
C5	30 Jul 2018	Weather	Partly Cloudy
C5	30 Jul 2018	Visibility (mi)	12
C5	30 Jul 2018	Wind Speed (kts)	2
C5	30 Jul 2018	Wind Dir	SW
C5	30 Jul 2018	Water Color	Brownish-Green
C5	30 Jul 2018	Wave Ht Low (ft)	2
C5	30 Jul 2018	Wave Period (sec)	9
C5	30 Jul 2018	Sea State	Calm
C5	30 Jul 2018	High Tide (ft)	4.11
C5	30 Jul 2018	High Tide Time	1151
C5	30 Jul 2018	Low Tide (ft)	-0.09
C5	30 Jul 2018	Low Tide Time	535
C5	30 Jul 2018	Comments	none
C6	02 Jul 2018	Depth (m)	10
C6	02 Jul 2018	Arrive Time	930
C6	02 Jul 2018	Depart Time	935
C6	02 Jul 2018	Air Temp (C)	19
C6	02 Jul 2018	Weather	Overcast
C6	02 Jul 2018	Visibility (mi)	9
C6	02 Jul 2018	Wind Speed (kts)	5
C6	02 Jul 2018	Wind Dir	SW
C6	02 Jul 2018	Water Color	Green
C6	02 Jul 2018	Wave Ht Low (ft)	2
C6	02 Jul 2018	Wave Period (sec)	11
C6	02 Jul 2018	Sea State	Wind ripples
C6	02 Jul 2018	High Tide (ft)	3.68
C6	02 Jul 2018	High Tide Time	1321
C6	02 Jul 2018	Low Tide (ft)	0.04
C6	02 Jul 2018	Low Tide Time	645
C6	02 Jul 2018	Comments	Kelp
C6	09 Jul 2018	Depth (m)	10
C6	09 Jul 2018	Arrive Time	924
C6	09 Jul 2018	Depart Time	927
C6	09 Jul 2018	Air Temp (C)	22
C6	09 Jul 2018	Weather	Partly Cloudy
C6	09 Jul 2018	Visibility (mi)	6
C6	09 Jul 2018	Wind Speed (kts)	2
C6	09 Jul 2018	Wind Dir	E
C6	09 Jul 2018	Water Color	Green
C6	09 Jul 2018	Wave Ht Low (ft)	2
C6	09 Jul 2018	Wave Period (sec)	9
C6	09 Jul 2018	Sea State	Calm
C6	09 Jul 2018	High Tide (ft)	3.46
C6	09 Jul 2018	High Tide Time	718
C6	09 Jul 2018	Low Tide (ft)	0.33
C6	09 Jul 2018	Low Tide Time	118
C6	09 Jul 2018	Comments	Kelp; Kelp debris
C6	16 Jul 2018	Depth (m)	10
C6	16 Jul 2018	Arrive Time	905
C6	16 Jul 2018	Depart Time	910
C6	16 Jul 2018	Air Temp (C)	20
C6	16 Jul 2018	Weather	Overcast

Station	Date	Parameter	Value
C6	16 Jul 2018	Visibility (mi)	8
C6	16 Jul 2018	Wind Speed (kts)	1
C6	16 Jul 2018	Wind Dir	SE
C6	16 Jul 2018	Water Color	Green
C6	16 Jul 2018	Wave Ht Low (ft)	3
C6	16 Jul 2018	Wave Period (sec)	13
C6	16 Jul 2018	Sea State	Wind ripples
C6	16 Jul 2018	High Tide (ft)	4.53
C6	16 Jul 2018	High Tide Time	1304
C6	16 Jul 2018	Low Tide (ft)	-0.81
C6	16 Jul 2018	Low Tide Time	637
C6	16 Jul 2018	Comments	Kelp
C6	23 Jul 2018	Depth (m)	10
C6	23 Jul 2018	Arrive Time	919
C6	23 Jul 2018	Depart Time	923
C6	23 Jul 2018	Air Temp (C)	22
C6	23 Jul 2018	Weather	Partly Cloudy
C6	23 Jul 2018	Visibility (mi)	12
C6	23 Jul 2018	Wind Speed (kts)	0
C6	23 Jul 2018	Wind Dir	
C6	23 Jul 2018	Water Color	Green
C6	23 Jul 2018	Wave Ht Low (ft)	4
C6	23 Jul 2018	Wave Period (sec)	4
C6	23 Jul 2018	Sea State	Calm
C6	23 Jul 2018	High Tide (ft)	3.5
C6	23 Jul 2018	High Tide Time	811
C6	23 Jul 2018	Low Tide (ft)	0.24
C6	23 Jul 2018	Low Tide Time	156
C6	23 Jul 2018	Comments	Kelp
C6	30 Jul 2018	Depth (m)	10
C6	30 Jul 2018	Arrive Time	854
C6	30 Jul 2018	Depart Time	858
C6	30 Jul 2018	Air Temp (C)	23
C6	30 Jul 2018	Weather	Partly Cloudy
C6	30 Jul 2018	Visibility (mi)	12
C6	30 Jul 2018	Wind Speed (kts)	2
C6	30 Jul 2018	Wind Dir	S
C6	30 Jul 2018	Water Color	Brownish-Green
C6	30 Jul 2018	Wave Ht Low (ft)	2
C6	30 Jul 2018	Wave Period (sec)	9
C6	30 Jul 2018	Sea State	Calm
C6	30 Jul 2018	High Tide (ft)	4.11
C6	30 Jul 2018	High Tide Time	1151
C6	30 Jul 2018	Low Tide (ft)	-0.09
C6	30 Jul 2018	Low Tide Time	535
C6	30 Jul 2018	Comments	none
C7	02 Jul 2018	Depth (m)	19
C7	02 Jul 2018	Arrive Time	847
C7	02 Jul 2018	Depart Time	859
C7	02 Jul 2018	Air Temp (C)	19
C7	02 Jul 2018	Weather	Overcast
C7	02 Jul 2018	Visibility (mi)	9

Station	Date	Parameter	Value
C7	02 Jul 2018	Wind Speed (kts)	7
C7	02 Jul 2018	Wind Dir	S
C7	02 Jul 2018	Water Color	Green
C7	02 Jul 2018	Wave Ht Low (ft)	2
C7	02 Jul 2018	Wave Period (sec)	11
C7	02 Jul 2018	Sea State	Wind ripples
C7	02 Jul 2018	High Tide (ft)	3.68
C7	02 Jul 2018	High Tide Time	1321
C7	02 Jul 2018	Low Tide (ft)	0.04
C7	02 Jul 2018	Low Tide Time	645
C7	02 Jul 2018	Comments	none
C7	09 Jul 2018	Depth (m)	19
C7	09 Jul 2018	Arrive Time	855
C7	09 Jul 2018	Depart Time	858
C7	09 Jul 2018	Air Temp (C)	22
C7	09 Jul 2018	Weather	Overcast
C7	09 Jul 2018	Visibility (mi)	2
C7	09 Jul 2018	Wind Speed (kts)	2
C7	09 Jul 2018	Wind Dir	E
C7	09 Jul 2018	Water Color	Green
C7	09 Jul 2018	Wave Ht Low (ft)	2
C7	09 Jul 2018	Wave Period (sec)	9
C7	09 Jul 2018	Sea State	Calm
C7	09 Jul 2018	High Tide (ft)	3.46
C7	09 Jul 2018	High Tide Time	718
C7	09 Jul 2018	Low Tide (ft)	0.33
C7	09 Jul 2018	Low Tide Time	118
C7	09 Jul 2018	Comments	Kelp; Boats
C7	16 Jul 2018	Depth (m)	18
C7	16 Jul 2018	Arrive Time	830
C7	16 Jul 2018	Depart Time	836
C7	16 Jul 2018	Air Temp (C)	20
C7	16 Jul 2018	Weather	Overcast
C7	16 Jul 2018	Visibility (mi)	7
C7	16 Jul 2018	Wind Speed (kts)	4
C7	16 Jul 2018	Wind Dir	E
C7	16 Jul 2018	Water Color	Bluish-Green
C7	16 Jul 2018	Wave Ht Low (ft)	3
C7	16 Jul 2018	Wave Period (sec)	13
C7	16 Jul 2018	Sea State	Wind ripples
C7	16 Jul 2018	High Tide (ft)	4.53
C7	16 Jul 2018	High Tide Time	1304
C7	16 Jul 2018	Low Tide (ft)	-0.81
C7	16 Jul 2018	Low Tide Time	637
C7	16 Jul 2018	Comments	Boats
C7	23 Jul 2018	Depth (m)	18
C7	23 Jul 2018	Arrive Time	842
C7	23 Jul 2018	Depart Time	846
C7	23 Jul 2018	Air Temp (C)	22
C7	23 Jul 2018	Weather	Clear
C7	23 Jul 2018	Visibility (mi)	12
C7	23 Jul 2018	Wind Speed (kts)	0

Station	Date	Parameter	Value
C7	23 Jul 2018	Wind Dir	
C7	23 Jul 2018	Water Color	Green
C7	23 Jul 2018	Wave Ht Low (ft)	4
C7	23 Jul 2018	Wave Period (sec)	4
C7	23 Jul 2018	Sea State	Calm
C7	23 Jul 2018	High Tide (ft)	3.5
C7	23 Jul 2018	High Tide Time	811
C7	23 Jul 2018	Low Tide (ft)	0.24
C7	23 Jul 2018	Low Tide Time	156
C7	23 Jul 2018	Comments	Kelp
C7	30 Jul 2018	Depth (m)	18
C7	30 Jul 2018	Arrive Time	825
C7	30 Jul 2018	Depart Time	832
C7	30 Jul 2018	Air Temp (C)	23
C7	30 Jul 2018	Weather	Partly Cloudy
C7	30 Jul 2018	Visibility (mi)	12
C7	30 Jul 2018	Wind Speed (kts)	10
C7	30 Jul 2018	Wind Dir	SW
C7	30 Jul 2018	Water Color	Brownish-Green
C7	30 Jul 2018	Wave Ht Low (ft)	2
C7	30 Jul 2018	Wave Period (sec)	9
C7	30 Jul 2018	Sea State	Calm
C7	30 Jul 2018	High Tide (ft)	4.11
C7	30 Jul 2018	High Tide Time	1151
C7	30 Jul 2018	Low Tide (ft)	-0.09
C7	30 Jul 2018	Low Tide Time	535
C7	30 Jul 2018	Comments	none
C8	02 Jul 2018	Depth (m)	19
C8	02 Jul 2018	Arrive Time	910
C8	02 Jul 2018	Depart Time	922
C8	02 Jul 2018	Air Temp (C)	19
C8	02 Jul 2018	Weather	Overcast
C8	02 Jul 2018	Visibility (mi)	9
C8	02 Jul 2018	Wind Speed (kts)	8
C8	02 Jul 2018	Wind Dir	SW
C8	02 Jul 2018	Water Color	Green
C8	02 Jul 2018	Wave Ht Low (ft)	2
C8	02 Jul 2018	Wave Period (sec)	11
C8	02 Jul 2018	Sea State	Wind ripples
C8	02 Jul 2018	High Tide (ft)	3.68
C8	02 Jul 2018	High Tide Time	1321
C8	02 Jul 2018	Low Tide (ft)	0.04
C8	02 Jul 2018	Low Tide Time	645
C8	02 Jul 2018	Comments	Kelp debris
C8	09 Jul 2018	Depth (m)	20
C8	09 Jul 2018	Arrive Time	907
C8	09 Jul 2018	Depart Time	911
C8	09 Jul 2018	Air Temp (C)	22
C8	09 Jul 2018	Weather	Overcast
C8	09 Jul 2018	Visibility (mi)	2
C8	09 Jul 2018	Wind Speed (kts)	0
C8	09 Jul 2018	Wind Dir	

Station	Date	Parameter	Value
C8	09 Jul 2018	Water Color	Green
C8	09 Jul 2018	Wave Ht Low (ft)	2
C8	09 Jul 2018	Wave Period (sec)	9
C8	09 Jul 2018	Sea State	Calm
C8	09 Jul 2018	High Tide (ft)	3.46
C8	09 Jul 2018	High Tide Time	718
C8	09 Jul 2018	Low Tide (ft)	0.33
C8	09 Jul 2018	Low Tide Time	118
C8	09 Jul 2018	Comments	Kelp debris
C8	16 Jul 2018	Depth (m)	19
C8	16 Jul 2018	Arrive Time	845
C8	16 Jul 2018	Depart Time	850
C8	16 Jul 2018	Air Temp (C)	20
C8	16 Jul 2018	Weather	Overcast
C8	16 Jul 2018	Visibility (mi)	8
C8	16 Jul 2018	Wind Speed (kts)	6
C8	16 Jul 2018	Wind Dir	E
C8	16 Jul 2018	Water Color	Bluish-Green
C8	16 Jul 2018	Wave Ht Low (ft)	3
C8	16 Jul 2018	Wave Period (sec)	13
C8	16 Jul 2018	Sea State	Wind ripples
C8	16 Jul 2018	High Tide (ft)	4.53
C8	16 Jul 2018	High Tide Time	1304
C8	16 Jul 2018	Low Tide (ft)	-0.81
C8	16 Jul 2018	Low Tide Time	637
C8	16 Jul 2018	Comments	Boats; Kelp debris
C8	23 Jul 2018	Depth (m)	18
C8	23 Jul 2018	Arrive Time	855
C8	23 Jul 2018	Depart Time	858
C8	23 Jul 2018	Air Temp (C)	22
C8	23 Jul 2018	Weather	Partly Cloudy
C8	23 Jul 2018	Visibility (mi)	12
C8	23 Jul 2018	Wind Speed (kts)	0
C8	23 Jul 2018	Wind Dir	
C8	23 Jul 2018	Water Color	Green
C8	23 Jul 2018	Wave Ht Low (ft)	4
C8	23 Jul 2018	Wave Period (sec)	4
C8	23 Jul 2018	Sea State	Calm
C8	23 Jul 2018	High Tide (ft)	3.5
C8	23 Jul 2018	High Tide Time	811
C8	23 Jul 2018	Low Tide (ft)	0.24
C8	23 Jul 2018	Low Tide Time	156
C8	23 Jul 2018	Comments	Kelp; Boats
C8	30 Jul 2018	Depth (m)	18
C8	30 Jul 2018	Arrive Time	837
C8	30 Jul 2018	Depart Time	842
C8	30 Jul 2018	Air Temp (C)	23
C8	30 Jul 2018	Weather	Partly Cloudy
C8	30 Jul 2018	Visibility (mi)	12
C8	30 Jul 2018	Wind Speed (kts)	10
C8	30 Jul 2018	Wind Dir	W
C8	30 Jul 2018	Water Color	Brownish-Green

Station	Date	Parameter	Value
C8	30 Jul 2018	Wave Ht Low (ft)	2
C8	30 Jul 2018	Wave Period (sec)	9
C8	30 Jul 2018	Sea State	Calm
C8	30 Jul 2018	High Tide (ft)	4.11
C8	30 Jul 2018	High Tide Time	1151
C8	30 Jul 2018	Low Tide (ft)	-0.09
C8	30 Jul 2018	Low Tide Time	535
C8	30 Jul 2018	Comments	none

Table 3.10

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

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
A1	02 Jul 2018	1	18.90	80.01	8.5	33.75	8.2	24.1	1.48
A1	02 Jul 2018	2	18.88	79.55	8.5	33.75	8.2	24.1	1.67
A1	02 Jul 2018	3	18.77	79.19	8.5	33.75	8.2	24.1	1.76
A1	02 Jul 2018	4	18.62	79.02	8.5	33.75	8.2	24.2	1.87
A1	02 Jul 2018	5	18.47	78.85	8.5	33.74	8.2	24.2	1.97
A1	02 Jul 2018	6	18.33	78.74	8.3	33.74	8.2	24.2	2.03
A1	02 Jul 2018	7	17.69	77.08	8.3	33.74	8.1	24.4	2.74
A1	02 Jul 2018	8	17.39	72.12	8.3	33.72	8.1	24.4	5.82
A1	02 Jul 2018	9	16.94	67.67	8.4	33.71	8.1	24.5	9.99
A1	02 Jul 2018	10	16.87	68.83	8.3	33.69	8.1	24.5	11.99
A1	02 Jul 2018	11	16.84	69.20	8.1	33.69	8.1	24.5	12.04
A1	02 Jul 2018	12	16.55	69.67	7.6	33.70	8.1	24.6	11.78
A1	02 Jul 2018	13	15.33	70.40	6.8	33.75	8.0	24.9	11.14
A1	02 Jul 2018	14	13.97	72.96	6.2	33.69	7.9	25.2	9.95
A1	02 Jul 2018	15	13.17	74.64	5.8	33.65	7.9	25.3	8.68
A1	02 Jul 2018	16	13.13	75.28	5.5	33.61	7.8	25.3	8.23
A1	02 Jul 2018	17	13.07	75.64	5.5	33.61	7.8	25.3	7.73
A1	02 Jul 2018	18	13.19	72.96	5.5	33.61	7.8	25.3	7.35
A1	09 Jul 2018	1	20.77	77.82	8.8	33.72	8.2	23.6	1.08
A1	09 Jul 2018	2	20.60	77.85	8.7	33.72	8.2	23.6	1.21
A1	09 Jul 2018	3	20.07	77.37	8.3	33.73	8.2	23.8	1.49
A1	09 Jul 2018	4	18.52	76.99	7.2	33.77	8.2	24.2	2.00
A1	09 Jul 2018	5	17.64	75.94	6.7	33.68	8.1	24.4	2.54
A1	09 Jul 2018	6	15.95	73.38	7.0	33.73	8.1	24.8	4.61
A1	09 Jul 2018	7	14.81	64.79	7.3	33.62	8.0	24.9	8.11
A1	09 Jul 2018	8	14.75	63.69	7.0	33.60	8.0	24.9	9.60
A1	09 Jul 2018	9	14.34	63.99	6.5	33.62	8.0	25.0	10.54
A1	09 Jul 2018	10	13.70	64.14	6.6	33.59	8.0	25.2	10.80
A1	09 Jul 2018	11	13.55	65.85	6.6	33.58	8.0	25.2	10.15
A1	09 Jul 2018	12	13.48	67.19	6.5	33.58	8.0	25.2	9.68
A1	09 Jul 2018	13	13.48	67.87	6.3	33.59	8.0	25.2	9.19
A1	09 Jul 2018	14	13.48	68.61	6.0	33.59	7.9	25.2	8.81
A1	09 Jul 2018	15	13.37	69.46	5.8	33.60	7.9	25.2	8.51
A1	09 Jul 2018	16	13.29	71.24	5.6	33.60	7.9	25.3	7.54
A1	09 Jul 2018	17	13.11	72.74	5.6	33.61	7.9	25.3	6.53
A1	09 Jul 2018	18	12.87	75.53	5.5	33.61	7.9	25.3	5.37
A1	09 Jul 2018	19	12.74	78.20	5.5	33.60	7.9	25.4	4.08
A1	09 Jul 2018	20	12.76	78.62	5.5	33.60	7.9	25.4	3.10
A1	16 Jul 2018	1	21.15	82.38	8.8	33.73	8.3	23.5	1.00
A1	16 Jul 2018	2	20.92	82.92	8.8	33.73	8.3	23.6	1.03
A1	16 Jul 2018	3	20.65	83.35	8.9	33.73	8.3	23.6	1.08
A1	16 Jul 2018	4	20.20	83.44	8.8	33.71	8.2	23.7	1.18
A1	16 Jul 2018	5	18.27	82.34	8.6	33.75	8.2	24.3	1.49
A1	16 Jul 2018	6	17.59	80.41	8.7	33.67	8.2	24.3	2.76
A1	16 Jul 2018	7	15.81	81.89	8.9	33.66	8.2	24.8	3.20
A1	16 Jul 2018	8	14.86	83.96	9.2	33.61	8.1	24.9	2.69
A1	16 Jul 2018	9	14.59	84.99	9.1	33.58	8.1	25.0	2.24
A1	16 Jul 2018	10	14.41	85.45	8.9	33.58	8.1	25.0	1.96

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (µg/L)
A1	16 Jul 2018	11	14.43	85.58	8.7	33.57	8.1	25.0	1.77
A1	16 Jul 2018	12	14.15	85.62	8.5	33.58	8.1	25.1	1.87
A1	16 Jul 2018	13	13.99	85.61	8.3	33.58	8.1	25.1	1.78
A1	16 Jul 2018	14	13.78	85.50	8.1	33.58	8.1	25.1	1.75
A1	16 Jul 2018	15	13.61	85.87	7.8	33.58	8.1	25.2	1.71
A1	16 Jul 2018	16	13.46	86.20	7.6	33.57	8.0	25.2	1.60
A1	16 Jul 2018	17	13.46	86.23	7.6	33.57	8.0	25.2	1.45
A1	16 Jul 2018	18	13.46	86.19	7.6	33.58	8.0	25.2	1.44
A1	16 Jul 2018	19	13.43	84.45	7.5	33.57	8.0	25.2	1.33
A1	23 Jul 2018	1	19.70	77.20	7.5	33.68	8.2	23.8	0.65
A1	23 Jul 2018	2	19.10	80.01	7.6	33.69	8.2	24.0	0.79
A1	23 Jul 2018	3	18.37	80.81	7.6	33.71	8.2	24.2	1.02
A1	23 Jul 2018	4	15.83	80.35	8.0	33.67	8.1	24.8	1.46
A1	23 Jul 2018	5	15.13	81.08	7.9	33.59	8.1	24.9	1.78
A1	23 Jul 2018	6	15.11	82.35	7.7	33.57	8.1	24.8	1.73
A1	23 Jul 2018	7	14.89	82.91	7.3	33.59	8.1	24.9	1.56
A1	23 Jul 2018	8	14.26	83.92	7.0	33.59	8.0	25.0	1.12
A1	23 Jul 2018	9	13.98	84.83	6.7	33.58	8.0	25.1	0.84
A1	23 Jul 2018	10	13.27	85.98	6.6	33.58	8.0	25.2	0.82
A1	23 Jul 2018	11	12.75	86.75	6.4	33.56	8.0	25.3	0.76
A1	23 Jul 2018	12	12.61	87.11	6.2	33.56	7.9	25.4	0.72
A1	23 Jul 2018	13	12.42	86.61	6.1	33.56	7.9	25.4	0.68
A1	23 Jul 2018	14	12.35	86.05	6.0	33.56	7.9	25.4	0.65
A1	23 Jul 2018	15	12.29	85.83	5.9	33.56	7.9	25.4	0.62
A1	23 Jul 2018	16	12.28	85.67	5.8	33.56	7.9	25.4	0.59
A1	23 Jul 2018	17	12.13	85.06	5.6	33.58	7.9	25.5	0.54
A1	23 Jul 2018	18	12.12	84.73	5.5	33.57	7.9	25.5	0.47
A1	30 Jul 2018	1	23.47	83.73	8.0	33.82	8.3	22.9	0.62
A1	30 Jul 2018	2	23.49	83.63	8.0	33.83	8.3	22.9	0.59
A1	30 Jul 2018	3	23.31	83.51	8.2	33.82	8.3	23.0	0.67
A1	30 Jul 2018	4	23.07	83.21	8.3	33.84	8.3	23.0	0.78
A1	30 Jul 2018	5	21.81	82.88	8.8	33.90	8.3	23.4	0.91
A1	30 Jul 2018	6	19.56	82.09	9.1	33.91	8.2	24.0	1.29
A1	30 Jul 2018	7	16.66	80.06	9.0	33.86	8.2	24.7	2.02
A1	30 Jul 2018	8	15.91	79.90	8.5	33.69	8.1	24.8	2.83
A1	30 Jul 2018	9	14.92	82.04	8.3	33.69	8.1	25.0	3.12
A1	30 Jul 2018	10	14.43	82.49	8.2	33.61	8.1	25.0	3.16
A1	30 Jul 2018	11	14.30	82.48	8.1	33.58	8.1	25.0	3.29
A1	30 Jul 2018	12	14.21	82.28	8.0	33.58	8.1	25.0	3.21
A1	30 Jul 2018	13	14.11	82.48	7.8	33.58	8.1	25.1	3.09
A1	30 Jul 2018	14	14.04	82.95	7.6	33.58	8.1	25.1	2.83
A1	30 Jul 2018	15	13.92	83.29	7.5	33.58	8.0	25.1	2.53
A1	30 Jul 2018	16	13.86	83.76	7.3	33.58	8.0	25.1	2.08
A1	30 Jul 2018	17	13.83	84.26	7.2	33.58	8.0	25.1	1.65
A1	30 Jul 2018	18	13.85	84.33	7.2	33.57	8.0	25.1	1.53
A6	02 Jul 2018	1	20.45	83.39	8.8	33.80	8.3	23.7	0.82
A6	02 Jul 2018	2	20.45	83.31	8.9	33.81	8.3	23.7	0.84
A6	02 Jul 2018	3	20.40	83.02	8.8	33.81	8.3	23.7	0.94
A6	02 Jul 2018	4	20.22	82.61	8.7	33.81	8.3	23.8	1.17
A6	02 Jul 2018	5	19.46	80.98	8.5	33.84	8.2	24.0	1.94
A6	02 Jul 2018	6	18.65	74.92	8.2	33.80	8.2	24.2	4.65
A6	02 Jul 2018	7	17.74	73.97	7.5	33.79	8.2	24.4	6.99

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
A6	02 Jul 2018	8	15.83	77.31	6.9	33.82	8.1	24.9	6.72
A6	02 Jul 2018	9	14.96	74.99	6.7	33.68	8.0	25.0	7.76
A6	02 Jul 2018	10	14.76	72.32	6.6	33.66	8.0	25.0	9.20
A6	02 Jul 2018	11	14.19	74.31	6.4	33.66	8.0	25.1	8.82
A6	02 Jul 2018	12	13.56	76.84	6.1	33.65	7.9	25.2	7.71
A6	02 Jul 2018	13	13.63	76.00	6.0	33.60	7.9	25.2	7.24
A6	02 Jul 2018	14	13.34	75.32	5.9	33.62	7.9	25.3	7.41
A6	02 Jul 2018	15	13.25	75.58	5.8	33.61	7.9	25.3	7.38
A6	02 Jul 2018	16	13.23	76.43	5.7	33.61	7.9	25.3	6.99
A6	02 Jul 2018	17	13.18	76.38	5.6	33.61	7.9	25.3	7.00
A6	02 Jul 2018	18	13.16	76.43	5.6	33.61	7.9	25.3	6.79
A6	02 Jul 2018	19	13.06	76.85	5.5	33.62	7.9	25.3	6.19
A6	02 Jul 2018	20	13.01	78.40	5.4	33.62	7.8	25.3	5.46
A6	02 Jul 2018	21	13.01	78.85	5.4	33.62	7.8	25.3	5.02
A6	09 Jul 2018	1	22.62	83.21	9.1	33.79	8.3	23.1	0.61
A6	09 Jul 2018	2	22.47	83.28	9.0	33.82	8.3	23.2	0.67
A6	09 Jul 2018	3	21.67	83.22	8.9	33.83	8.3	23.4	0.80
A6	09 Jul 2018	4	21.25	82.12	8.8	33.80	8.3	23.5	1.05
A6	09 Jul 2018	5	20.73	81.30	8.8	33.79	8.3	23.6	1.39
A6	09 Jul 2018	6	20.39	80.18	8.7	33.76	8.3	23.7	1.76
A6	09 Jul 2018	7	19.59	79.43	8.7	33.81	8.3	24.0	2.28
A6	09 Jul 2018	8	18.75	76.91	9.0	33.72	8.2	24.1	3.42
A6	09 Jul 2018	9	18.58	74.45	8.9	33.71	8.2	24.1	3.93
A6	09 Jul 2018	10	18.18	73.79	8.7	33.70	8.2	24.2	4.31
A6	09 Jul 2018	11	17.73	73.14	8.1	33.73	8.2	24.4	4.99
A6	09 Jul 2018	12	15.89	71.62	7.4	33.75	8.1	24.8	6.66
A6	09 Jul 2018	13	14.54	71.61	7.2	33.68	8.1	25.1	7.16
A6	09 Jul 2018	14	13.96	72.01	7.1	33.63	8.0	25.1	7.13
A6	09 Jul 2018	15	13.67	73.42	7.1	33.60	8.0	25.2	6.81
A6	09 Jul 2018	16	13.48	73.16	7.0	33.60	8.0	25.2	7.17
A6	09 Jul 2018	17	13.34	73.89	6.8	33.59	8.0	25.2	6.65
A6	09 Jul 2018	18	13.29	74.86	6.7	33.60	8.0	25.2	6.08
A6	09 Jul 2018	19	13.22	75.79	6.6	33.60	8.0	25.3	5.84
A6	09 Jul 2018	20	13.20	76.87	6.5	33.61	8.0	25.3	5.33
A6	09 Jul 2018	21	13.18	77.99	6.4	33.61	8.0	25.3	5.00
A6	16 Jul 2018	1	21.02	82.53	8.9	33.72	8.3	23.5	0.76
A6	16 Jul 2018	2	20.88	84.03	8.9	33.73	8.3	23.6	0.79
A6	16 Jul 2018	3	19.21	84.33	9.1	33.78	8.2	24.0	0.97
A6	16 Jul 2018	4	17.95	82.91	9.0	33.69	8.2	24.3	2.13
A6	16 Jul 2018	5	17.31	79.61	8.6	33.66	8.2	24.4	3.19
A6	16 Jul 2018	6	17.16	80.03	8.4	33.66	8.2	24.4	3.98
A6	16 Jul 2018	7	16.44	80.06	8.1	33.65	8.1	24.6	3.55
A6	16 Jul 2018	8	15.80	82.76	7.6	33.65	8.1	24.8	2.36
A6	16 Jul 2018	9	15.66	84.44	7.4	33.62	8.1	24.8	1.38
A6	16 Jul 2018	10	15.39	84.64	7.4	33.62	8.1	24.8	1.16
A6	16 Jul 2018	11	15.06	84.86	7.6	33.62	8.1	24.9	1.28
A6	16 Jul 2018	12	14.76	84.67	7.8	33.61	8.1	25.0	1.49
A6	16 Jul 2018	13	14.68	84.94	7.8	33.60	8.1	25.0	1.52
A6	16 Jul 2018	14	14.62	84.92	7.8	33.60	8.1	25.0	1.50
A6	16 Jul 2018	15	14.56	84.96	7.8	33.60	8.1	25.0	1.56
A6	16 Jul 2018	16	14.38	85.10	7.7	33.61	8.1	25.0	1.50
A6	16 Jul 2018	17	14.04	85.69	7.7	33.59	8.1	25.1	1.28
A6	16 Jul 2018	18	13.98	86.14	7.7	33.59	8.1	25.1	1.15

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
A6	16 Jul 2018	19	13.94	86.30	7.6	33.59	8.1	25.1	1.02
A6	16 Jul 2018	20	13.81	86.32	7.5	33.59	8.1	25.1	1.02
A6	16 Jul 2018	21	13.71	86.37	7.4	33.58	8.1	25.2	0.96
A6	23 Jul 2018	1	19.48	78.72	8.8	33.68	8.2	23.9	0.87
A6	23 Jul 2018	2	18.38	79.66	8.8	33.73	8.2	24.2	1.12
A6	23 Jul 2018	3	16.69	77.39	8.7	33.70	8.2	24.6	1.45
A6	23 Jul 2018	4	15.72	76.79	8.5	33.62	8.1	24.7	2.16
A6	23 Jul 2018	5	15.48	78.13	8.1	33.61	8.1	24.8	2.54
A6	23 Jul 2018	6	14.70	82.42	7.7	33.60	8.1	25.0	2.13
A6	23 Jul 2018	7	14.25	84.57	7.3	33.58	8.0	25.0	1.39
A6	23 Jul 2018	8	14.16	85.15	7.2	33.57	8.0	25.0	1.04
A6	23 Jul 2018	9	13.84	85.46	7.0	33.57	8.0	25.1	0.88
A6	23 Jul 2018	10	13.86	85.47	6.9	33.56	8.0	25.1	0.76
A6	23 Jul 2018	11	13.83	85.57	6.9	33.57	8.0	25.1	0.77
A6	23 Jul 2018	12	13.81	85.66	6.9	33.57	8.0	25.1	0.75
A6	23 Jul 2018	13	13.79	85.65	6.8	33.57	8.0	25.1	0.74
A6	23 Jul 2018	14	13.73	85.61	6.8	33.58	8.0	25.1	0.76
A6	23 Jul 2018	15	13.58	83.81	6.7	33.58	8.0	25.2	0.74
A6	23 Jul 2018	16	13.49	85.39	6.6	33.58	8.0	25.2	0.72
A6	23 Jul 2018	17	12.84	86.11	6.3	33.58	8.0	25.3	0.66
A6	23 Jul 2018	18	13.14	86.21	6.3	33.57	8.0	25.3	0.66
A6	23 Jul 2018	19	12.75	86.16	6.2	33.59	8.0	25.3	0.63
A6	30 Jul 2018	1	23.99	82.11	8.5	33.79	8.3	22.7	0.99
A6	30 Jul 2018	2	23.99	82.07	8.4	33.80	8.3	22.7	0.88
A6	30 Jul 2018	3	23.95	82.46	8.3	33.81	8.3	22.8	0.93
A6	30 Jul 2018	4	23.16	82.69	8.1	33.86	8.3	23.0	0.97
A6	30 Jul 2018	5	20.62	81.41	8.1	33.91	8.2	23.8	1.40
A6	30 Jul 2018	6	17.91	79.03	8.9	33.76	8.2	24.3	2.49
A6	30 Jul 2018	7	17.37	78.67	9.1	33.64	8.2	24.4	3.16
A6	30 Jul 2018	8	16.78	79.14	8.7	33.65	8.2	24.5	3.24
A6	30 Jul 2018	9	15.50	80.77	8.2	33.66	8.1	24.8	3.00
A6	30 Jul 2018	10	14.93	82.96	7.8	33.59	8.1	24.9	2.39
A6	30 Jul 2018	11	14.59	83.19	7.7	33.57	8.1	25.0	2.20
A6	30 Jul 2018	12	14.41	83.49	7.7	33.56	8.1	25.0	2.17
A6	30 Jul 2018	13	14.32	83.36	7.7	33.56	8.1	25.0	2.28
A6	30 Jul 2018	14	14.25	83.09	7.8	33.56	8.1	25.0	2.37
A6	30 Jul 2018	15	14.20	83.17	7.8	33.56	8.1	25.0	2.52
A6	30 Jul 2018	16	14.16	83.25	7.8	33.56	8.1	25.0	2.56
A6	30 Jul 2018	17	14.11	83.58	7.6	33.57	8.1	25.1	2.44
A6	30 Jul 2018	18	14.06	84.23	7.5	33.57	8.1	25.1	1.87
A7	02 Jul 2018	1	19.82	80.82	8.7	33.77	8.3	23.9	1.21
A7	02 Jul 2018	2	19.56	80.65	8.7	33.77	8.2	23.9	1.53
A7	02 Jul 2018	3	19.37	79.75	8.7	33.79	8.2	24.0	1.56
A7	02 Jul 2018	4	19.16	78.83	8.6	33.77	8.2	24.0	1.78
A7	02 Jul 2018	5	19.00	78.73	8.6	33.77	8.2	24.1	2.02
A7	02 Jul 2018	6	18.40	77.75	8.5	33.78	8.2	24.2	2.50
A7	02 Jul 2018	7	17.79	75.27	8.4	33.74	8.2	24.4	4.02
A7	02 Jul 2018	8	17.22	71.47	8.1	33.74	8.2	24.5	6.56
A7	02 Jul 2018	9	16.53	72.53	7.8	33.73	8.1	24.7	8.18
A7	02 Jul 2018	10	16.24	74.80	7.4	33.70	8.1	24.7	8.12
A7	02 Jul 2018	11	15.63	76.87	6.8	33.70	8.1	24.8	7.22
A7	02 Jul 2018	12	14.74	79.67	6.2	33.71	8.0	25.0	5.50

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (µg/L)
A7	02 Jul 2018	13	14.02	80.73	5.7	33.68	7.9	25.2	4.38
A7	02 Jul 2018	14	13.46	81.28	5.4	33.66	7.9	25.3	3.76
A7	02 Jul 2018	15	13.36	78.99	5.3	33.62	7.8	25.3	4.10
A7	02 Jul 2018	16	13.01	77.29	5.3	33.62	7.8	25.3	4.84
A7	02 Jul 2018	17	12.92	77.79	5.4	33.60	7.8	25.3	5.30
A7	02 Jul 2018	18	12.92	77.96	5.4	33.60	7.8	25.3	5.49
A7	02 Jul 2018	19	12.84	79.04	5.2	33.61	7.8	25.4	5.26
A7	02 Jul 2018	20	12.88	79.38	5.2	33.61	7.8	25.3	4.76
A7	09 Jul 2018	1	22.40	82.68	8.7	33.78	8.3	23.2	0.69
A7	09 Jul 2018	2	22.15	82.22	8.7	33.80	8.3	23.3	0.73
A7	09 Jul 2018	3	21.60	80.66	8.9	33.78	8.3	23.4	0.99
A7	09 Jul 2018	4	21.23	79.57	9.1	33.75	8.3	23.5	1.29
A7	09 Jul 2018	5	21.10	78.84	9.1	33.75	8.3	23.5	1.46
A7	09 Jul 2018	6	20.85	78.87	9.0	33.76	8.3	23.6	1.56
A7	09 Jul 2018	7	20.09	78.24	8.9	33.77	8.3	23.8	1.76
A7	09 Jul 2018	8	18.79	76.64	8.7	33.77	8.2	24.1	2.83
A7	09 Jul 2018	9	17.62	72.36	7.7	33.77	8.2	24.4	5.20
A7	09 Jul 2018	10	14.75	71.47	7.1	33.72	8.1	25.0	6.47
A7	09 Jul 2018	11	13.59	72.84	6.9	33.64	8.0	25.2	6.70
A7	09 Jul 2018	12	13.14	74.08	6.8	33.59	8.0	25.3	6.59
A7	09 Jul 2018	13	12.91	75.13	6.6	33.58	8.0	25.3	6.42
A7	09 Jul 2018	14	12.85	74.97	6.5	33.58	8.0	25.3	6.86
A7	09 Jul 2018	15	12.83	74.89	6.4	33.59	8.0	25.3	6.63
A7	09 Jul 2018	16	12.80	75.43	6.3	33.59	8.0	25.3	6.10
A7	09 Jul 2018	17	12.77	75.71	6.3	33.59	8.0	25.3	6.02
A7	09 Jul 2018	18	12.75	75.87	6.3	33.60	8.0	25.4	5.93
A7	09 Jul 2018	19	12.72	76.38	6.3	33.60	8.0	25.4	5.54
A7	09 Jul 2018	20	12.73	76.01	6.2	33.60	8.0	25.4	5.30
A7	16 Jul 2018	1	20.97	83.18	9.0	33.72	8.3	23.5	0.99
A7	16 Jul 2018	2	20.97	83.17	8.9	33.72	8.3	23.5	0.96
A7	16 Jul 2018	3	20.21	83.61	8.6	33.74	8.3	23.8	1.04
A7	16 Jul 2018	4	18.59	83.25	8.6	33.74	8.2	24.2	1.36
A7	16 Jul 2018	5	17.46	81.27	8.8	33.73	8.2	24.4	2.28
A7	16 Jul 2018	6	16.62	79.77	8.6	33.73	8.2	24.6	3.12
A7	16 Jul 2018	7	16.06	81.77	8.4	33.67	8.1	24.7	3.10
A7	16 Jul 2018	8	15.77	82.12	8.6	33.63	8.1	24.7	2.82
A7	16 Jul 2018	9	15.26	81.99	8.8	33.64	8.1	24.9	3.08
A7	16 Jul 2018	10	15.01	83.02	9.0	33.60	8.1	24.9	2.92
A7	16 Jul 2018	11	14.78	83.88	9.0	33.60	8.1	24.9	2.74
A7	16 Jul 2018	12	14.58	84.73	9.0	33.59	8.1	25.0	2.41
A7	16 Jul 2018	13	14.56	84.83	8.9	33.58	8.1	25.0	2.20
A7	16 Jul 2018	14	14.31	85.71	8.6	33.61	8.1	25.0	1.84
A7	16 Jul 2018	15	13.94	85.99	8.2	33.60	8.1	25.1	1.66
A7	16 Jul 2018	16	13.76	85.90	7.9	33.59	8.1	25.1	1.56
A7	16 Jul 2018	17	13.65	86.06	7.6	33.58	8.1	25.2	1.47
A7	16 Jul 2018	18	13.60	86.12	7.5	33.58	8.1	25.2	1.37
A7	16 Jul 2018	19	13.59	86.15	7.5	33.58	8.0	25.2	1.30
A7	16 Jul 2018	20	13.60	86.19	7.5	33.58	8.0	25.2	1.29
A7	23 Jul 2018	1	19.60	80.56	8.2	33.68	8.2	23.9	0.68
A7	23 Jul 2018	2	19.17	81.40	8.2	33.73	8.2	24.0	0.71
A7	23 Jul 2018	3	17.81	80.32	8.6	33.70	8.2	24.3	1.10
A7	23 Jul 2018	4	16.22	78.26	8.7	33.68	8.2	24.7	1.57

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (µg/L)
A7	23 Jul 2018	5	15.36	78.00	8.5	33.62	8.1	24.8	1.90
A7	23 Jul 2018	6	15.00	79.94	8.3	33.58	8.1	24.9	2.19
A7	23 Jul 2018	7	14.96	80.48	8.2	33.57	8.1	24.9	2.37
A7	23 Jul 2018	8	14.61	81.28	8.0	33.57	8.1	25.0	2.43
A7	23 Jul 2018	9	14.26	83.03	7.8	33.57	8.1	25.0	2.27
A7	23 Jul 2018	10	13.86	84.56	7.4	33.57	8.1	25.1	1.81
A7	23 Jul 2018	11	13.47	85.98	7.0	33.57	8.0	25.2	1.31
A7	23 Jul 2018	12	12.99	86.77	6.5	33.57	8.0	25.3	0.97
A7	23 Jul 2018	13	12.47	86.66	6.1	33.57	8.0	25.4	0.76
A7	23 Jul 2018	14	12.37	86.49	6.0	33.56	7.9	25.4	0.66
A7	23 Jul 2018	15	12.56	86.46	6.0	33.55	7.9	25.4	0.64
A7	23 Jul 2018	16	12.30	86.40	5.9	33.56	7.9	25.4	0.62
A7	23 Jul 2018	17	12.31	86.21	5.9	33.56	7.9	25.4	0.60
A7	23 Jul 2018	18	12.28	85.59	5.8	33.57	7.9	25.4	0.58
A7	23 Jul 2018	19	12.24	85.46	5.8	33.57	7.9	25.4	0.52
A7	23 Jul 2018	20	12.26	85.63	5.7	33.57	7.9	25.4	0.53
A7	23 Jul 2018	21	12.24	84.66	5.7	33.57	7.9	25.4	0.48
A7	30 Jul 2018	1	24.10	81.31	8.4	33.77	8.3	22.7	0.82
A7	30 Jul 2018	2	24.21	81.69	8.4	33.78	8.3	22.7	0.85
A7	30 Jul 2018	3	23.74	81.80	8.5	33.81	8.3	22.8	0.85
A7	30 Jul 2018	4	23.86	81.88	8.4	33.79	8.3	22.8	0.92
A7	30 Jul 2018	5	23.39	82.31	8.3	33.86	8.3	23.0	0.99
A7	30 Jul 2018	6	20.94	81.45	8.4	34.18	8.2	23.9	1.00
A7	30 Jul 2018	7	17.61	80.85	8.9	33.91	8.2	24.5	1.29
A7	30 Jul 2018	8	16.97	80.25	8.8	33.76	8.2	24.6	1.95
A7	30 Jul 2018	9	15.33	80.95	8.3	33.78	8.1	25.0	2.42
A7	30 Jul 2018	10	14.50	82.48	8.1	33.64	8.1	25.0	2.55
A7	30 Jul 2018	11	14.29	82.59	8.0	33.58	8.1	25.0	2.79
A7	30 Jul 2018	12	14.24	82.85	7.8	33.57	8.1	25.0	2.86
A7	30 Jul 2018	13	14.15	83.52	7.7	33.57	8.1	25.0	2.64
A7	30 Jul 2018	14	14.06	83.66	7.6	33.56	8.1	25.1	2.33
A7	30 Jul 2018	15	13.79	83.53	7.4	33.58	8.0	25.1	2.14
A7	30 Jul 2018	16	13.66	83.62	7.4	33.56	8.0	25.1	2.06
A7	30 Jul 2018	17	13.62	83.65	7.3	33.56	8.0	25.2	2.01
A7	30 Jul 2018	18	13.60	83.66	7.3	33.56	8.0	25.2	1.91
A7	30 Jul 2018	19	13.57	83.77	7.3	33.56	8.0	25.2	1.88
A7	30 Jul 2018	20	13.57	82.87	7.2	33.56	8.0	25.2	1.83
C4	02 Jul 2018	1	20.75	71.58	8.0	33.81	8.2	23.7	1.43
C4	02 Jul 2018	2	20.86	75.28	8.0	33.82	8.2	23.6	1.29
C4	02 Jul 2018	3	20.44	77.00	7.5	33.87	8.2	23.8	1.24
C4	02 Jul 2018	4	19.11	77.35	7.0	33.87	8.2	24.1	1.29
C4	02 Jul 2018	5	18.13	78.21	6.6	33.81	8.1	24.3	1.39
C4	02 Jul 2018	6	17.32	80.81	6.2	33.77	8.1	24.5	1.31
C4	02 Jul 2018	7	16.69	82.21	5.8	33.74	8.0	24.6	1.04
C4	02 Jul 2018	8	16.20	82.68	5.4	33.72	8.0	24.7	0.87
C4	02 Jul 2018	9	15.52	82.77	5.0	33.72	7.9	24.9	0.74
C4	02 Jul 2018	10	14.65	82.18	4.7	33.71	7.9	25.1	0.56
C4	02 Jul 2018	11	13.96	78.32	4.5	33.66	7.8	25.2	0.36
C4	02 Jul 2018	12	14.54	74.91	4.7	33.50	7.8	24.9	0.31
C4	09 Jul 2018	1	21.15	75.94	9.4	33.73	8.3	23.5	1.58
C4	09 Jul 2018	2	21.11	76.65	9.4	33.74	8.3	23.5	1.60
C4	09 Jul 2018	3	20.90	76.40	9.1	33.74	8.3	23.6	1.74

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (µg/L)
C4	09 Jul 2018	4	20.69	75.86	8.7	33.74	8.3	23.6	1.83
C4	09 Jul 2018	5	20.48	75.88	8.1	33.73	8.2	23.7	1.74
C4	09 Jul 2018	6	20.07	76.23	7.4	33.75	8.2	23.8	1.49
C4	09 Jul 2018	7	19.48	76.31	6.2	33.75	8.1	23.9	1.12
C4	09 Jul 2018	8	18.13	75.21	4.7	33.82	8.0	24.3	0.91
C4	09 Jul 2018	9	16.27	74.30	3.4	33.79	7.9	24.8	0.66
C4	09 Jul 2018	10	15.45	73.25	3.1	33.70	7.8	24.9	0.46
C4	09 Jul 2018	11	15.14	68.03	3.1	33.67	7.8	24.9	0.38
C4	16 Jul 2018	1	21.35	63.18	7.7	33.74	8.2	23.4	1.78
C4	16 Jul 2018	2	21.36	64.65	7.7	33.74	8.2	23.4	1.77
C4	16 Jul 2018	3	21.34	68.06	7.7	33.74	8.2	23.4	1.72
C4	16 Jul 2018	4	21.28	71.25	7.6	33.74	8.2	23.5	1.75
C4	16 Jul 2018	5	20.05	71.37	7.2	33.75	8.2	23.8	1.46
C4	16 Jul 2018	6	17.31	72.41	7.3	33.64	8.1	24.4	1.18
C4	16 Jul 2018	7	17.50	71.27	7.0	33.65	8.1	24.4	0.91
C4	16 Jul 2018	8	16.47	70.75	6.8	33.59	8.1	24.6	0.55
C4	16 Jul 2018	9	16.74	67.67	6.6	33.62	8.1	24.5	0.61
C4	16 Jul 2018	10	15.97	66.46	6.4	33.62	8.1	24.7	0.52
C4	16 Jul 2018	11	16.09	65.99	6.5	33.61	8.0	24.7	0.48
C4	23 Jul 2018	1	20.15	65.41	7.1	33.68	8.2	23.7	0.50
C4	23 Jul 2018	2	20.49	65.50	7.1	33.70	8.2	23.6	0.58
C4	23 Jul 2018	3	19.24	68.89	6.8	33.73	8.2	24.0	0.59
C4	23 Jul 2018	4	17.21	71.72	6.3	33.74	8.1	24.5	0.54
C4	23 Jul 2018	5	15.86	75.83	6.0	33.66	8.0	24.7	0.44
C4	23 Jul 2018	6	14.67	78.95	5.8	33.64	8.0	25.0	0.37
C4	23 Jul 2018	7	14.05	79.42	5.7	33.60	8.0	25.1	0.32
C4	23 Jul 2018	8	13.55	76.47	5.8	33.58	7.9	25.2	0.30
C4	23 Jul 2018	9	13.43	71.01	5.8	33.56	7.9	25.2	0.30
C4	23 Jul 2018	10	13.37	62.40	5.7	33.56	7.9	25.2	0.32
C4	23 Jul 2018	11	13.40	59.56	5.7	33.56	7.9	25.2	0.35
C4	30 Jul 2018	1	24.08	78.69	7.6	33.82	8.3	22.7	0.90
C4	30 Jul 2018	2	24.42	78.51	7.6	33.84	8.3	22.6	0.98
C4	30 Jul 2018	3	24.17	78.73	7.1	33.87	8.3	22.7	1.03
C4	30 Jul 2018	4	21.99	78.03	6.0	33.98	8.2	23.4	0.97
C4	30 Jul 2018	5	18.90	77.79	5.7	33.86	8.1	24.2	0.86
C4	30 Jul 2018	6	17.40	81.36	5.6	33.75	8.0	24.5	0.80
C4	30 Jul 2018	7	16.65	81.87	5.6	33.67	8.0	24.6	0.75
C4	30 Jul 2018	8	16.10	82.37	5.5	33.65	8.0	24.7	0.73
C4	30 Jul 2018	9	15.70	81.36	5.1	33.62	7.9	24.8	0.55
C4	30 Jul 2018	10	15.53	75.30	4.8	33.60	7.9	24.8	0.47
C4	30 Jul 2018	11	15.43	70.18	5.0	33.59	7.9	24.8	0.44
C5	02 Jul 2018	1	20.89	78.22	8.2	33.81	8.2	23.6	1.14
C5	02 Jul 2018	2	20.62	78.33	8.0	33.86	8.2	23.7	1.13
C5	02 Jul 2018	3	18.81	77.89	8.3	33.86	8.2	24.2	1.65
C5	02 Jul 2018	4	18.28	76.74	8.6	33.75	8.2	24.2	2.82
C5	02 Jul 2018	5	18.17	75.92	8.5	33.72	8.2	24.3	3.96
C5	02 Jul 2018	6	18.07	76.02	8.4	33.72	8.2	24.3	4.68
C5	02 Jul 2018	7	17.77	76.44	8.2	33.73	8.2	24.4	5.11
C5	02 Jul 2018	8	17.47	77.45	8.1	33.72	8.2	24.4	5.26
C5	02 Jul 2018	9	17.12	80.12	7.7	33.71	8.1	24.5	4.07
C5	02 Jul 2018	10	16.34	81.45	6.8	33.74	8.1	24.7	2.55

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
C5	02 Jul 2018	11	15.00	83.43	6.0	33.69	8.0	25.0	1.09
C5	09 Jul 2018	1	22.41	76.58	8.5	33.77	8.3	23.2	1.40
C5	09 Jul 2018	2	22.22	76.62	8.4	33.78	8.3	23.2	1.38
C5	09 Jul 2018	3	22.00	76.31	8.3	33.78	8.3	23.3	1.25
C5	09 Jul 2018	4	21.72	76.39	7.8	33.78	8.2	23.4	1.29
C5	09 Jul 2018	5	21.15	73.89	7.6	33.79	8.2	23.5	1.72
C5	09 Jul 2018	6	20.60	73.26	7.6	33.77	8.2	23.7	2.13
C5	09 Jul 2018	7	19.96	75.29	7.1	33.79	8.2	23.8	2.23
C5	09 Jul 2018	8	18.78	78.82	6.8	33.78	8.2	24.1	2.01
C5	09 Jul 2018	9	17.29	79.43	6.9	33.76	8.1	24.5	2.51
C5	09 Jul 2018	10	15.92	78.51	6.7	33.72	8.1	24.8	2.73
C5	09 Jul 2018	11	15.20	78.99	6.7	33.65	8.0	24.9	1.67
C5	16 Jul 2018	1	21.24	77.47	8.2	33.73	8.3	23.5	1.22
C5	16 Jul 2018	2	21.24	78.16	8.3	33.73	8.3	23.5	1.29
C5	16 Jul 2018	3	20.71	80.68	8.3	33.73	8.3	23.6	1.25
C5	16 Jul 2018	4	20.17	81.43	7.8	33.71	8.2	23.7	1.27
C5	16 Jul 2018	5	19.13	80.36	7.3	33.70	8.2	24.0	1.12
C5	16 Jul 2018	6	18.18	80.29	7.2	33.68	8.2	24.2	0.97
C5	16 Jul 2018	7	17.24	81.56	7.0	33.65	8.1	24.4	0.74
C5	16 Jul 2018	8	16.60	82.34	6.7	33.64	8.1	24.6	0.52
C5	16 Jul 2018	9	16.15	82.54	6.6	33.62	8.1	24.7	0.38
C5	16 Jul 2018	10	15.79	82.06	6.5	33.61	8.1	24.7	0.29
C5	16 Jul 2018	11	15.63	76.31	6.4	33.60	8.1	24.8	0.31
C5	23 Jul 2018	1	19.95	71.38	7.5	33.68	8.2	23.8	0.65
C5	23 Jul 2018	2	19.76	70.69	7.3	33.70	8.2	23.8	0.77
C5	23 Jul 2018	3	18.37	72.08	7.2	33.75	8.2	24.2	0.92
C5	23 Jul 2018	4	16.42	77.50	7.6	33.65	8.1	24.6	1.36
C5	23 Jul 2018	5	15.48	79.23	7.5	33.65	8.1	24.8	1.69
C5	23 Jul 2018	6	14.84	81.20	7.1	33.60	8.1	24.9	1.37
C5	23 Jul 2018	7	14.98	82.42	6.9	33.54	8.0	24.9	0.87
C5	23 Jul 2018	8	14.47	81.59	6.6	33.63	8.0	25.0	0.78
C5	23 Jul 2018	9	14.05	81.15	6.4	33.58	8.0	25.1	0.50
C5	23 Jul 2018	10	14.29	81.48	6.4	33.57	8.0	25.0	0.41
C5	23 Jul 2018	11	13.77	73.08	6.2	33.58	8.0	25.1	0.39
C5	30 Jul 2018	1	24.36	82.94	7.5	33.82	8.3	22.6	0.63
C5	30 Jul 2018	2	24.49	83.13	7.5	33.86	8.3	22.6	0.58
C5	30 Jul 2018	3	23.96	83.12	7.5	33.90	8.3	22.8	0.61
C5	30 Jul 2018	4	22.43	82.07	7.1	33.96	8.3	23.3	0.88
C5	30 Jul 2018	5	20.52	76.66	6.2	33.93	8.2	23.8	1.11
C5	30 Jul 2018	6	18.80	79.91	5.8	33.86	8.1	24.2	0.97
C5	30 Jul 2018	7	17.74	75.19	5.8	33.74	8.0	24.4	0.78
C5	30 Jul 2018	8	16.57	82.93	6.1	33.75	8.0	24.7	0.74
C5	30 Jul 2018	9	15.92	83.79	6.8	33.66	8.1	24.7	0.71
C5	30 Jul 2018	10	15.74	83.58	6.9	33.61	8.1	24.7	0.60
C6	02 Jul 2018	1	21.06	80.03	8.9	33.82	8.3	23.6	0.62
C6	02 Jul 2018	2	21.07	80.53	8.9	33.82	8.3	23.6	0.74
C6	02 Jul 2018	3	21.07	80.63	8.8	33.82	8.3	23.6	0.81
C6	02 Jul 2018	4	20.77	80.36	8.4	33.84	8.3	23.7	0.78
C6	02 Jul 2018	5	19.95	81.16	8.0	33.83	8.2	23.9	0.69
C6	02 Jul 2018	6	18.99	82.03	7.3	33.83	8.2	24.1	0.73

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
C6	02 Jul 2018	7	17.51	82.47	6.5	33.81	8.1	24.5	0.92
C6	02 Jul 2018	8	16.51	83.24	5.9	33.76	8.0	24.7	0.81
C6	02 Jul 2018	9	15.44	83.00	5.6	33.67	8.0	24.9	0.37
C6	09 Jul 2018	1	22.60	79.83	9.1	33.79	8.3	23.1	0.83
C6	09 Jul 2018	2	22.51	79.77	9.0	33.79	8.3	23.2	0.88
C6	09 Jul 2018	3	22.37	79.99	8.8	33.79	8.3	23.2	0.84
C6	09 Jul 2018	4	22.06	80.05	8.4	33.80	8.3	23.3	0.81
C6	09 Jul 2018	5	21.25	80.48	7.9	33.81	8.3	23.5	0.82
C6	09 Jul 2018	6	20.08	79.97	7.3	33.80	8.2	23.8	0.97
C6	09 Jul 2018	7	18.70	79.62	6.6	33.77	8.2	24.2	1.37
C6	09 Jul 2018	8	17.29	79.51	6.1	33.74	8.1	24.5	1.45
C6	09 Jul 2018	9	16.07	80.27	5.5	33.70	8.0	24.7	0.91
C6	09 Jul 2018	10	15.69	80.79	5.2	33.66	8.0	24.8	0.43
C6	16 Jul 2018	1	21.33	78.44	8.6	33.73	8.3	23.4	1.08
C6	16 Jul 2018	2	21.24	78.55	8.7	33.73	8.3	23.5	1.16
C6	16 Jul 2018	3	20.85	80.23	8.7	33.72	8.3	23.6	1.16
C6	16 Jul 2018	4	20.39	81.45	8.3	33.72	8.3	23.7	1.13
C6	16 Jul 2018	5	19.65	81.76	7.7	33.70	8.2	23.9	0.96
C6	16 Jul 2018	6	18.68	82.95	7.0	33.69	8.2	24.1	0.70
C6	16 Jul 2018	7	17.92	83.42	6.4	33.66	8.1	24.3	0.45
C6	16 Jul 2018	8	17.23	83.28	6.5	33.65	8.1	24.4	0.36
C6	16 Jul 2018	9	16.45	82.98	6.6	33.63	8.1	24.6	0.30
C6	16 Jul 2018	10	16.33	81.24	6.5	33.61	8.1	24.6	0.24
C6	23 Jul 2018	1	20.31	70.16	8.3	33.68	8.2	23.7	0.74
C6	23 Jul 2018	2	20.14	73.06	8.0	33.70	8.2	23.7	0.82
C6	23 Jul 2018	3	19.21	74.85	7.6	33.70	8.2	24.0	0.97
C6	23 Jul 2018	4	17.84	73.97	7.5	33.69	8.2	24.3	0.90
C6	23 Jul 2018	5	16.13	70.17	7.6	33.65	8.1	24.7	0.96
C6	23 Jul 2018	6	15.67	68.57	7.3	33.62	8.1	24.8	1.19
C6	23 Jul 2018	7	15.36	71.50	6.9	33.94	8.1	25.1	1.82
C6	23 Jul 2018	8	15.26	72.09	7.2	33.69	8.0	24.9	3.63
C6	23 Jul 2018	9	15.20	73.68	6.8	33.62	8.0	24.9	3.02
C6	23 Jul 2018	10	15.04	72.14	6.8	33.60	8.0	24.9	1.73
C6	30 Jul 2018	1	24.05	81.70	7.9	33.81	8.3	22.7	0.68
C6	30 Jul 2018	2	24.39	81.80	8.0	33.82	8.3	22.6	0.63
C6	30 Jul 2018	3	24.13	81.78	7.8	33.86	8.3	22.7	0.64
C6	30 Jul 2018	4	22.86	81.79	7.2	33.94	8.3	23.2	0.74
C6	30 Jul 2018	5	20.47	81.17	6.8	33.91	8.2	23.8	1.16
C6	30 Jul 2018	6	18.97	80.15	7.0	33.78	8.2	24.1	1.86
C6	30 Jul 2018	7	17.98	81.21	7.2	33.74	8.1	24.3	1.73
C6	30 Jul 2018	8	17.07	82.22	7.3	33.69	8.1	24.5	1.40
C6	30 Jul 2018	9	16.52	83.03	7.0	33.66	8.1	24.6	0.99
C6	30 Jul 2018	10	16.08	80.76	6.6	33.63	8.0	24.7	0.68
C7	02 Jul 2018	1	21.07	81.20	9.7	33.80	8.4	23.6	1.16
C7	02 Jul 2018	2	21.03	80.62	9.7	33.81	8.4	23.6	1.24
C7	02 Jul 2018	3	20.97	81.32	9.7	33.80	8.4	23.6	1.40
C7	02 Jul 2018	4	20.89	81.22	9.7	33.81	8.4	23.6	1.58
C7	02 Jul 2018	5	20.68	79.95	9.8	33.80	8.4	23.7	2.43
C7	02 Jul 2018	6	20.17	74.19	9.7	33.82	8.3	23.8	4.42
C7	02 Jul 2018	7	19.35	64.44	9.7	33.77	8.3	24.0	11.69

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
C7	02 Jul 2018	8	18.53	66.45	9.5	33.76	8.3	24.2	15.00
C7	02 Jul 2018	9	17.90	66.50	9.3	33.74	8.2	24.3	14.23
C7	02 Jul 2018	10	17.44	68.42	8.6	33.73	8.2	24.4	13.71
C7	02 Jul 2018	11	15.89	76.14	7.1	33.71	8.1	24.8	9.46
C7	02 Jul 2018	12	15.28	78.25	6.7	33.70	8.0	24.9	6.47
C7	02 Jul 2018	13	14.90	78.88	6.5	33.66	8.0	25.0	5.18
C7	02 Jul 2018	14	14.39	78.82	6.5	33.66	8.0	25.1	5.04
C7	02 Jul 2018	15	14.08	79.44	6.4	33.65	8.0	25.1	4.91
C7	02 Jul 2018	16	13.88	80.73	6.1	33.65	8.0	25.2	4.28
C7	02 Jul 2018	17	13.53	81.99	5.8	33.64	7.9	25.2	3.51
C7	02 Jul 2018	18	13.13	83.14	5.5	33.66	7.9	25.3	2.84
C7	02 Jul 2018	19	13.10	83.62	5.3	33.59	7.8	25.3	1.95
C7	09 Jul 2018	1	22.88	85.60	8.4	33.80	8.3	23.1	0.46
C7	09 Jul 2018	2	22.71	84.97	8.5	33.81	8.3	23.1	0.52
C7	09 Jul 2018	3	22.16	83.42	8.8	33.81	8.3	23.3	0.71
C7	09 Jul 2018	4	21.19	81.22	9.0	33.83	8.3	23.5	1.01
C7	09 Jul 2018	5	19.85	77.79	9.5	33.78	8.3	23.9	1.51
C7	09 Jul 2018	6	19.46	76.09	9.5	33.73	8.3	23.9	2.10
C7	09 Jul 2018	7	18.74	75.38	9.2	33.75	8.3	24.1	2.59
C7	09 Jul 2018	8	17.59	72.61	8.7	33.73	8.2	24.4	3.98
C7	09 Jul 2018	9	16.78	70.09	8.8	33.71	8.2	24.6	5.72
C7	09 Jul 2018	10	16.02	69.46	9.1	33.66	8.2	24.7	7.03
C7	09 Jul 2018	11	15.73	69.28	8.9	33.66	8.2	24.8	7.59
C7	09 Jul 2018	12	15.03	68.58	8.5	33.65	8.2	24.9	8.49
C7	09 Jul 2018	13	14.88	67.58	8.1	33.63	8.1	24.9	9.40
C7	09 Jul 2018	14	14.73	67.44	7.5	33.64	8.1	25.0	9.79
C7	09 Jul 2018	15	14.08	72.19	6.2	33.67	8.0	25.1	8.13
C7	09 Jul 2018	16	13.41	81.96	5.4	33.65	7.9	25.3	3.66
C7	09 Jul 2018	17	12.89	84.66	5.3	33.63	7.9	25.4	1.29
C7	09 Jul 2018	18	12.79	84.84	5.3	33.61	7.9	25.4	0.81
C7	16 Jul 2018	1	21.25	80.08	8.8	33.73	8.3	23.5	1.26
C7	16 Jul 2018	2	21.24	81.03	8.8	33.73	8.3	23.5	1.33
C7	16 Jul 2018	3	21.18	81.04	8.7	33.73	8.3	23.5	1.37
C7	16 Jul 2018	4	20.83	81.34	8.4	33.74	8.3	23.6	1.37
C7	16 Jul 2018	5	19.67	81.09	8.7	33.73	8.2	23.9	1.79
C7	16 Jul 2018	6	19.19	80.67	8.3	33.70	8.2	24.0	2.20
C7	16 Jul 2018	7	17.21	80.34	8.2	33.71	8.2	24.5	2.82
C7	16 Jul 2018	8	16.49	80.34	8.4	33.65	8.2	24.6	3.13
C7	16 Jul 2018	9	16.50	81.31	8.1	33.66	8.2	24.6	3.12
C7	16 Jul 2018	10	16.01	81.98	8.0	33.62	8.1	24.7	2.60
C7	16 Jul 2018	11	15.84	82.18	7.9	33.62	8.1	24.7	2.43
C7	16 Jul 2018	12	15.60	82.76	7.9	33.61	8.1	24.8	2.23
C7	16 Jul 2018	13	15.44	82.86	8.0	33.61	8.1	24.8	2.21
C7	16 Jul 2018	14	15.23	82.83	8.2	33.60	8.1	24.8	2.39
C7	16 Jul 2018	15	15.19	83.00	8.3	33.60	8.1	24.9	2.46
C7	16 Jul 2018	16	15.09	82.78	8.3	33.60	8.1	24.9	2.45
C7	16 Jul 2018	17	14.69	83.36	8.1	33.62	8.1	25.0	2.24
C7	16 Jul 2018	18	14.56	82.91	8.0	33.60	8.1	25.0	1.54
C7	23 Jul 2018	1	19.28	76.83	9.2	33.65	8.2	23.9	1.17
C7	23 Jul 2018	2	18.38	77.26	9.1	33.68	8.2	24.2	1.42
C7	23 Jul 2018	3	17.46	76.33	8.9	33.63	8.2	24.4	1.72
C7	23 Jul 2018	4	16.38	77.51	8.6	33.62	8.2	24.6	1.85

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (µg/L)
C7	23 Jul 2018	5	15.73	79.39	8.3	33.60	8.1	24.7	1.83
C7	23 Jul 2018	6	15.18	81.61	8.0	33.58	8.1	24.8	1.80
C7	23 Jul 2018	7	15.03	82.77	8.0	33.54	8.1	24.8	1.82
C7	23 Jul 2018	8	14.70	83.05	7.8	33.59	8.1	24.9	1.79
C7	23 Jul 2018	9	14.19	84.00	7.6	33.56	8.1	25.0	1.56
C7	23 Jul 2018	10	14.15	84.81	7.4	33.55	8.1	25.0	1.32
C7	23 Jul 2018	11	13.77	85.54	7.2	33.56	8.0	25.1	1.02
C7	23 Jul 2018	12	13.73	86.00	7.1	33.55	8.0	25.1	0.85
C7	23 Jul 2018	13	13.57	86.25	6.9	33.56	8.0	25.2	0.75
C7	23 Jul 2018	14	13.32	86.26	6.7	33.56	8.0	25.2	0.68
C7	23 Jul 2018	15	13.03	86.48	6.5	33.55	8.0	25.3	0.60
C7	23 Jul 2018	16	12.99	86.92	6.4	33.57	8.0	25.3	0.59
C7	23 Jul 2018	17	12.60	86.68	6.1	33.56	7.9	25.4	0.49
C7	23 Jul 2018	18	12.60	86.48	6.0	33.56	7.9	25.4	0.45
C7	30 Jul 2018	1	24.26	80.17	8.7	33.81	8.3	22.7	0.99
C7	30 Jul 2018	2	24.32	80.13	8.6	33.82	8.3	22.6	0.99
C7	30 Jul 2018	3	24.24	79.92	8.6	33.82	8.3	22.7	1.10
C7	30 Jul 2018	4	24.15	79.54	8.4	33.82	8.3	22.7	1.21
C7	30 Jul 2018	5	23.92	79.23	8.4	33.83	8.3	22.8	1.35
C7	30 Jul 2018	6	22.73	77.95	9.1	33.86	8.3	23.1	1.71
C7	30 Jul 2018	7	21.01	76.16	9.5	33.79	8.3	23.6	2.35
C7	30 Jul 2018	8	20.05	75.74	8.5	33.78	8.2	23.8	2.97
C7	30 Jul 2018	9	17.76	76.57	8.7	33.79	8.2	24.4	3.41
C7	30 Jul 2018	10	16.39	78.00	8.8	33.67	8.2	24.6	3.77
C7	30 Jul 2018	11	15.87	79.53	8.6	33.62	8.2	24.7	3.78
C7	30 Jul 2018	12	15.54	81.22	8.3	33.60	8.1	24.8	3.55
C7	30 Jul 2018	13	15.11	82.55	8.0	33.60	8.1	24.9	2.99
C7	30 Jul 2018	14	14.63	83.70	7.9	33.58	8.1	25.0	3.38
C7	30 Jul 2018	15	14.47	83.94	7.9	33.56	8.1	25.0	4.04
C7	30 Jul 2018	16	14.37	84.34	7.8	33.56	8.1	25.0	2.74
C7	30 Jul 2018	17	14.32	85.01	7.6	33.57	8.1	25.0	2.18
C7	30 Jul 2018	18	14.25	85.68	7.4	33.57	8.1	25.0	1.54
C8	02 Jul 2018	1	20.98	83.09	10.2	33.80	8.4	23.6	0.64
C8	02 Jul 2018	2	20.98	83.17	10.3	33.80	8.4	23.6	0.65
C8	02 Jul 2018	3	20.98	83.17	10.3	33.79	8.4	23.6	0.69
C8	02 Jul 2018	4	20.97	82.98	10.3	33.80	8.4	23.6	0.80
C8	02 Jul 2018	5	20.97	82.77	10.3	33.80	8.4	23.6	0.92
C8	02 Jul 2018	6	20.96	82.69	10.2	33.80	8.4	23.6	1.03
C8	02 Jul 2018	7	20.95	82.42	10.1	33.80	8.4	23.6	1.18
C8	02 Jul 2018	8	20.73	81.80	9.8	33.82	8.4	23.7	1.26
C8	02 Jul 2018	9	19.56	77.02	9.6	33.80	8.3	24.0	2.63
C8	02 Jul 2018	10	18.23	72.78	8.8	33.80	8.3	24.3	5.48
C8	02 Jul 2018	11	15.19	77.32	7.5	33.69	8.1	24.9	6.57
C8	02 Jul 2018	12	14.01	80.32	6.9	33.71	8.0	25.2	5.29
C8	02 Jul 2018	13	13.70	82.17	6.6	33.61	8.0	25.2	3.78
C8	02 Jul 2018	14	13.48	82.37	6.4	33.62	8.0	25.2	3.18
C8	02 Jul 2018	15	13.27	82.91	6.0	33.62	7.9	25.3	2.70
C8	02 Jul 2018	16	12.75	85.22	5.5	33.64	7.9	25.4	1.76
C8	02 Jul 2018	17	11.99	85.57	5.1	33.61	7.8	25.5	1.23
C8	02 Jul 2018	18	11.96	85.60	5.0	33.60	7.8	25.5	1.05
C8	02 Jul 2018	19	12.15	85.59	5.0	33.60	7.8	25.5	0.99
C8	09 Jul 2018	1	22.90	84.24	7.2	33.77	8.3	23.0	0.88

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
C8	09 Jul 2018	2	22.83	84.05	8.3	33.82	8.3	23.1	0.81
C8	09 Jul 2018	3	22.76	83.67	8.6	33.81	8.3	23.1	0.77
C8	09 Jul 2018	4	22.46	83.30	8.7	33.86	8.3	23.2	0.79
C8	09 Jul 2018	5	21.79	82.58	8.9	33.88	8.3	23.4	0.93
C8	09 Jul 2018	6	20.03	81.95	8.8	34.01	8.3	24.0	1.17
C8	09 Jul 2018	7	17.84	78.63	9.0	33.88	8.3	24.4	2.04
C8	09 Jul 2018	8	17.10	73.65	9.0	33.78	8.2	24.6	2.74
C8	09 Jul 2018	9	16.55	70.55	8.7	33.72	8.2	24.6	4.56
C8	09 Jul 2018	10	16.34	68.85	8.2	33.72	8.2	24.7	6.12
C8	09 Jul 2018	11	15.93	67.78	8.1	33.80	8.2	24.8	7.36
C8	09 Jul 2018	12	14.94	67.09	7.7	33.82	8.1	25.1	8.10
C8	09 Jul 2018	13	14.24	67.46	7.1	33.74	8.1	25.2	9.43
C8	09 Jul 2018	14	13.39	69.41	6.4	33.74	8.0	25.3	10.31
C8	09 Jul 2018	15	12.69	72.89	5.7	33.69	7.9	25.4	9.05
C8	09 Jul 2018	16	12.61	78.68	5.6	33.65	7.9	25.4	4.99
C8	09 Jul 2018	17	12.48	81.43	5.6	33.63	7.9	25.4	3.01
C8	09 Jul 2018	18	12.45	82.17	5.5	33.63	7.9	25.4	2.38
C8	09 Jul 2018	19	12.42	82.47	5.4	33.63	7.9	25.4	2.08
C8	09 Jul 2018	20	12.43	81.94	5.4	33.62	7.9	25.4	1.99
C8	16 Jul 2018	1	20.94	79.52	8.9	33.70	8.3	23.5	1.61
C8	16 Jul 2018	2	20.90	79.93	9.0	33.73	8.3	23.6	1.61
C8	16 Jul 2018	3	20.78	80.35	9.3	33.73	8.3	23.6	1.76
C8	16 Jul 2018	4	20.65	80.78	9.6	33.72	8.3	23.6	1.84
C8	16 Jul 2018	5	20.01	80.89	9.7	33.74	8.3	23.8	1.89
C8	16 Jul 2018	6	19.77	80.09	9.7	33.70	8.3	23.8	2.20
C8	16 Jul 2018	7	19.27	79.03	9.4	33.71	8.3	24.0	2.60
C8	16 Jul 2018	8	18.72	77.96	9.0	33.72	8.2	24.1	2.93
C8	16 Jul 2018	9	17.50	77.14	9.2	33.71	8.2	24.4	3.94
C8	16 Jul 2018	10	17.61	77.86	8.8	33.69	8.2	24.4	4.23
C8	16 Jul 2018	11	16.46	77.82	8.6	33.67	8.2	24.6	4.30
C8	16 Jul 2018	12	15.89	79.16	8.3	33.65	8.2	24.7	4.21
C8	16 Jul 2018	13	15.25	83.88	7.7	33.62	8.1	24.9	2.27
C8	16 Jul 2018	14	15.10	84.42	7.6	33.61	8.1	24.9	1.13
C8	16 Jul 2018	15	15.00	84.40	7.6	33.60	8.1	24.9	0.71
C8	16 Jul 2018	16	14.97	84.47	7.5	33.60	8.1	24.9	0.54
C8	16 Jul 2018	17	14.96	84.32	7.5	33.61	8.1	24.9	0.43
C8	16 Jul 2018	18	14.99	84.30	7.5	33.61	8.1	24.9	0.40
C8	16 Jul 2018	19	14.98	83.94	7.4	33.61	8.1	24.9	0.36
C8	23 Jul 2018	1	19.36	70.88	9.0	33.68	8.2	23.9	1.13
C8	23 Jul 2018	2	19.17	75.41	8.9	33.69	8.2	24.0	1.21
C8	23 Jul 2018	3	18.48	76.05	9.2	33.66	8.2	24.1	1.28
C8	23 Jul 2018	4	17.26	74.31	9.2	33.77	8.2	24.5	1.39
C8	23 Jul 2018	5	16.81	74.51	9.4	33.63	8.2	24.5	1.85
C8	23 Jul 2018	6	16.40	75.83	9.5	33.64	8.2	24.6	2.26
C8	23 Jul 2018	7	15.94	77.77	9.5	33.62	8.2	24.7	2.55
C8	23 Jul 2018	8	15.60	78.66	9.3	33.60	8.2	24.8	2.77
C8	23 Jul 2018	9	15.54	78.91	9.2	33.59	8.2	24.8	3.15
C8	23 Jul 2018	10	15.20	79.13	9.0	33.58	8.2	24.8	3.41
C8	23 Jul 2018	11	15.15	80.24	8.8	33.58	8.2	24.8	3.69
C8	23 Jul 2018	12	14.76	81.43	8.5	33.58	8.1	24.9	3.54
C8	23 Jul 2018	13	14.35	82.26	8.3	33.57	8.1	25.0	3.34
C8	23 Jul 2018	14	14.20	84.53	8.1	33.56	8.1	25.0	2.94
C8	23 Jul 2018	15	14.02	84.82	7.9	33.56	8.1	25.1	2.14

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
C8	23 Jul 2018	16	13.99	84.88	7.8	33.55	8.1	25.1	1.78
C8	23 Jul 2018	17	13.98	84.96	7.8	33.55	8.1	25.1	1.56
C8	23 Jul 2018	18	14.01	84.59	7.8	33.55	8.1	25.1	1.50
C8	23 Jul 2018	19	14.03	84.14	7.8	33.56	8.1	25.1	1.49
C8	23 Jul 2018	20	14.05	83.73	7.8	33.56	8.1	25.1	1.54
C8	30 Jul 2018	1	24.17	80.42	8.5	33.82	8.3	22.7	1.01
C8	30 Jul 2018	2	24.21	80.42	8.5	33.82	8.3	22.7	0.98
C8	30 Jul 2018	3	24.16	80.28	8.4	33.83	8.3	22.7	0.96
C8	30 Jul 2018	4	24.15	79.08	8.3	33.84	8.3	22.7	1.07
C8	30 Jul 2018	5	24.15	77.35	8.2	33.84	8.3	22.7	1.34
C8	30 Jul 2018	6	24.07	75.30	8.2	33.86	8.3	22.8	1.61
C8	30 Jul 2018	7	23.60	77.36	8.5	33.85	8.3	22.9	1.90
C8	30 Jul 2018	8	21.89	78.03	9.4	33.97	8.3	23.5	2.00
C8	30 Jul 2018	9	20.11	75.88	10.8	33.83	8.3	23.8	2.21
C8	30 Jul 2018	10	19.44	74.98	11.0	33.75	8.3	24.0	2.68
C8	30 Jul 2018	11	18.46	73.73	10.5	33.72	8.3	24.2	3.43
C8	30 Jul 2018	12	17.35	72.89	9.5	33.75	8.2	24.5	4.39
C8	30 Jul 2018	13	16.67	75.11	9.0	33.64	8.2	24.5	5.00
C8	30 Jul 2018	14	16.39	77.65	8.8	33.64	8.2	24.6	4.94
C8	30 Jul 2018	15	15.94	78.96	8.8	33.65	8.2	24.7	4.53
C8	30 Jul 2018	16	15.71	80.15	8.7	33.62	8.2	24.8	4.08
C8	30 Jul 2018	17	15.42	81.15	8.4	33.62	8.1	24.8	3.59
C8	30 Jul 2018	18	14.90	83.54	7.7	33.65	8.1	25.0	2.97
C8	30 Jul 2018	19	14.02	85.31	7.2	33.61	8.0	25.1	1.61

NA = not available

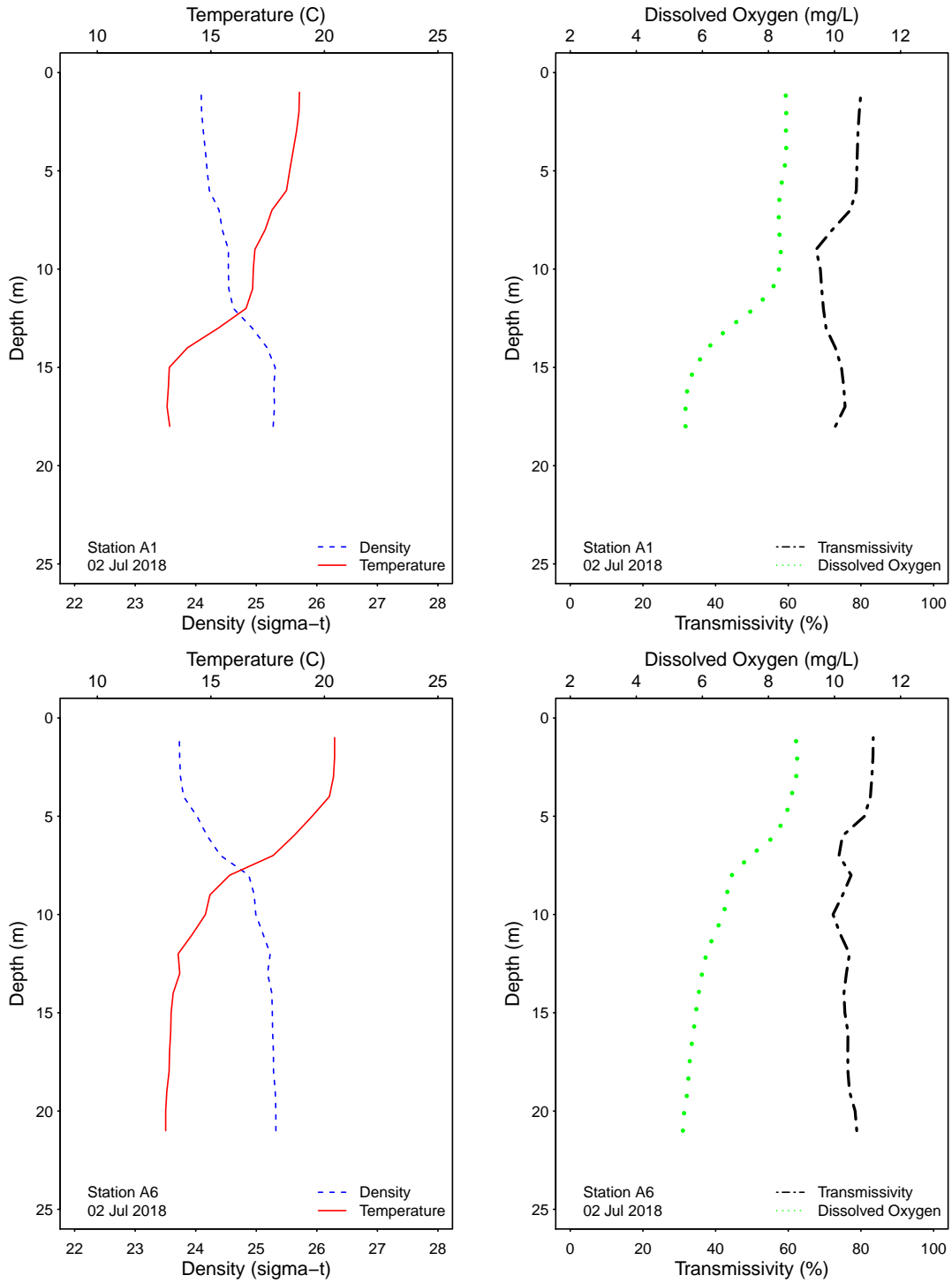


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

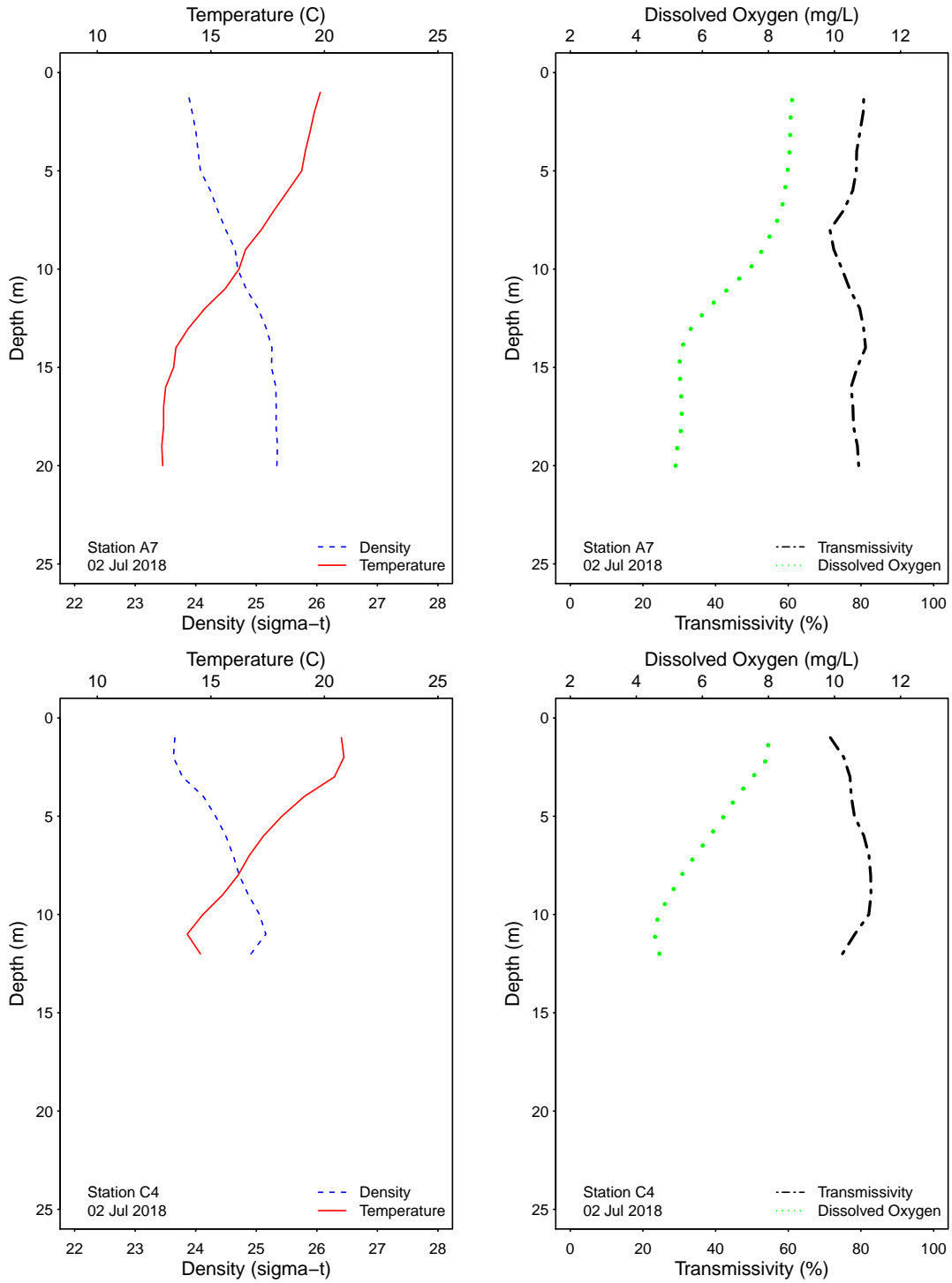


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

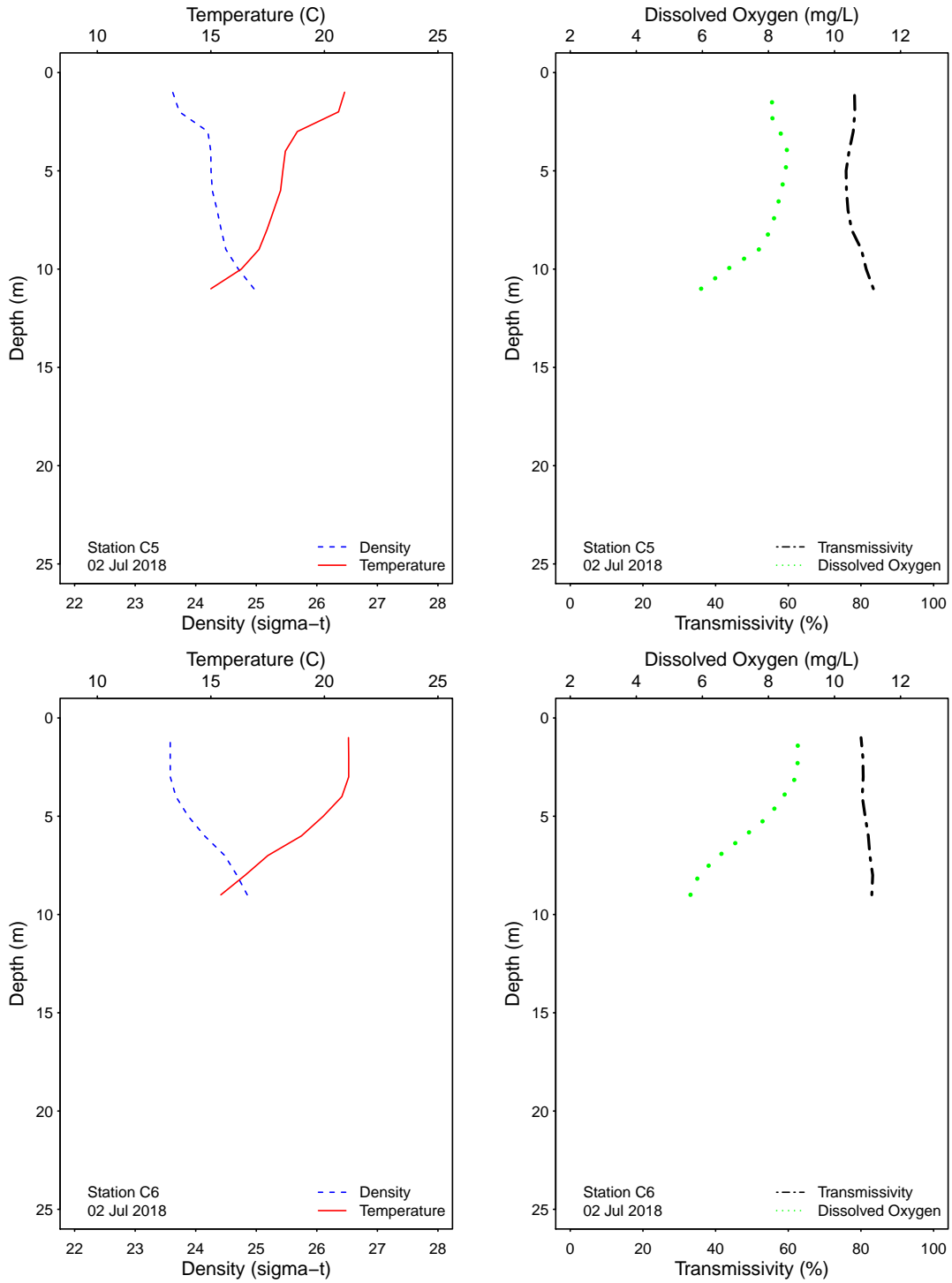


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

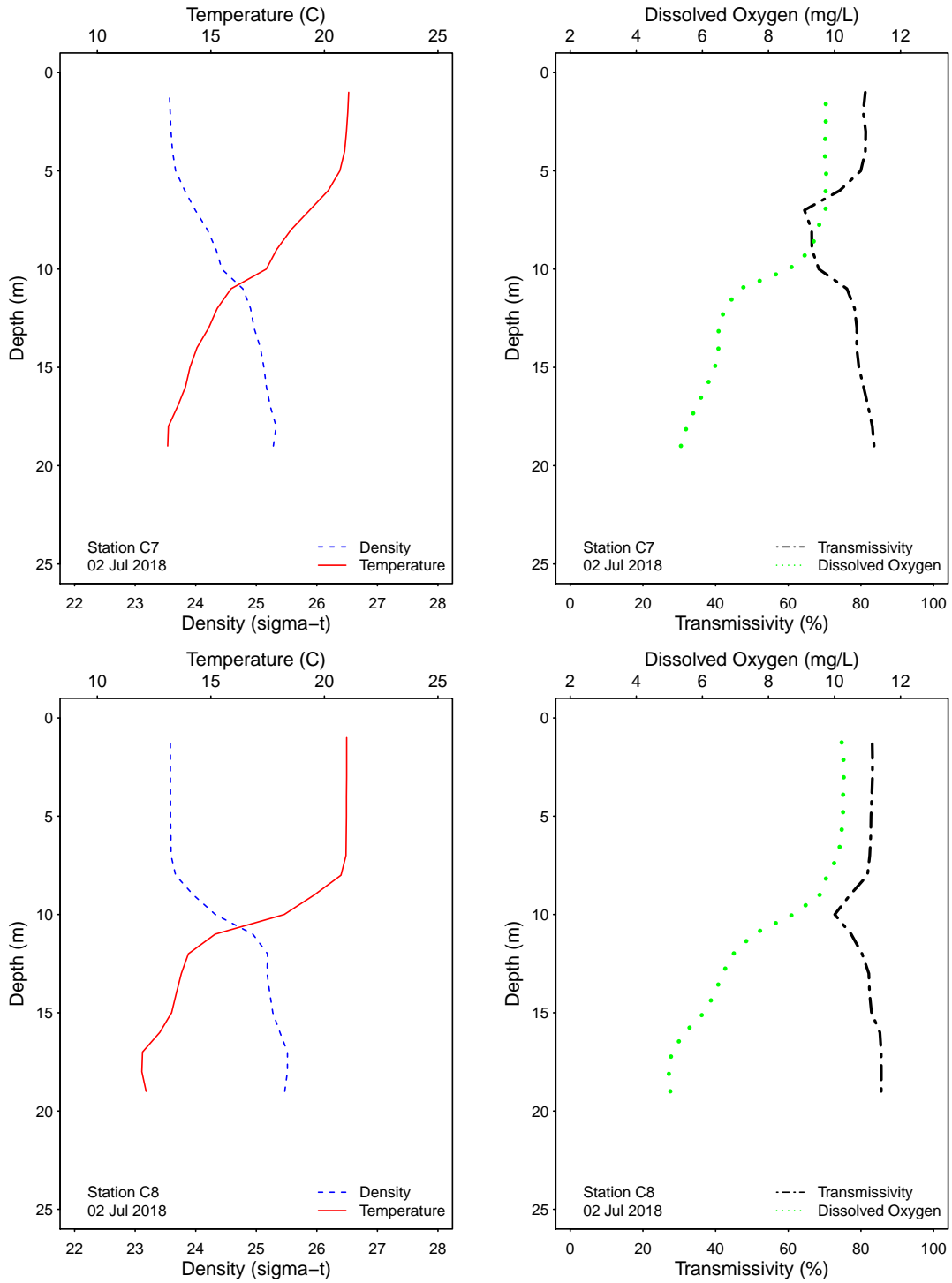


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

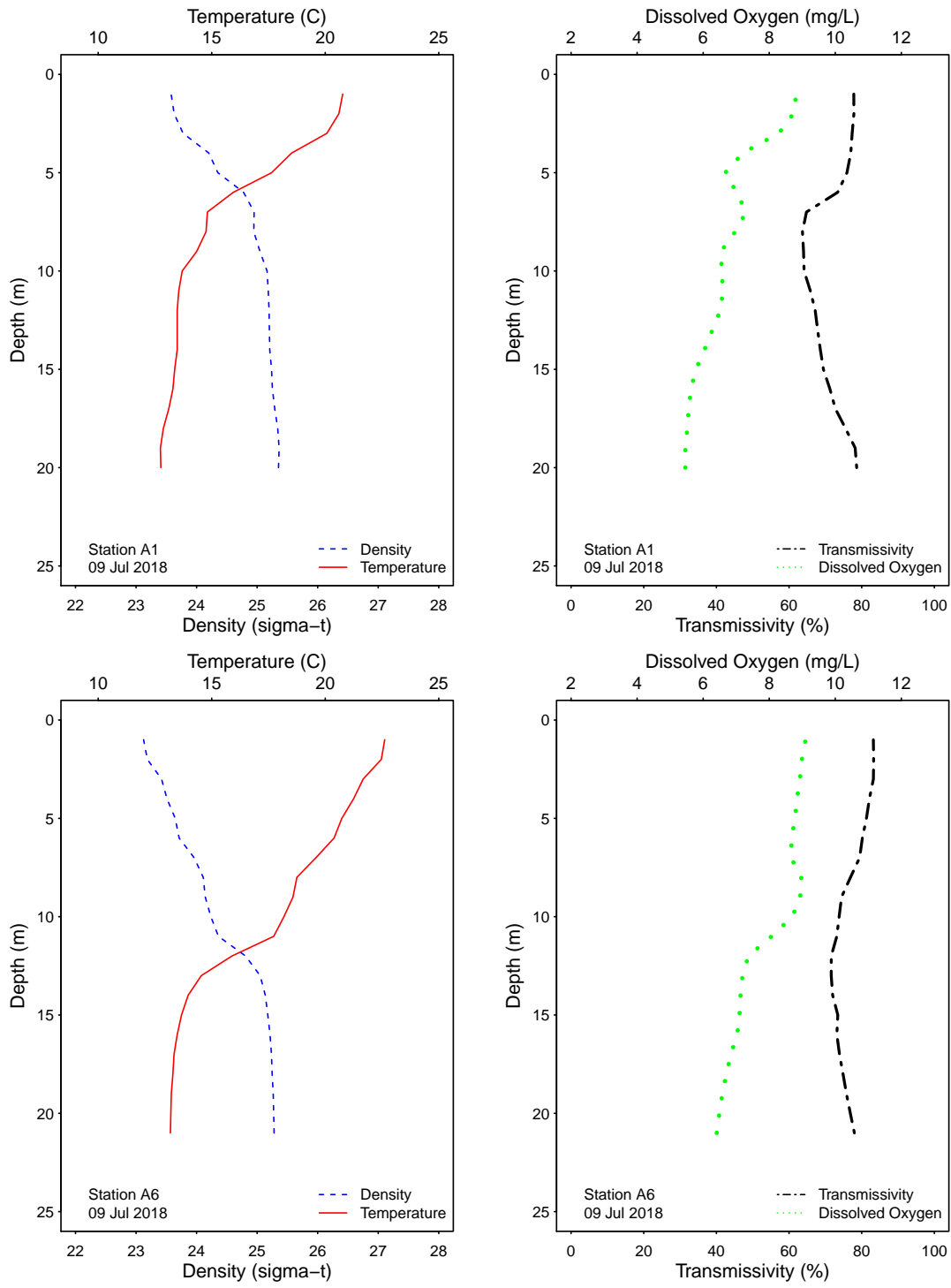


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

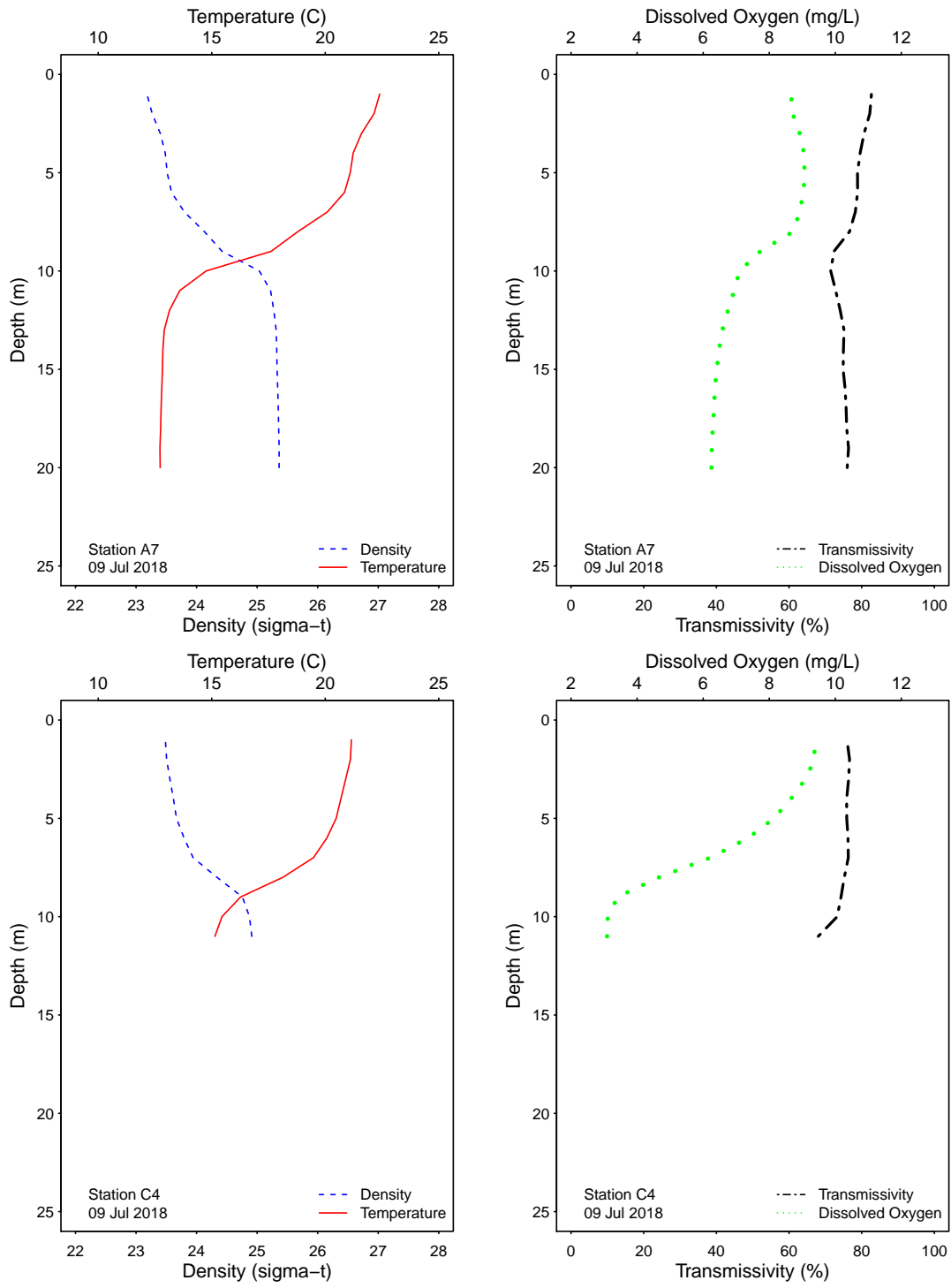


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

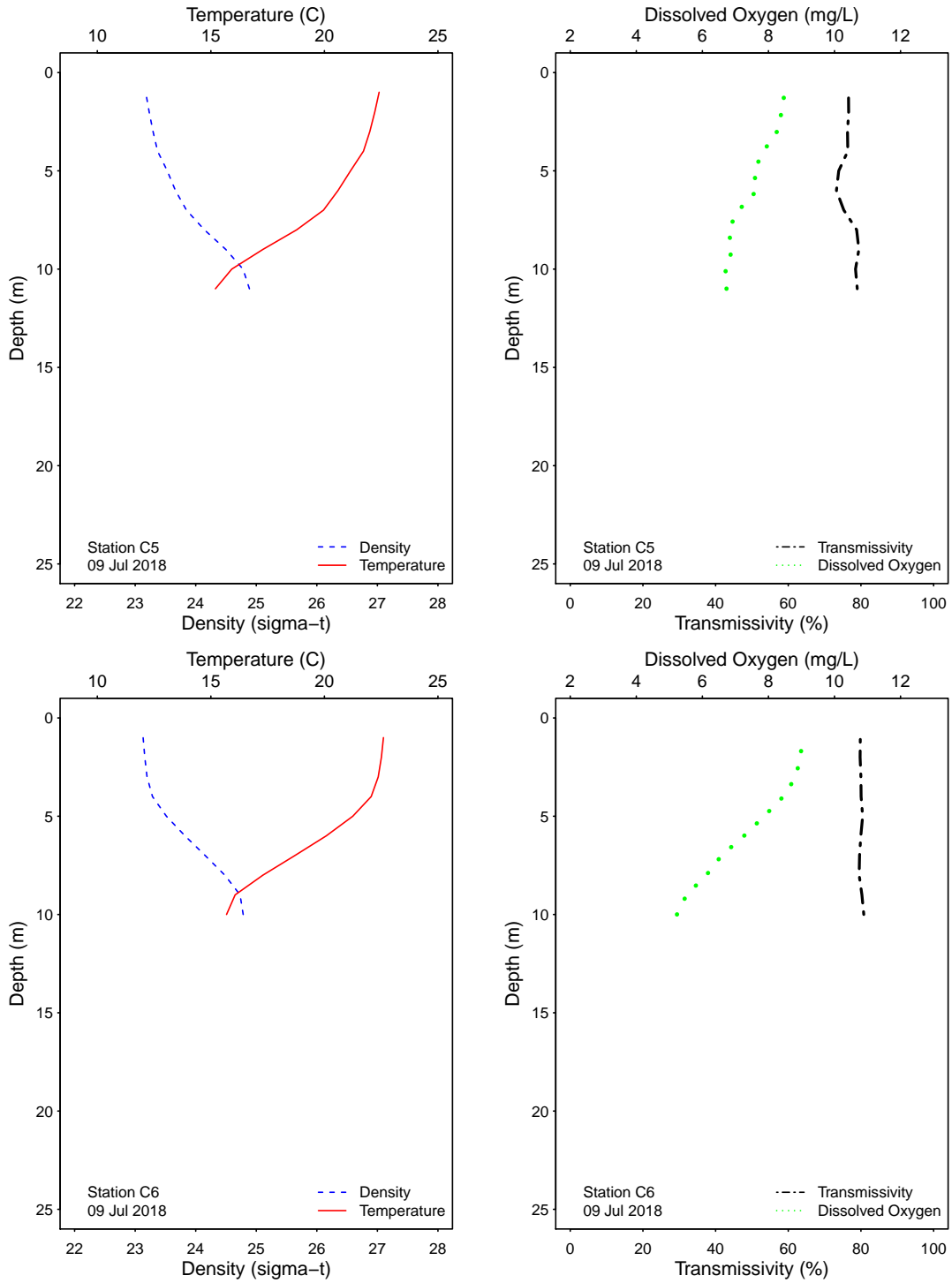


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

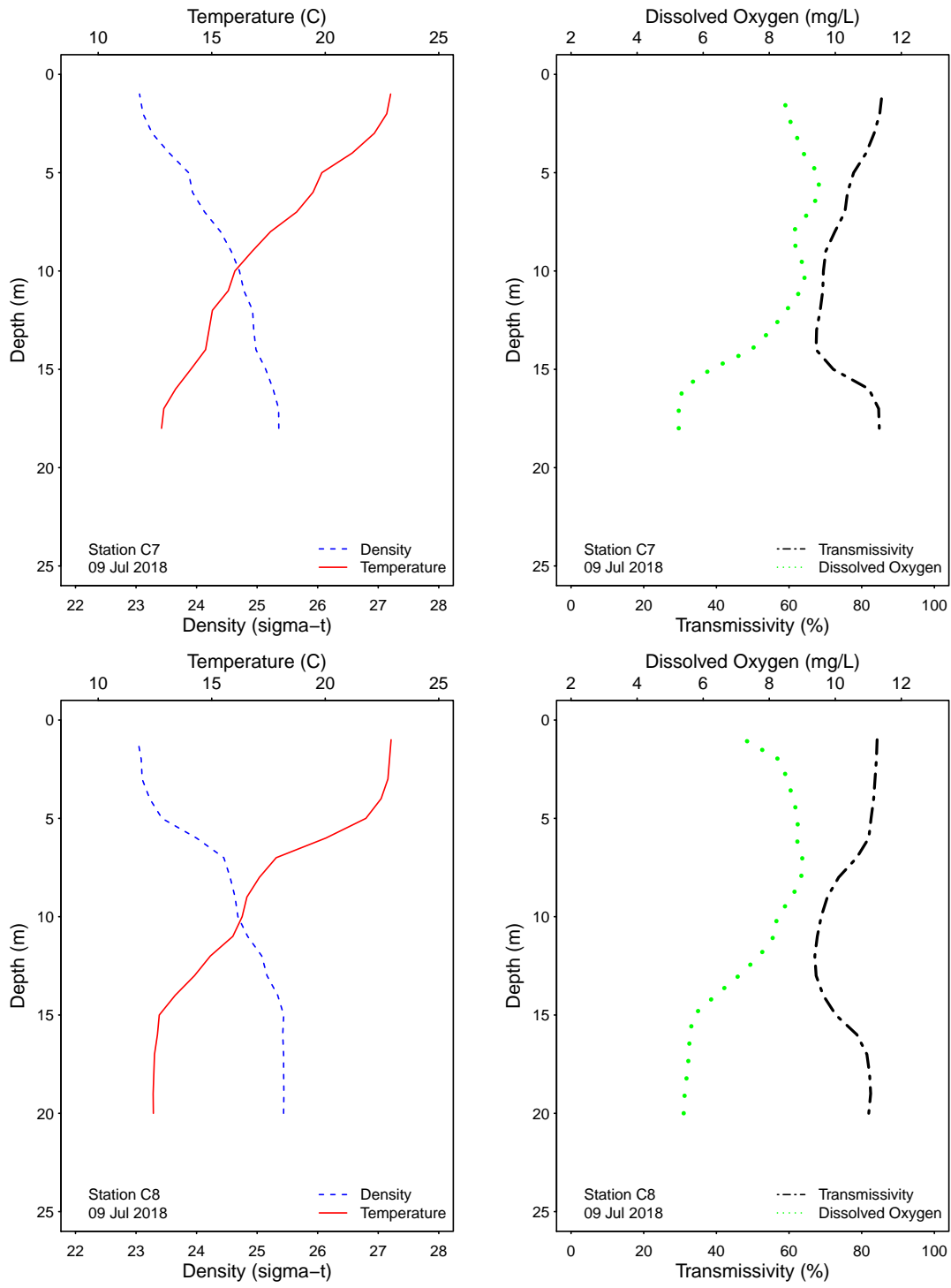


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

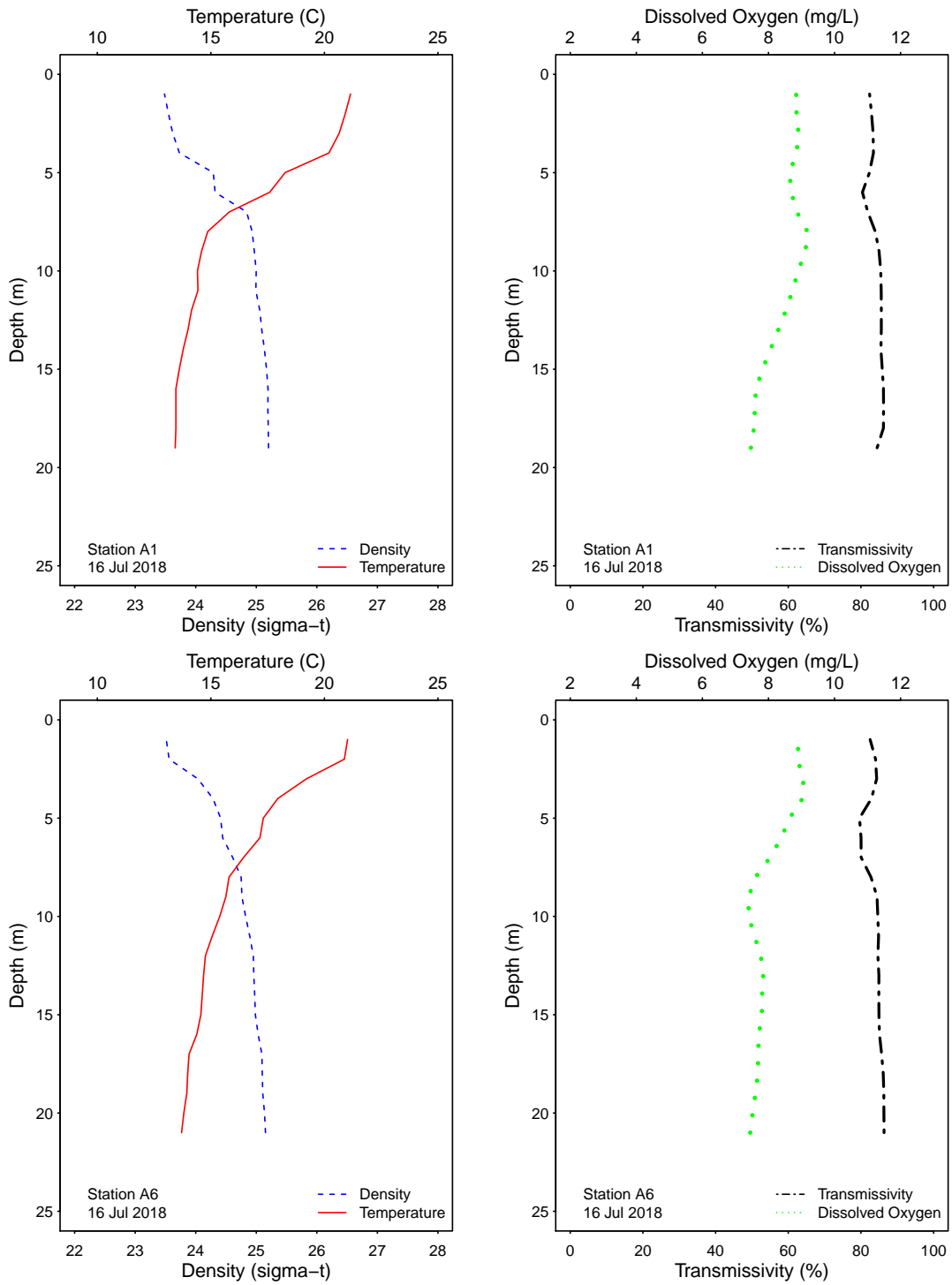


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

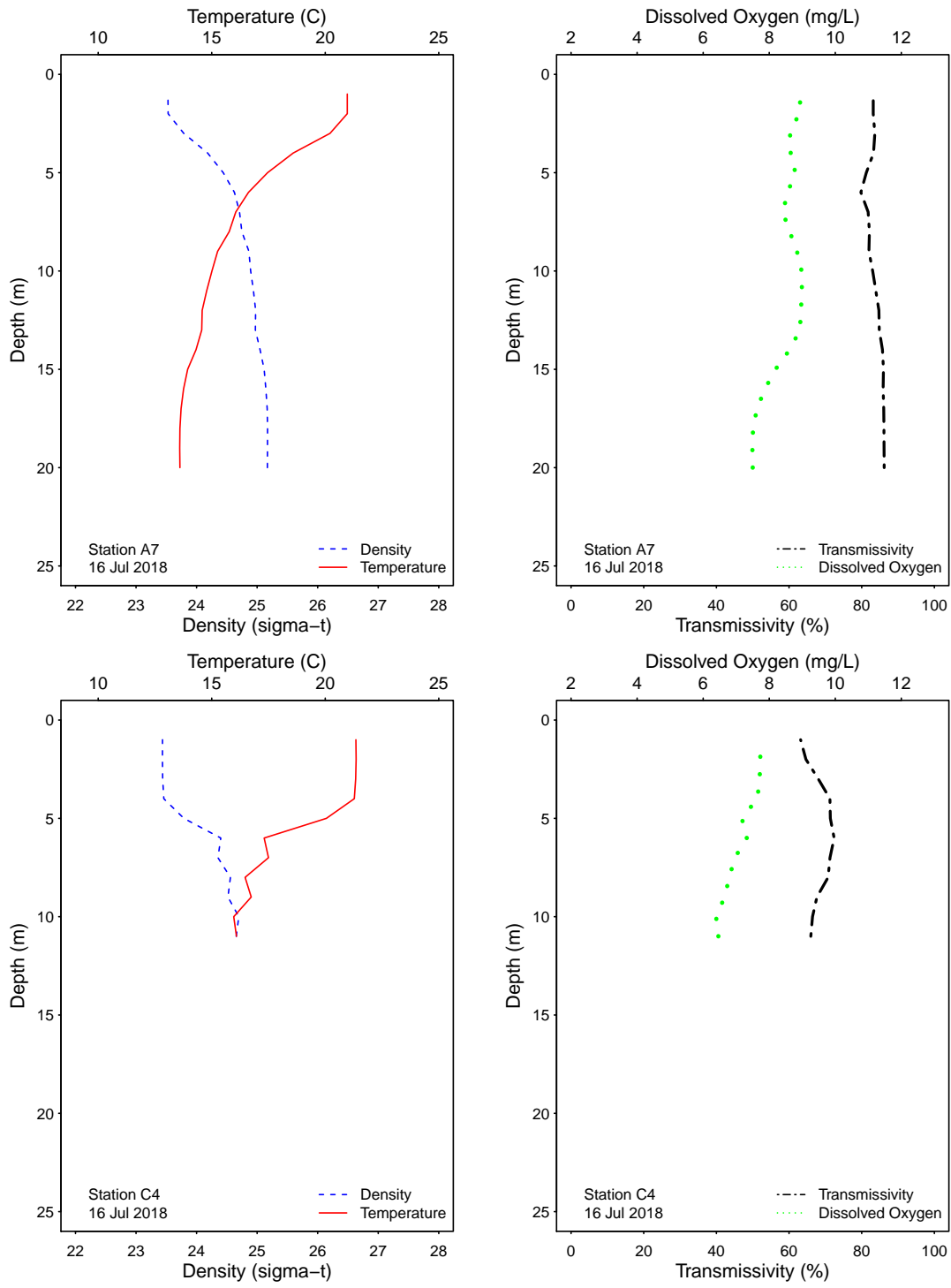


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

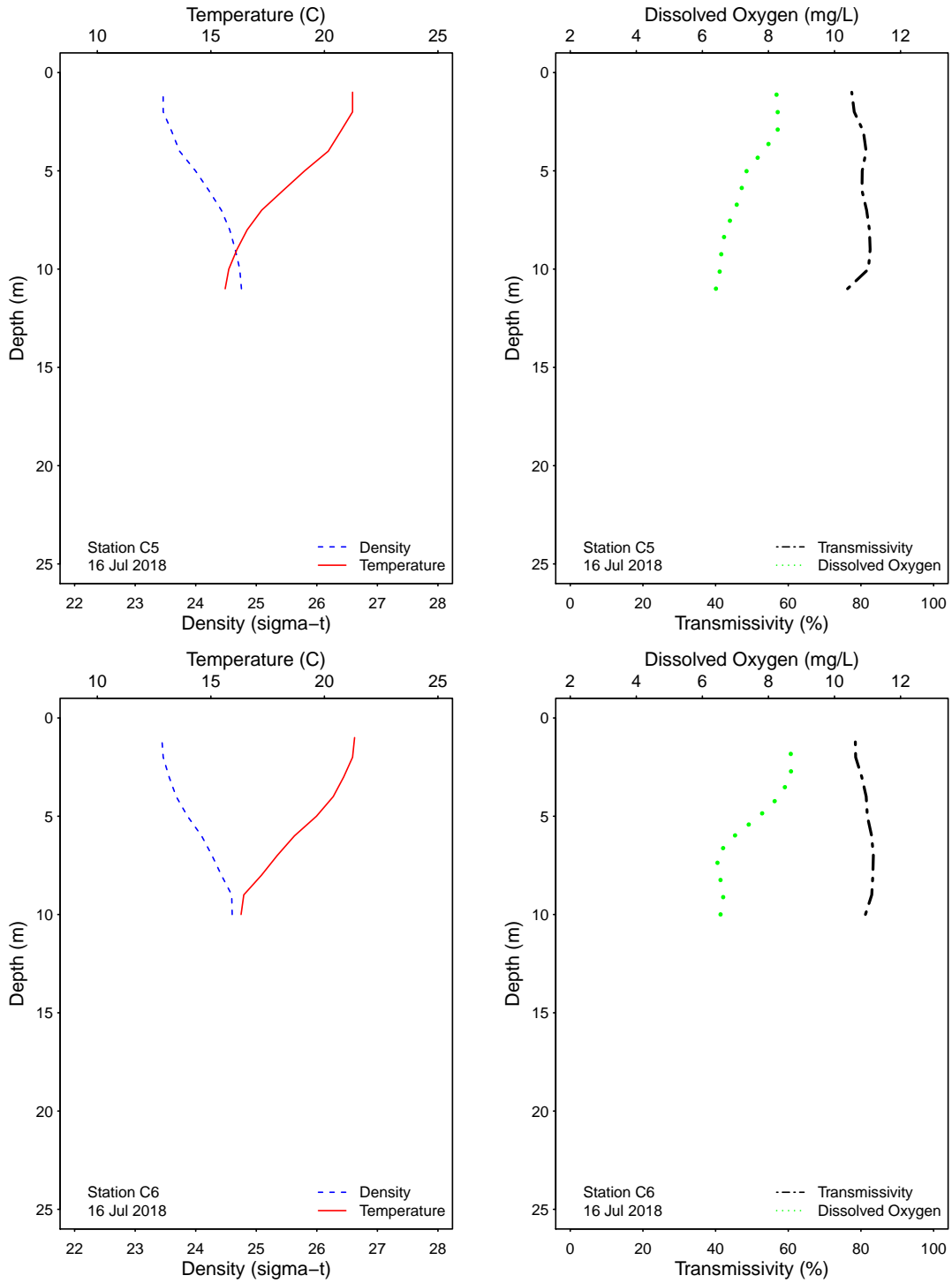


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

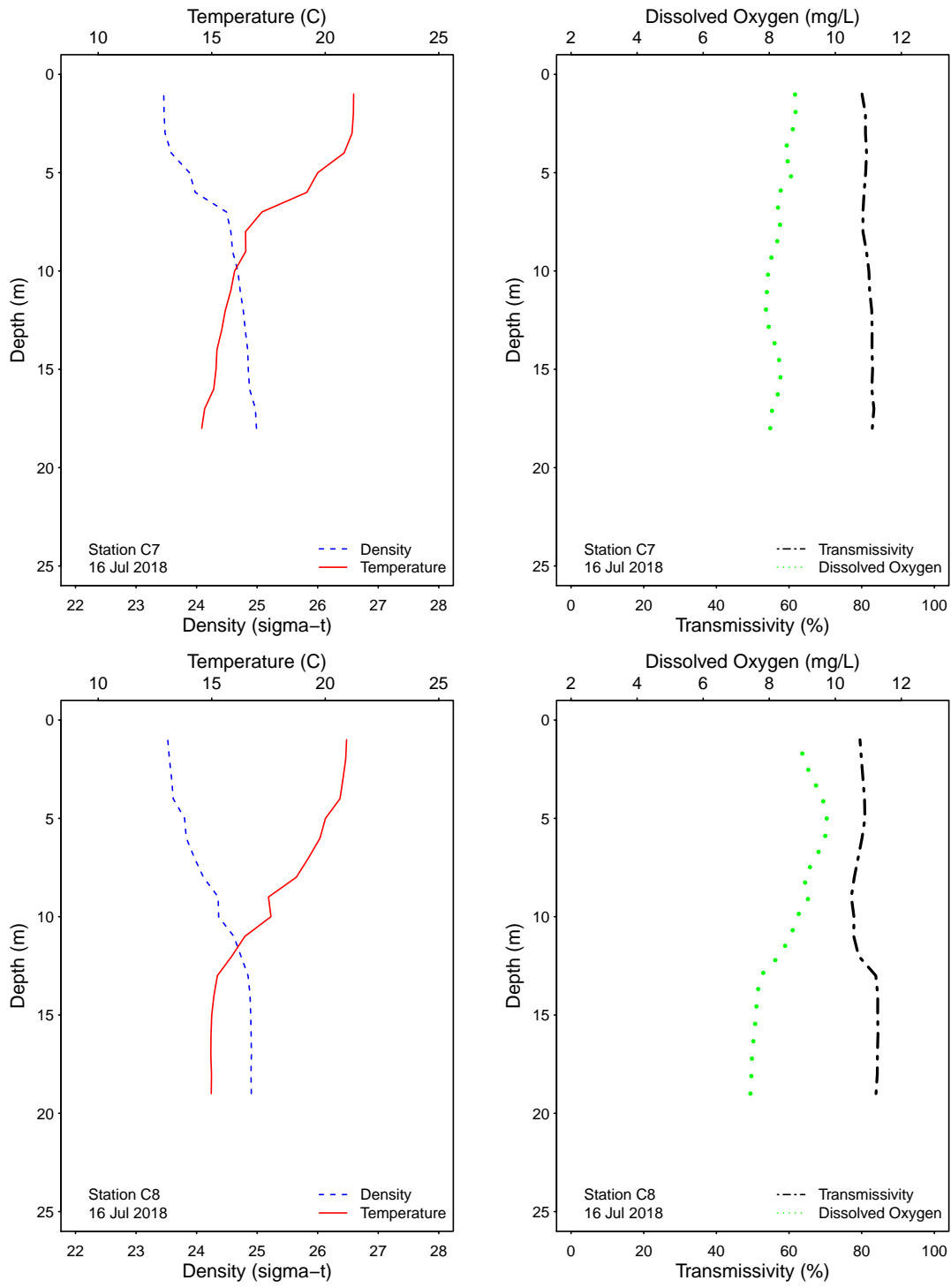


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

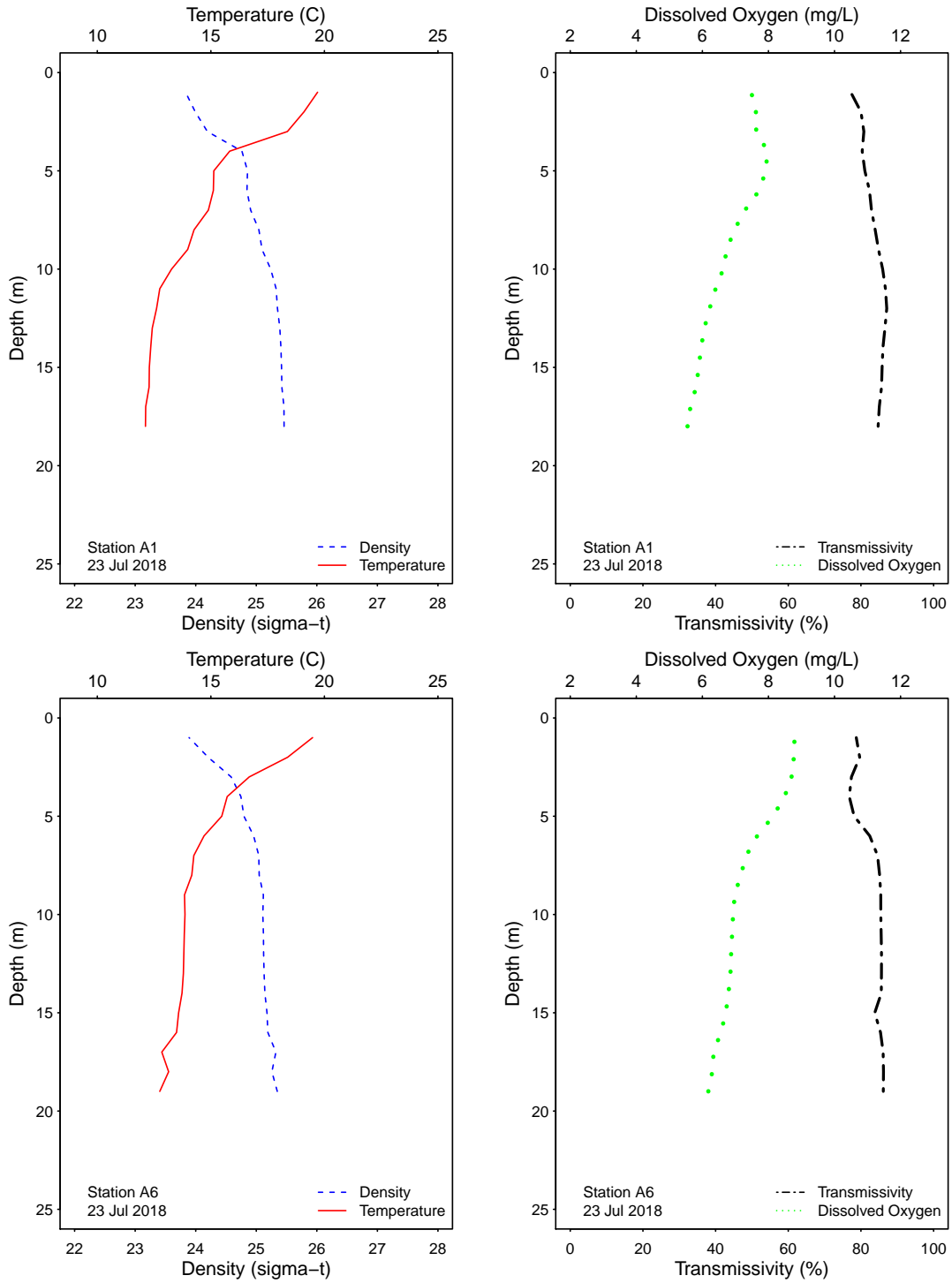


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

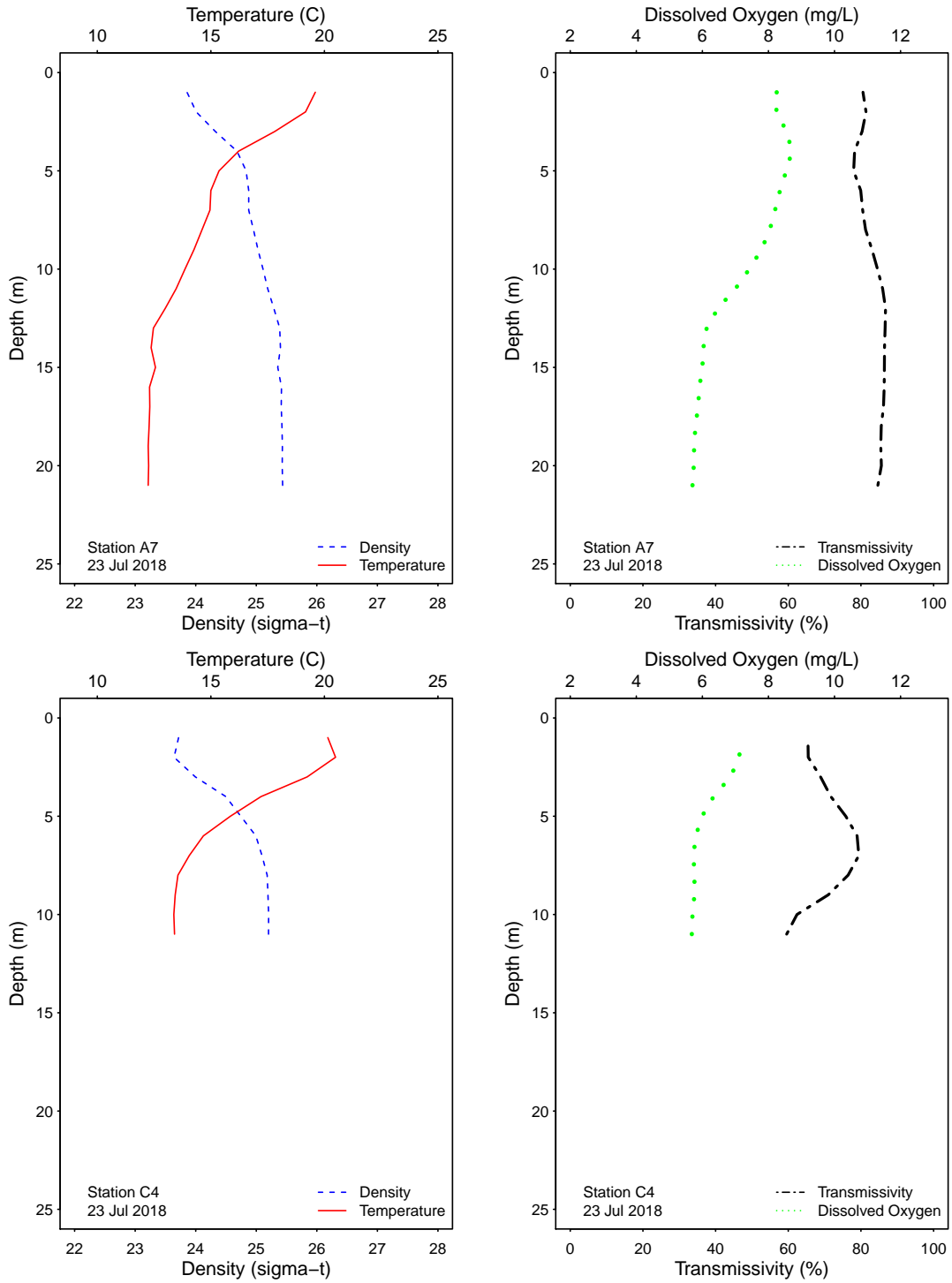


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

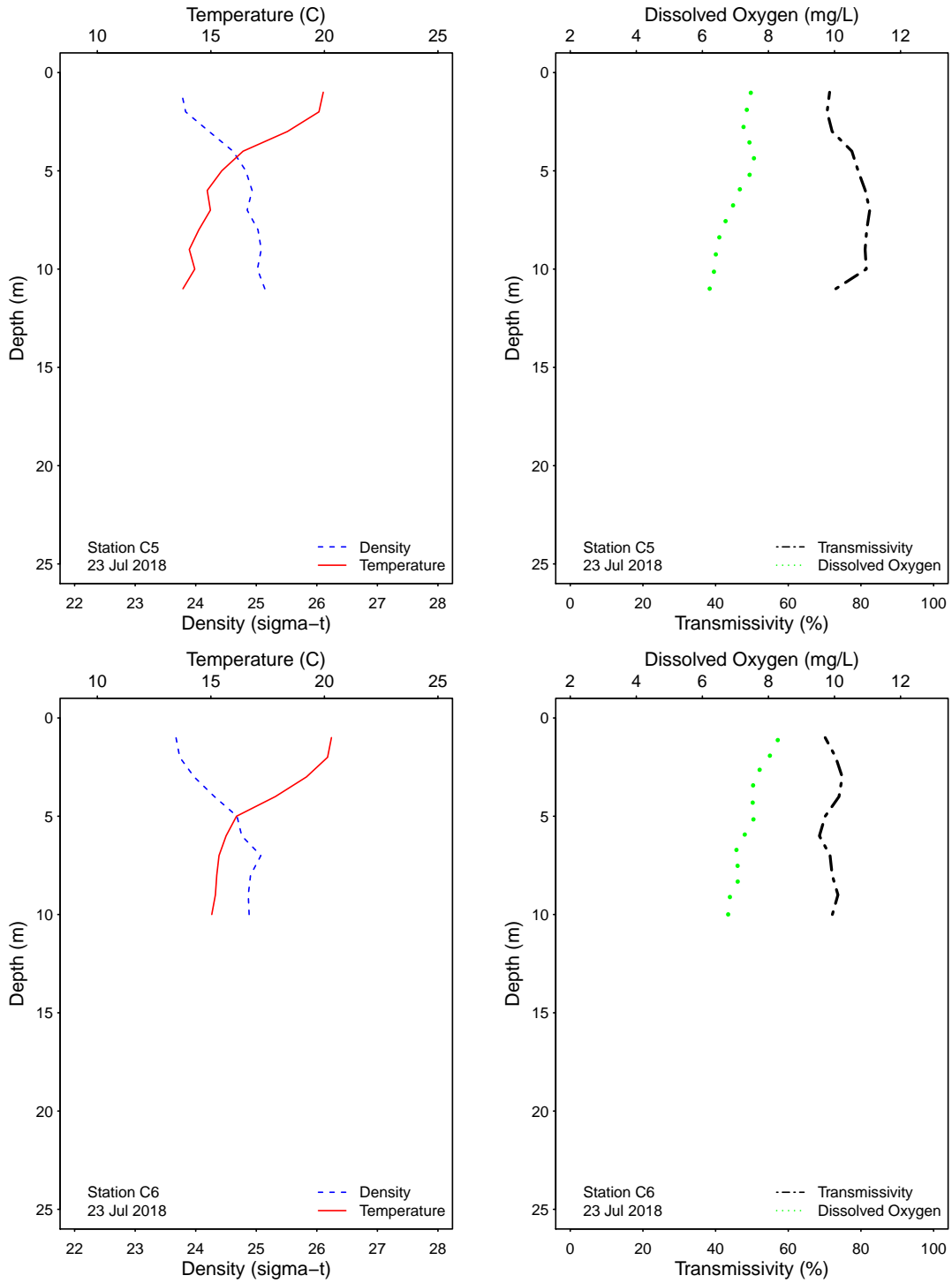


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

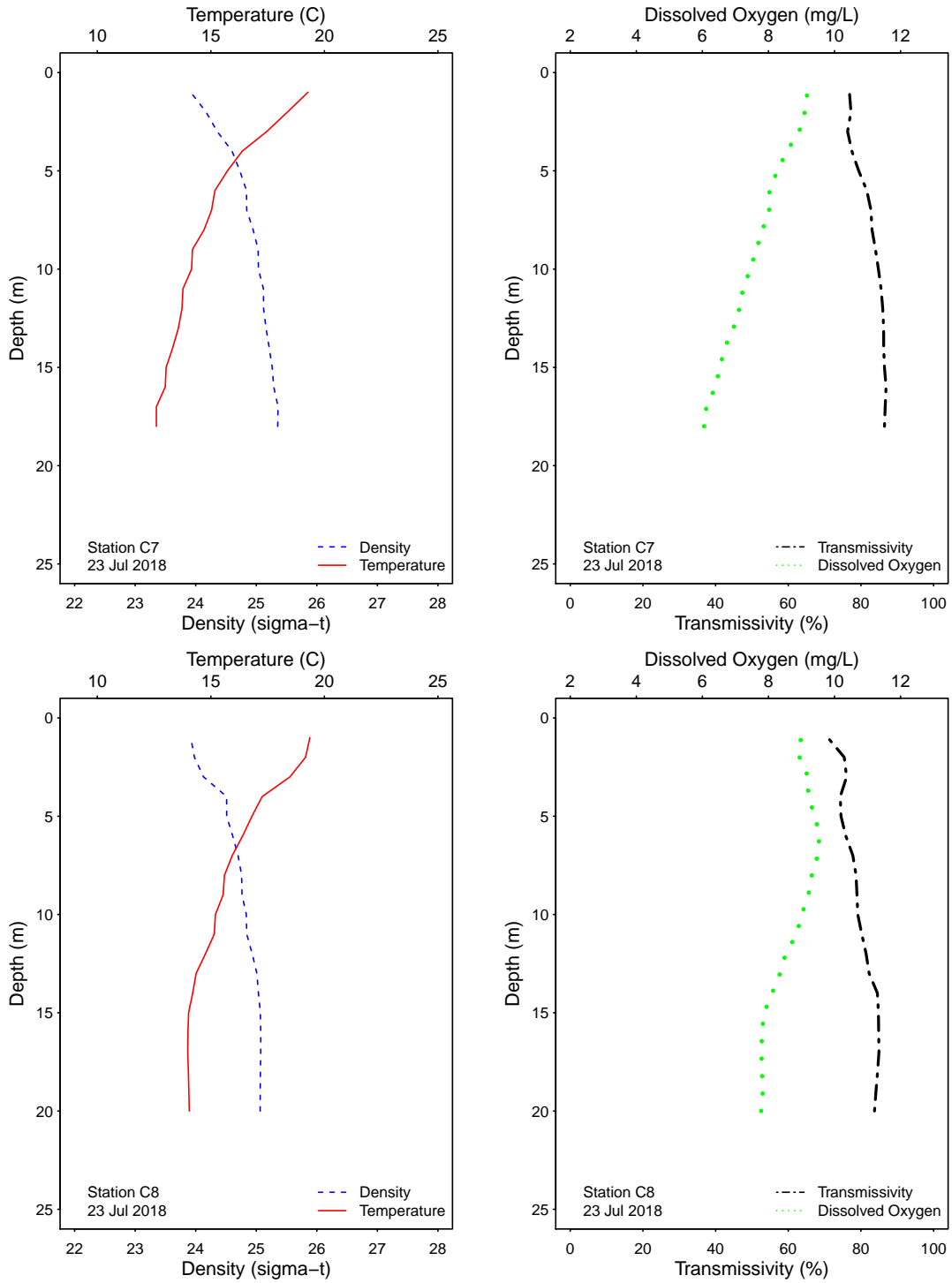


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

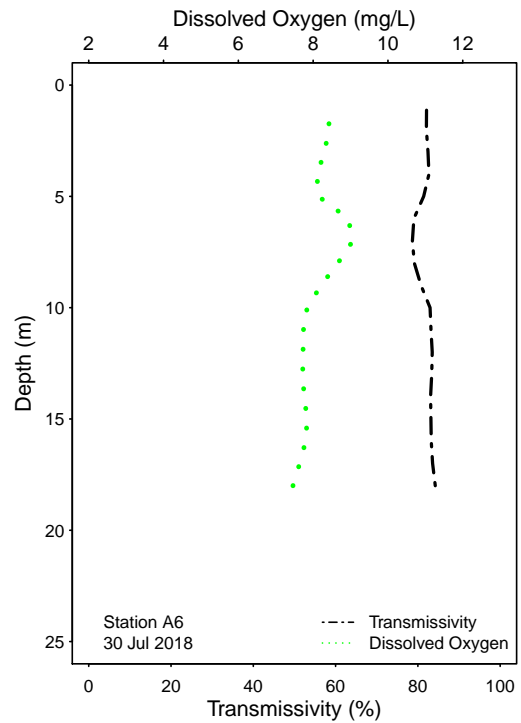
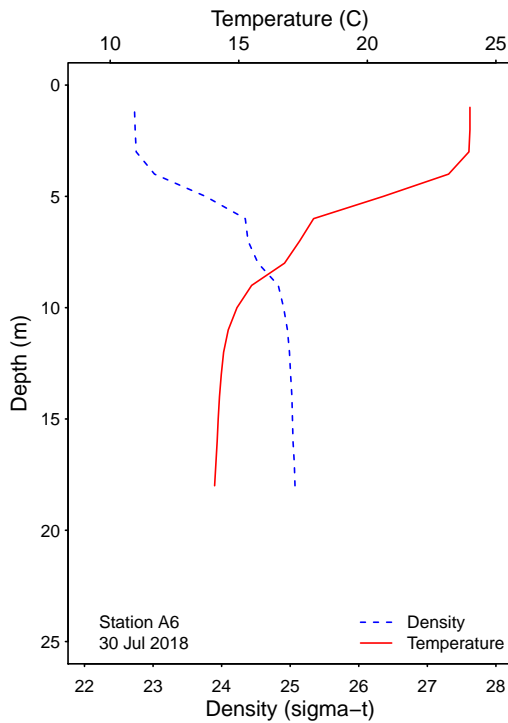
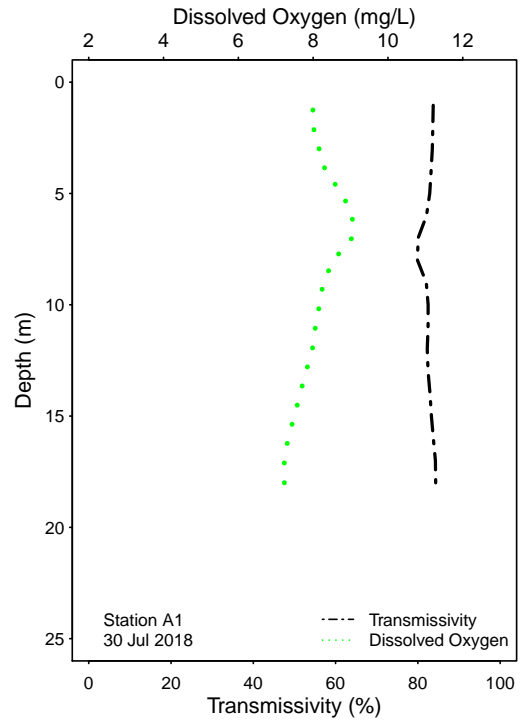
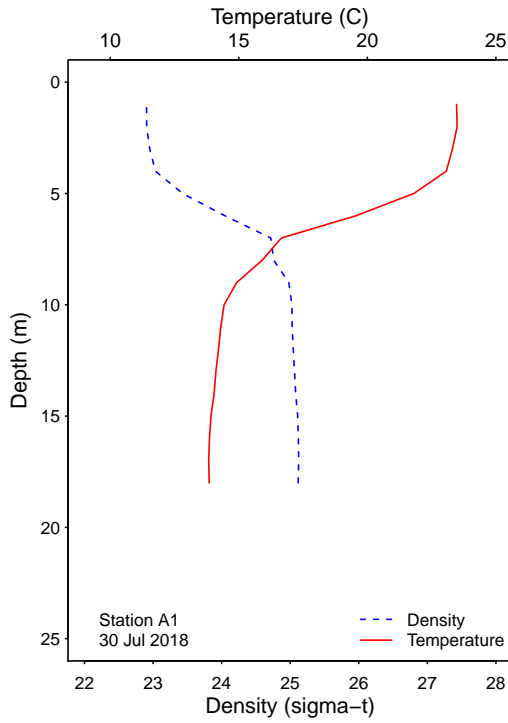


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

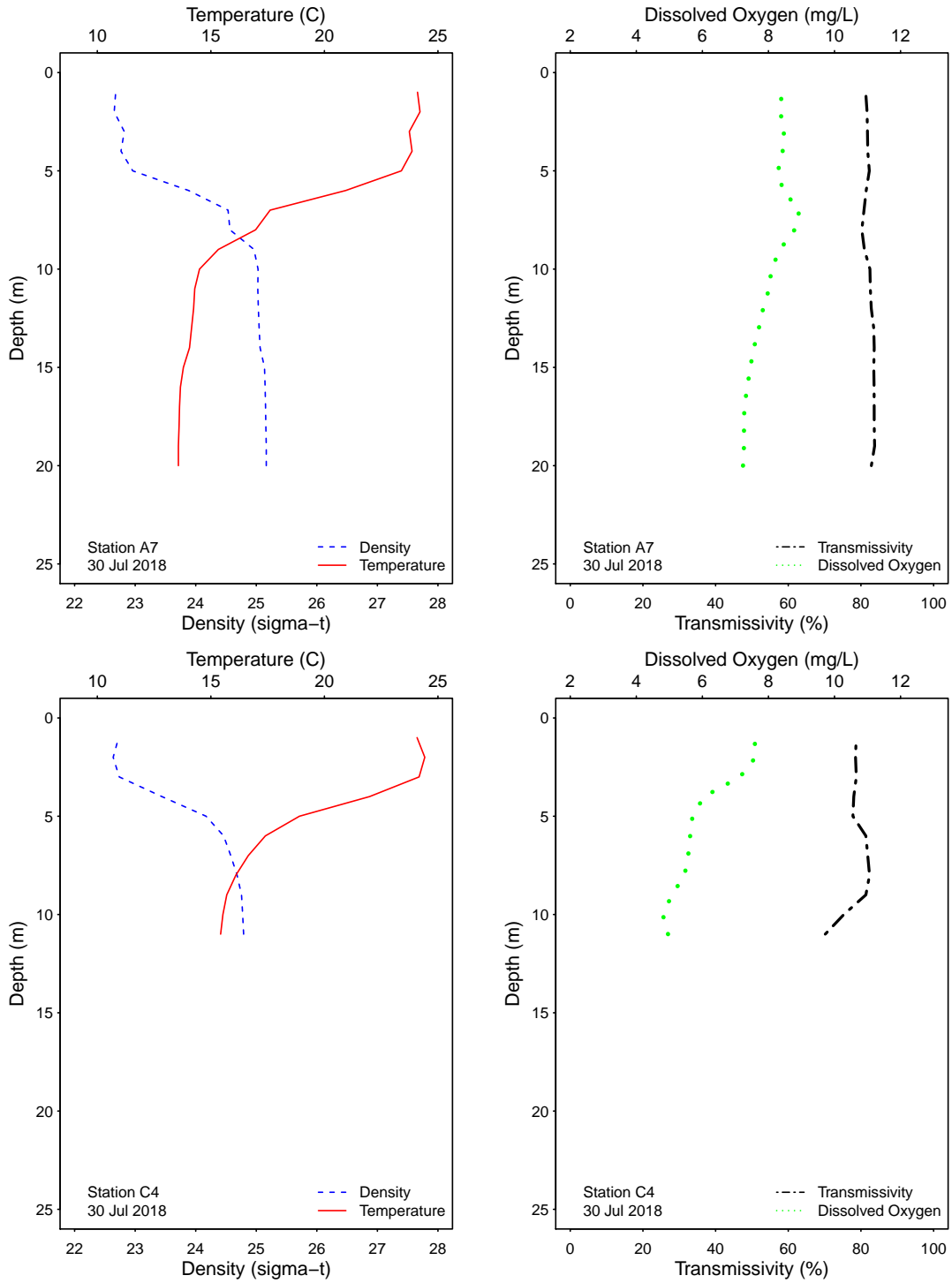


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

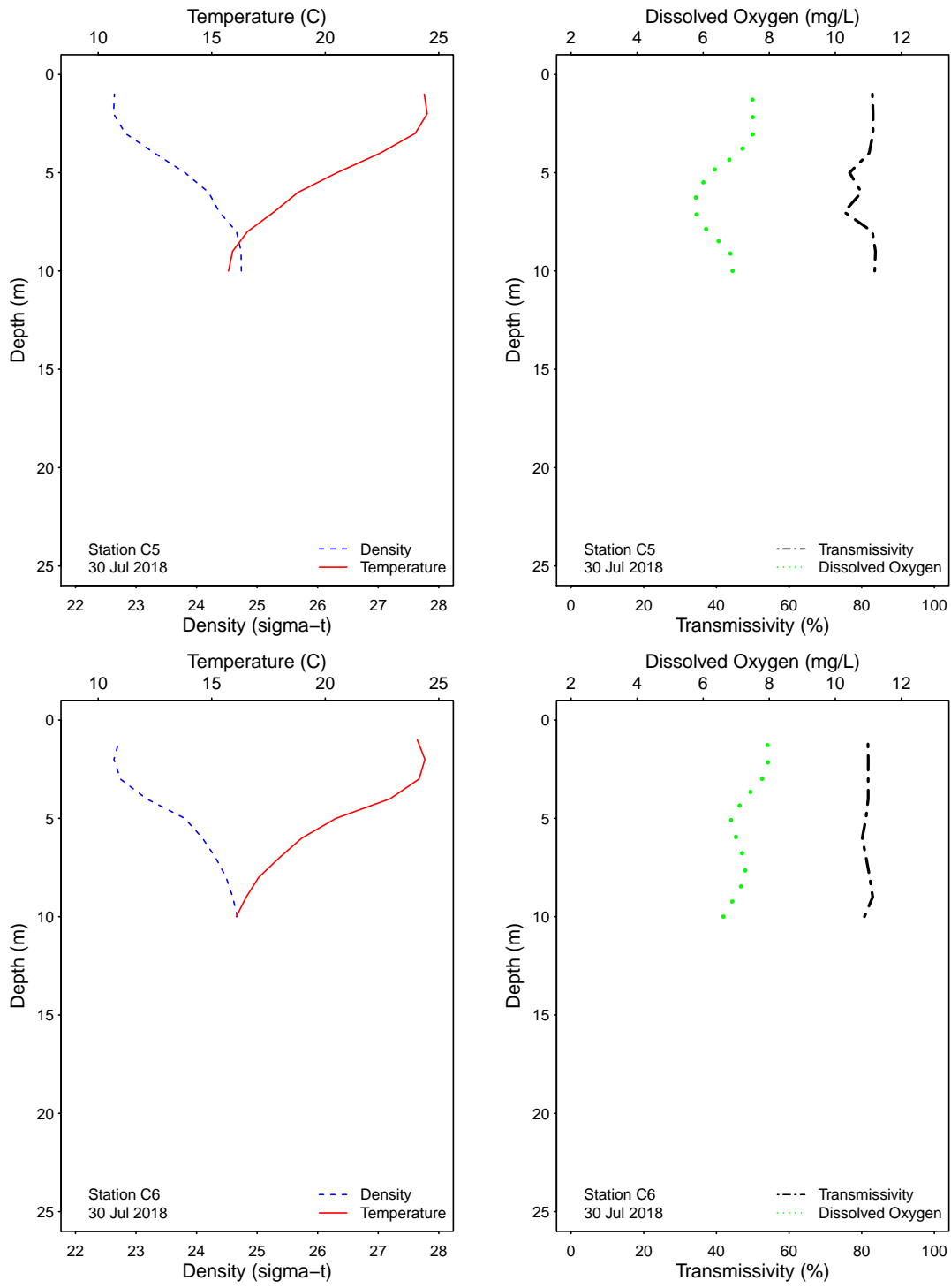


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

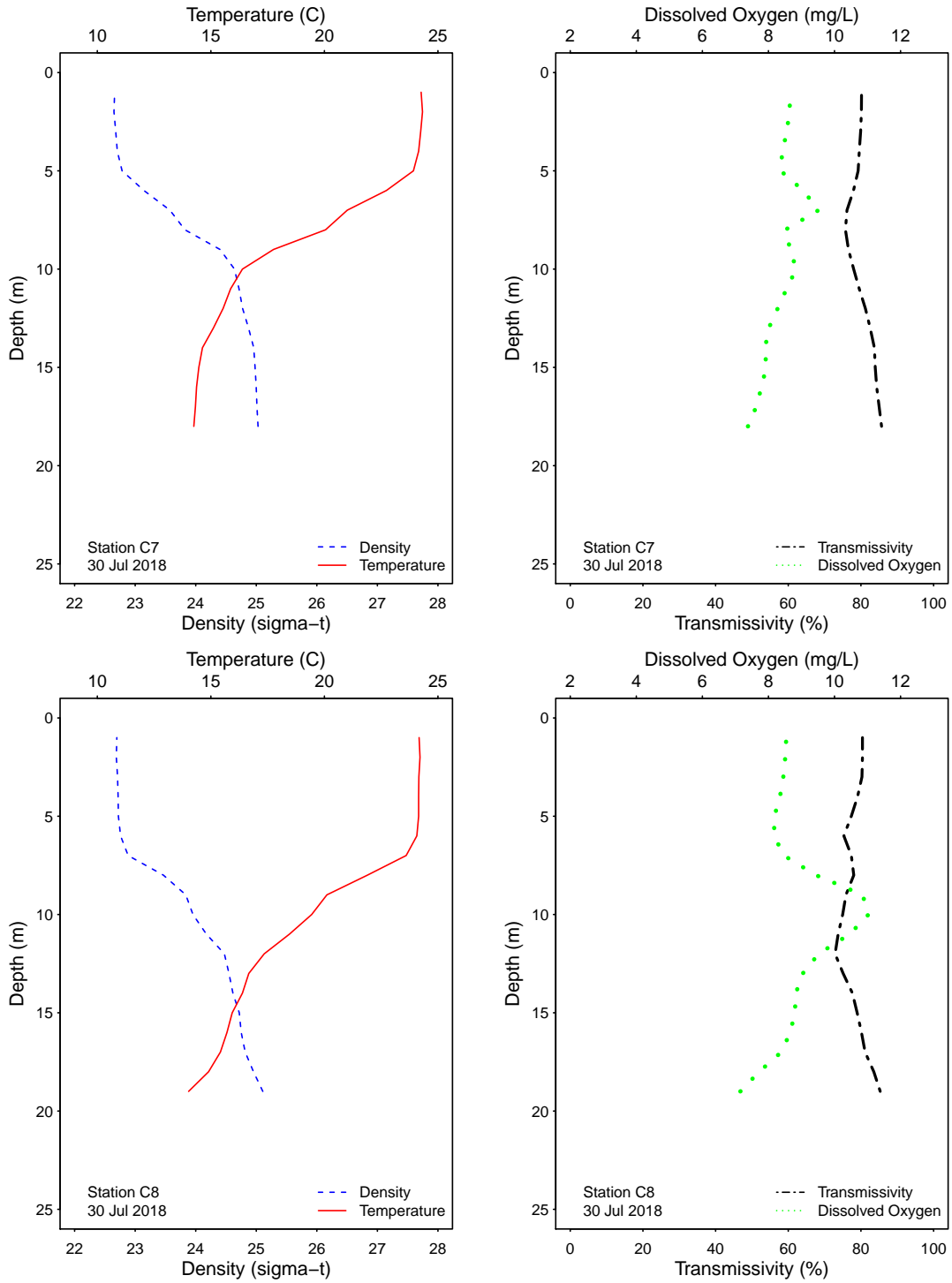


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

APPENDIX A
Quality Assurance

Table A.1

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

Station	Date	Depth	Analyst	Procedure	Total	Fecal	Entero
A7	02 Jul 2018	18	AR	LAB DUPLICATE	4e	<2	<2
A7	09 Jul 2018	18	AE	LAB DUPLICATE	2e	<2	<2
A7	16 Jul 2018	18	LMA	LAB DUPLICATE	34e	<2	2e
A7	23 Jul 2018	18	AE	LAB DUPLICATE	120	6e	4e
A7	30 Jul 2018	18	AR	LAB DUPLICATE	<2	<2	2e
C7	02 Jul 2018	18	AR	LAB DUPLICATE	2e	<2	2e
C7	09 Jul 2018	18	AE	LAB DUPLICATE	<2	<2	<2
C7	16 Jul 2018	18	AR	LAB DUPLICATE	4e	<2	<2
C7	23 Jul 2018	18	ZV	LAB DUPLICATE	38e	<2	2e
C7	30 Jul 2018	18	LMA	LAB DUPLICATE	<2	<2	<2
C8	02 Jul 2018	12	AR	LAB DUPLICATE	<2	<2	<2
C8	09 Jul 2018	12	LMA	LAB DUPLICATE	<2	<2	<2
C8	16 Jul 2018	12	AR	LAB DUPLICATE	<2	<2	<2
C8	23 Jul 2018	12	JT	LAB DUPLICATE	2e	2e	<2
C8	30 Jul 2018	12	LMA	LAB DUPLICATE	<2	<2	<2
D12	05 Jul 2018		AR	FIELD DUPLICATE	<20	2e	120
D12	05 Jul 2018		AR	LAB DUPLICATE	<20	<2	120
D12	11 Jul 2018		AE	FIELD DUPLICATE	<20	<2	<2
D12	11 Jul 2018		AE	LAB DUPLICATE	<20	<2	2e
D12	18 Jul 2018		LMA	FIELD DUPLICATE	4e	<2	2e
D12	18 Jul 2018		LMA	LAB DUPLICATE	2e	<20	2e
D12	25 Jul 2018		JT	FIELD DUPLICATE	<20	<2	<2
D12	25 Jul 2018		JT	LAB DUPLICATE	<20	<2	4e

ns = not sampled

ND = no data

