

POINT LOMA OCEAN OUTFALL MONTHLY RECEIVING WATERS MONITORING REPORT

POINT LOMA WASTEWATER TREATMENT PLANT

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

APRIL 2018

Environmental Monitoring and Technical Services
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May 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 April 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

REPORT OUTLINE

INTRODUCTION

METHODS

SUMMARY OF RESULTS

TABLES AND FIGURES

Station Locations (Map)

Shore Stations

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

Kelp Stations

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

APPENDIX A

Quality Assurance

- Water Quality Summary Data

INTRODUCTION

Monthly reports of water quality and ocean conditions for the San Diego coastal region surrounding the Point Loma Ocean Outfall are submitted to the San Diego Regional Water Quality Control Board and U.S. EPA Region 9 in accordance with Order No. R9-2017-0007, 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

^[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.

most recent samples from each site.

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

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 April, all eight shore stations were in compliance with various California Ocean Plan (Ocean Plan) water-contact standards.
- Nothing of sewage origin was observed at any of the shore stations.

Kelp Bed Stations

- The eight kelp bed water quality stations (A1, A6, A7, C4, C5, C6, C7, C8) were sampled five times during the month (i.e. April 2, 9, 16, 23, 30).
- During April, all of the kelp bed stations were in compliance with various water-contact standards specified in the Ocean Plan.
- Water column temperatures ranged from 10.54 to 16.28°C during the month. The difference between surface and bottom waters ranged from 1.52 to 5.31°C, indicating that the water column was stratified at some of the kelp bed stations during the month.
- Chlorophyll *a* concentrations ranged from 0.31 to 19.25 µg/L during April, suggesting the presence of phytoplankton blooms during the month.
- There were no notable visual observations for April.

Offshore Stations

- Quarterly sampling was not conducted during April at the offshore stations. The next quarterly sampling is scheduled for May 2018.



TABLES AND FIGURES

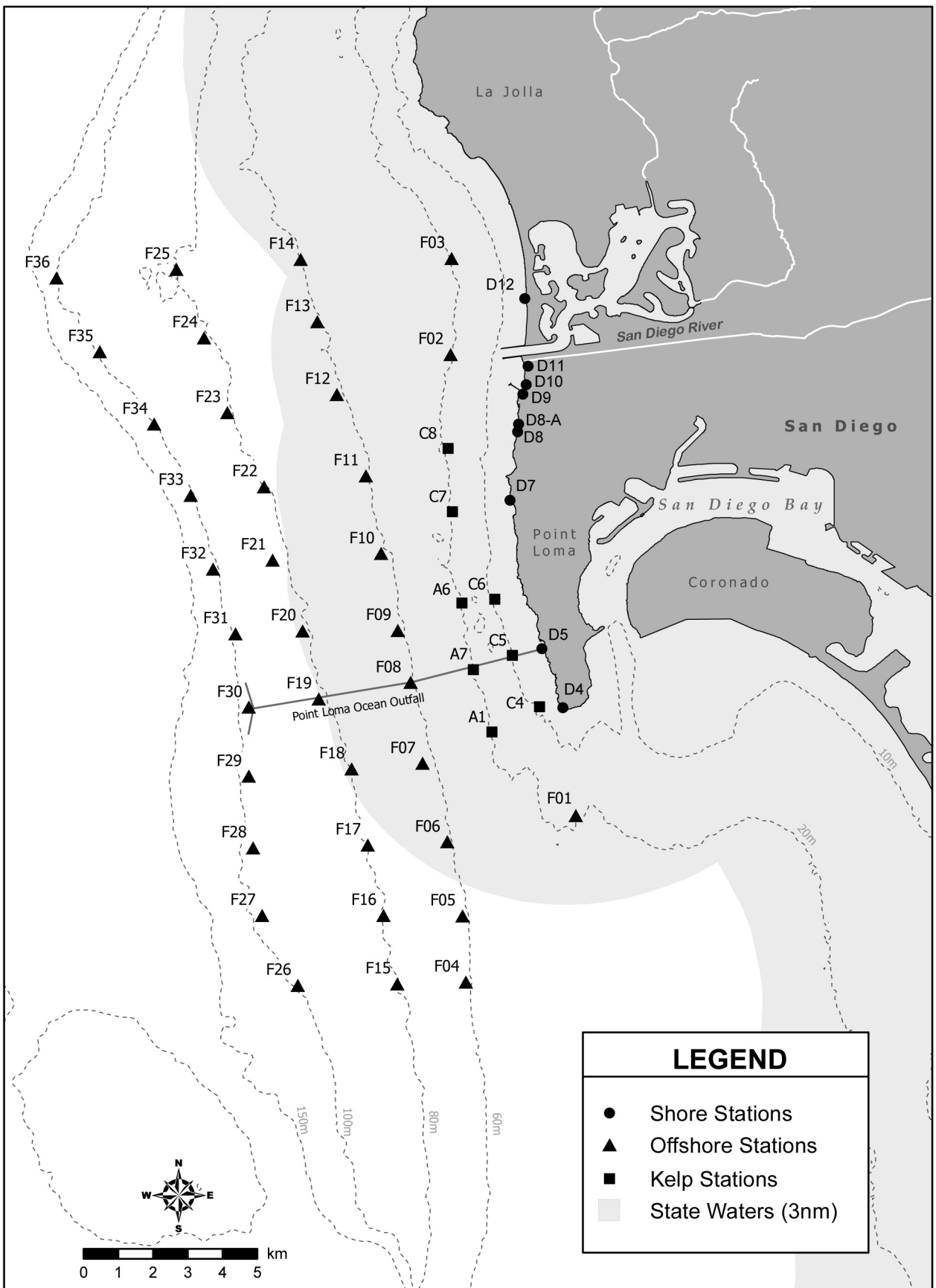


Figure 1.1 Station Map

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 Apr 2018	7*	6*	ns	20*	15*	33*	16*	4*
02 Apr 2018	7*	6*	ns	20*	15*	33*	16*	4*
03 Apr 2018	7*	6*	ns	20*	15*	33*	16*	4*
04 Apr 2018	5	8	ns	20*	16	30	17	3
05 Apr 2018	5	8	ns	20*	16	30	17	3
06 Apr 2018	7*	11*	ns	20*	15*	33*	19*	4*
07 Apr 2018	7*	11*	ns	20*	15*	33*	19*	4*
08 Apr 2018	7*	11*	ns	20*	15*	33*	19*	4*
09 Apr 2018	7*	11*	ns	20*	15*	33*	19*	4*
10 Apr 2018	7*	11*	ns	20*	15*	33*	19*	4*
11 Apr 2018	8	13	ns	43*	19	38	19	5
12 Apr 2018	8	13	ns	43*	19	38	19	5
13 Apr 2018	4*	11*	ns	43*	15*	28*	11*	4*
14 Apr 2018	4*	11*	ns	43*	15*	28*	11*	4*
15 Apr 2018	4*	11*	ns	43*	15*	28*	11*	4*
16 Apr 2018	4*	11*	ns	43*	15*	28*	11*	4*
17 Apr 2018	4*	11*	ns	43*	15*	28*	11*	4*
18 Apr 2018	5	13	ns	50*	16	26	13	3
19 Apr 2018	5	13	ns	50*	16	26	13	3
20 Apr 2018	6*	20*	ns	50*	21*	26*	20*	4*
21 Apr 2018	6*	20*	ns	50*	21*	26*	20*	4*
22 Apr 2018	6*	20*	ns	50*	21*	26*	20*	4*
23 Apr 2018	6*	20*	ns	50*	21*	26*	20*	4*
24 Apr 2018	6*	20*	ns	50*	21*	26*	20*	4*
25 Apr 2018	8	16	ns	42	21	25	20	3
26 Apr 2018	8	16	ns	42	21	25	20	3
27 Apr 2018	11*	15*	ns	50*	24*	26*	20*	4*
28 Apr 2018	11*	15*	ns	50*	24*	26*	20*	4*
29 Apr 2018	11*	15*	ns	50*	24*	26*	20*	4*
30 Apr 2018	11*	15*	ns	50*	24*	26*	20*	4*

* 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 Apr 2018	4*	2*	ns	8*	2*	4*	3*	3*
02 Apr 2018	4*	2*	ns	8*	2*	4*	3*	3*
03 Apr 2018	4*	2*	ns	8*	2*	4*	3*	3*
04 Apr 2018	3	2	ns	4*	2	3	3	3
05 Apr 2018	3	2	ns	4*	2	3	3	3
06 Apr 2018	4*	2*	ns	4*	2*	4*	3*	3*
07 Apr 2018	4*	2*	ns	4*	2*	4*	3*	3*
08 Apr 2018	4*	2*	ns	4*	2*	4*	3*	3*
09 Apr 2018	4*	2*	ns	4*	2*	4*	3*	3*
10 Apr 2018	4*	2*	ns	4*	2*	4*	3*	3*
11 Apr 2018	3	2	ns	5*	2	6	3	3
12 Apr 2018	3	2	ns	5*	2	6	3	3
13 Apr 2018	2*	2*	ns	5*	2*	5*	2*	2*
14 Apr 2018	2*	2*	ns	5*	2*	5*	2*	2*
15 Apr 2018	2*	2*	ns	5*	2*	5*	2*	2*
16 Apr 2018	2*	2*	ns	5*	2*	5*	2*	2*
17 Apr 2018	2*	2*	ns	5*	2*	5*	2*	2*
18 Apr 2018	2	2	ns	6*	2	4	2	2
19 Apr 2018	2	2	ns	6*	2	4	2	2
20 Apr 2018	2*	2*	ns	6*	2*	4*	2*	2*
21 Apr 2018	2*	2*	ns	6*	2*	4*	2*	2*
22 Apr 2018	2*	2*	ns	6*	2*	4*	2*	2*
23 Apr 2018	2*	2*	ns	6*	2*	4*	2*	2*
24 Apr 2018	2*	2*	ns	6*	2*	4*	2*	2*
25 Apr 2018	2	2	ns	5	2	3	2	2
26 Apr 2018	2	2	ns	5	2	3	2	2
27 Apr 2018	2*	2*	ns	4*	2*	4*	2*	2*
28 Apr 2018	2*	2*	ns	4*	2*	4*	2*	2*
29 Apr 2018	2*	2*	ns	4*	2*	4*	2*	2*
30 Apr 2018	2*	2*	ns	4*	2*	4*	2*	2*

* Geometric mean calculated using n<5

ns = not sampled

Table 2.3

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

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

* 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
04 Apr 2018	IC	IC	ns	IC	IC	IC	IC	IC
11 Apr 2018	IC	IC	ns	IC	IC	IC	IC	IC
18 Apr 2018	IC	IC	ns	IC	IC	IC	IC	IC
25 Apr 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
04 Apr 2018	IC	IC	ns	IC	IC	IC	IC	IC
11 Apr 2018	IC	IC	ns	IC	IC	IC	IC	IC
18 Apr 2018	IC	IC	ns	IC	IC	IC	IC	IC
25 Apr 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
04 Apr 2018	IC	IC	ns	IC	IC	IC	IC	IC
11 Apr 2018	IC	IC	ns	IC	IC	IC	IC	IC
18 Apr 2018	IC	IC	ns	IC	IC	IC	IC	IC
25 Apr 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
04 Apr 2018	IC	IC	ns	IC	IC	IC	IC	IC
11 Apr 2018	IC	IC	ns	IC	IC	IC	IC	IC
18 Apr 2018	IC	IC	ns	IC	IC	IC	IC	IC
25 Apr 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	04 Apr 2018	830	<2	<2	<2	1.00
D4	11 Apr 2018	912	20e	<2	<2	0.10
D4	18 Apr 2018	846	16e	<2	<2	0.12
D4	25 Apr 2018	847	<20	<2	<2	0.10
D5	04 Apr 2018	814	<20	<2	<2	0.10
D5	11 Apr 2018	856	<20	<2	<2	0.10
D5	18 Apr 2018	830	<20	<2	<2	0.10
D5	25 Apr 2018	831	6e	2e	<2	0.33
D7	04 Apr 2018	851	ns	ns	ns	ns
D7	11 Apr 2018	926	ns	ns	ns	ns
D7	18 Apr 2018	909	ns	ns	ns	ns
D7	25 Apr 2018	909	ns	ns	ns	ns
D8-B	04 Apr 2018	910	<20	<2	<2	0.10
D8-B	11 Apr 2018	952	<200	6e	2e	0.03
D8-B	18 Apr 2018	924	80e	14e	<2	0.17
D8-B	25 Apr 2018	923	20e	2e	<2	0.10
D9	04 Apr 2018	920	<20	<2	<2	0.10
D9	11 Apr 2018	1012	40e	<2	<2	0.05
D9	18 Apr 2018	946	20e	<2	<2	0.10
D9	25 Apr 2018	945	<20	<2	<2	0.10
D10	04 Apr 2018	938	<20	<2	2e	0.10
D10	11 Apr 2018	1017	60e	<20	2e	0.33
D10	18 Apr 2018	1016	20e	<2	<2	0.10
D10	25 Apr 2018	1005	<20	<2	<2	0.10
D11	04 Apr 2018	955	<20	<2	6e	0.10
D11	11 Apr 2018	1041	<20	<2	<2	0.10
D11	18 Apr 2018	1040	<20	<2	10e	0.10
D11	25 Apr 2018	1021	<20	<2	<2	0.10
D12	04 Apr 2018	1021	<2	<2	<2	1.00
D12	11 Apr 2018	1054	<20	<2	<2	0.10
D12	18 Apr 2018	1102	<2	<2	<2	1.00
D12	25 Apr 2018	1051	2e	<2	2e	1.00

ns = not sampled

Comments

Station	Date	Depth	Parameter	Comments
D7	04 Apr 2018			Site inaccessible due to erosion and unsafe conditions
D7	11 Apr 2018			Site inaccessible due to erosion and unsafe conditions
D7	18 Apr 2018			Site inaccessible due to erosion and unsafe conditions
D7	25 Apr 2018			Site inaccessible due to erosion and 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	04 Apr 2018	Arrive Time	830
D4	04 Apr 2018	Weather	Overcast
D4	04 Apr 2018	Wind Speed (kts)	1.2
D4	04 Apr 2018	Wind Dir	N
D4	04 Apr 2018	Animal Life	None
D4	04 Apr 2018	Floatables	None
D4	04 Apr 2018	Water Color	Green
D4	04 Apr 2018	Current Direction	N
D4	04 Apr 2018	Water Temp (C)	15.2
D4	04 Apr 2018	Wave Height Low (ft)	2
D4	04 Apr 2018	High Tide (ft)	3.3
D4	04 Apr 2018	High Tide Time	45
D4	04 Apr 2018	Low Tide (ft)	0.2
D4	04 Apr 2018	Low Tide Time	639
D4	04 Apr 2018	Comments	Seagrass; Algae; Water clear
D4	11 Apr 2018	Arrive Time	912
D4	11 Apr 2018	Weather	Cloudy
D4	11 Apr 2018	Wind Speed (kts)	2.1
D4	11 Apr 2018	Wind Dir	W
D4	11 Apr 2018	Animal Life	None
D4	11 Apr 2018	Floatables	None
D4	11 Apr 2018	Water Color	Green
D4	11 Apr 2018	Current Direction	N
D4	11 Apr 2018	Water Temp (C)	17.2
D4	11 Apr 2018	Wave Height Low (ft)	2
D4	11 Apr 2018	High Tide (ft)	4.3
D4	11 Apr 2018	High Tide Time	653
D4	11 Apr 2018	Low Tide (ft)	0.1
D4	11 Apr 2018	Low Tide Time	1337
D4	11 Apr 2018	Comments	Kelp; Seagrass; Algae; Water clear
D4	18 Apr 2018	Arrive Time	846
D4	18 Apr 2018	Weather	Sunny
D4	18 Apr 2018	Wind Speed (kts)	1.1
D4	18 Apr 2018	Wind Dir	W
D4	18 Apr 2018	Animal Life	None
D4	18 Apr 2018	Floatables	None
D4	18 Apr 2018	Water Color	Green
D4	18 Apr 2018	Current Direction	N
D4	18 Apr 2018	Water Temp (C)	14.2
D4	18 Apr 2018	Wave Height Low (ft)	3
D4	18 Apr 2018	High Tide (ft)	3.9
D4	18 Apr 2018	High Tide Time	1143
D4	18 Apr 2018	Low Tide (ft)	-0.6
D4	18 Apr 2018	Low Tide Time	534
D4	18 Apr 2018	Comments	Kelp; Seagrass; Algae; Water clear
D4	25 Apr 2018	Arrive Time	847
D4	25 Apr 2018	Weather	Sunny
D4	25 Apr 2018	Wind Speed (kts)	1.9

Station	Date	Parameter	Value
D4	25 Apr 2018	Wind Dir	N
D4	25 Apr 2018	Animal Life	None
D4	25 Apr 2018	Floatables	None
D4	25 Apr 2018	Water Color	Green
D4	25 Apr 2018	Current Direction	N
D4	25 Apr 2018	Water Temp (C)	15.2
D4	25 Apr 2018	Wave Height Low (ft)	2
D4	25 Apr 2018	High Tide (ft)	4.6
D4	25 Apr 2018	High Tide Time	626
D4	25 Apr 2018	Low Tide (ft)	1.4
D4	25 Apr 2018	Low Tide Time	1245
D4	25 Apr 2018	Comments	Algae; Water clear
D5	04 Apr 2018	Arrive Time	814
D5	04 Apr 2018	Weather	Overcast
D5	04 Apr 2018	Wind Speed (kts)	1.3
D5	04 Apr 2018	Wind Dir	N
D5	04 Apr 2018	Animal Life	None
D5	04 Apr 2018	Floatables	None
D5	04 Apr 2018	Water Color	Green
D5	04 Apr 2018	Current Direction	N
D5	04 Apr 2018	Water Temp (C)	16.6
D5	04 Apr 2018	Wave Height Low (ft)	1
D5	04 Apr 2018	High Tide (ft)	3.3
D5	04 Apr 2018	High Tide Time	45
D5	04 Apr 2018	Low Tide (ft)	0.2
D5	04 Apr 2018	Low Tide Time	639
D5	04 Apr 2018	Comments	Algae; Water clear
D5	11 Apr 2018	Arrive Time	856
D5	11 Apr 2018	Weather	Cloudy
D5	11 Apr 2018	Wind Speed (kts)	0.6
D5	11 Apr 2018	Wind Dir	W
D5	11 Apr 2018	Animal Life	None
D5	11 Apr 2018	Floatables	None
D5	11 Apr 2018	Water Color	Green
D5	11 Apr 2018	Current Direction	N
D5	11 Apr 2018	Water Temp (C)	16.6
D5	11 Apr 2018	Wave Height Low (ft)	3
D5	11 Apr 2018	High Tide (ft)	4.3
D5	11 Apr 2018	High Tide Time	653
D5	11 Apr 2018	Low Tide (ft)	0.1
D5	11 Apr 2018	Low Tide Time	1337
D5	11 Apr 2018	Comments	Kelp; Seagrass; Algae; Water clear
D5	18 Apr 2018	Arrive Time	830
D5	18 Apr 2018	Weather	Sunny
D5	18 Apr 2018	Wind Speed (kts)	0.8
D5	18 Apr 2018	Wind Dir	W
D5	18 Apr 2018	Animal Life	None
D5	18 Apr 2018	Floatables	None
D5	18 Apr 2018	Water Color	Green
D5	18 Apr 2018	Current Direction	N
D5	18 Apr 2018	Water Temp (C)	15
D5	18 Apr 2018	Wave Height Low (ft)	4

Station	Date	Parameter	Value
D5	18 Apr 2018	High Tide (ft)	3.9
D5	18 Apr 2018	High Tide Time	1143
D5	18 Apr 2018	Low Tide (ft)	-0.6
D5	18 Apr 2018	Low Tide Time	534
D5	18 Apr 2018	Comments	Kelp; Seagrass; Algae; Water clear
D5	25 Apr 2018	Arrive Time	831
D5	25 Apr 2018	Weather	Sunny
D5	25 Apr 2018	Wind Speed (kts)	0.4
D5	25 Apr 2018	Wind Dir	N
D5	25 Apr 2018	Animal Life	None
D5	25 Apr 2018	Floatables	None
D5	25 Apr 2018	Water Color	Green
D5	25 Apr 2018	Current Direction	N
D5	25 Apr 2018	Water Temp (C)	17.1
D5	25 Apr 2018	Wave Height Low (ft)	1
D5	25 Apr 2018	High Tide (ft)	4.6
D5	25 Apr 2018	High Tide Time	626
D5	25 Apr 2018	Low Tide (ft)	1.4
D5	25 Apr 2018	Low Tide Time	1245
D5	25 Apr 2018	Comments	Algae; Water clear
D7	04 Apr 2018	Arrive Time	851
D7	04 Apr 2018	Weather	Overcast
D7	04 Apr 2018	Wind Speed (kts)	0.1
D7	04 Apr 2018	Wind Dir	N
D7	04 Apr 2018	Animal Life	None
D7	04 Apr 2018	Floatables	None
D7	04 Apr 2018	Water Color	Green
D7	04 Apr 2018	Current Direction	N
D7	04 Apr 2018	Water Temp (C)	0
D7	04 Apr 2018	Wave Height Low (ft)	2
D7	04 Apr 2018	High Tide (ft)	3.3
D7	04 Apr 2018	High Tide Time	45
D7	04 Apr 2018	Low Tide (ft)	0.2
D7	04 Apr 2018	Low Tide Time	639
D7	04 Apr 2018	Comments	Station inaccessible due to collapsed staircase and erosion
D7	11 Apr 2018	Arrive Time	926
D7	11 Apr 2018	Weather	Partly Cloudy
D7	11 Apr 2018	Wind Speed (kts)	1.3
D7	11 Apr 2018	Wind Dir	W
D7	11 Apr 2018	Animal Life	None
D7	11 Apr 2018	Floatables	None
D7	11 Apr 2018	Water Color	Green
D7	11 Apr 2018	Current Direction	N
D7	11 Apr 2018	Water Temp (C)	
D7	11 Apr 2018	Wave Height Low (ft)	5
D7	11 Apr 2018	High Tide (ft)	4.3
D7	11 Apr 2018	High Tide Time	653
D7	11 Apr 2018	Low Tide (ft)	0.1
D7	11 Apr 2018	Low Tide Time	1337
D7	11 Apr 2018	Comments	Kelp; Seagrass; Algae; 4 Persons; Water clear; Station inaccessible due to collapsed staircase and erosion

Station	Date	Parameter	Value
D7	18 Apr 2018	Arrive Time	909
D7	18 Apr 2018	Weather	Sunny
D7	18 Apr 2018	Wind Speed (kts)	0.7
D7	18 Apr 2018	Wind Dir	W
D7	18 Apr 2018	Animal Life	None
D7	18 Apr 2018	Floatables	None
D7	18 Apr 2018	Water Color	Green
D7	18 Apr 2018	Current Direction	N
D7	18 Apr 2018	Water Temp (C)	
D7	18 Apr 2018	Wave Height Low (ft)	4
D7	18 Apr 2018	High Tide (ft)	3.9
D7	18 Apr 2018	High Tide Time	1143
D7	18 Apr 2018	Low Tide (ft)	-0.6
D7	18 Apr 2018	Low Tide Time	534
D7	18 Apr 2018	Comments	Kelp; Seagrass; Water clear; Station inaccessible due to collapsed staircase and erosion
D7	25 Apr 2018	Arrive Time	909
D7	25 Apr 2018	Weather	Sunny
D7	25 Apr 2018	Wind Speed (kts)	0.1
D7	25 Apr 2018	Wind Dir	N
D7	25 Apr 2018	Animal Life	None
D7	25 Apr 2018	Floatables	None
D7	25 Apr 2018	Water Color	Green
D7	25 Apr 2018	Current Direction	N
D7	25 Apr 2018	Water Temp (C)	0
D7	25 Apr 2018	Wave Height Low (ft)	1
D7	25 Apr 2018	High Tide (ft)	4.6
D7	25 Apr 2018	High Tide Time	626
D7	25 Apr 2018	Low Tide (ft)	1.4
D7	25 Apr 2018	Low Tide Time	1245
D7	25 Apr 2018	Comments	6 Joggers; 5 Persons; Water clear; Station inaccessible due to collapsed staircase and erosion
D8-B	04 Apr 2018	Arrive Time	910
D8-B	04 Apr 2018	Weather	Overcast
D8-B	04 Apr 2018	Wind Speed (kts)	4.4
D8-B	04 Apr 2018	Wind Dir	W
D8-B	04 Apr 2018	Animal Life	None
D8-B	04 Apr 2018	Floatables	None
D8-B	04 Apr 2018	Water Color	Green
D8-B	04 Apr 2018	Current Direction	W
D8-B	04 Apr 2018	Water Temp (C)	16.2
D8-B	04 Apr 2018	Wave Height Low (ft)	2
D8-B	04 Apr 2018	High Tide (ft)	3.3
D8-B	04 Apr 2018	High Tide Time	45
D8-B	04 Apr 2018	Low Tide (ft)	0.2
D8-B	04 Apr 2018	Low Tide Time	639
D8-B	04 Apr 2018	Comments	Algae; Water clear
D8-B	11 Apr 2018	Arrive Time	952
D8-B	11 Apr 2018	Weather	Sunny
D8-B	11 Apr 2018	Wind Speed (kts)	2.3
D8-B	11 Apr 2018	Wind Dir	W
D8-B	11 Apr 2018	Animal Life	None

Station	Date	Parameter	Value
D8-B	11 Apr 2018	Floatables	None
D8-B	11 Apr 2018	Water Color	Brown
D8-B	11 Apr 2018	Current Direction	N
D8-B	11 Apr 2018	Water Temp (C)	17.4
D8-B	11 Apr 2018	Wave Height Low (ft)	3
D8-B	11 Apr 2018	High Tide (ft)	4.3
D8-B	11 Apr 2018	High Tide Time	653
D8-B	11 Apr 2018	Low Tide (ft)	0.1
D8-B	11 Apr 2018	Low Tide Time	1337
D8-B	11 Apr 2018	Comments	Kelp; Seagrass; 1 Surfer; Water clear
D8-B	18 Apr 2018	Arrive Time	924
D8-B	18 Apr 2018	Weather	Sunny
D8-B	18 Apr 2018	Wind Speed (kts)	6.2
D8-B	18 Apr 2018	Wind Dir	W
D8-B	18 Apr 2018	Animal Life	None
D8-B	18 Apr 2018	Floatables	None
D8-B	18 Apr 2018	Water Color	Grey
D8-B	18 Apr 2018	Current Direction	N
D8-B	18 Apr 2018	Water Temp (C)	16.2
D8-B	18 Apr 2018	Wave Height Low (ft)	4
D8-B	18 Apr 2018	High Tide (ft)	3.9
D8-B	18 Apr 2018	High Tide Time	1143
D8-B	18 Apr 2018	Low Tide (ft)	-0.6
D8-B	18 Apr 2018	Low Tide Time	534
D8-B	18 Apr 2018	Comments	Kelp; Seagrass; Water clear
D8-B	25 Apr 2018	Arrive Time	923
D8-B	25 Apr 2018	Weather	Sunny
D8-B	25 Apr 2018	Wind Speed (kts)	5.6
D8-B	25 Apr 2018	Wind Dir	N
D8-B	25 Apr 2018	Animal Life	None
D8-B	25 Apr 2018	Floatables	None
D8-B	25 Apr 2018	Water Color	Green
D8-B	25 Apr 2018	Current Direction	N
D8-B	25 Apr 2018	Water Temp (C)	15.2
D8-B	25 Apr 2018	Wave Height Low (ft)	2
D8-B	25 Apr 2018	High Tide (ft)	4.6
D8-B	25 Apr 2018	High Tide Time	626
D8-B	25 Apr 2018	Low Tide (ft)	1.4
D8-B	25 Apr 2018	Low Tide Time	1245
D8-B	25 Apr 2018	Comments	Seagrass; Algae; Water clear
D9	04 Apr 2018	Arrive Time	920
D9	04 Apr 2018	Weather	Overcast
D9	04 Apr 2018	Wind Speed (kts)	4
D9	04 Apr 2018	Wind Dir	W
D9	04 Apr 2018	Animal Life	None
D9	04 Apr 2018	Floatables	None
D9	04 Apr 2018	Water Color	Colorless
D9	04 Apr 2018	Current Direction	W
D9	04 Apr 2018	Water Temp (C)	16.4
D9	04 Apr 2018	Wave Height Low (ft)	2
D9	04 Apr 2018	High Tide (ft)	3.3
D9	04 Apr 2018	High Tide Time	45

Station	Date	Parameter	Value
D9	04 Apr 2018	Low Tide (ft)	0.2
D9	04 Apr 2018	Low Tide Time	639
D9	04 Apr 2018	Comments	Algae; Water clear
D9	11 Apr 2018	Arrive Time	1012
D9	11 Apr 2018	Weather	Sunny
D9	11 Apr 2018	Wind Speed (kts)	2.6
D9	11 Apr 2018	Wind Dir	W
D9	11 Apr 2018	Animal Life	None
D9	11 Apr 2018	Floatables	None
D9	11 Apr 2018	Water Color	Green
D9	11 Apr 2018	Current Direction	N
D9	11 Apr 2018	Water Temp (C)	16.4
D9	11 Apr 2018	Wave Height Low (ft)	2
D9	11 Apr 2018	High Tide (ft)	4.3
D9	11 Apr 2018	High Tide Time	653
D9	11 Apr 2018	Low Tide (ft)	0.1
D9	11 Apr 2018	Low Tide Time	1337
D9	11 Apr 2018	Comments	Kelp; Seagrass; Algae; Water clear
D9	18 Apr 2018	Arrive Time	946
D9	18 Apr 2018	Weather	Sunny
D9	18 Apr 2018	Wind Speed (kts)	5.2
D9	18 Apr 2018	Wind Dir	E
D9	18 Apr 2018	Animal Life	None
D9	18 Apr 2018	Floatables	None
D9	18 Apr 2018	Water Color	Green
D9	18 Apr 2018	Current Direction	N
D9	18 Apr 2018	Water Temp (C)	14
D9	18 Apr 2018	Wave Height Low (ft)	4
D9	18 Apr 2018	High Tide (ft)	3.9
D9	18 Apr 2018	High Tide Time	1143
D9	18 Apr 2018	Low Tide (ft)	-0.6
D9	18 Apr 2018	Low Tide Time	534
D9	18 Apr 2018	Comments	Kelp; Seagrass; Algae; Water clear
D9	25 Apr 2018	Arrive Time	945
D9	25 Apr 2018	Weather	Sunny
D9	25 Apr 2018	Wind Speed (kts)	5.2
D9	25 Apr 2018	Wind Dir	S
D9	25 Apr 2018	Animal Life	None
D9	25 Apr 2018	Floatables	None
D9	25 Apr 2018	Water Color	Green
D9	25 Apr 2018	Current Direction	N
D9	25 Apr 2018	Water Temp (C)	15.3
D9	25 Apr 2018	Wave Height Low (ft)	2
D9	25 Apr 2018	High Tide (ft)	4.6
D9	25 Apr 2018	High Tide Time	626
D9	25 Apr 2018	Low Tide (ft)	1.4
D9	25 Apr 2018	Low Tide Time	1245
D9	25 Apr 2018	Comments	Algae; Water clear
D10	04 Apr 2018	Arrive Time	938
D10	04 Apr 2018	Weather	Overcast
D10	04 Apr 2018	Wind Speed (kts)	4.8

Station	Date	Parameter	Value
D10	04 Apr 2018	Wind Dir	W
D10	04 Apr 2018	Animal Life	None
D10	04 Apr 2018	Floatables	None
D10	04 Apr 2018	Water Color	Green
D10	04 Apr 2018	Current Direction	W
D10	04 Apr 2018	Water Temp (C)	16.2
D10	04 Apr 2018	Wave Height Low (ft)	3
D10	04 Apr 2018	High Tide (ft)	3.3
D10	04 Apr 2018	High Tide Time	45
D10	04 Apr 2018	Low Tide (ft)	0.2
D10	04 Apr 2018	Low Tide Time	639
D10	04 Apr 2018	Comments	Kelp; Seagrass; 4 Persons; 7 Surfers; Water clear
D10	11 Apr 2018	Arrive Time	1017
D10	11 Apr 2018	Weather	Sunny
D10	11 Apr 2018	Wind Speed (kts)	3.2
D10	11 Apr 2018	Wind Dir	W
D10	11 Apr 2018	Animal Life	None
D10	11 Apr 2018	Floatables	None
D10	11 Apr 2018	Water Color	Green
D10	11 Apr 2018	Current Direction	N
D10	11 Apr 2018	Water Temp (C)	18.7
D10	11 Apr 2018	Wave Height Low (ft)	3
D10	11 Apr 2018	High Tide (ft)	4.3
D10	11 Apr 2018	High Tide Time	653
D10	11 Apr 2018	Low Tide (ft)	0.1
D10	11 Apr 2018	Low Tide Time	1337
D10	11 Apr 2018	Comments	Kelp; Seagrass; Algae; Water clear
D10	18 Apr 2018	Arrive Time	1016
D10	18 Apr 2018	Weather	Sunny
D10	18 Apr 2018	Wind Speed (kts)	5.8
D10	18 Apr 2018	Wind Dir	S
D10	18 Apr 2018	Animal Life	None
D10	18 Apr 2018	Floatables	None
D10	18 Apr 2018	Water Color	Green
D10	18 Apr 2018	Current Direction	N
D10	18 Apr 2018	Water Temp (C)	14.2
D10	18 Apr 2018	Wave Height Low (ft)	4
D10	18 Apr 2018	High Tide (ft)	3.9
D10	18 Apr 2018	High Tide Time	1143
D10	18 Apr 2018	Low Tide (ft)	-0.6
D10	18 Apr 2018	Low Tide Time	534
D10	18 Apr 2018	Comments	Kelp; Seagrass; 3 Persons; 4 Surfers; Water clear
D10	25 Apr 2018	Arrive Time	1005
D10	25 Apr 2018	Weather	Sunny
D10	25 Apr 2018	Wind Speed (kts)	5.6
D10	25 Apr 2018	Wind Dir	N
D10	25 Apr 2018	Animal Life	None
D10	25 Apr 2018	Floatables	None
D10	25 Apr 2018	Water Color	Green
D10	25 Apr 2018	Current Direction	N
D10	25 Apr 2018	Water Temp (C)	17.6
D10	25 Apr 2018	Wave Height Low (ft)	2

Station	Date	Parameter	Value
D10	25 Apr 2018	High Tide (ft)	4.6
D10	25 Apr 2018	High Tide Time	626
D10	25 Apr 2018	Low Tide (ft)	1.4
D10	25 Apr 2018	Low Tide Time	1245
D10	25 Apr 2018	Comments	Kelp; Seagrass; 8 Persons; 9 Surfers; 2 Swimmers; Water clear
D11	04 Apr 2018	Arrive Time	955
D11	04 Apr 2018	Weather	Overcast
D11	04 Apr 2018	Wind Speed (kts)	4.2
D11	04 Apr 2018	Wind Dir	W
D11	04 Apr 2018	Animal Life	None
D11	04 Apr 2018	Floatables	None
D11	04 Apr 2018	Water Color	Green
D11	04 Apr 2018	Current Direction	W
D11	04 Apr 2018	Water Temp (C)	16.1
D11	04 Apr 2018	Wave Height Low (ft)	2
D11	04 Apr 2018	High Tide (ft)	3.3
D11	04 Apr 2018	High Tide Time	45
D11	04 Apr 2018	Low Tide (ft)	0.2
D11	04 Apr 2018	Low Tide Time	639
D11	04 Apr 2018	Comments	Kelp; Seagrass; 3 Persons; 9 Surfers; 1 Swimmer; Water clear
D11	11 Apr 2018	Arrive Time	1041
D11	11 Apr 2018	Weather	Sunny
D11	11 Apr 2018	Wind Speed (kts)	1.8
D11	11 Apr 2018	Wind Dir	W
D11	11 Apr 2018	Animal Life	None
D11	11 Apr 2018	Floatables	None
D11	11 Apr 2018	Water Color	Green
D11	11 Apr 2018	Current Direction	W
D11	11 Apr 2018	Water Temp (C)	20.3
D11	11 Apr 2018	Wave Height Low (ft)	4
D11	11 Apr 2018	High Tide (ft)	4.3
D11	11 Apr 2018	High Tide Time	653
D11	11 Apr 2018	Low Tide (ft)	0.1
D11	11 Apr 2018	Low Tide Time	1337
D11	11 Apr 2018	Comments	Kelp; Seagrass; 3 Persons; 4 Surfers; 2 Swimmers; Water clear
D11	18 Apr 2018	Arrive Time	1040
D11	18 Apr 2018	Weather	Sunny
D11	18 Apr 2018	Wind Speed (kts)	8.9
D11	18 Apr 2018	Wind Dir	S
D11	18 Apr 2018	Animal Life	None
D11	18 Apr 2018	Floatables	None
D11	18 Apr 2018	Water Color	Green
D11	18 Apr 2018	Current Direction	N
D11	18 Apr 2018	Water Temp (C)	14.6
D11	18 Apr 2018	Wave Height Low (ft)	4
D11	18 Apr 2018	High Tide (ft)	3.9
D11	18 Apr 2018	High Tide Time	1143
D11	18 Apr 2018	Low Tide (ft)	-0.6
D11	18 Apr 2018	Low Tide Time	534
D11	18 Apr 2018	Comments	Kelp; Seagrass; Water clear
D11	25 Apr 2018	Arrive Time	1021

Station	Date	Parameter	Value
D11	25 Apr 2018	Weather	Sunny
D11	25 Apr 2018	Wind Speed (kts)	4.4
D11	25 Apr 2018	Wind Dir	N
D11	25 Apr 2018	Animal Life	None
D11	25 Apr 2018	Floatables	None
D11	25 Apr 2018	Water Color	Green
D11	25 Apr 2018	Current Direction	N
D11	25 Apr 2018	Water Temp (C)	15.6
D11	25 Apr 2018	Wave Height Low (ft)	2
D11	25 Apr 2018	High Tide (ft)	4.6
D11	25 Apr 2018	High Tide Time	626
D11	25 Apr 2018	Low Tide (ft)	1.4
D11	25 Apr 2018	Low Tide Time	1245
D11	25 Apr 2018	Comments	Kelp; Seagrass; 2 Persons; 5 Surfers; Water clear
D12	04 Apr 2018	Arrive Time	1021
D12	04 Apr 2018	Weather	Overcast
D12	04 Apr 2018	Wind Speed (kts)	1.2
D12	04 Apr 2018	Wind Dir	W
D12	04 Apr 2018	Animal Life	None
D12	04 Apr 2018	Floatables	None
D12	04 Apr 2018	Water Color	Green
D12	04 Apr 2018	Current Direction	W
D12	04 Apr 2018	Water Temp (C)	15.6
D12	04 Apr 2018	Wave Height Low (ft)	2
D12	04 Apr 2018	High Tide (ft)	3.3
D12	04 Apr 2018	High Tide Time	45
D12	04 Apr 2018	Low Tide (ft)	0.2
D12	04 Apr 2018	Low Tide Time	639
D12	04 Apr 2018	Comments	Kelp; Seagrass; 19 Persons; 2 Surfers; 1 Swimmer; Water clear
D12	11 Apr 2018	Arrive Time	1054
D12	11 Apr 2018	Weather	Sunny
D12	11 Apr 2018	Wind Speed (kts)	0.8
D12	11 Apr 2018	Wind Dir	W
D12	11 Apr 2018	Animal Life	None
D12	11 Apr 2018	Floatables	None
D12	11 Apr 2018	Water Color	Green
D12	11 Apr 2018	Current Direction	N
D12	11 Apr 2018	Water Temp (C)	19.8
D12	11 Apr 2018	Wave Height Low (ft)	3
D12	11 Apr 2018	High Tide (ft)	4.3
D12	11 Apr 2018	High Tide Time	653
D12	11 Apr 2018	Low Tide (ft)	0.1
D12	11 Apr 2018	Low Tide Time	1337
D12	11 Apr 2018	Comments	Kelp; Seagrass; 10 Persons; 3 Swimmers; Water clear
D12	18 Apr 2018	Arrive Time	1102
D12	18 Apr 2018	Weather	Sunny
D12	18 Apr 2018	Wind Speed (kts)	7.9
D12	18 Apr 2018	Wind Dir	S
D12	18 Apr 2018	Animal Life	None
D12	18 Apr 2018	Floatables	None
D12	18 Apr 2018	Water Color	Green
D12	18 Apr 2018	Current Direction	N

Station	Date	Parameter	Value
D12	18 Apr 2018	Water Temp (C)	15.4
D12	18 Apr 2018	Wave Height Low (ft)	3
D12	18 Apr 2018	High Tide (ft)	3.9
D12	18 Apr 2018	High Tide Time	1143
D12	18 Apr 2018	Low Tide (ft)	-0.6
D12	18 Apr 2018	Low Tide Time	534
D12	18 Apr 2018	Comments	Kelp; Seagrass; 7 Persons; Water clear
D12	25 Apr 2018	Arrive Time	1051
D12	25 Apr 2018	Weather	Partly Cloudy
D12	25 Apr 2018	Wind Speed (kts)	5.1
D12	25 Apr 2018	Wind Dir	N
D12	25 Apr 2018	Animal Life	None
D12	25 Apr 2018	Floatables	None
D12	25 Apr 2018	Water Color	Green
D12	25 Apr 2018	Current Direction	N
D12	25 Apr 2018	Water Temp (C)	17.5
D12	25 Apr 2018	Wave Height Low (ft)	2
D12	25 Apr 2018	High Tide (ft)	4.6
D12	25 Apr 2018	High Tide Time	626
D12	25 Apr 2018	Low Tide (ft)	1.4
D12	25 Apr 2018	Low Tide Time	1245
D12	25 Apr 2018	Comments	Seagrass; 1 Jogger; 11 Persons; 2 Surfers; Water clear

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Kelp Stations

Table 3.1

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

Date	A1	A6	A7	C4	C5	C6	C7	C8
01 Apr 2018	10*	8*	4*	2*	2*	2*	8*	4*
02 Apr 2018	8	6	4	2	2	2	6	4
03 Apr 2018	8	6	4	2	2	2	6	4
04 Apr 2018	4*	4*	4*	2*	2*	2*	8*	4*
05 Apr 2018	4*	4*	4*	2*	2*	2*	8*	4*
06 Apr 2018	4*	4*	4*	2*	2*	2*	8*	4*
07 Apr 2018	4*	4*	4*	2*	2*	2*	8*	4*
08 Apr 2018	4*	4*	4*	2*	2*	2*	8*	4*
09 Apr 2018	7	7	6	4	3	3	9	5
10 Apr 2018	7	7	6	4	3	3	9	5
11 Apr 2018	10*	10*	8*	5*	4*	4*	14*	5*
12 Apr 2018	10*	10*	8*	5*	4*	4*	14*	5*
13 Apr 2018	10*	10*	8*	5*	4*	4*	14*	5*
14 Apr 2018	10*	10*	8*	5*	4*	4*	14*	5*
15 Apr 2018	10*	10*	8*	5*	4*	4*	14*	5*
16 Apr 2018	18	18	13	6	6	5	25	9
17 Apr 2018	18	18	13	6	6	5	25	9
18 Apr 2018	18*	15*	11*	6*	7*	6*	20*	11*
19 Apr 2018	18*	15*	11*	6*	7*	6*	20*	11*
20 Apr 2018	18*	15*	11*	6*	7*	6*	20*	11*
21 Apr 2018	18*	15*	11*	6*	7*	6*	20*	11*
22 Apr 2018	18*	15*	11*	6*	7*	6*	20*	11*
23 Apr 2018	11	11	8	5	7	5	16	8
24 Apr 2018	11	11	8	5	7	5	16	8
25 Apr 2018	18*	17*	11*	6*	10*	6*	16*	9*
26 Apr 2018	18*	17*	11*	6*	10*	6*	16*	9*
27 Apr 2018	18*	17*	11*	6*	10*	6*	16*	9*
28 Apr 2018	18*	17*	11*	6*	10*	6*	16*	9*
29 Apr 2018	18*	17*	11*	6*	10*	6*	16*	9*
30 Apr 2018	11	11	8	7	7	5	11	7

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

* Geometric mean calculated using n<5

Table 3.3

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

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

* 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 Apr 2018	IC	IC	IC	IC	IC	IC	IC	IC
09 Apr 2018	IC	IC	IC	IC	IC	IC	IC	IC
16 Apr 2018	IC	IC	IC	IC	IC	IC	IC	IC
23 Apr 2018	IC	IC	IC	IC	IC	IC	IC	IC
30 Apr 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 Apr 2018	IC	IC	IC	IC	IC	IC	IC	IC
09 Apr 2018	IC	IC	IC	IC	IC	IC	IC	IC
16 Apr 2018	IC	IC	IC	IC	IC	IC	IC	IC
23 Apr 2018	IC	IC	IC	IC	IC	IC	IC	IC
30 Apr 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 Apr 2018	IC	IC	IC	IC	IC	IC	IC	IC
09 Apr 2018	IC	IC	IC	IC	IC	IC	IC	IC
16 Apr 2018	IC	IC	IC	IC	IC	IC	IC	IC
23 Apr 2018	IC	IC	IC	IC	IC	IC	IC	IC
30 Apr 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 Apr 2018	IC	IC	IC	IC	IC	IC	IC	IC
09 Apr 2018	IC	IC	IC	IC	IC	IC	IC	IC
16 Apr 2018	IC	IC	IC	IC	IC	IC	IC	IC
23 Apr 2018	IC	IC	IC	IC	IC	IC	IC	IC
30 Apr 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 Apr 2018	925	1	<2	<2	<2	1.000	14.2	70.06	8.9	33.54	8.1
A1	02 Apr 2018	925	12	<2	2e	<2	1.000	13.3	73.17	7.6	33.55	8.0
A1	02 Apr 2018	925	18	4e	<2	<2	0.500	11.9	79.14	6.0	33.58	7.9
A1	09 Apr 2018	820	1	<2	<2	<2	1.000	15.1	75.76	8.0	33.55	8.1
A1	09 Apr 2018	820	12	32e	2e	<2	0.062	11.4	81.60	4.8	33.61	7.8
A1	09 Apr 2018	820	18	240e	6e	4e	0.025	10.6	78.39	4.1	33.69	7.8
A1	16 Apr 2018	757	1	96	8e	2e	0.083	13.2	75.25	6.5	33.59	7.9
A1	16 Apr 2018	757	12	180e	2e	6e	0.011	10.9	82.74	4.6	33.67	7.8
A1	16 Apr 2018	757	18	340e	4e	8e	0.012	10.9	82.08	4.6	33.69	7.8
A1	23 Apr 2018	749	1	<2	<2	<2	1.000	13.5	70.18	8.4	33.66	8.0
A1	23 Apr 2018	749	12	<2	<2	<2	1.000	11.7	79.64	5.9	33.67	7.9
A1	23 Apr 2018	749	18	<2	<2	<2	1.000	10.5	84.06	3.8	33.73	7.7
A1	30 Apr 2018	919	1	<2	<2	<2	1.000	15.6	79.79	8.6	33.64	8.2
A1	30 Apr 2018	919	12	<2	<2	<2	1.000	11.5	85.64	5.2	33.66	7.9
A1	30 Apr 2018	919	18	<2	<2	2e	1.000	10.9	86.22	4.3	33.69	7.8
A6	02 Apr 2018	925	1	<2	<2	<2	1.000	13.9	65.28	9.1	33.55	8.1
A6	02 Apr 2018	925	12	<2	<2	<2	1.000	13.4	66.01	7.8	33.56	8.0
A6	02 Apr 2018	925	18	<2	<2	<2	1.000	12.1	78.91	6.1	33.58	7.9
A6	09 Apr 2018	853	1	<2	<2	<2	1.000	16.1	72.62	9.2	33.55	8.2
A6	09 Apr 2018	853	12	40e	<2	2e	0.050	11.8	79.93	4.9	33.61	7.8
A6	09 Apr 2018	853	18	160e	4e	<2	0.025	11.0	75.79	4.3	33.66	7.8
A6	16 Apr 2018	829	1	6e	<2	2e	0.333	14.1	70.06	5.4	33.33	8.0
A6	16 Apr 2018	829	12	110	6e	6e	0.055	11.4	80.19	4.7	33.95	7.8
A6	16 Apr 2018	829	18	480	22e	10e	0.046	11.2	80.12	4.8	33.72	7.8
A6	23 Apr 2018	826	1	<2	<2	<2	1.000	14.7	71.10	9.7	33.69	8.2
A6	23 Apr 2018	826	12	2e	<2	<2	1.000	12.6	74.51	7.3	33.67	8.0
A6	23 Apr 2018	826	18	6e	2e	<2	0.333	11.8	79.02	6.0	33.70	7.9
A6	30 Apr 2018	943	1	<2	<2	<2	1.000	15.7	79.45	8.6	33.65	8.2
A6	30 Apr 2018	943	12	<2	<2	<2	1.000	11.7	85.03	5.2	33.66	7.9
A6	30 Apr 2018	943	18	<2	<2	<2	1.000	11.2	85.70	4.4	33.70	7.8
A7	02 Apr 2018	938	1	2e	<2	<2	1.000	14.0	67.84	8.9	33.53	8.1
A7	02 Apr 2018	938	12	<2	<2	<2	1.000	13.7	68.96	8.3	33.55	8.1
A7	02 Apr 2018	938	18	2e	<2	<2	1.000	11.6	81.78	5.5	33.59	7.9
A7	09 Apr 2018	840	1	<20	<2	<2	0.100	15.5	70.97	8.4	33.57	8.2
A7	09 Apr 2018	840	12	12e	<2	<2	0.167	12.6	78.20	5.8	33.61	8.0
A7	09 Apr 2018	840	18	62	4e	<2	0.065	10.8	73.96	4.4	33.67	7.8

Station	Date	Time	Depth	Total	Fecal	Enteroc	F:T	Temp	XMS	DO	Sal	pH
A7	16 Apr 2018	814	1	6e	<2	<2	0.333	13.3	73.74	6.8	33.62	8.0
A7	16 Apr 2018	814	12	200e	16e	8e	0.080	11.5	80.11	5.0	33.67	7.8
A7	16 Apr 2018	814	18	160e	2e	8e	0.012	11.4	80.01	4.9	33.68	7.8
A7	23 Apr 2018	811	1	<2	<2	<2	1.000	14.9	75.23	10.0	33.69	8.2
A7	23 Apr 2018	811	12	<2	<2	<2	1.000	12.8	71.46	7.9	33.67	8.0
A7	23 Apr 2018	811	18	2e	<2	<2	1.000	11.3	82.23	5.3	33.68	7.9
A7	30 Apr 2018	926	1	2e	2e	<2	1.000	15.6	74.95	8.6	33.64	8.2
A7	30 Apr 2018	926	12	2e	2e	<2	1.000	11.6	85.62	5.1	33.68	7.9
A7	30 Apr 2018	926	18	2e	2e	<2	1.000	11.1	83.21	4.3	33.69	7.8
C4	02 Apr 2018	1109	1	2e	<2	<2	1.000	14.4	71.07	9.0	33.53	8.2
C4	02 Apr 2018	1109	3	<2	<2	<2	1.000	14.0	70.86	8.7	33.56	8.1
C4	02 Apr 2018	1109	9	<2	<2	<2	1.000	13.2	70.89	7.5	33.57	8.1
C4	09 Apr 2018	1002	1	60e	20e	<2	0.333	15.5	41.78	7.4	33.58	8.1
C4	09 Apr 2018	1002	3	20e	18e	2e	0.900	15.1	48.74	7.4	33.61	8.1
C4	09 Apr 2018	1002	9	20e	2e	<2	0.100	13.1	39.18	6.3	33.64	8.0
C4	16 Apr 2018	1008	1	<2	<2	<2	1.000	13.7	72.51	6.9	33.62	8.0
C4	16 Apr 2018	1008	3	<2	<2	<2	1.000	13.5	73.32	6.6	33.63	8.0
C4	16 Apr 2018	1008	9	34e	<2	<2	0.059	11.9	78.33	5.4	33.66	7.9
C4	23 Apr 2018	945	1	<2	<2	<2	1.000	14.2	67.64	8.7	33.69	8.1
C4	23 Apr 2018	945	3	<2	<2	<2	1.000	13.9	66.92	9.0	33.68	8.1
C4	23 Apr 2018	945	9	<2	<2	<2	1.000	12.6	77.06	7.0	33.69	8.0
C4	30 Apr 2018	1119	1	<2	<2	<2	1.000	15.0	76.24	8.7	33.66	8.2
C4	30 Apr 2018	1119	3	<20	<2	<2	0.100	15.0	67.37	8.7	33.66	8.2
C4	30 Apr 2018	1119	9	<2	<2	<2	1.000	11.9	66.89	6.9	NA	8.0
C5	02 Apr 2018	1056	1	<2	<2	<2	1.000	13.9	68.07	9.3	33.55	8.1
C5	02 Apr 2018	1056	3	<2	<2	<2	1.000	13.8	68.47	9.2	33.55	8.1
C5	02 Apr 2018	1056	9	<2	<2	<2	1.000	12.9	80.72	7.4	33.58	8.0
C5	09 Apr 2018	950	1	<20	<2	<2	0.100	15.7	61.68	7.5	33.58	8.1
C5	09 Apr 2018	950	3	<20	<2	<2	0.100	15.2	61.04	7.2	33.61	8.1
C5	09 Apr 2018	950	9	<20	<2	<2	0.100	11.9	64.63	4.6	33.63	7.8
C5	16 Apr 2018	951	1	<2	<2	<2	1.000	14.1	71.82	7.1	33.63	8.0
C5	16 Apr 2018	951	3	2e	<2	<2	1.000	14.0	70.77	7.0	33.63	8.0
C5	16 Apr 2018	951	9	96	<2	6e	0.021	11.9	78.79	5.3	33.66	7.9
C5	23 Apr 2018	931	1	4e	<2	<2	0.500	15.4	76.26	9.5	33.70	8.2
C5	23 Apr 2018	931	3	4e	<2	<2	0.500	15.0	76.25	9.2	33.71	8.2
C5	23 Apr 2018	931	9	12e	<2	<2	0.167	11.7	82.67	5.0	33.70	7.8
C5	30 Apr 2018	1105	1	<2	<2	<2	1.000	15.5	78.88	9.2	33.66	8.2
C5	30 Apr 2018	1105	3	<2	<2	<2	1.000	15.5	77.99	9.2	33.66	8.2
C5	30 Apr 2018	1105	9	<2	<2	<2	1.000	14.0	70.73	6.3	33.69	8.1
C6	02 Apr 2018	1041	1	<2	<2	<2	1.000	14.3	76.54	9.9	33.56	8.2
C6	02 Apr 2018	1041	3	<2	<2	<2	1.000	14.2	76.57	9.8	33.56	8.2

Station	Date	Time	Depth	Total	Fecal	Enteroc	F:T	Temp	XMS	DO	Sal	pH
C6	02 Apr 2018	1041	9	<2	<2	<2	1.000	12.0	83.30	6.1	33.60	7.9
C6	09 Apr 2018	937	1	<20	<2	<2	0.100	15.6	62.61	8.0	33.57	8.2
C6	09 Apr 2018	937	3	<20	<2	<2	0.100	15.1	62.72	7.4	33.60	8.1
C6	09 Apr 2018	937	9	20e	<2	<2	0.100	12.7	62.00	5.1	33.65	7.8
C6	16 Apr 2018	930	1	<2	<2	<2	1.000	14.0	72.85	7.0	33.62	8.0
C6	16 Apr 2018	930	3	<2	<2	<2	1.000	14.0	73.37	7.1	33.62	8.0
C6	16 Apr 2018	930	9	42	<2	<2	0.048	11.5	72.72	4.9	33.74	7.8
C6	23 Apr 2018	917	1	<2	<2	<2	1.000	15.4	77.08	9.8	33.68	8.3
C6	23 Apr 2018	917	3	<2	<2	<2	1.000	15.1	76.87	9.2	33.71	8.2
C6	23 Apr 2018	917	9	<2	<2	<2	1.000	11.5	85.30	5.4	33.70	7.9
C6	30 Apr 2018	1051	1	<2	<2	<2	1.000	15.7	78.87	9.3	33.65	8.2
C6	30 Apr 2018	1051	3	<2	<2	<2	1.000	15.6	78.21	9.3	33.66	8.2
C6	30 Apr 2018	1051	9	<2	<2	<2	1.000	13.8	46.11	6.6	33.66	8.0
C7	02 Apr 2018	1008	1	<2	<2	2e	1.000	13.9	64.39	9.2	33.56	8.1
C7	02 Apr 2018	1008	12	<2	<2	<2	1.000	13.0	70.26	7.4	33.56	8.0
C7	02 Apr 2018	1008	18	4e	<2	<2	0.500	11.4	82.02	5.0	33.63	7.8
C7	09 Apr 2018	907	1	<2	<2	<2	1.000	16.3	70.23	8.9	33.55	8.2
C7	09 Apr 2018	907	12	14e	<2	<2	0.143	12.0	80.65	5.4	33.62	7.9
C7	09 Apr 2018	907	18	40e	2e	<2	0.050	11.0	65.41	4.3	33.64	7.8
C7	16 Apr 2018	855	1	2e	<2	<2	1.000	14.9	63.63	7.8	33.57	8.1
C7	16 Apr 2018	855	12	180e	4e	4e	0.022	11.9	79.26	5.3	33.66	7.9
C7	16 Apr 2018	855	18	540	4e	10e	0.007	10.8	77.64	4.2	33.72	7.8
C7	23 Apr 2018	843	1	<2	<2	<2	1.000	14.1	63.41	8.8	33.67	8.1
C7	23 Apr 2018	843	12	10e	<2	<2	0.200	12.0	77.63	6.3	33.68	7.9
C7	23 Apr 2018	843	18	6e	<2	<2	0.333	10.9	84.59	4.6	33.69	7.8
C7	30 Apr 2018	1007	1	<2	<2	<2	1.000	15.7	57.02	8.6	33.51	8.2
C7	30 Apr 2018	1007	12	<2	<2	<2	1.000	12.2	84.58	6.5	33.58	8.0
C7	30 Apr 2018	1007	18	2e	<2	<2	1.000	11.4	85.64	4.9	33.68	7.9
C8	02 Apr 2018	1018	1	<2	<2	<2	1.000	14.1	54.09	9.6	33.56	8.2
C8	02 Apr 2018	1018	12	<2	<2	<2	1.000	13.1	71.08	7.6	33.55	8.0
C8	02 Apr 2018	1018	18	<2	<2	<2	1.000	11.7	79.27	5.4	33.62	7.9
C8	09 Apr 2018	918	1	<2	<2	<2	1.000	16.2	70.02	9.0	33.54	8.2
C8	09 Apr 2018	918	12	<2	<2	2e	1.000	11.9	82.27	5.5	33.59	7.9
C8	09 Apr 2018	918	18	<20	<2	<2	0.100	11.0	64.95	4.2	33.65	7.8
C8	16 Apr 2018	910	1	<2	<2	<2	1.000	14.9	68.07	7.8	33.59	8.1
C8	16 Apr 2018	910	12	82	<2	4e	0.024	12.4	77.43	5.7	33.65	7.9
C8	16 Apr 2018	910	18	360e	16e	16e	0.044	10.9	77.03	4.4	33.72	7.8
C8	23 Apr 2018	855	1	<2	<2	<2	1.000	14.4	57.07	9.5	33.66	8.1
C8	23 Apr 2018	855	12	2e	<2	<2	1.000	12.2	76.57	6.6	33.71	8.0
C8	23 Apr 2018	855	18	4e	<2	<2	0.500	10.9	84.01	4.5	33.69	7.8
C8	30 Apr 2018	1021	1	<2	<2	<2	1.000	15.8	78.16	8.7	33.64	8.2

Station	Date	Time	Depth	Total	Fecal	Enteroc	F:T	Temp	XMS	DO	Sal	pH
C8	30 Apr 2018	1021	12	<2	<2	<2	1.000	11.8	84.97	6.2	33.61	8.0
C8	30 Apr 2018	1021	18	<2	<2	<2	1.000	11.4	85.07	4.8	33.68	7.9

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 Apr 2018	Depth (m)	19
A1	02 Apr 2018	Arrive Time	925
A1	02 Apr 2018	Depart Time	932
A1	02 Apr 2018	Air Temp (C)	15
A1	02 Apr 2018	Weather	Partly Cloudy
A1	02 Apr 2018	Visibility (mi)	5
A1	02 Apr 2018	Wind Speed (kts)	4
A1	02 Apr 2018	Wind Dir	SW
A1	02 Apr 2018	Water Color	Greenish-Blue
A1	02 Apr 2018	Wave Ht Low (ft)	3
A1	02 Apr 2018	Wave Period (sec)	13
A1	02 Apr 2018	Sea State	Light chop
A1	02 Apr 2018	High Tide (ft)	4.37
A1	02 Apr 2018	High Tide Time	1110
A1	02 Apr 2018	Low Tide (ft)	-0.21
A1	02 Apr 2018	Low Tide Time	510
A1	02 Apr 2018	Comments	none
A1	09 Apr 2018	Depth (m)	19
A1	09 Apr 2018	Arrive Time	820
A1	09 Apr 2018	Depart Time	834
A1	09 Apr 2018	Air Temp (C)	15
A1	09 Apr 2018	Weather	Partly Cloudy
A1	09 Apr 2018	Visibility (mi)	5
A1	09 Apr 2018	Wind Speed (kts)	3
A1	09 Apr 2018	Wind Dir	NE
A1	09 Apr 2018	Water Color	Brownish-Green
A1	09 Apr 2018	Wave Ht Low (ft)	8
A1	09 Apr 2018	Wave Period (sec)	13
A1	09 Apr 2018	Sea State	Confused swell
A1	09 Apr 2018	High Tide (ft)	3.8
A1	09 Apr 2018	High Tide Time	502
A1	09 Apr 2018	Low Tide (ft)	0.47
A1	09 Apr 2018	Low Tide Time	26
A1	09 Apr 2018	Comments	none
A1	16 Apr 2018	Depth (m)	18
A1	16 Apr 2018	Arrive Time	757
A1	16 Apr 2018	Depart Time	805
A1	16 Apr 2018	Air Temp (C)	14
A1	16 Apr 2018	Weather	Partly Cloudy
A1	16 Apr 2018	Visibility (mi)	3
A1	16 Apr 2018	Wind Speed (kts)	19
A1	16 Apr 2018	Wind Dir	SW
A1	16 Apr 2018	Water Color	Greenish-Brown
A1	16 Apr 2018	Wave Ht Low (ft)	8
A1	16 Apr 2018	Wave Period (sec)	11
A1	16 Apr 2018	Sea State	Light chop
A1	16 Apr 2018	High Tide (ft)	4.58
A1	16 Apr 2018	High Tide Time	1008
A1	16 Apr 2018	Low Tide (ft)	-0.38

Station	Date	Parameter	Value
A1	16 Apr 2018	Low Tide Time	407
A1	16 Apr 2018	Comments	none
A1	23 Apr 2018	Depth (m)	18
A1	23 Apr 2018	Arrive Time	749
A1	23 Apr 2018	Depart Time	802
A1	23 Apr 2018	Air Temp (C)	13
A1	23 Apr 2018	Weather	Fog
A1	23 Apr 2018	Visibility (mi)	4
A1	23 Apr 2018	Wind Speed (kts)	0
A1	23 Apr 2018	Wind Dir	
A1	23 Apr 2018	Water Color	Greenish-Blue
A1	23 Apr 2018	Wave Ht Low (ft)	5
A1	23 Apr 2018	Wave Period (sec)	13
A1	23 Apr 2018	Sea State	Light chop
A1	23 Apr 2018	High Tide (ft)	4.45
A1	23 Apr 2018	High Tide Time	352
A1	23 Apr 2018	Low Tide (ft)	-0.17
A1	23 Apr 2018	Low Tide Time	1122
A1	23 Apr 2018	Comments	none
A1	30 Apr 2018	Depth (m)	19
A1	30 Apr 2018	Arrive Time	913
A1	30 Apr 2018	Depart Time	919
A1	30 Apr 2018	Air Temp (C)	14
A1	30 Apr 2018	Weather	Drizzle
A1	30 Apr 2018	Visibility (mi)	6
A1	30 Apr 2018	Wind Speed (kts)	9
A1	30 Apr 2018	Wind Dir	S
A1	30 Apr 2018	Water Color	Greenish-Blue
A1	30 Apr 2018	Wave Ht Low (ft)	6
A1	30 Apr 2018	Wave Period (sec)	4
A1	30 Apr 2018	Sea State	Confused swell
A1	30 Apr 2018	High Tide (ft)	4.2
A1	30 Apr 2018	High Tide Time	1020
A1	30 Apr 2018	Low Tide (ft)	-0.55
A1	30 Apr 2018	Low Tide Time	418
A1	30 Apr 2018	Comments	none
A6	02 Apr 2018	Depth (m)	19
A6	02 Apr 2018	Arrive Time	952
A6	02 Apr 2018	Depart Time	958
A6	02 Apr 2018	Air Temp (C)	14
A6	02 Apr 2018	Weather	Haze
A6	02 Apr 2018	Visibility (mi)	5
A6	02 Apr 2018	Wind Speed (kts)	4
A6	02 Apr 2018	Wind Dir	SE
A6	02 Apr 2018	Water Color	Reddish-Brown
A6	02 Apr 2018	Wave Ht Low (ft)	3
A6	02 Apr 2018	Wave Period (sec)	13
A6	02 Apr 2018	Sea State	Light chop
A6	02 Apr 2018	High Tide (ft)	4.37
A6	02 Apr 2018	High Tide Time	1110
A6	02 Apr 2018	Low Tide (ft)	-0.21
A6	02 Apr 2018	Low Tide Time	510

Station	Date	Parameter	Value
A6	02 Apr 2018	Comments	Kelp debris
A6	09 Apr 2018	Depth (m)	18
A6	09 Apr 2018	Arrive Time	853
A6	09 Apr 2018	Depart Time	858
A6	09 Apr 2018	Air Temp (C)	16
A6	09 Apr 2018	Weather	Haze
A6	09 Apr 2018	Visibility (mi)	5
A6	09 Apr 2018	Wind Speed (kts)	3
A6	09 Apr 2018	Wind Dir	S
A6	09 Apr 2018	Water Color	Greenish-Blue
A6	09 Apr 2018	Wave Ht Low (ft)	8
A6	09 Apr 2018	Wave Period (sec)	13
A6	09 Apr 2018	Sea State	Confused swell
A6	09 Apr 2018	High Tide (ft)	3.8
A6	09 Apr 2018	High Tide Time	502
A6	09 Apr 2018	Low Tide (ft)	0.47
A6	09 Apr 2018	Low Tide Time	26
A6	09 Apr 2018	Comments	Tuna crabs on station
A6	16 Apr 2018	Depth (m)	18
A6	16 Apr 2018	Arrive Time	829
A6	16 Apr 2018	Depart Time	842
A6	16 Apr 2018	Air Temp (C)	15
A6	16 Apr 2018	Weather	Partly Cloudy
A6	16 Apr 2018	Visibility (mi)	3
A6	16 Apr 2018	Wind Speed (kts)	13
A6	16 Apr 2018	Wind Dir	S
A6	16 Apr 2018	Water Color	Greenish-Brown
A6	16 Apr 2018	Wave Ht Low (ft)	8
A6	16 Apr 2018	Wave Period (sec)	11
A6	16 Apr 2018	Sea State	Light chop
A6	16 Apr 2018	High Tide (ft)	4.58
A6	16 Apr 2018	High Tide Time	1008
A6	16 Apr 2018	Low Tide (ft)	-0.38
A6	16 Apr 2018	Low Tide Time	407
A6	16 Apr 2018	Comments	High CDOM values near surface confirmed with second cast
A6	23 Apr 2018	Depth (m)	20
A6	23 Apr 2018	Arrive Time	826
A6	23 Apr 2018	Depart Time	829
A6	23 Apr 2018	Air Temp (C)	13
A6	23 Apr 2018	Weather	Fog
A6	23 Apr 2018	Visibility (mi)	4
A6	23 Apr 2018	Wind Speed (kts)	3
A6	23 Apr 2018	Wind Dir	E
A6	23 Apr 2018	Water Color	Greenish-Blue
A6	23 Apr 2018	Wave Ht Low (ft)	5
A6	23 Apr 2018	Wave Period (sec)	13
A6	23 Apr 2018	Sea State	Calm
A6	23 Apr 2018	High Tide (ft)	4.45
A6	23 Apr 2018	High Tide Time	352
A6	23 Apr 2018	Low Tide (ft)	-0.17
A6	23 Apr 2018	Low Tide Time	1122
A6	23 Apr 2018	Comments	none

Station	Date	Parameter	Value
A6	30 Apr 2018	Depth (m)	18
A6	30 Apr 2018	Arrive Time	943
A6	30 Apr 2018	Depart Time	956
A6	30 Apr 2018	Air Temp (C)	14
A6	30 Apr 2018	Weather	Overcast
A6	30 Apr 2018	Visibility (mi)	5
A6	30 Apr 2018	Wind Speed (kts)	9
A6	30 Apr 2018	Wind Dir	SW
A6	30 Apr 2018	Water Color	Greenish-Blue
A6	30 Apr 2018	Wave Ht Low (ft)	6
A6	30 Apr 2018	Wave Period (sec)	4
A6	30 Apr 2018	Sea State	Confused swell
A6	30 Apr 2018	High Tide (ft)	4.2
A6	30 Apr 2018	High Tide Time	1020
A6	30 Apr 2018	Low Tide (ft)	-0.55
A6	30 Apr 2018	Low Tide Time	418
A6	30 Apr 2018	Comments	none
A7	02 Apr 2018	Depth (m)	19
A7	02 Apr 2018	Arrive Time	938
A7	02 Apr 2018	Depart Time	943
A7	02 Apr 2018	Air Temp (C)	14
A7	02 Apr 2018	Weather	Haze
A7	02 Apr 2018	Visibility (mi)	5
A7	02 Apr 2018	Wind Speed (kts)	5
A7	02 Apr 2018	Wind Dir	SE
A7	02 Apr 2018	Water Color	Greenish-Blue
A7	02 Apr 2018	Wave Ht Low (ft)	3
A7	02 Apr 2018	Wave Period (sec)	13
A7	02 Apr 2018	Sea State	Light chop
A7	02 Apr 2018	High Tide (ft)	4.37
A7	02 Apr 2018	High Tide Time	1110
A7	02 Apr 2018	Low Tide (ft)	-0.21
A7	02 Apr 2018	Low Tide Time	510
A7	02 Apr 2018	Comments	none
A7	09 Apr 2018	Depth (m)	20
A7	09 Apr 2018	Arrive Time	840
A7	09 Apr 2018	Depart Time	846
A7	09 Apr 2018	Air Temp (C)	16
A7	09 Apr 2018	Weather	Haze
A7	09 Apr 2018	Visibility (mi)	5
A7	09 Apr 2018	Wind Speed (kts)	4
A7	09 Apr 2018	Wind Dir	E
A7	09 Apr 2018	Water Color	Greenish-Blue
A7	09 Apr 2018	Wave Ht Low (ft)	8
A7	09 Apr 2018	Wave Period (sec)	13
A7	09 Apr 2018	Sea State	Confused swell
A7	09 Apr 2018	High Tide (ft)	3.8
A7	09 Apr 2018	High Tide Time	502
A7	09 Apr 2018	Low Tide (ft)	0.47
A7	09 Apr 2018	Low Tide Time	26
A7	09 Apr 2018	Comments	Kelp

Station	Date	Parameter	Value
A7	16 Apr 2018	Depth (m)	19
A7	16 Apr 2018	Arrive Time	814
A7	16 Apr 2018	Depart Time	819
A7	16 Apr 2018	Air Temp (C)	14
A7	16 Apr 2018	Weather	Partly Cloudy
A7	16 Apr 2018	Visibility (mi)	3
A7	16 Apr 2018	Wind Speed (kts)	14
A7	16 Apr 2018	Wind Dir	SW
A7	16 Apr 2018	Water Color	Greenish-Brown
A7	16 Apr 2018	Wave Ht Low (ft)	8
A7	16 Apr 2018	Wave Period (sec)	11
A7	16 Apr 2018	Sea State	Light chop
A7	16 Apr 2018	High Tide (ft)	4.58
A7	16 Apr 2018	High Tide Time	1008
A7	16 Apr 2018	Low Tide (ft)	-0.38
A7	16 Apr 2018	Low Tide Time	407
A7	16 Apr 2018	Comments	none
A7	23 Apr 2018	Depth (m)	21
A7	23 Apr 2018	Arrive Time	811
A7	23 Apr 2018	Depart Time	815
A7	23 Apr 2018	Air Temp (C)	13
A7	23 Apr 2018	Weather	Fog
A7	23 Apr 2018	Visibility (mi)	4
A7	23 Apr 2018	Wind Speed (kts)	0
A7	23 Apr 2018	Wind Dir	
A7	23 Apr 2018	Water Color	Greenish-Blue
A7	23 Apr 2018	Wave Ht Low (ft)	5
A7	23 Apr 2018	Wave Period (sec)	13
A7	23 Apr 2018	Sea State	Calm
A7	23 Apr 2018	High Tide (ft)	4.45
A7	23 Apr 2018	High Tide Time	352
A7	23 Apr 2018	Low Tide (ft)	-0.17
A7	23 Apr 2018	Low Tide Time	1122
A7	23 Apr 2018	Comments	none
A7	30 Apr 2018	Depth (m)	20
A7	30 Apr 2018	Arrive Time	926
A7	30 Apr 2018	Depart Time	934
A7	30 Apr 2018	Air Temp (C)	14
A7	30 Apr 2018	Weather	Overcast
A7	30 Apr 2018	Visibility (mi)	5
A7	30 Apr 2018	Wind Speed (kts)	10
A7	30 Apr 2018	Wind Dir	S
A7	30 Apr 2018	Water Color	Greenish-Blue
A7	30 Apr 2018	Wave Ht Low (ft)	6
A7	30 Apr 2018	Wave Period (sec)	4
A7	30 Apr 2018	Sea State	Confused swell
A7	30 Apr 2018	High Tide (ft)	4.2
A7	30 Apr 2018	High Tide Time	1020
A7	30 Apr 2018	Low Tide (ft)	-0.55
A7	30 Apr 2018	Low Tide Time	418
A7	30 Apr 2018	Comments	none
C4	02 Apr 2018	Depth (m)	11

Station	Date	Parameter	Value
C4	02 Apr 2018	Arrive Time	1109
C4	02 Apr 2018	Depart Time	1115
C4	02 Apr 2018	Air Temp (C)	14
C4	02 Apr 2018	Weather	Haze
C4	02 Apr 2018	Visibility (mi)	5
C4	02 Apr 2018	Wind Speed (kts)	10
C4	02 Apr 2018	Wind Dir	SE
C4	02 Apr 2018	Water Color	Greenish-Brown
C4	02 Apr 2018	Wave Ht Low (ft)	3
C4	02 Apr 2018	Wave Period (sec)	13
C4	02 Apr 2018	Sea State	Light chop
C4	02 Apr 2018	High Tide (ft)	4.37
C4	02 Apr 2018	High Tide Time	1110
C4	02 Apr 2018	Low Tide (ft)	-0.21
C4	02 Apr 2018	Low Tide Time	510
C4	02 Apr 2018	Comments	Kelp debris
C4	09 Apr 2018	Depth (m)	10
C4	09 Apr 2018	Arrive Time	1002
C4	09 Apr 2018	Depart Time	1007
C4	09 Apr 2018	Air Temp (C)	16
C4	09 Apr 2018	Weather	Haze
C4	09 Apr 2018	Visibility (mi)	5
C4	09 Apr 2018	Wind Speed (kts)	1
C4	09 Apr 2018	Wind Dir	W
C4	09 Apr 2018	Water Color	Greenish-Brown
C4	09 Apr 2018	Wave Ht Low (ft)	8
C4	09 Apr 2018	Wave Period (sec)	13
C4	09 Apr 2018	Sea State	Confused swell
C4	09 Apr 2018	High Tide (ft)	3.8
C4	09 Apr 2018	High Tide Time	502
C4	09 Apr 2018	Low Tide (ft)	0.47
C4	09 Apr 2018	Low Tide Time	26
C4	09 Apr 2018	Comments	Kelp
C4	16 Apr 2018	Depth (m)	12
C4	16 Apr 2018	Arrive Time	1008
C4	16 Apr 2018	Depart Time	1013
C4	16 Apr 2018	Air Temp (C)	14
C4	16 Apr 2018	Weather	Partly Cloudy
C4	16 Apr 2018	Visibility (mi)	5
C4	16 Apr 2018	Wind Speed (kts)	4
C4	16 Apr 2018	Wind Dir	S
C4	16 Apr 2018	Water Color	Greenish-Blue
C4	16 Apr 2018	Wave Ht Low (ft)	8
C4	16 Apr 2018	Wave Period (sec)	11
C4	16 Apr 2018	Sea State	Light chop
C4	16 Apr 2018	High Tide (ft)	4.58
C4	16 Apr 2018	High Tide Time	1008
C4	16 Apr 2018	Low Tide (ft)	-0.38
C4	16 Apr 2018	Low Tide Time	407
C4	16 Apr 2018	Comments	none
C4	23 Apr 2018	Depth (m)	11
C4	23 Apr 2018	Arrive Time	945

Station	Date	Parameter	Value
C4	23 Apr 2018	Depart Time	949
C4	23 Apr 2018	Air Temp (C)	14
C4	23 Apr 2018	Weather	Fog
C4	23 Apr 2018	Visibility (mi)	4
C4	23 Apr 2018	Wind Speed (kts)	0
C4	23 Apr 2018	Wind Dir	
C4	23 Apr 2018	Water Color	Green
C4	23 Apr 2018	Wave Ht Low (ft)	4
C4	23 Apr 2018	Wave Period (sec)	13
C4	23 Apr 2018	Sea State	Calm
C4	23 Apr 2018	High Tide (ft)	4.45
C4	23 Apr 2018	High Tide Time	352
C4	23 Apr 2018	Low Tide (ft)	-0.17
C4	23 Apr 2018	Low Tide Time	1122
C4	23 Apr 2018	Comments	none
C4	30 Apr 2018	Depth (m)	12
C4	30 Apr 2018	Arrive Time	1119
C4	30 Apr 2018	Depart Time	1126
C4	30 Apr 2018	Air Temp (C)	14
C4	30 Apr 2018	Weather	Overcast
C4	30 Apr 2018	Visibility (mi)	5
C4	30 Apr 2018	Wind Speed (kts)	12
C4	30 Apr 2018	Wind Dir	SW
C4	30 Apr 2018	Water Color	Greenish-Blue
C4	30 Apr 2018	Wave Ht Low (ft)	6
C4	30 Apr 2018	Wave Period (sec)	4
C4	30 Apr 2018	Sea State	Confused swell
C4	30 Apr 2018	High Tide (ft)	4.2
C4	30 Apr 2018	High Tide Time	1020
C4	30 Apr 2018	Low Tide (ft)	-0.55
C4	30 Apr 2018	Low Tide Time	418
C4	30 Apr 2018	Comments	none
C5	02 Apr 2018	Depth (m)	11
C5	02 Apr 2018	Arrive Time	1056
C5	02 Apr 2018	Depart Time	1101
C5	02 Apr 2018	Air Temp (C)	15
C5	02 Apr 2018	Weather	Haze
C5	02 Apr 2018	Visibility (mi)	5
C5	02 Apr 2018	Wind Speed (kts)	5
C5	02 Apr 2018	Wind Dir	SE
C5	02 Apr 2018	Water Color	Greenish-Brown
C5	02 Apr 2018	Wave Ht Low (ft)	3
C5	02 Apr 2018	Wave Period (sec)	13
C5	02 Apr 2018	Sea State	Light chop
C5	02 Apr 2018	High Tide (ft)	4.37
C5	02 Apr 2018	High Tide Time	1110
C5	02 Apr 2018	Low Tide (ft)	-0.21
C5	02 Apr 2018	Low Tide Time	510
C5	02 Apr 2018	Comments	none
C5	09 Apr 2018	Depth (m)	12
C5	09 Apr 2018	Arrive Time	950
C5	09 Apr 2018	Depart Time	953

Station	Date	Parameter	Value
C5	09 Apr 2018	Air Temp (C)	16
C5	09 Apr 2018	Weather	Haze
C5	09 Apr 2018	Visibility (mi)	5
C5	09 Apr 2018	Wind Speed (kts)	0
C5	09 Apr 2018	Wind Dir	
C5	09 Apr 2018	Water Color	Greenish-Blue
C5	09 Apr 2018	Wave Ht Low (ft)	8
C5	09 Apr 2018	Wave Period (sec)	13
C5	09 Apr 2018	Sea State	Confused swell
C5	09 Apr 2018	High Tide (ft)	3.8
C5	09 Apr 2018	High Tide Time	502
C5	09 Apr 2018	Low Tide (ft)	0.47
C5	09 Apr 2018	Low Tide Time	26
C5	09 Apr 2018	Comments	none
C5	16 Apr 2018	Depth (m)	10
C5	16 Apr 2018	Arrive Time	951
C5	16 Apr 2018	Depart Time	1002
C5	16 Apr 2018	Air Temp (C)	15
C5	16 Apr 2018	Weather	Partly Cloudy
C5	16 Apr 2018	Visibility (mi)	5
C5	16 Apr 2018	Wind Speed (kts)	4
C5	16 Apr 2018	Wind Dir	SW
C5	16 Apr 2018	Water Color	Greenish-Blue
C5	16 Apr 2018	Wave Ht Low (ft)	8
C5	16 Apr 2018	Wave Period (sec)	11
C5	16 Apr 2018	Sea State	Light chop
C5	16 Apr 2018	High Tide (ft)	4.58
C5	16 Apr 2018	High Tide Time	1008
C5	16 Apr 2018	Low Tide (ft)	-0.38
C5	16 Apr 2018	Low Tide Time	407
C5	16 Apr 2018	Comments	none
C5	23 Apr 2018	Depth (m)	11
C5	23 Apr 2018	Arrive Time	931
C5	23 Apr 2018	Depart Time	933
C5	23 Apr 2018	Air Temp (C)	13
C5	23 Apr 2018	Weather	Fog
C5	23 Apr 2018	Visibility (mi)	4
C5	23 Apr 2018	Wind Speed (kts)	0
C5	23 Apr 2018	Wind Dir	
C5	23 Apr 2018	Water Color	Greenish-Blue
C5	23 Apr 2018	Wave Ht Low (ft)	5
C5	23 Apr 2018	Wave Period (sec)	13
C5	23 Apr 2018	Sea State	Calm
C5	23 Apr 2018	High Tide (ft)	4.45
C5	23 Apr 2018	High Tide Time	352
C5	23 Apr 2018	Low Tide (ft)	-0.17
C5	23 Apr 2018	Low Tide Time	1122
C5	23 Apr 2018	Comments	Kelp
C5	30 Apr 2018	Depth (m)	12
C5	30 Apr 2018	Arrive Time	1105
C5	30 Apr 2018	Depart Time	1109
C5	30 Apr 2018	Air Temp (C)	15

Station	Date	Parameter	Value
C5	30 Apr 2018	Weather	Overcast
C5	30 Apr 2018	Visibility (mi)	5
C5	30 Apr 2018	Wind Speed (kts)	10
C5	30 Apr 2018	Wind Dir	SW
C5	30 Apr 2018	Water Color	Greenish-Blue
C5	30 Apr 2018	Wave Ht Low (ft)	6
C5	30 Apr 2018	Wave Period (sec)	4
C5	30 Apr 2018	Sea State	Confused swell
C5	30 Apr 2018	High Tide (ft)	4.2
C5	30 Apr 2018	High Tide Time	1020
C5	30 Apr 2018	Low Tide (ft)	-0.55
C5	30 Apr 2018	Low Tide Time	418
C5	30 Apr 2018	Comments	none
C6	02 Apr 2018	Depth (m)	9
C6	02 Apr 2018	Arrive Time	1041
C6	02 Apr 2018	Depart Time	1048
C6	02 Apr 2018	Air Temp (C)	15
C6	02 Apr 2018	Weather	Haze
C6	02 Apr 2018	Visibility (mi)	5
C6	02 Apr 2018	Wind Speed (kts)	6
C6	02 Apr 2018	Wind Dir	S
C6	02 Apr 2018	Water Color	Greenish-Brown
C6	02 Apr 2018	Wave Ht Low (ft)	3
C6	02 Apr 2018	Wave Period (sec)	13
C6	02 Apr 2018	Sea State	Light chop
C6	02 Apr 2018	High Tide (ft)	4.37
C6	02 Apr 2018	High Tide Time	1110
C6	02 Apr 2018	Low Tide (ft)	-0.21
C6	02 Apr 2018	Low Tide Time	510
C6	02 Apr 2018	Comments	Kelp
C6	09 Apr 2018	Depth (m)	10
C6	09 Apr 2018	Arrive Time	937
C6	09 Apr 2018	Depart Time	941
C6	09 Apr 2018	Air Temp (C)	16
C6	09 Apr 2018	Weather	Haze
C6	09 Apr 2018	Visibility (mi)	5
C6	09 Apr 2018	Wind Speed (kts)	0
C6	09 Apr 2018	Wind Dir	
C6	09 Apr 2018	Water Color	Greenish-Blue
C6	09 Apr 2018	Wave Ht Low (ft)	8
C6	09 Apr 2018	Wave Period (sec)	13
C6	09 Apr 2018	Sea State	Confused swell
C6	09 Apr 2018	High Tide (ft)	3.8
C6	09 Apr 2018	High Tide Time	502
C6	09 Apr 2018	Low Tide (ft)	0.47
C6	09 Apr 2018	Low Tide Time	26
C6	09 Apr 2018	Comments	Kelp
C6	16 Apr 2018	Depth (m)	9
C6	16 Apr 2018	Arrive Time	930
C6	16 Apr 2018	Depart Time	942
C6	16 Apr 2018	Air Temp (C)	15
C6	16 Apr 2018	Weather	Partly Cloudy

Station	Date	Parameter	Value
C6	16 Apr 2018	Visibility (mi)	5
C6	16 Apr 2018	Wind Speed (kts)	10
C6	16 Apr 2018	Wind Dir	S
C6	16 Apr 2018	Water Color	Greenish-Blue
C6	16 Apr 2018	Wave Ht Low (ft)	8
C6	16 Apr 2018	Wave Period (sec)	11
C6	16 Apr 2018	Sea State	Light chop
C6	16 Apr 2018	High Tide (ft)	4.58
C6	16 Apr 2018	High Tide Time	1008
C6	16 Apr 2018	Low Tide (ft)	-0.38
C6	16 Apr 2018	Low Tide Time	407
C6	16 Apr 2018	Comments	Kelp
C6	23 Apr 2018	Depth (m)	10
C6	23 Apr 2018	Arrive Time	917
C6	23 Apr 2018	Depart Time	922
C6	23 Apr 2018	Air Temp (C)	13
C6	23 Apr 2018	Weather	Fog
C6	23 Apr 2018	Visibility (mi)	4
C6	23 Apr 2018	Wind Speed (kts)	2
C6	23 Apr 2018	Wind Dir	E
C6	23 Apr 2018	Water Color	Greenish-Blue
C6	23 Apr 2018	Wave Ht Low (ft)	5
C6	23 Apr 2018	Wave Period (sec)	13
C6	23 Apr 2018	Sea State	Calm
C6	23 Apr 2018	High Tide (ft)	4.45
C6	23 Apr 2018	High Tide Time	352
C6	23 Apr 2018	Low Tide (ft)	-0.17
C6	23 Apr 2018	Low Tide Time	1122
C6	23 Apr 2018	Comments	Kelp
C6	30 Apr 2018	Depth (m)	10
C6	30 Apr 2018	Arrive Time	1051
C6	30 Apr 2018	Depart Time	1055
C6	30 Apr 2018	Air Temp (C)	15
C6	30 Apr 2018	Weather	Overcast
C6	30 Apr 2018	Visibility (mi)	5
C6	30 Apr 2018	Wind Speed (kts)	8
C6	30 Apr 2018	Wind Dir	SW
C6	30 Apr 2018	Water Color	Greenish-Blue
C6	30 Apr 2018	Wave Ht Low (ft)	6
C6	30 Apr 2018	Wave Period (sec)	4
C6	30 Apr 2018	Sea State	Confused swell
C6	30 Apr 2018	High Tide (ft)	4.2
C6	30 Apr 2018	High Tide Time	1020
C6	30 Apr 2018	Low Tide (ft)	-0.55
C6	30 Apr 2018	Low Tide Time	418
C6	30 Apr 2018	Comments	none
C7	02 Apr 2018	Depth (m)	19
C7	02 Apr 2018	Arrive Time	1008
C7	02 Apr 2018	Depart Time	1012
C7	02 Apr 2018	Air Temp (C)	14
C7	02 Apr 2018	Weather	Haze
C7	02 Apr 2018	Visibility (mi)	5

Station	Date	Parameter	Value
C7	02 Apr 2018	Wind Speed (kts)	5
C7	02 Apr 2018	Wind Dir	E
C7	02 Apr 2018	Water Color	Reddish-Brown
C7	02 Apr 2018	Wave Ht Low (ft)	3
C7	02 Apr 2018	Wave Period (sec)	13
C7	02 Apr 2018	Sea State	Light chop
C7	02 Apr 2018	High Tide (ft)	4.37
C7	02 Apr 2018	High Tide Time	1110
C7	02 Apr 2018	Low Tide (ft)	-0.21
C7	02 Apr 2018	Low Tide Time	510
C7	02 Apr 2018	Comments	none
C7	09 Apr 2018	Depth (m)	19
C7	09 Apr 2018	Arrive Time	907
C7	09 Apr 2018	Depart Time	913
C7	09 Apr 2018	Air Temp (C)	16
C7	09 Apr 2018	Weather	Haze
C7	09 Apr 2018	Visibility (mi)	5
C7	09 Apr 2018	Wind Speed (kts)	3
C7	09 Apr 2018	Wind Dir	S
C7	09 Apr 2018	Water Color	Greenish-Blue
C7	09 Apr 2018	Wave Ht Low (ft)	8
C7	09 Apr 2018	Wave Period (sec)	13
C7	09 Apr 2018	Sea State	Confused swell
C7	09 Apr 2018	High Tide (ft)	3.8
C7	09 Apr 2018	High Tide Time	502
C7	09 Apr 2018	Low Tide (ft)	0.47
C7	09 Apr 2018	Low Tide Time	26
C7	09 Apr 2018	Comments	none
C7	16 Apr 2018	Depth (m)	21
C7	16 Apr 2018	Arrive Time	855
C7	16 Apr 2018	Depart Time	901
C7	16 Apr 2018	Air Temp (C)	15
C7	16 Apr 2018	Weather	Partly Cloudy
C7	16 Apr 2018	Visibility (mi)	3
C7	16 Apr 2018	Wind Speed (kts)	8
C7	16 Apr 2018	Wind Dir	S
C7	16 Apr 2018	Water Color	Greenish-Blue
C7	16 Apr 2018	Wave Ht Low (ft)	8
C7	16 Apr 2018	Wave Period (sec)	11
C7	16 Apr 2018	Sea State	Light chop
C7	16 Apr 2018	High Tide (ft)	4.58
C7	16 Apr 2018	High Tide Time	1008
C7	16 Apr 2018	Low Tide (ft)	-0.38
C7	16 Apr 2018	Low Tide Time	407
C7	16 Apr 2018	Comments	none
C7	23 Apr 2018	Depth (m)	18
C7	23 Apr 2018	Arrive Time	843
C7	23 Apr 2018	Depart Time	846
C7	23 Apr 2018	Air Temp (C)	13
C7	23 Apr 2018	Weather	Fog
C7	23 Apr 2018	Visibility (mi)	4
C7	23 Apr 2018	Wind Speed (kts)	2

Station	Date	Parameter	Value
C7	23 Apr 2018	Wind Dir	SE
C7	23 Apr 2018	Water Color	Greenish-Blue
C7	23 Apr 2018	Wave Ht Low (ft)	5
C7	23 Apr 2018	Wave Period (sec)	13
C7	23 Apr 2018	Sea State	Calm
C7	23 Apr 2018	High Tide (ft)	4.45
C7	23 Apr 2018	High Tide Time	352
C7	23 Apr 2018	Low Tide (ft)	-0.17
C7	23 Apr 2018	Low Tide Time	1122
C7	23 Apr 2018	Comments	none
C7	30 Apr 2018	Depth (m)	19
C7	30 Apr 2018	Arrive Time	1007
C7	30 Apr 2018	Depart Time	1012
C7	30 Apr 2018	Air Temp (C)	15
C7	30 Apr 2018	Weather	Overcast
C7	30 Apr 2018	Visibility (mi)	5
C7	30 Apr 2018	Wind Speed (kts)	9
C7	30 Apr 2018	Wind Dir	S
C7	30 Apr 2018	Water Color	Greenish-Blue
C7	30 Apr 2018	Wave Ht Low (ft)	6
C7	30 Apr 2018	Wave Period (sec)	4
C7	30 Apr 2018	Sea State	Confused swell
C7	30 Apr 2018	High Tide (ft)	4.2
C7	30 Apr 2018	High Tide Time	1020
C7	30 Apr 2018	Low Tide (ft)	-0.55
C7	30 Apr 2018	Low Tide Time	418
C7	30 Apr 2018	Comments	none
C8	02 Apr 2018	Depth (m)	20
C8	02 Apr 2018	Arrive Time	1018
C8	02 Apr 2018	Depart Time	1024
C8	02 Apr 2018	Air Temp (C)	15
C8	02 Apr 2018	Weather	Haze
C8	02 Apr 2018	Visibility (mi)	5
C8	02 Apr 2018	Wind Speed (kts)	3
C8	02 Apr 2018	Wind Dir	E
C8	02 Apr 2018	Water Color	Reddish-Brown
C8	02 Apr 2018	Wave Ht Low (ft)	3
C8	02 Apr 2018	Wave Period (sec)	13
C8	02 Apr 2018	Sea State	Light chop
C8	02 Apr 2018	High Tide (ft)	4.37
C8	02 Apr 2018	High Tide Time	1110
C8	02 Apr 2018	Low Tide (ft)	-0.21
C8	02 Apr 2018	Low Tide Time	510
C8	02 Apr 2018	Comments	none
C8	09 Apr 2018	Depth (m)	20
C8	09 Apr 2018	Arrive Time	918
C8	09 Apr 2018	Depart Time	923
C8	09 Apr 2018	Air Temp (C)	16
C8	09 Apr 2018	Weather	Haze
C8	09 Apr 2018	Visibility (mi)	5
C8	09 Apr 2018	Wind Speed (kts)	4
C8	09 Apr 2018	Wind Dir	SE

Station	Date	Parameter	Value
C8	09 Apr 2018	Water Color	Greenish-Blue
C8	09 Apr 2018	Wave Ht Low (ft)	8
C8	09 Apr 2018	Wave Period (sec)	13
C8	09 Apr 2018	Sea State	Confused swell
C8	09 Apr 2018	High Tide (ft)	3.8
C8	09 Apr 2018	High Tide Time	502
C8	09 Apr 2018	Low Tide (ft)	0.47
C8	09 Apr 2018	Low Tide Time	26
C8	09 Apr 2018	Comments	none
C8	16 Apr 2018	Depth (m)	19
C8	16 Apr 2018	Arrive Time	910
C8	16 Apr 2018	Depart Time	917
C8	16 Apr 2018	Air Temp (C)	15
C8	16 Apr 2018	Weather	Partly Cloudy
C8	16 Apr 2018	Visibility (mi)	3
C8	16 Apr 2018	Wind Speed (kts)	6
C8	16 Apr 2018	Wind Dir	S
C8	16 Apr 2018	Water Color	Greenish-Blue
C8	16 Apr 2018	Wave Ht Low (ft)	8
C8	16 Apr 2018	Wave Period (sec)	11
C8	16 Apr 2018	Sea State	Light chop
C8	16 Apr 2018	High Tide (ft)	4.58
C8	16 Apr 2018	High Tide Time	1008
C8	16 Apr 2018	Low Tide (ft)	-0.38
C8	16 Apr 2018	Low Tide Time	407
C8	16 Apr 2018	Comments	none
C8	23 Apr 2018	Depth (m)	19
C8	23 Apr 2018	Arrive Time	855
C8	23 Apr 2018	Depart Time	858
C8	23 Apr 2018	Air Temp (C)	13
C8	23 Apr 2018	Weather	Fog
C8	23 Apr 2018	Visibility (mi)	4
C8	23 Apr 2018	Wind Speed (kts)	3
C8	23 Apr 2018	Wind Dir	SE
C8	23 Apr 2018	Water Color	Greenish-Blue
C8	23 Apr 2018	Wave Ht Low (ft)	5
C8	23 Apr 2018	Wave Period (sec)	13
C8	23 Apr 2018	Sea State	Calm
C8	23 Apr 2018	High Tide (ft)	4.45
C8	23 Apr 2018	High Tide Time	352
C8	23 Apr 2018	Low Tide (ft)	-0.17
C8	23 Apr 2018	Low Tide Time	1122
C8	23 Apr 2018	Comments	none
C8	30 Apr 2018	Depth (m)	20
C8	30 Apr 2018	Arrive Time	1021
C8	30 Apr 2018	Depart Time	1026
C8	30 Apr 2018	Air Temp (C)	14
C8	30 Apr 2018	Weather	Overcast
C8	30 Apr 2018	Visibility (mi)	5
C8	30 Apr 2018	Wind Speed (kts)	9
C8	30 Apr 2018	Wind Dir	S
C8	30 Apr 2018	Water Color	Greenish-Blue

Station	Date	Parameter	Value
C8	30 Apr 2018	Wave Ht Low (ft)	6
C8	30 Apr 2018	Wave Period (sec)	4
C8	30 Apr 2018	Sea State	Confused swell
C8	30 Apr 2018	High Tide (ft)	4.2
C8	30 Apr 2018	High Tide Time	1020
C8	30 Apr 2018	Low Tide (ft)	-0.55
C8	30 Apr 2018	Low Tide Time	418
C8	30 Apr 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 Apr 2018	1	14.18	70.06	8.9	33.54	8.1	25.0	4.17
A1	02 Apr 2018	2	14.07	67.74	8.7	33.53	8.1	25.0	4.88
A1	02 Apr 2018	3	13.99	68.93	8.5	33.54	8.1	25.1	5.38
A1	02 Apr 2018	4	13.73	69.52	8.3	33.55	8.1	25.1	5.78
A1	02 Apr 2018	5	13.64	69.89	8.0	33.55	8.1	25.1	6.24
A1	02 Apr 2018	6	13.51	70.18	7.8	33.55	8.0	25.2	6.10
A1	02 Apr 2018	7	13.40	71.08	7.7	33.55	8.0	25.2	5.84
A1	02 Apr 2018	8	13.37	71.95	7.7	33.55	8.0	25.2	5.65
A1	02 Apr 2018	9	13.35	72.14	7.7	33.55	8.0	25.2	5.63
A1	02 Apr 2018	10	13.34	72.26	7.6	33.55	8.0	25.2	5.75
A1	02 Apr 2018	11	13.30	72.73	7.6	33.55	8.0	25.2	5.45
A1	02 Apr 2018	12	13.29	73.17	7.6	33.55	8.0	25.2	5.22
A1	02 Apr 2018	13	13.19	73.06	7.5	33.56	8.0	25.2	4.88
A1	02 Apr 2018	14	13.04	73.96	7.3	33.57	8.0	25.3	4.62
A1	02 Apr 2018	15	12.75	74.73	6.9	33.58	8.0	25.3	4.67
A1	02 Apr 2018	16	12.36	76.22	6.5	33.59	8.0	25.4	4.42
A1	02 Apr 2018	17	11.93	78.59	6.1	33.60	7.9	25.5	3.61
A1	02 Apr 2018	18	11.89	79.14	6.0	33.58	7.9	25.5	3.41
A1	09 Apr 2018	1	15.11	75.76	8.0	33.55	8.1	24.8	1.04
A1	09 Apr 2018	2	15.07	76.02	8.0	33.55	8.1	24.8	1.28
A1	09 Apr 2018	3	15.01	76.23	7.9	33.55	8.1	24.9	1.53
A1	09 Apr 2018	4	14.78	76.32	7.8	33.56	8.1	24.9	1.49
A1	09 Apr 2018	5	14.60	76.83	7.6	33.56	8.1	24.9	1.40
A1	09 Apr 2018	6	14.39	77.02	7.3	33.57	8.1	25.0	1.27
A1	09 Apr 2018	7	13.79	76.49	6.8	33.61	8.0	25.2	1.21
A1	09 Apr 2018	8	12.72	79.19	6.1	33.62	8.0	25.4	1.05
A1	09 Apr 2018	9	11.91	81.25	5.6	33.63	7.9	25.5	0.81
A1	09 Apr 2018	10	11.68	81.60	5.2	33.60	7.9	25.6	0.79
A1	09 Apr 2018	11	11.40	82.00	4.9	33.60	7.8	25.6	0.63
A1	09 Apr 2018	12	11.41	81.60	4.8	33.61	7.8	25.6	0.57
A1	09 Apr 2018	13	11.04	82.21	4.6	33.63	7.8	25.7	0.48
A1	09 Apr 2018	14	10.94	82.45	4.5	33.63	7.8	25.7	0.54
A1	09 Apr 2018	15	10.84	82.36	4.4	33.65	7.8	25.8	0.50
A1	09 Apr 2018	16	10.76	82.08	4.3	33.65	7.8	25.8	0.49
A1	09 Apr 2018	17	10.66	81.44	4.2	33.67	7.8	25.8	0.40
A1	09 Apr 2018	18	10.60	78.39	4.1	33.69	7.8	25.8	0.35
A1	09 Apr 2018	19	10.56	76.83	4.0	33.69	7.8	25.8	0.34
A1	09 Apr 2018	20	10.56	74.82	4.0	33.70	7.7	25.8	0.31
A1	16 Apr 2018	1	13.20	75.25	6.5	33.59	7.9	25.3	1.33
A1	16 Apr 2018	2	13.20	75.66	6.5	33.62	7.9	25.3	1.43
A1	16 Apr 2018	3	12.99	74.98	6.1	33.65	7.9	25.3	1.52
A1	16 Apr 2018	4	12.21	76.64	5.7	33.70	7.9	25.5	1.52
A1	16 Apr 2018	5	11.55	79.81	5.3	33.70	7.9	25.7	1.32
A1	16 Apr 2018	6	11.23	80.80	5.0	33.70	7.8	25.7	1.14
A1	16 Apr 2018	7	11.12	81.54	4.8	33.68	7.8	25.7	1.01
A1	16 Apr 2018	8	11.07	81.88	4.8	33.67	7.8	25.7	0.96
A1	16 Apr 2018	9	10.98	82.07	4.7	33.67	7.8	25.7	0.89
A1	16 Apr 2018	10	10.92	82.52	4.7	33.67	7.8	25.8	0.89

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
A1	16 Apr 2018	11	10.92	82.70	4.7	33.67	7.8	25.8	0.89
A1	16 Apr 2018	12	10.92	82.74	4.6	33.67	7.8	25.8	0.84
A1	16 Apr 2018	13	10.91	82.54	4.6	33.68	7.8	25.8	0.86
A1	16 Apr 2018	14	10.92	82.55	4.6	33.68	7.8	25.8	0.82
A1	16 Apr 2018	15	10.92	82.42	4.6	33.68	7.8	25.8	0.79
A1	16 Apr 2018	16	10.92	82.42	4.6	33.69	7.8	25.8	0.78
A1	16 Apr 2018	17	10.93	82.29	4.6	33.69	7.8	25.8	0.83
A1	16 Apr 2018	18	10.93	82.08	4.6	33.69	7.8	25.8	0.76
A1	16 Apr 2018	19	10.93	81.78	4.6	33.69	7.8	25.8	0.69
A1	23 Apr 2018	1	13.49	70.18	8.4	33.66	8.0	25.3	5.50
A1	23 Apr 2018	2	13.44	70.01	8.2	33.66	8.1	25.3	5.97
A1	23 Apr 2018	3	12.76	69.08	8.1	33.66	8.0	25.4	6.74
A1	23 Apr 2018	4	12.66	70.57	7.9	33.64	8.0	25.4	7.11
A1	23 Apr 2018	5	12.51	71.89	7.8	33.64	8.0	25.4	7.23
A1	23 Apr 2018	6	12.47	72.04	7.6	33.63	8.0	25.4	6.84
A1	23 Apr 2018	7	12.24	72.95	7.1	33.66	8.0	25.5	6.39
A1	23 Apr 2018	8	11.86	76.12	6.5	33.66	7.9	25.6	5.12
A1	23 Apr 2018	9	11.77	77.04	6.2	33.66	7.9	25.6	4.14
A1	23 Apr 2018	10	11.76	78.95	6.1	33.66	7.9	25.6	3.70
A1	23 Apr 2018	11	11.76	79.12	6.0	33.66	7.9	25.6	3.48
A1	23 Apr 2018	12	11.70	79.64	5.9	33.67	7.9	25.6	3.27
A1	23 Apr 2018	13	11.52	81.58	5.4	33.68	7.9	25.7	2.84
A1	23 Apr 2018	14	11.07	83.65	4.7	33.71	7.8	25.8	1.89
A1	23 Apr 2018	15	10.68	84.74	4.1	33.72	7.8	25.8	1.33
A1	23 Apr 2018	16	10.62	84.55	3.9	33.72	7.8	25.8	1.12
A1	23 Apr 2018	17	10.57	84.04	3.8	33.72	7.7	25.9	0.97
A1	23 Apr 2018	18	10.54	84.06	3.8	33.73	7.7	25.9	0.98
A1	23 Apr 2018	19	10.55	84.15	3.8	33.73	7.7	25.9	0.96
A1	23 Apr 2018	20	10.58	84.45	3.8	33.73	7.7	25.9	0.92
A1	30 Apr 2018	1	15.55	79.79	8.6	33.64	8.2	24.8	1.55
A1	30 Apr 2018	2	15.55	79.64	8.6	33.64	8.2	24.8	1.52
A1	30 Apr 2018	3	15.55	80.54	8.6	33.64	8.2	24.8	1.70
A1	30 Apr 2018	4	15.52	80.57	8.3	33.64	8.2	24.8	1.79
A1	30 Apr 2018	5	14.39	81.18	7.8	33.71	8.1	25.1	1.72
A1	30 Apr 2018	6	13.98	82.74	7.4	33.65	8.1	25.2	1.53
A1	30 Apr 2018	7	13.44	83.04	7.3	33.65	8.1	25.3	1.73
A1	30 Apr 2018	8	13.03	83.23	6.9	33.65	8.0	25.3	2.11
A1	30 Apr 2018	9	12.75	83.44	6.5	33.66	8.0	25.4	1.67
A1	30 Apr 2018	10	12.10	85.06	5.9	33.65	8.0	25.5	1.86
A1	30 Apr 2018	11	11.60	85.40	5.5	33.67	7.9	25.6	2.08
A1	30 Apr 2018	12	11.49	85.64	5.2	33.66	7.9	25.6	1.73
A1	30 Apr 2018	13	11.26	86.22	5.0	33.66	7.9	25.7	1.43
A1	30 Apr 2018	14	11.23	85.62	4.9	33.66	7.9	25.7	1.70
A1	30 Apr 2018	15	11.13	86.23	4.8	33.67	7.9	25.7	1.12
A1	30 Apr 2018	16	10.99	86.73	4.6	33.68	7.8	25.7	1.08
A1	30 Apr 2018	17	10.95	86.69	4.4	33.68	7.8	25.8	0.80
A1	30 Apr 2018	18	10.89	86.22	4.3	33.69	7.8	25.8	0.65
A1	30 Apr 2018	19	10.90	85.66	4.3	33.69	7.8	25.8	0.65
A6	02 Apr 2018	1	13.95	65.28	9.1	33.55	8.1	25.1	8.74
A6	02 Apr 2018	2	13.95	62.52	9.1	33.56	8.1	25.1	10.02
A6	02 Apr 2018	3	13.93	64.55	9.0	33.56	8.1	25.1	10.02
A6	02 Apr 2018	4	13.93	68.18	9.1	33.57	8.1	25.1	8.93

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
A6	02 Apr 2018	5	13.93	69.34	9.1	33.57	8.1	25.1	8.08
A6	02 Apr 2018	6	13.93	70.74	9.1	33.57	8.1	25.1	7.50
A6	02 Apr 2018	7	13.85	71.29	8.8	33.57	8.1	25.1	8.25
A6	02 Apr 2018	8	13.69	68.11	8.5	33.56	8.1	25.1	9.72
A6	02 Apr 2018	9	13.63	65.53	8.3	33.56	8.1	25.1	10.37
A6	02 Apr 2018	10	13.56	65.27	8.1	33.56	8.1	25.2	10.67
A6	02 Apr 2018	11	13.46	65.54	8.0	33.56	8.1	25.2	9.60
A6	02 Apr 2018	12	13.37	66.01	7.8	33.56	8.0	25.2	8.59
A6	02 Apr 2018	13	13.18	68.07	7.5	33.56	8.0	25.2	7.28
A6	02 Apr 2018	14	12.85	71.19	7.2	33.56	8.0	25.3	5.73
A6	02 Apr 2018	15	12.61	73.77	6.9	33.57	8.0	25.4	4.39
A6	02 Apr 2018	16	12.50	75.83	6.6	33.57	8.0	25.4	3.46
A6	02 Apr 2018	17	12.19	78.58	6.3	33.58	7.9	25.4	2.68
A6	02 Apr 2018	18	12.08	78.91	6.1	33.58	7.9	25.5	2.07
A6	09 Apr 2018	1	16.07	72.62	9.2	33.55	8.2	24.6	1.36
A6	09 Apr 2018	2	16.00	72.29	9.1	33.55	8.2	24.6	1.85
A6	09 Apr 2018	3	15.86	71.46	8.9	33.55	8.2	24.7	2.58
A6	09 Apr 2018	4	15.76	71.08	8.8	33.55	8.2	24.7	3.40
A6	09 Apr 2018	5	15.71	71.05	8.6	33.55	8.2	24.7	3.80
A6	09 Apr 2018	6	15.13	71.42	7.9	33.58	8.1	24.8	3.26
A6	09 Apr 2018	7	13.95	74.49	6.9	33.60	8.1	25.1	2.39
A6	09 Apr 2018	8	13.30	76.95	6.2	33.59	8.0	25.2	1.68
A6	09 Apr 2018	9	12.49	78.74	5.6	33.60	7.9	25.4	1.32
A6	09 Apr 2018	10	12.29	79.49	5.4	33.59	7.9	25.4	1.19
A6	09 Apr 2018	11	11.95	79.90	5.1	33.61	7.9	25.5	1.09
A6	09 Apr 2018	12	11.78	79.93	4.9	33.61	7.8	25.5	0.83
A6	09 Apr 2018	13	11.44	78.14	4.7	33.63	7.8	25.6	0.62
A6	09 Apr 2018	14	11.53	78.40	4.6	33.62	7.8	25.6	0.47
A6	09 Apr 2018	15	11.36	76.95	4.6	33.65	7.8	25.7	0.45
A6	09 Apr 2018	16	11.19	76.16	4.4	33.64	7.8	25.7	0.43
A6	09 Apr 2018	17	11.07	76.45	4.3	33.65	7.8	25.7	0.37
A6	09 Apr 2018	18	10.97	75.79	4.3	33.66	7.8	25.7	0.35
A6	09 Apr 2018	19	10.91	75.35	4.2	33.66	7.8	25.8	0.35
A6	09 Apr 2018	20	10.84	74.64	4.2	33.67	7.8	25.8	0.33
A6	09 Apr 2018	21	10.76	72.91	4.1	33.68	7.8	25.8	0.32
A6	16 Apr 2018	1	14.13	70.06	5.4	33.33	8.0	24.9	0.59
A6	16 Apr 2018	2	13.79	72.47	6.4	33.74	8.0	25.3	0.71
A6	16 Apr 2018	3	13.27	74.65	6.7	33.95	8.0	25.5	0.72
A6	16 Apr 2018	4	12.51	77.06	6.5	33.95	7.9	25.7	0.74
A6	16 Apr 2018	5	12.13	78.39	6.0	33.80	7.9	25.6	0.68
A6	16 Apr 2018	6	12.05	78.55	5.6	33.74	7.9	25.6	0.67
A6	16 Apr 2018	7	12.02	78.70	5.5	33.72	7.9	25.6	1.93
A6	16 Apr 2018	8	11.74	79.25	5.3	33.76	7.9	25.7	2.11
A6	16 Apr 2018	9	11.54	79.81	5.2	33.74	7.8	25.7	2.09
A6	16 Apr 2018	10	11.52	79.97	5.0	33.73	7.8	25.7	1.85
A6	16 Apr 2018	11	11.47	79.88	4.8	33.81	7.8	25.8	1.75
A6	16 Apr 2018	12	11.41	80.19	4.7	33.95	7.8	25.9	1.62
A6	16 Apr 2018	13	11.33	80.22	4.8	33.89	7.8	25.8	1.49
A6	16 Apr 2018	14	11.22	80.10	4.9	33.82	7.8	25.8	1.29
A6	16 Apr 2018	15	11.22	80.06	4.8	33.77	7.8	25.8	1.17
A6	16 Apr 2018	16	11.21	80.21	4.8	33.74	7.8	25.8	0.97
A6	16 Apr 2018	17	11.20	80.15	4.7	33.72	7.8	25.7	0.91
A6	16 Apr 2018	18	11.19	80.12	4.8	33.72	7.8	25.7	0.80

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (µg/L)
A6	16 Apr 2018	19	11.13	79.70	4.7	33.72	7.8	25.8	0.76
A6	16 Apr 2018	20	11.11	79.89	4.7	33.71	7.8	25.8	0.76
A6	16 Apr 2018	21	11.12	80.05	4.7	33.71	7.8	25.8	0.71
A6	23 Apr 2018	1	14.67	71.10	9.7	33.69	8.2	25.0	4.73
A6	23 Apr 2018	2	13.96	69.36	9.2	33.70	8.2	25.2	5.75
A6	23 Apr 2018	3	13.78	69.54	8.9	33.68	8.1	25.2	6.27
A6	23 Apr 2018	4	13.45	69.88	8.6	33.69	8.1	25.3	6.87
A6	23 Apr 2018	5	13.13	71.01	8.2	33.68	8.1	25.3	6.83
A6	23 Apr 2018	6	12.92	72.65	7.9	33.67	8.0	25.4	6.17
A6	23 Apr 2018	7	12.90	73.05	7.8	33.66	8.0	25.4	5.99
A6	23 Apr 2018	8	12.80	73.31	7.7	33.66	8.0	25.4	5.82
A6	23 Apr 2018	9	12.71	73.47	7.6	33.66	8.0	25.4	5.69
A6	23 Apr 2018	10	12.71	73.68	7.5	33.66	8.0	25.4	5.69
A6	23 Apr 2018	11	12.68	74.12	7.4	33.67	8.0	25.4	5.54
A6	23 Apr 2018	12	12.65	74.51	7.3	33.67	8.0	25.4	5.37
A6	23 Apr 2018	13	12.63	74.62	7.3	33.67	8.0	25.4	5.16
A6	23 Apr 2018	14	12.59	74.77	7.2	33.67	8.0	25.4	5.10
A6	23 Apr 2018	15	12.48	75.59	7.0	33.68	8.0	25.5	4.86
A6	23 Apr 2018	16	12.37	76.21	6.8	33.68	8.0	25.5	4.67
A6	23 Apr 2018	17	12.28	76.82	6.6	33.68	8.0	25.5	4.40
A6	23 Apr 2018	18	11.84	79.02	6.0	33.70	7.9	25.6	3.69
A6	23 Apr 2018	19	11.62	78.35	5.7	33.67	7.9	25.6	2.95
A6	30 Apr 2018	1	15.70	79.45	8.6	33.65	8.2	24.8	1.45
A6	30 Apr 2018	2	15.70	79.59	8.6	33.65	8.2	24.8	1.56
A6	30 Apr 2018	3	15.70	79.57	8.6	33.65	8.2	24.8	1.76
A6	30 Apr 2018	4	15.68	78.84	8.6	33.65	8.2	24.8	2.00
A6	30 Apr 2018	5	15.63	79.41	8.6	33.65	8.2	24.8	2.22
A6	30 Apr 2018	6	15.39	79.57	8.2	33.67	8.2	24.9	2.15
A6	30 Apr 2018	7	14.57	80.57	7.7	33.67	8.1	25.0	1.64
A6	30 Apr 2018	8	13.79	81.82	7.2	33.66	8.1	25.2	1.58
A6	30 Apr 2018	9	13.08	82.44	6.5	33.68	8.0	25.4	1.94
A6	30 Apr 2018	10	12.14	83.90	6.0	33.67	7.9	25.5	1.72
A6	30 Apr 2018	11	11.85	83.84	5.6	33.66	7.9	25.6	1.59
A6	30 Apr 2018	12	11.68	85.03	5.2	33.66	7.9	25.6	1.21
A6	30 Apr 2018	13	11.53	85.79	5.0	33.67	7.9	25.6	1.08
A6	30 Apr 2018	14	11.38	85.83	4.8	33.68	7.8	25.7	0.94
A6	30 Apr 2018	15	11.31	86.31	4.6	33.68	7.8	25.7	0.70
A6	30 Apr 2018	16	11.27	86.08	4.5	33.69	7.8	25.7	0.69
A6	30 Apr 2018	17	11.20	85.82	4.4	33.69	7.8	25.7	0.62
A6	30 Apr 2018	18	11.15	85.70	4.4	33.70	7.8	25.7	0.54
A6	30 Apr 2018	19	11.14	85.89	4.3	33.70	7.8	25.7	0.53
A6	30 Apr 2018	20	11.16	85.38	4.3	33.70	7.8	25.7	0.49
A7	02 Apr 2018	1	13.97	67.84	8.9	33.53	8.1	25.1	5.83
A7	02 Apr 2018	2	13.95	67.41	8.8	33.53	8.1	25.1	6.29
A7	02 Apr 2018	3	13.96	67.45	8.8	33.53	8.1	25.1	6.79
A7	02 Apr 2018	4	13.95	67.73	8.8	33.53	8.1	25.1	7.16
A7	02 Apr 2018	5	13.92	67.73	8.8	33.54	8.1	25.1	7.02
A7	02 Apr 2018	6	13.87	68.09	8.7	33.54	8.1	25.1	7.01
A7	02 Apr 2018	7	13.81	68.46	8.5	33.54	8.1	25.1	7.00
A7	02 Apr 2018	8	13.72	68.97	8.4	33.55	8.1	25.1	7.12
A7	02 Apr 2018	9	13.71	69.10	8.4	33.55	8.1	25.1	6.76
A7	02 Apr 2018	10	13.70	69.15	8.3	33.55	8.1	25.1	6.65

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
A7	02 Apr 2018	11	13.69	69.26	8.3	33.55	8.1	25.1	6.67
A7	02 Apr 2018	12	13.67	68.96	8.3	33.55	8.1	25.1	6.75
A7	02 Apr 2018	13	13.64	69.15	8.1	33.55	8.1	25.1	6.85
A7	02 Apr 2018	14	13.46	69.03	7.8	33.56	8.1	25.2	6.84
A7	02 Apr 2018	15	13.10	70.41	7.3	33.58	8.0	25.3	6.12
A7	02 Apr 2018	16	12.27	73.86	6.5	33.62	8.0	25.5	4.10
A7	02 Apr 2018	17	11.58	78.63	5.7	33.60	7.9	25.6	2.51
A7	02 Apr 2018	18	11.58	81.78	5.5	33.59	7.9	25.6	1.94
A7	02 Apr 2018	19	11.64	81.47	5.5	33.58	7.8	25.6	1.73
A7	09 Apr 2018	1	15.50	70.97	8.4	33.57	8.2	24.8	0.83
A7	09 Apr 2018	2	15.48	71.72	8.3	33.58	8.2	24.8	0.88
A7	09 Apr 2018	3	15.44	72.65	8.4	33.58	8.2	24.8	0.99
A7	09 Apr 2018	4	15.44	72.75	8.4	33.57	8.2	24.8	1.03
A7	09 Apr 2018	5	15.46	72.72	8.4	33.57	8.2	24.8	1.06
A7	09 Apr 2018	6	15.44	73.20	8.6	33.57	8.2	24.8	1.16
A7	09 Apr 2018	7	15.36	74.63	8.8	33.57	8.2	24.8	1.44
A7	09 Apr 2018	8	15.22	75.33	8.7	33.57	8.2	24.8	2.16
A7	09 Apr 2018	9	14.89	75.90	8.3	33.57	8.2	24.9	2.65
A7	09 Apr 2018	10	14.62	78.66	7.8	33.57	8.1	25.0	2.28
A7	09 Apr 2018	11	13.79	78.66	6.7	33.60	8.1	25.1	1.26
A7	09 Apr 2018	12	12.63	78.20	5.8	33.61	8.0	25.4	0.75
A7	09 Apr 2018	13	12.26	78.69	5.4	33.60	7.9	25.4	0.62
A7	09 Apr 2018	14	12.01	79.31	5.2	33.60	7.9	25.5	0.51
A7	09 Apr 2018	15	11.56	79.53	5.0	33.63	7.8	25.6	0.48
A7	09 Apr 2018	16	11.97	79.26	5.0	33.56	7.8	25.5	0.60
A7	09 Apr 2018	17	11.19	78.16	4.8	33.68	7.8	25.7	0.54
A7	09 Apr 2018	18	10.84	73.96	4.4	33.67	7.8	25.8	0.47
A7	16 Apr 2018	1	13.33	73.74	6.8	33.62	8.0	25.3	1.21
A7	16 Apr 2018	2	13.33	74.28	6.8	33.62	8.0	25.3	1.27
A7	16 Apr 2018	3	13.29	74.52	6.7	33.62	8.0	25.3	1.44
A7	16 Apr 2018	4	12.89	75.63	6.4	33.65	7.9	25.4	1.60
A7	16 Apr 2018	5	12.66	76.33	6.1	33.64	7.9	25.4	1.54
A7	16 Apr 2018	6	12.53	76.46	5.9	33.64	7.9	25.4	1.53
A7	16 Apr 2018	7	12.32	77.20	5.8	33.65	7.9	25.5	1.53
A7	16 Apr 2018	8	12.29	77.52	5.6	33.64	7.9	25.5	1.52
A7	16 Apr 2018	9	11.80	78.80	5.3	33.68	7.9	25.6	1.41
A7	16 Apr 2018	10	11.56	79.63	5.2	33.67	7.8	25.6	1.17
A7	16 Apr 2018	11	11.51	80.08	5.1	33.67	7.8	25.6	1.02
A7	16 Apr 2018	12	11.46	80.11	5.0	33.67	7.8	25.7	0.92
A7	16 Apr 2018	13	11.44	80.13	5.0	33.67	7.8	25.7	0.83
A7	16 Apr 2018	14	11.43	80.14	5.0	33.67	7.8	25.7	0.80
A7	16 Apr 2018	15	11.41	80.13	4.9	33.68	7.8	25.7	0.80
A7	16 Apr 2018	16	11.41	80.10	4.9	33.68	7.8	25.7	0.74
A7	16 Apr 2018	17	11.37	80.24	4.9	33.68	7.8	25.7	0.71
A7	16 Apr 2018	18	11.36	80.01	4.9	33.68	7.8	25.7	0.64
A7	23 Apr 2018	1	14.90	75.23	10.0	33.69	8.2	25.0	2.67
A7	23 Apr 2018	2	14.71	72.77	9.8	33.70	8.2	25.0	3.18
A7	23 Apr 2018	3	13.97	69.49	9.4	33.70	8.2	25.2	4.91
A7	23 Apr 2018	4	13.94	68.84	9.3	33.67	8.1	25.2	6.34
A7	23 Apr 2018	5	13.93	68.81	9.2	33.67	8.1	25.2	6.90
A7	23 Apr 2018	6	13.60	69.38	8.9	33.68	8.1	25.3	7.18
A7	23 Apr 2018	7	13.43	69.43	8.6	33.67	8.1	25.3	7.03

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
A7	23 Apr 2018	8	13.39	69.24	8.6	33.67	8.1	25.3	7.13
A7	23 Apr 2018	9	13.36	69.43	8.5	33.67	8.1	25.3	7.22
A7	23 Apr 2018	10	13.20	69.31	8.3	33.67	8.1	25.3	7.52
A7	23 Apr 2018	11	13.04	70.19	8.1	33.67	8.0	25.4	7.56
A7	23 Apr 2018	12	12.76	71.46	7.9	33.67	8.0	25.4	7.18
A7	23 Apr 2018	13	12.70	72.32	7.7	33.66	8.0	25.4	6.75
A7	23 Apr 2018	14	12.35	74.79	7.1	33.68	8.0	25.5	6.13
A7	23 Apr 2018	15	11.98	76.70	6.6	33.67	8.0	25.6	5.26
A7	23 Apr 2018	16	11.79	77.74	6.2	33.67	7.9	25.6	4.67
A7	23 Apr 2018	17	11.60	79.48	5.8	33.67	7.9	25.6	4.04
A7	23 Apr 2018	18	11.34	82.23	5.3	33.68	7.9	25.7	3.11
A7	23 Apr 2018	19	11.34	83.27	5.1	33.66	7.8	25.7	2.40
A7	30 Apr 2018	1	15.57	74.95	8.6	33.64	8.2	24.8	1.53
A7	30 Apr 2018	2	15.57	74.96	8.6	33.63	8.2	24.8	1.60
A7	30 Apr 2018	3	15.57	78.85	8.6	33.64	8.2	24.8	1.73
A7	30 Apr 2018	4	15.53	80.30	8.6	33.64	8.2	24.8	1.77
A7	30 Apr 2018	5	15.50	80.43	8.5	33.64	8.2	24.8	1.91
A7	30 Apr 2018	6	15.47	80.70	8.3	33.64	8.1	24.8	1.94
A7	30 Apr 2018	7	14.41	82.07	7.6	33.70	8.1	25.1	1.77
A7	30 Apr 2018	8	13.75	82.97	7.1	33.66	8.0	25.2	1.74
A7	30 Apr 2018	9	12.92	83.82	6.6	33.67	8.0	25.4	1.66
A7	30 Apr 2018	10	12.74	84.66	6.1	33.66	8.0	25.4	1.29
A7	30 Apr 2018	11	12.07	85.59	5.5	33.69	7.9	25.6	1.01
A7	30 Apr 2018	12	11.57	85.62	5.1	33.68	7.9	25.6	1.06
A7	30 Apr 2018	13	11.31	86.06	4.9	33.67	7.8	25.7	1.12
A7	30 Apr 2018	14	11.21	86.30	4.7	33.67	7.8	25.7	1.17
A7	30 Apr 2018	15	11.18	86.43	4.6	33.67	7.8	25.7	1.06
A7	30 Apr 2018	16	11.12	86.42	4.6	33.67	7.8	25.7	0.82
A7	30 Apr 2018	17	11.09	86.49	4.4	33.68	7.8	25.7	0.83
A7	30 Apr 2018	18	11.07	83.21	4.3	33.69	7.8	25.7	0.66
A7	30 Apr 2018	19	11.10	82.66	4.4	33.69	7.8	25.7	0.65
C4	02 Apr 2018	1	14.36	71.07	9.0	33.53	8.2	25.0	2.37
C4	02 Apr 2018	2	14.36	70.98	8.9	33.53	8.2	25.0	2.67
C4	02 Apr 2018	3	14.02	70.86	8.7	33.56	8.1	25.1	3.87
C4	02 Apr 2018	4	13.80	70.13	8.6	33.55	8.1	25.1	4.79
C4	02 Apr 2018	5	13.78	69.83	8.5	33.55	8.1	25.1	5.61
C4	02 Apr 2018	6	13.78	69.84	8.5	33.55	8.1	25.1	6.09
C4	02 Apr 2018	7	13.74	69.52	8.4	33.55	8.1	25.1	6.11
C4	02 Apr 2018	8	13.58	69.61	8.2	33.56	8.1	25.2	6.35
C4	02 Apr 2018	9	13.24	70.89	7.5	33.57	8.1	25.2	5.53
C4	02 Apr 2018	10	12.23	76.53	6.5	33.59	8.0	25.4	2.74
C4	02 Apr 2018	11	12.43	82.47	6.5	33.52	7.9	25.4	1.54
C4	09 Apr 2018	1	15.47	41.78	7.4	33.58	8.1	24.8	0.57
C4	09 Apr 2018	2	15.45	44.66	7.4	33.56	8.1	24.8	0.59
C4	09 Apr 2018	3	15.11	48.74	7.4	33.61	8.1	24.9	0.63
C4	09 Apr 2018	4	14.73	50.02	7.6	33.60	8.1	25.0	0.77
C4	09 Apr 2018	5	14.56	44.58	7.7	33.59	8.0	25.0	0.87
C4	09 Apr 2018	6	14.43	41.48	7.7	33.59	8.0	25.0	0.96
C4	09 Apr 2018	7	14.26	41.04	7.6	33.59	8.0	25.0	0.98
C4	09 Apr 2018	8	14.07	43.10	7.2	33.60	8.0	25.1	0.96
C4	09 Apr 2018	9	13.06	39.18	6.3	33.64	8.0	25.3	1.01
C4	09 Apr 2018	10	12.84	25.31	5.7	33.60	7.9	25.3	1.09

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
C4	09 Apr 2018	11	12.88	23.13	5.6	33.59	7.9	25.3	1.17
C4	16 Apr 2018	1	13.69	72.51	6.9	33.62	8.0	25.2	0.41
C4	16 Apr 2018	2	13.68	73.53	6.8	33.63	8.0	25.2	0.48
C4	16 Apr 2018	3	13.51	73.32	6.6	33.63	8.0	25.2	0.53
C4	16 Apr 2018	4	12.65	75.09	6.2	33.66	7.9	25.4	0.69
C4	16 Apr 2018	5	12.41	76.09	5.9	33.64	7.9	25.5	0.81
C4	16 Apr 2018	6	12.30	76.58	5.8	33.64	7.9	25.5	0.90
C4	16 Apr 2018	7	12.27	77.19	5.8	33.64	7.9	25.5	0.97
C4	16 Apr 2018	8	12.12	77.66	5.6	33.65	7.9	25.5	1.04
C4	16 Apr 2018	9	11.91	78.33	5.4	33.66	7.9	25.6	0.97
C4	16 Apr 2018	10	11.68	77.19	5.1	33.67	7.9	25.6	0.81
C4	16 Apr 2018	11	11.40	72.73	4.8	33.68	7.8	25.7	0.52
C4	16 Apr 2018	12	11.68	72.67	4.9	33.65	7.8	25.6	0.51
C4	23 Apr 2018	1	14.15	67.64	8.7	33.69	8.1	25.1	2.78
C4	23 Apr 2018	2	14.08	67.66	8.8	33.69	8.1	25.2	4.01
C4	23 Apr 2018	3	13.87	66.92	9.0	33.68	8.1	25.2	6.23
C4	23 Apr 2018	4	13.77	66.32	9.0	33.67	8.1	25.2	7.50
C4	23 Apr 2018	5	13.70	66.19	8.9	33.67	8.1	25.2	7.98
C4	23 Apr 2018	6	13.53	66.68	8.7	33.67	8.1	25.3	8.06
C4	23 Apr 2018	7	13.27	67.95	8.3	33.68	8.1	25.3	7.02
C4	23 Apr 2018	8	12.99	70.76	7.7	33.68	8.0	25.4	5.59
C4	23 Apr 2018	9	12.64	77.06	7.0	33.69	8.0	25.4	4.01
C4	23 Apr 2018	10	12.32	80.80	6.4	33.70	8.0	25.5	2.71
C4	23 Apr 2018	11	12.12	80.42	5.9	33.69	7.9	25.6	1.49
C4	30 Apr 2018	1	15.01	76.24	8.7	33.66	8.2	24.9	1.84
C4	30 Apr 2018	2	15.00	72.85	8.7	33.66	8.2	24.9	2.00
C4	30 Apr 2018	3	15.01	67.37	8.7	33.66	8.2	24.9	2.26
C4	30 Apr 2018	4	15.00	76.18	8.7	33.67	8.2	24.9	2.88
C4	30 Apr 2018	5	15.00	76.86	8.3	33.67	8.2	24.9	2.26
C4	30 Apr 2018	6	14.97	75.18	7.9	33.69	8.2	25.0	2.26
C4	30 Apr 2018	7	14.53	73.23	7.7	NA	8.2	25.3	2.30
C4	30 Apr 2018	8	13.32	73.18	7.5	NA	8.1	26.4	2.31
C4	30 Apr 2018	9	11.93	66.89	6.9	NA	8.0	27.0	2.09
C4	30 Apr 2018	10	12.04	64.44	5.6	NA	7.9	25.6	1.26
C5	02 Apr 2018	1	13.86	68.07	9.3	33.55	8.1	25.1	5.43
C5	02 Apr 2018	2	13.87	68.26	9.3	33.54	8.1	25.1	5.76
C5	02 Apr 2018	3	13.84	68.47	9.2	33.55	8.1	25.1	6.60
C5	02 Apr 2018	4	13.76	68.34	9.1	33.55	8.1	25.1	7.38
C5	02 Apr 2018	5	13.72	69.24	9.0	33.55	8.1	25.1	6.72
C5	02 Apr 2018	6	13.65	70.94	8.7	33.55	8.1	25.1	5.41
C5	02 Apr 2018	7	13.46	73.48	8.4	33.56	8.1	25.2	3.71
C5	02 Apr 2018	8	13.17	77.12	7.9	33.57	8.1	25.3	2.47
C5	02 Apr 2018	9	12.90	80.72	7.4	33.58	8.0	25.3	1.77
C5	02 Apr 2018	10	12.61	81.79	6.8	33.59	8.0	25.4	1.13
C5	02 Apr 2018	11	12.35	83.04	6.4	33.59	8.0	25.4	0.75
C5	09 Apr 2018	1	15.74	61.68	7.5	33.58	8.1	24.7	0.48
C5	09 Apr 2018	2	15.47	61.56	7.5	33.60	8.1	24.8	0.68
C5	09 Apr 2018	3	15.22	61.04	7.2	33.61	8.1	24.9	0.90
C5	09 Apr 2018	4	14.61	60.65	6.8	33.66	8.1	25.0	0.98
C5	09 Apr 2018	5	13.73	61.30	6.1	33.66	8.0	25.2	0.93

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
C5	09 Apr 2018	6	12.99	64.49	5.4	33.68	7.9	25.4	0.74
C5	09 Apr 2018	7	12.39	65.84	5.0	33.64	7.9	25.5	0.61
C5	09 Apr 2018	8	12.15	65.18	4.8	33.62	7.8	25.5	0.53
C5	09 Apr 2018	9	11.95	64.63	4.6	33.63	7.8	25.5	0.54
C5	09 Apr 2018	10	11.56	64.54	4.5	33.64	7.8	25.6	0.51
C5	09 Apr 2018	11	11.48	57.49	4.3	33.62	7.8	25.6	0.62
C5	16 Apr 2018	1	14.12	71.82	7.1	33.63	8.0	25.1	0.40
C5	16 Apr 2018	2	14.08	71.02	7.0	33.63	8.0	25.1	0.43
C5	16 Apr 2018	3	14.01	70.77	7.0	33.63	8.0	25.1	0.57
C5	16 Apr 2018	4	13.93	70.39	7.0	33.63	8.0	25.1	0.88
C5	16 Apr 2018	5	13.32	70.03	6.6	33.66	8.0	25.3	1.01
C5	16 Apr 2018	6	12.80	73.81	5.9	33.66	7.9	25.4	0.65
C5	16 Apr 2018	7	12.39	75.83	5.6	33.67	7.9	25.5	0.55
C5	16 Apr 2018	8	12.10	77.46	5.5	33.66	7.9	25.5	0.76
C5	16 Apr 2018	9	11.92	78.79	5.3	33.66	7.9	25.6	0.78
C5	16 Apr 2018	10	11.79	79.58	5.1	33.66	7.9	25.6	0.66
C5	16 Apr 2018	11	11.27	77.84	4.8	33.70	7.8	25.7	0.51
C5	23 Apr 2018	1	15.39	76.26	9.5	33.70	8.2	24.9	0.74
C5	23 Apr 2018	2	15.28	75.93	9.4	33.71	8.2	24.9	0.88
C5	23 Apr 2018	3	14.98	76.25	9.2	33.71	8.2	25.0	1.18
C5	23 Apr 2018	4	13.95	76.09	8.5	33.76	8.2	25.2	1.88
C5	23 Apr 2018	5	12.95	77.52	7.5	33.72	8.1	25.4	2.42
C5	23 Apr 2018	6	12.38	80.07	6.5	33.72	8.0	25.5	2.07
C5	23 Apr 2018	7	12.07	80.49	5.6	33.71	7.9	25.6	1.55
C5	23 Apr 2018	8	11.91	79.52	5.2	33.70	7.9	25.6	1.18
C5	23 Apr 2018	9	11.67	82.67	5.0	33.70	7.8	25.6	1.18
C5	23 Apr 2018	10	11.47	83.89	5.1	33.69	7.8	25.7	1.17
C5	23 Apr 2018	11	11.52	84.19	5.1	33.67	7.8	25.6	1.16
C5	30 Apr 2018	1	15.47	78.88	9.2	33.66	8.2	24.8	1.55
C5	30 Apr 2018	2	15.47	78.04	9.2	33.66	8.2	24.8	1.65
C5	30 Apr 2018	3	15.46	77.99	9.2	33.66	8.2	24.8	1.92
C5	30 Apr 2018	4	15.46	78.80	9.2	33.66	8.2	24.8	1.91
C5	30 Apr 2018	5	15.40	78.29	9.0	33.67	8.2	24.9	2.06
C5	30 Apr 2018	6	15.35	78.05	8.6	33.67	8.2	24.9	1.90
C5	30 Apr 2018	7	14.68	77.23	7.8	33.70	8.1	25.0	1.33
C5	30 Apr 2018	8	14.51	74.33	7.2	33.68	8.1	25.1	0.87
C5	30 Apr 2018	9	14.02	70.73	6.3	33.69	8.1	25.2	0.75
C5	30 Apr 2018	10	12.84	55.90	5.1	33.69	7.9	25.4	0.81
C5	30 Apr 2018	11	12.87	45.11	4.9	33.67	7.8	25.4	0.75
C6	02 Apr 2018	1	14.28	76.54	9.9	33.56	8.2	25.0	2.51
C6	02 Apr 2018	2	14.26	76.47	9.9	33.56	8.2	25.0	2.92
C6	02 Apr 2018	3	14.22	76.57	9.8	33.56	8.2	25.0	3.15
C6	02 Apr 2018	4	14.09	76.72	9.4	33.57	8.2	25.1	3.01
C6	02 Apr 2018	5	13.57	77.71	8.8	33.59	8.1	25.2	2.03
C6	02 Apr 2018	6	12.93	80.51	7.9	33.61	8.1	25.3	1.39
C6	02 Apr 2018	7	12.41	81.89	7.1	33.61	8.0	25.4	0.99
C6	02 Apr 2018	8	12.16	82.86	6.5	33.60	8.0	25.5	0.74
C6	02 Apr 2018	9	12.03	83.30	6.1	33.60	7.9	25.5	0.58
C6	02 Apr 2018	10	11.98	83.42	6.0	33.60	7.9	25.5	0.56
C6	09 Apr 2018	1	15.58	62.61	8.0	33.57	8.2	24.7	1.00

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
C6	09 Apr 2018	2	15.42	63.44	7.8	33.58	8.2	24.8	1.28
C6	09 Apr 2018	3	15.14	62.72	7.4	33.60	8.1	24.9	1.35
C6	09 Apr 2018	4	15.14	61.79	7.5	33.59	8.1	24.9	1.48
C6	09 Apr 2018	5	15.04	57.90	7.3	33.62	8.1	24.9	1.30
C6	09 Apr 2018	6	14.60	58.02	7.0	33.76	8.1	25.1	1.42
C6	09 Apr 2018	7	14.06	63.49	6.3	33.61	8.0	25.1	1.93
C6	09 Apr 2018	8	14.20	63.15	5.9	33.74	7.9	25.2	1.69
C6	09 Apr 2018	9	12.69	62.00	5.1	33.65	7.8	25.4	1.10
C6	16 Apr 2018	1	14.02	72.85	7.0	33.62	8.0	25.1	0.61
C6	16 Apr 2018	2	13.94	73.65	7.0	33.63	8.0	25.1	0.63
C6	16 Apr 2018	3	13.97	73.37	7.1	33.62	8.0	25.1	0.73
C6	16 Apr 2018	4	13.88	74.15	6.9	33.64	8.0	25.2	0.78
C6	16 Apr 2018	5	13.54	74.93	6.6	33.67	8.0	25.3	0.72
C6	16 Apr 2018	6	13.12	75.07	6.2	33.70	8.0	25.4	0.76
C6	16 Apr 2018	7	12.71	74.47	5.7	33.70	7.9	25.4	0.70
C6	16 Apr 2018	8	12.08	73.97	5.2	33.75	7.9	25.6	0.59
C6	16 Apr 2018	9	11.49	72.72	4.9	33.74	7.8	25.7	0.50
C6	16 Apr 2018	10	11.42	71.46	4.6	33.69	7.8	25.7	0.41
C6	16 Apr 2018	11	11.34	70.48	4.5	33.70	7.8	25.7	0.37
C6	23 Apr 2018	1	15.37	77.08	9.8	33.68	8.3	24.9	1.22
C6	23 Apr 2018	2	15.33	76.95	9.7	33.69	8.3	24.9	1.34
C6	23 Apr 2018	3	15.07	76.87	9.2	33.71	8.2	25.0	1.54
C6	23 Apr 2018	4	14.37	76.96	8.8	33.73	8.2	25.1	1.80
C6	23 Apr 2018	5	13.16	78.38	8.2	33.75	8.1	25.4	2.08
C6	23 Apr 2018	6	13.28	77.61	7.6	33.69	8.0	25.3	2.26
C6	23 Apr 2018	7	12.14	80.84	6.8	33.74	8.0	25.6	2.20
C6	23 Apr 2018	8	11.69	83.81	6.0	33.72	7.9	25.7	1.93
C6	23 Apr 2018	9	11.54	85.30	5.4	33.70	7.9	25.7	1.19
C6	23 Apr 2018	10	11.54	85.79	5.3	33.70	7.9	25.7	0.83
C6	30 Apr 2018	1	15.67	78.87	9.3	33.65	8.2	24.8	1.44
C6	30 Apr 2018	2	15.65	79.97	9.4	33.66	8.2	24.8	1.55
C6	30 Apr 2018	3	15.60	78.21	9.3	33.66	8.2	24.8	1.86
C6	30 Apr 2018	4	15.57	74.27	9.3	33.66	8.2	24.8	2.49
C6	30 Apr 2018	5	15.59	77.80	9.2	33.66	8.2	24.8	2.12
C6	30 Apr 2018	6	15.28	77.66	8.8	33.68	8.2	24.9	2.11
C6	30 Apr 2018	7	15.11	77.63	8.4	33.67	8.2	24.9	1.87
C6	30 Apr 2018	8	13.83	74.97	7.0	33.70	8.1	25.2	1.31
C6	30 Apr 2018	9	13.81	46.11	6.6	33.66	8.0	25.2	0.80
C7	02 Apr 2018	1	13.95	64.39	9.2	33.56	8.1	25.1	11.65
C7	02 Apr 2018	2	13.98	65.20	9.0	33.56	8.1	25.1	12.00
C7	02 Apr 2018	3	13.72	64.34	8.7	33.57	8.1	25.1	13.10
C7	02 Apr 2018	4	13.51	63.45	8.4	33.56	8.1	25.2	12.92
C7	02 Apr 2018	5	13.45	63.60	8.2	33.56	8.1	25.2	11.66
C7	02 Apr 2018	6	13.43	64.34	8.1	33.55	8.1	25.2	11.01
C7	02 Apr 2018	7	13.40	65.07	8.0	33.55	8.1	25.2	10.70
C7	02 Apr 2018	8	13.36	66.09	8.0	33.55	8.0	25.2	10.34
C7	02 Apr 2018	9	13.34	66.37	8.0	33.55	8.0	25.2	9.72
C7	02 Apr 2018	10	13.31	66.74	7.8	33.55	8.0	25.2	9.13
C7	02 Apr 2018	11	13.17	67.40	7.6	33.56	8.0	25.2	8.80
C7	02 Apr 2018	12	12.97	70.26	7.4	33.56	8.0	25.3	7.58
C7	02 Apr 2018	13	12.82	71.76	7.2	33.56	8.0	25.3	6.27

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
C7	02 Apr 2018	14	12.62	72.74	6.9	33.57	8.0	25.4	5.98
C7	02 Apr 2018	15	12.45	75.00	6.6	33.57	8.0	25.4	5.35
C7	02 Apr 2018	16	12.25	76.48	6.3	33.58	7.9	25.4	4.11
C7	02 Apr 2018	17	11.84	78.92	5.7	33.61	7.9	25.5	2.90
C7	02 Apr 2018	18	11.39	82.02	5.0	33.63	7.8	25.6	1.78
C7	02 Apr 2018	19	11.77	82.32	5.2	33.56	7.8	25.5	1.39
C7	09 Apr 2018	1	16.28	70.23	8.9	33.55	8.2	24.6	1.75
C7	09 Apr 2018	2	16.23	69.81	8.8	33.55	8.2	24.6	2.09
C7	09 Apr 2018	3	16.09	67.58	8.7	33.55	8.2	24.6	3.12
C7	09 Apr 2018	4	15.92	67.56	8.6	33.55	8.2	24.7	3.42
C7	09 Apr 2018	5	15.88	69.33	8.5	33.55	8.1	24.7	3.42
C7	09 Apr 2018	6	15.39	71.92	8.1	33.57	8.1	24.8	3.25
C7	09 Apr 2018	7	14.69	73.62	7.5	33.57	8.1	24.9	2.80
C7	09 Apr 2018	8	13.62	76.09	6.6	33.61	8.0	25.2	2.50
C7	09 Apr 2018	9	13.03	77.05	6.1	33.59	8.0	25.3	1.97
C7	09 Apr 2018	10	12.74	79.38	6.1	33.57	7.9	25.3	1.50
C7	09 Apr 2018	11	13.32	80.51	6.0	33.54	7.9	25.2	1.70
C7	09 Apr 2018	12	12.00	80.65	5.4	33.62	7.9	25.5	1.42
C7	09 Apr 2018	13	11.56	80.21	5.0	33.61	7.8	25.6	1.18
C7	09 Apr 2018	14	11.35	80.32	4.8	33.61	7.8	25.6	0.75
C7	09 Apr 2018	15	11.45	80.64	4.7	33.61	7.8	25.6	0.64
C7	09 Apr 2018	16	11.16	80.63	4.5	33.63	7.8	25.7	0.52
C7	09 Apr 2018	17	11.06	79.40	4.4	33.64	7.8	25.7	0.42
C7	09 Apr 2018	18	10.98	65.41	4.3	33.64	7.8	25.7	0.48
C7	16 Apr 2018	1	14.91	63.63	7.8	33.57	8.1	24.9	1.79
C7	16 Apr 2018	2	14.90	67.64	7.7	33.59	8.1	24.9	1.97
C7	16 Apr 2018	3	14.70	68.42	7.5	33.61	8.1	25.0	2.58
C7	16 Apr 2018	4	14.22	68.52	7.2	33.63	8.0	25.1	2.82
C7	16 Apr 2018	5	14.02	71.96	7.0	33.62	8.0	25.1	2.56
C7	16 Apr 2018	6	13.86	73.59	6.8	33.62	8.0	25.2	2.21
C7	16 Apr 2018	7	13.46	74.95	6.5	33.63	8.0	25.2	1.84
C7	16 Apr 2018	8	13.24	75.97	6.3	33.63	8.0	25.3	1.60
C7	16 Apr 2018	9	12.80	76.74	5.9	33.66	7.9	25.4	1.43
C7	16 Apr 2018	10	12.25	77.91	5.6	33.67	7.9	25.5	1.15
C7	16 Apr 2018	11	12.00	78.84	5.4	33.67	7.9	25.6	0.95
C7	16 Apr 2018	12	11.92	79.26	5.3	33.66	7.9	25.6	0.88
C7	16 Apr 2018	13	11.73	79.41	5.2	33.67	7.9	25.6	0.85
C7	16 Apr 2018	14	11.67	79.63	5.1	33.67	7.9	25.6	0.86
C7	16 Apr 2018	15	11.60	79.68	5.0	33.67	7.9	25.6	0.81
C7	16 Apr 2018	16	11.37	79.39	4.8	33.69	7.8	25.7	0.70
C7	16 Apr 2018	17	11.01	78.30	4.4	33.72	7.8	25.8	0.56
C7	16 Apr 2018	18	10.80	77.64	4.2	33.72	7.8	25.8	0.41
C7	16 Apr 2018	19	10.74	74.70	4.1	33.72	7.8	25.8	0.32
C7	23 Apr 2018	1	14.10	63.41	8.8	33.67	8.1	25.1	7.99
C7	23 Apr 2018	2	14.14	63.71	8.8	33.67	8.1	25.1	8.82
C7	23 Apr 2018	3	14.19	63.62	8.7	33.67	8.1	25.1	9.27
C7	23 Apr 2018	4	13.96	64.09	8.7	33.68	8.1	25.2	9.13
C7	23 Apr 2018	5	13.88	64.83	8.6	33.67	8.1	25.2	8.95
C7	23 Apr 2018	6	13.79	65.31	8.5	33.68	8.1	25.2	8.62
C7	23 Apr 2018	7	13.73	65.49	8.4	33.68	8.1	25.2	8.32
C7	23 Apr 2018	8	13.56	65.56	8.4	33.68	8.1	25.3	8.02
C7	23 Apr 2018	9	13.39	66.01	8.0	33.68	8.1	25.3	7.64

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
C7	23 Apr 2018	10	12.56	70.00	7.3	33.71	8.0	25.5	6.32
C7	23 Apr 2018	11	12.13	75.55	6.7	33.69	8.0	25.5	5.09
C7	23 Apr 2018	12	12.00	77.63	6.3	33.68	7.9	25.6	4.25
C7	23 Apr 2018	13	11.80	79.56	6.0	33.68	7.9	25.6	3.61
C7	23 Apr 2018	14	11.69	81.04	5.7	33.69	7.9	25.6	2.92
C7	23 Apr 2018	15	11.45	81.94	5.4	33.70	7.9	25.7	2.79
C7	23 Apr 2018	16	11.30	83.47	5.1	33.69	7.8	25.7	2.22
C7	23 Apr 2018	17	11.02	84.63	4.8	33.71	7.8	25.8	2.00
C7	23 Apr 2018	18	10.92	84.59	4.6	33.69	7.8	25.8	1.57
C7	30 Apr 2018	1	15.74	57.02	8.6	33.51	8.2	24.7	1.41
C7	30 Apr 2018	2	15.73	78.59	8.6	33.65	8.2	24.8	1.52
C7	30 Apr 2018	3	15.72	79.32	8.6	33.65	8.2	24.8	1.76
C7	30 Apr 2018	4	15.73	79.33	8.6	33.65	8.2	24.8	1.82
C7	30 Apr 2018	5	15.71	79.31	8.6	33.65	8.2	24.8	1.98
C7	30 Apr 2018	6	15.65	79.36	8.5	33.65	8.2	24.8	2.08
C7	30 Apr 2018	7	15.44	79.96	8.2	33.66	8.2	24.8	2.15
C7	30 Apr 2018	8	13.12	82.20	7.6	33.65	8.1	25.3	2.41
C7	30 Apr 2018	9	13.32	83.09	7.2	33.59	8.0	25.2	2.28
C7	30 Apr 2018	10	12.59	83.87	6.9	33.57	8.0	25.4	2.32
C7	30 Apr 2018	11	12.30	84.27	6.7	33.59	8.0	25.4	2.74
C7	30 Apr 2018	12	12.17	84.58	6.5	33.58	8.0	25.5	2.17
C7	30 Apr 2018	13	12.07	84.67	6.4	33.61	8.0	25.5	2.71
C7	30 Apr 2018	14	11.73	84.58	6.1	33.62	8.0	25.6	3.18
C7	30 Apr 2018	15	11.73	84.58	5.9	33.63	7.9	25.6	2.44
C7	30 Apr 2018	16	11.64	84.61	5.6	33.66	7.9	25.6	2.44
C7	30 Apr 2018	17	11.55	85.39	5.3	33.67	7.9	25.6	2.14
C7	30 Apr 2018	18	11.42	85.64	4.9	33.68	7.9	25.7	1.77
C7	30 Apr 2018	19	11.29	82.68	4.6	33.70	7.8	25.7	0.97
C8	02 Apr 2018	1	14.07	54.09	9.6	33.56	8.2	25.1	17.61
C8	02 Apr 2018	2	14.05	54.26	9.5	33.56	8.2	25.1	19.25
C8	02 Apr 2018	3	13.94	55.98	9.3	33.56	8.2	25.1	17.34
C8	02 Apr 2018	4	13.82	61.05	8.9	33.56	8.1	25.1	13.55
C8	02 Apr 2018	5	13.73	65.44	8.6	33.55	8.1	25.1	10.96
C8	02 Apr 2018	6	13.58	66.28	8.4	33.55	8.1	25.2	10.00
C8	02 Apr 2018	7	13.42	66.84	8.2	33.55	8.1	25.2	9.53
C8	02 Apr 2018	8	13.37	67.36	8.0	33.55	8.1	25.2	8.77
C8	02 Apr 2018	9	13.22	68.22	7.8	33.55	8.0	25.2	8.24
C8	02 Apr 2018	10	13.10	68.65	7.7	33.55	8.0	25.2	7.50
C8	02 Apr 2018	11	13.05	69.44	7.6	33.55	8.0	25.3	6.87
C8	02 Apr 2018	12	13.05	71.08	7.6	33.55	8.0	25.3	6.48
C8	02 Apr 2018	13	13.06	71.69	7.6	33.55	8.0	25.3	5.94
C8	02 Apr 2018	14	13.06	72.08	7.6	33.55	8.0	25.3	5.87
C8	02 Apr 2018	15	13.04	72.29	7.5	33.55	8.0	25.3	5.71
C8	02 Apr 2018	16	12.93	73.21	7.2	33.56	8.0	25.3	4.68
C8	02 Apr 2018	17	12.49	74.72	6.4	33.60	8.0	25.4	3.43
C8	02 Apr 2018	18	11.73	79.27	5.4	33.62	7.9	25.6	2.11
C8	02 Apr 2018	19	11.64	81.27	5.0	33.61	7.8	25.6	1.32
C8	09 Apr 2018	1	16.24	70.02	9.0	33.54	8.2	24.6	2.15
C8	09 Apr 2018	2	16.24	70.49	8.9	33.54	8.2	24.6	2.21
C8	09 Apr 2018	3	15.97	70.89	9.0	33.55	8.2	24.6	2.86
C8	09 Apr 2018	4	15.23	72.51	8.3	33.59	8.2	24.8	2.80
C8	09 Apr 2018	5	13.72	75.95	7.5	33.59	8.1	25.2	2.78

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
C8	09 Apr 2018	6	13.25	77.64	7.0	33.56	8.0	25.2	2.48
C8	09 Apr 2018	7	13.01	78.62	6.7	33.56	8.0	25.3	2.50
C8	09 Apr 2018	8	12.61	79.84	6.3	33.56	8.0	25.4	1.92
C8	09 Apr 2018	9	12.84	80.25	6.2	33.54	8.0	25.3	1.85
C8	09 Apr 2018	10	12.19	80.84	5.9	33.59	7.9	25.5	1.68
C8	09 Apr 2018	11	11.94	81.90	5.6	33.56	7.9	25.5	1.56
C8	09 Apr 2018	12	11.86	82.27	5.5	33.59	7.9	25.5	1.55
C8	09 Apr 2018	13	11.54	81.95	5.3	33.58	7.9	25.6	1.28
C8	09 Apr 2018	14	11.47	82.12	5.1	33.58	7.9	25.6	1.09
C8	09 Apr 2018	15	11.30	80.32	4.8	33.61	7.8	25.6	0.89
C8	09 Apr 2018	16	11.18	75.07	4.5	33.63	7.8	25.7	0.76
C8	09 Apr 2018	17	11.15	70.78	4.3	33.63	7.8	25.7	0.65
C8	09 Apr 2018	18	11.02	64.95	4.2	33.65	7.8	25.7	0.65
C8	09 Apr 2018	19	11.11	54.68	4.2	33.64	7.8	25.7	0.68
C8	16 Apr 2018	1	14.92	68.07	7.8	33.59	8.1	24.9	1.46
C8	16 Apr 2018	2	14.86	69.00	7.8	33.59	8.1	24.9	1.50
C8	16 Apr 2018	3	14.74	69.37	7.5	33.60	8.1	25.0	1.62
C8	16 Apr 2018	4	14.15	70.15	7.1	33.62	8.0	25.1	1.84
C8	16 Apr 2018	5	13.62	71.33	6.9	33.62	8.0	25.2	2.23
C8	16 Apr 2018	6	13.58	72.30	6.7	33.60	8.0	25.2	2.66
C8	16 Apr 2018	7	13.46	72.57	6.6	33.60	8.0	25.2	2.88
C8	16 Apr 2018	8	13.33	73.22	6.5	33.60	8.0	25.2	2.97
C8	16 Apr 2018	9	13.28	73.80	6.4	33.61	8.0	25.3	2.88
C8	16 Apr 2018	10	12.92	75.04	6.2	33.64	8.0	25.4	2.55
C8	16 Apr 2018	11	12.68	76.31	5.9	33.65	7.9	25.4	2.07
C8	16 Apr 2018	12	12.41	77.43	5.7	33.65	7.9	25.5	1.70
C8	16 Apr 2018	13	12.14	78.20	5.5	33.66	7.9	25.5	1.44
C8	16 Apr 2018	14	11.87	78.55	5.3	33.67	7.9	25.6	1.28
C8	16 Apr 2018	15	11.63	78.83	5.1	33.68	7.9	25.6	1.03
C8	16 Apr 2018	16	11.45	78.64	4.9	33.68	7.8	25.7	0.84
C8	16 Apr 2018	17	11.36	78.30	4.7	33.69	7.8	25.7	0.76
C8	16 Apr 2018	18	10.91	77.03	4.4	33.72	7.8	25.8	0.63
C8	16 Apr 2018	19	10.90	74.48	4.3	33.70	7.8	25.8	0.47
C8	23 Apr 2018	1	14.45	57.07	9.5	33.66	8.1	25.1	9.65
C8	23 Apr 2018	2	14.49	56.79	9.5	33.66	8.1	25.1	10.87
C8	23 Apr 2018	3	14.26	57.15	9.2	33.68	8.1	25.1	11.70
C8	23 Apr 2018	4	13.58	59.13	9.1	33.68	8.1	25.3	11.76
C8	23 Apr 2018	5	13.41	60.77	8.8	33.67	8.1	25.3	10.39
C8	23 Apr 2018	6	13.31	63.44	8.6	33.67	8.1	25.3	9.11
C8	23 Apr 2018	7	13.19	67.63	8.4	33.67	8.1	25.3	8.29
C8	23 Apr 2018	8	13.14	68.42	8.3	33.67	8.1	25.3	7.74
C8	23 Apr 2018	9	13.09	70.11	8.2	33.67	8.1	25.3	7.23
C8	23 Apr 2018	10	12.98	71.76	8.0	33.67	8.1	25.4	6.23
C8	23 Apr 2018	11	12.75	73.06	7.5	33.68	8.0	25.4	5.33
C8	23 Apr 2018	12	12.20	76.57	6.6	33.71	8.0	25.6	4.35
C8	23 Apr 2018	13	11.70	79.49	5.8	33.70	7.9	25.6	3.43
C8	23 Apr 2018	14	11.45	81.85	5.3	33.70	7.9	25.7	2.42
C8	23 Apr 2018	15	11.16	83.44	5.0	33.70	7.8	25.7	1.99
C8	23 Apr 2018	16	10.98	83.82	4.8	33.70	7.8	25.8	1.76
C8	23 Apr 2018	17	10.89	84.21	4.6	33.69	7.8	25.8	1.62
C8	23 Apr 2018	18	10.87	84.01	4.5	33.69	7.8	25.8	1.57
C8	23 Apr 2018	19	10.86	83.76	4.5	33.69	7.8	25.8	1.55
C8	23 Apr 2018	20	10.88	83.84	4.5	33.69	7.8	25.8	1.58

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
C8	30 Apr 2018	1	15.77	78.16	8.7	33.64	8.2	24.8	1.63
C8	30 Apr 2018	2	15.75	78.35	8.7	33.65	8.2	24.8	2.13
C8	30 Apr 2018	3	15.76	78.36	8.7	33.65	8.2	24.8	2.19
C8	30 Apr 2018	4	15.76	78.38	8.7	33.65	8.2	24.8	2.29
C8	30 Apr 2018	5	15.64	78.76	8.5	33.65	8.2	24.8	2.35
C8	30 Apr 2018	6	15.33	79.67	8.3	33.64	8.1	24.9	2.24
C8	30 Apr 2018	7	14.28	80.63	7.7	33.70	8.1	25.1	2.22
C8	30 Apr 2018	8	13.21	82.40	7.4	33.61	8.1	25.3	2.17
C8	30 Apr 2018	9	12.72	83.33	7.0	33.60	8.0	25.4	2.27
C8	30 Apr 2018	10	12.20	84.46	6.6	33.58	8.0	25.4	2.23
C8	30 Apr 2018	11	12.13	85.05	6.4	33.57	8.0	25.5	2.41
C8	30 Apr 2018	12	11.78	84.97	6.2	33.61	8.0	25.5	2.99
C8	30 Apr 2018	13	11.63	84.00	6.1	33.61	7.9	25.6	3.26
C8	30 Apr 2018	14	11.60	84.86	5.9	33.62	7.9	25.6	2.85
C8	30 Apr 2018	15	11.50	84.75	5.6	33.63	7.9	25.6	3.27
C8	30 Apr 2018	16	11.47	85.26	5.3	33.66	7.9	25.6	2.49
C8	30 Apr 2018	17	11.48	85.30	5.0	33.67	7.9	25.7	1.71
C8	30 Apr 2018	18	11.44	85.07	4.8	33.68	7.9	25.7	1.48
C8	30 Apr 2018	19	11.38	81.86	4.5	33.69	7.8	25.7	0.93
C8	30 Apr 2018	20	11.40	81.06	4.6	33.69	7.8	25.7	0.80

NA = not available

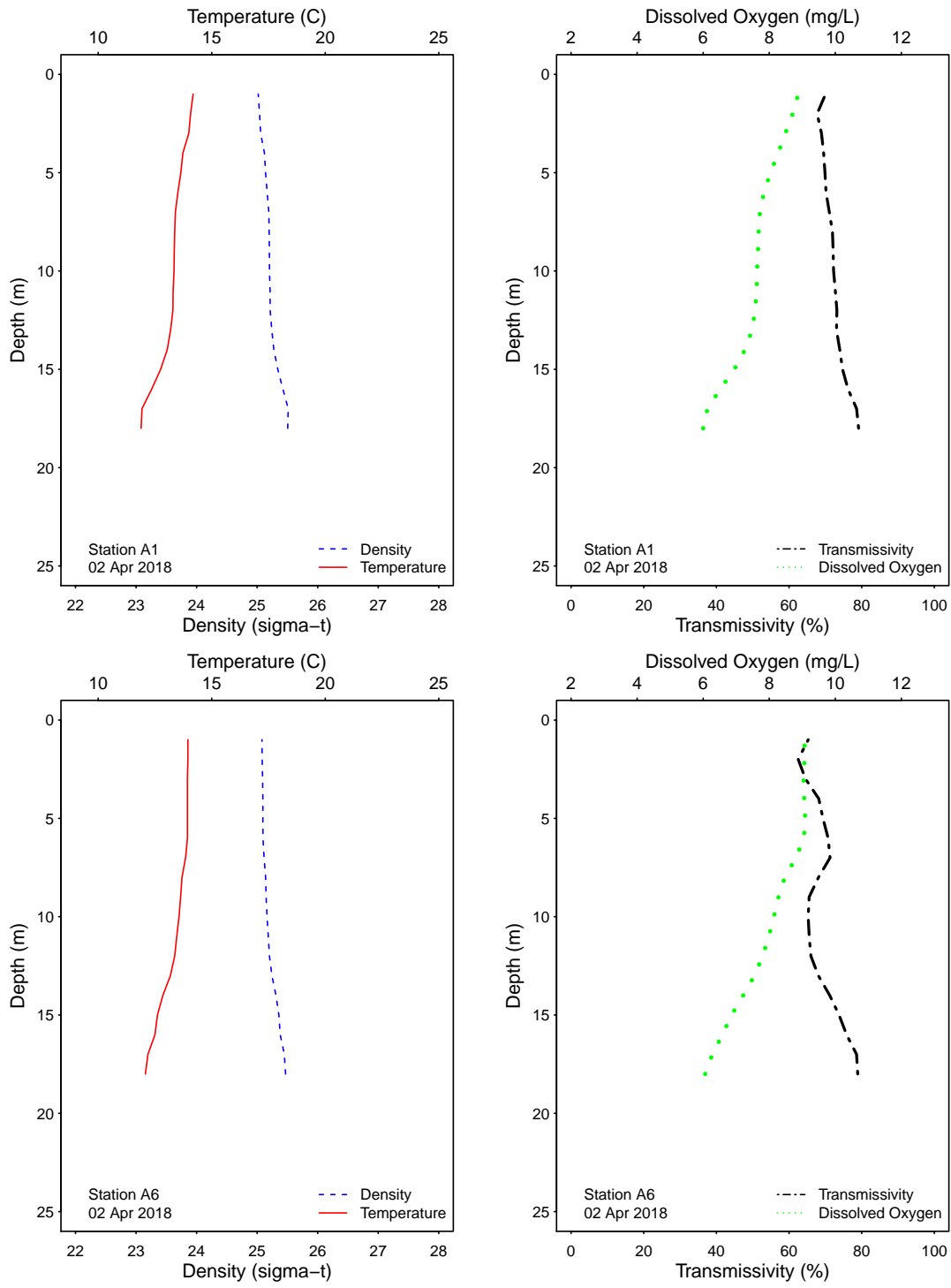


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

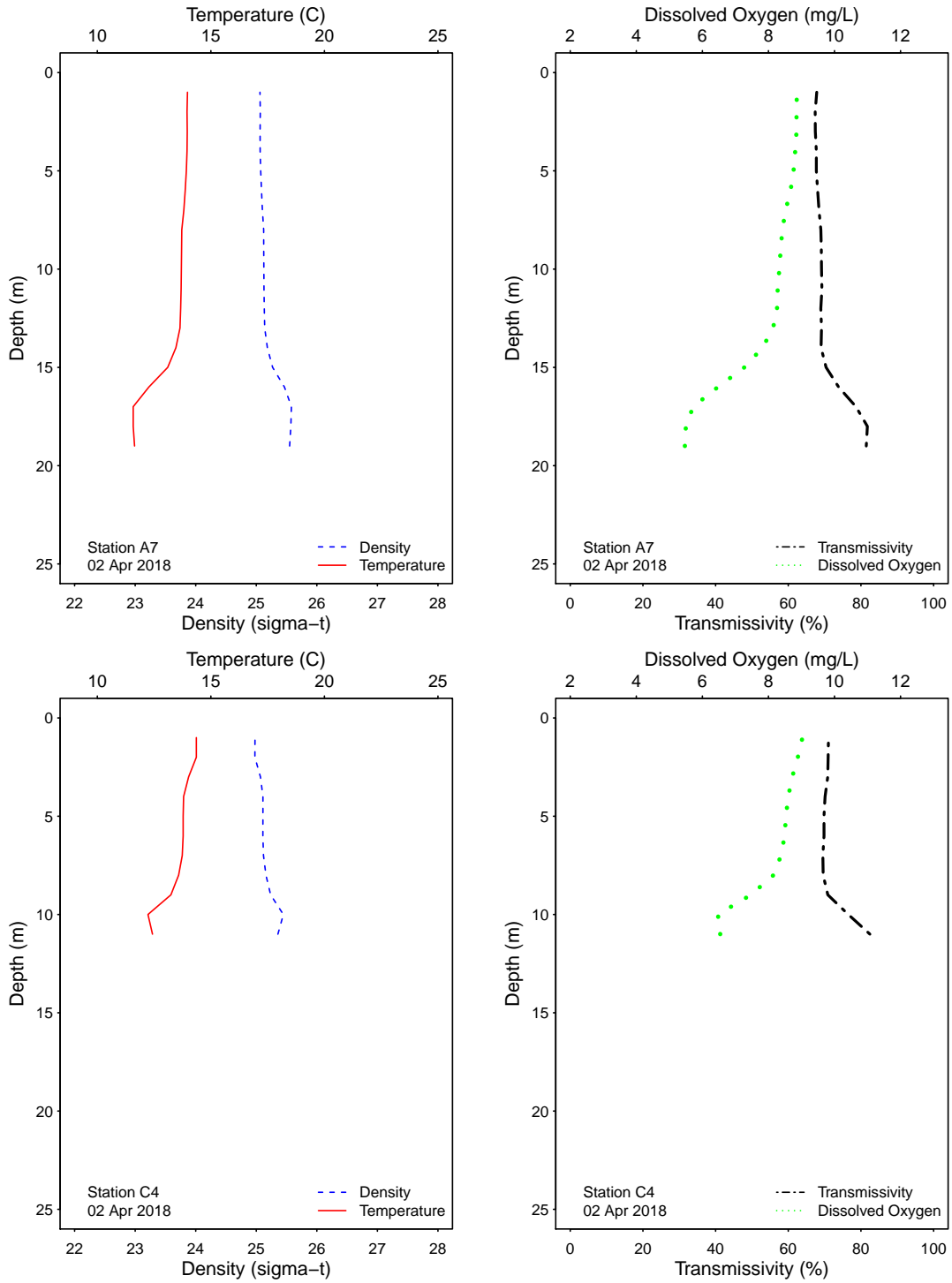


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

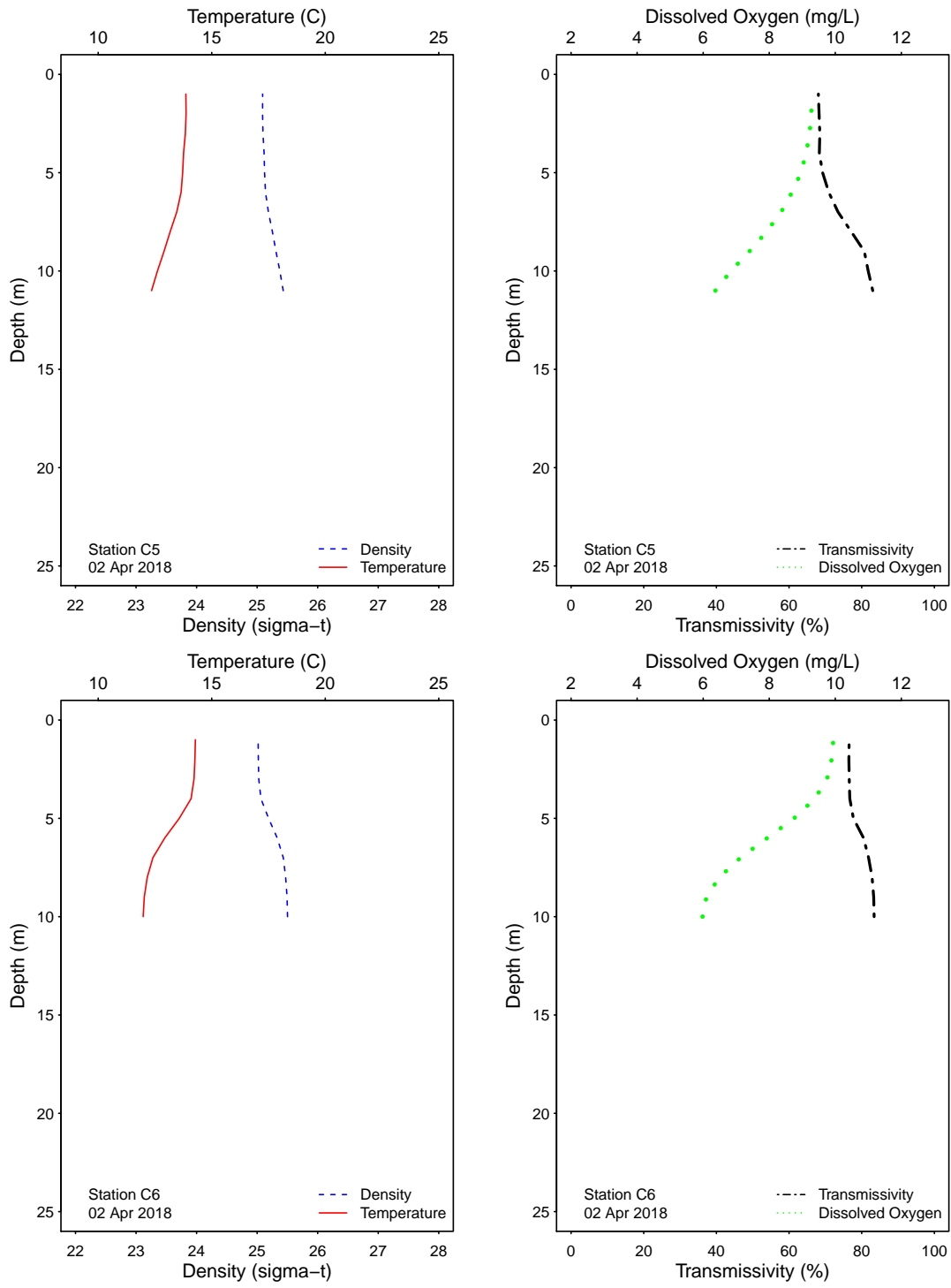


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

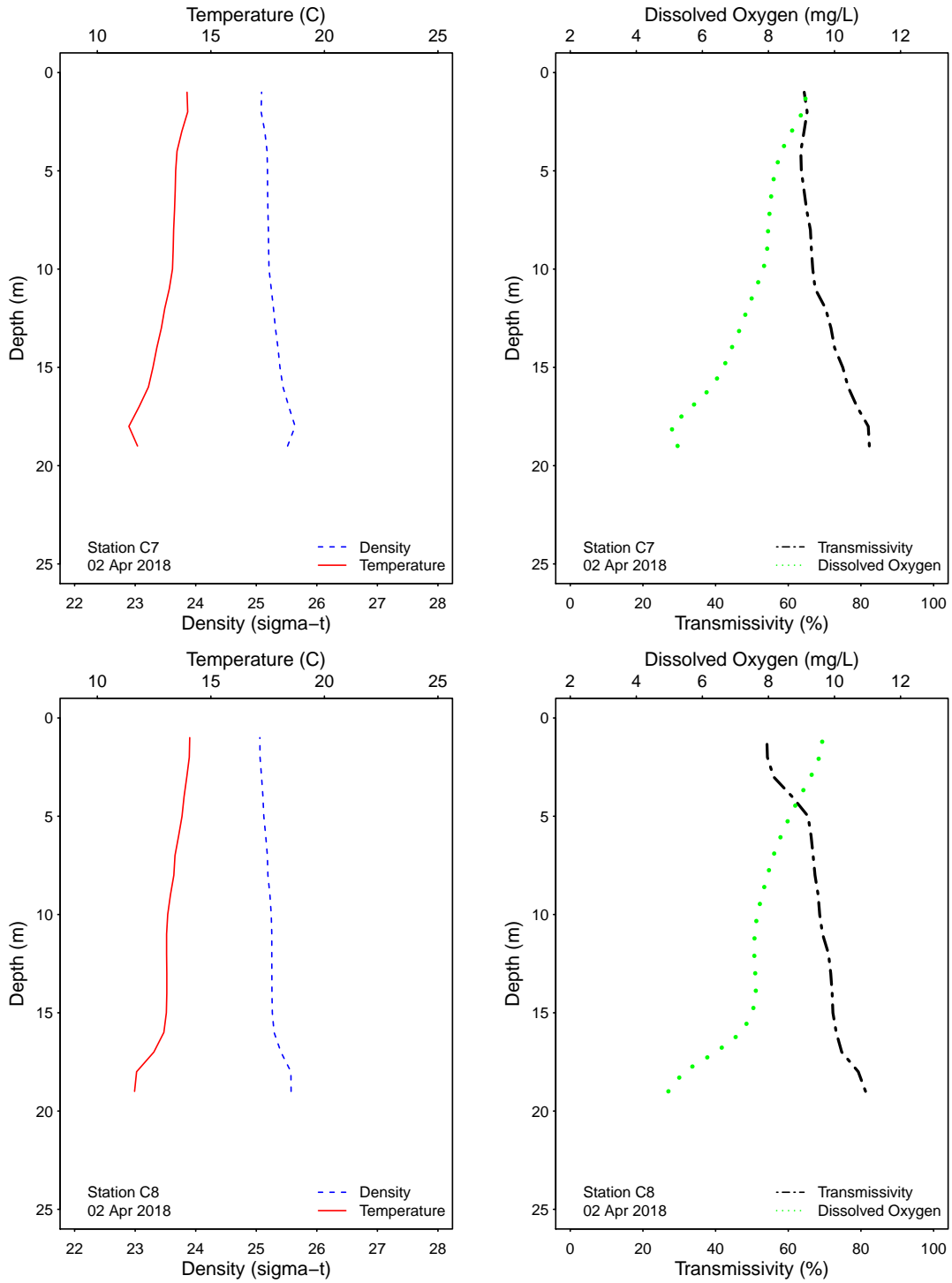


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

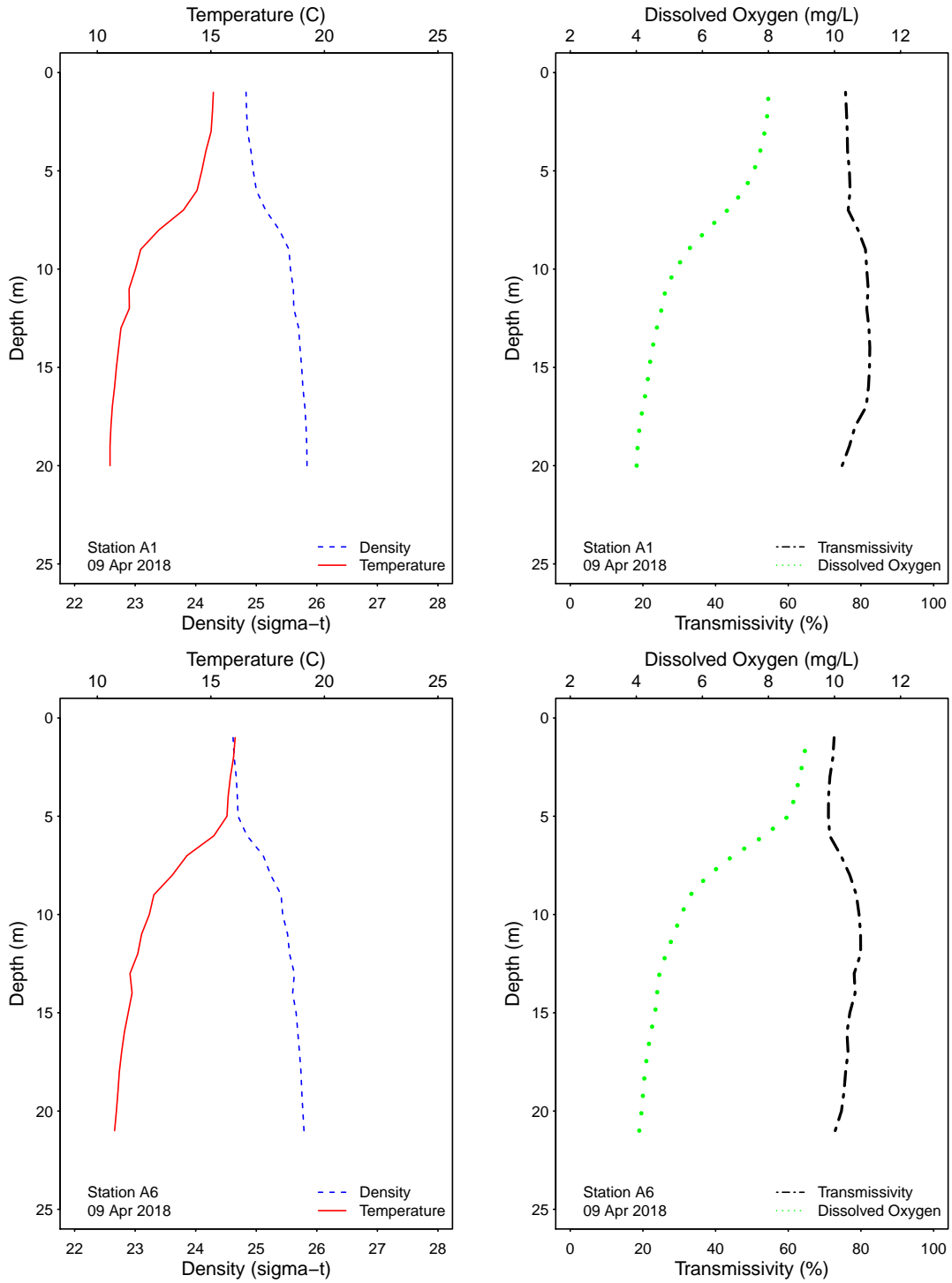


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

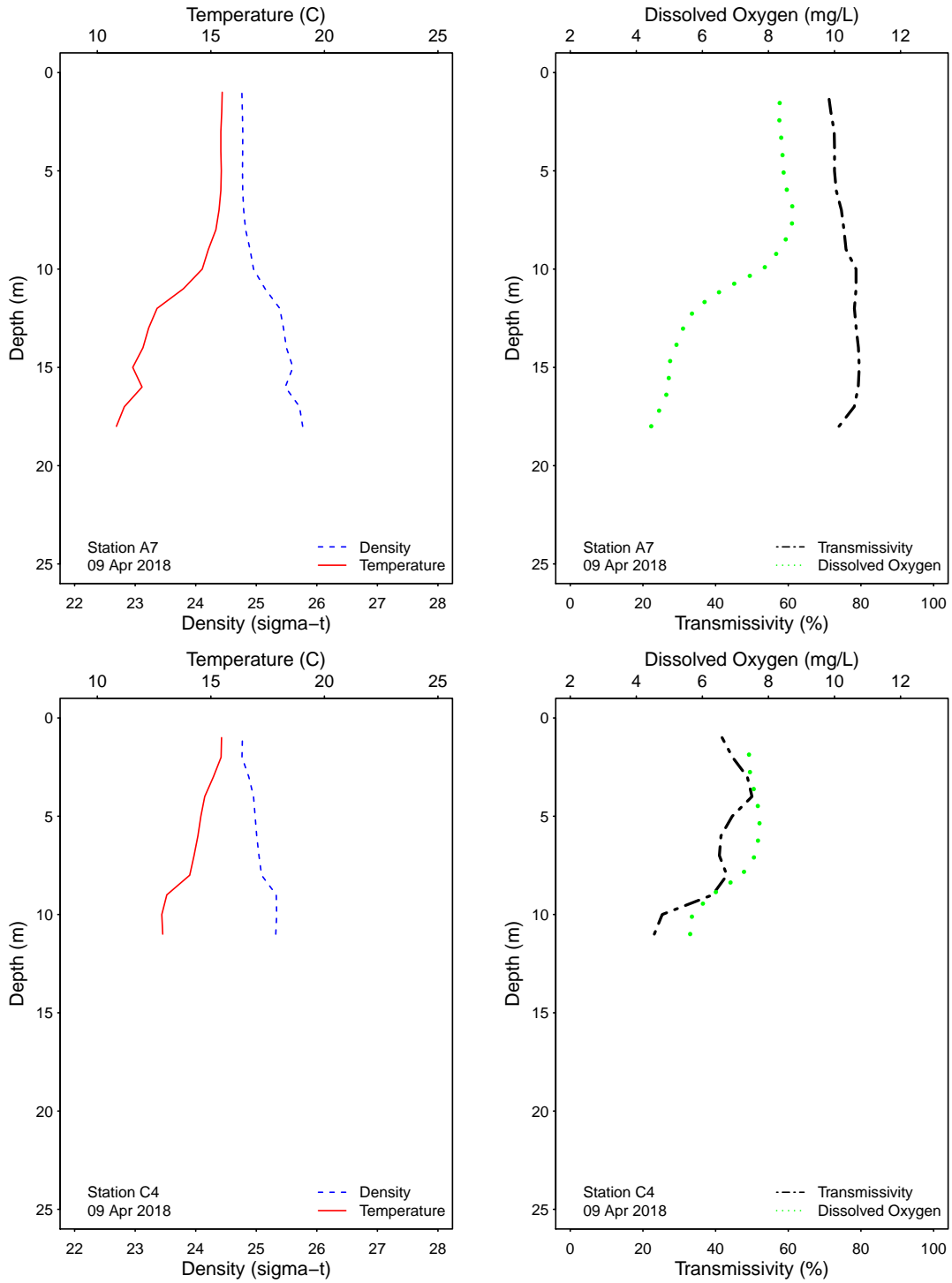


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

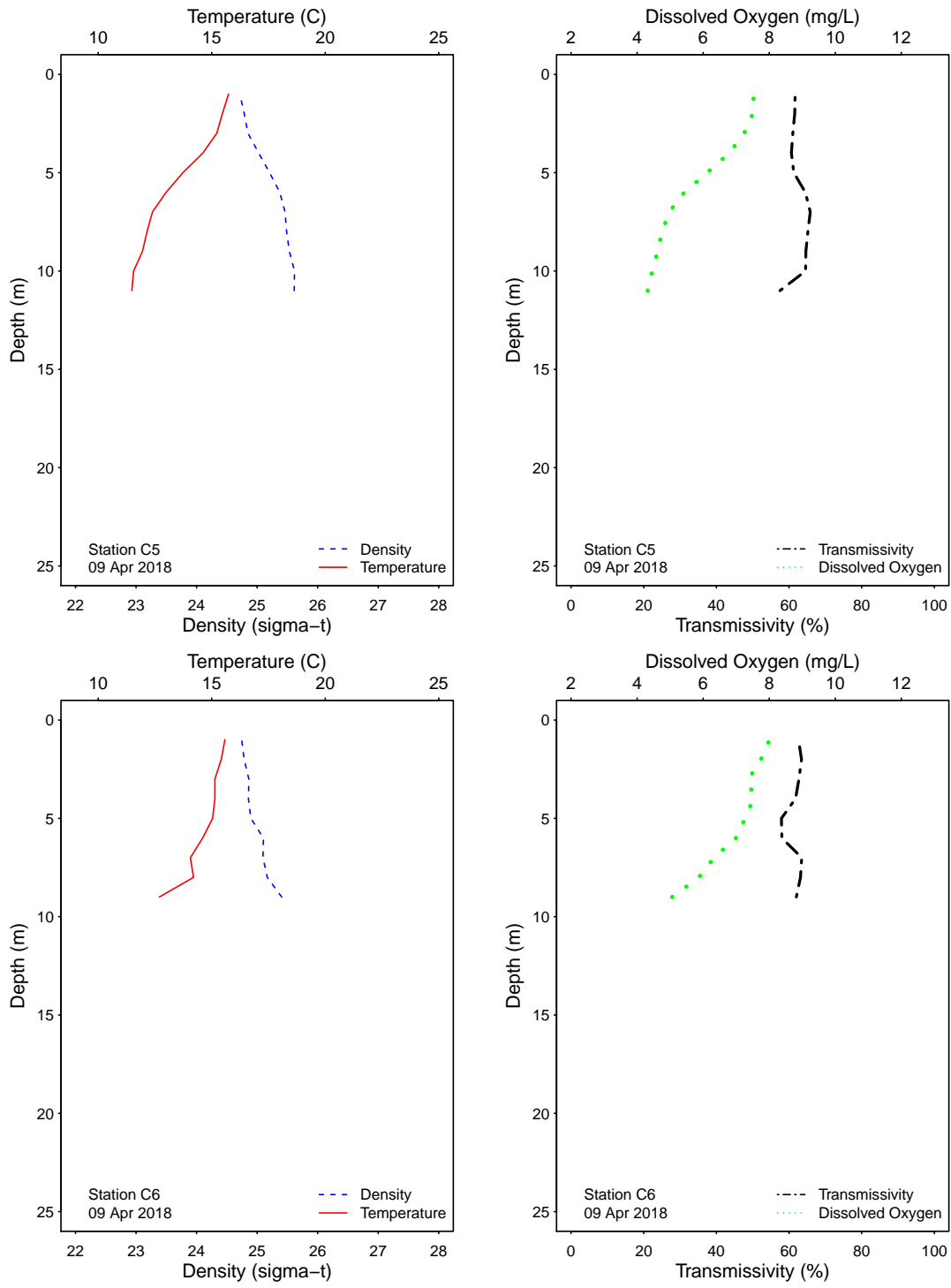


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

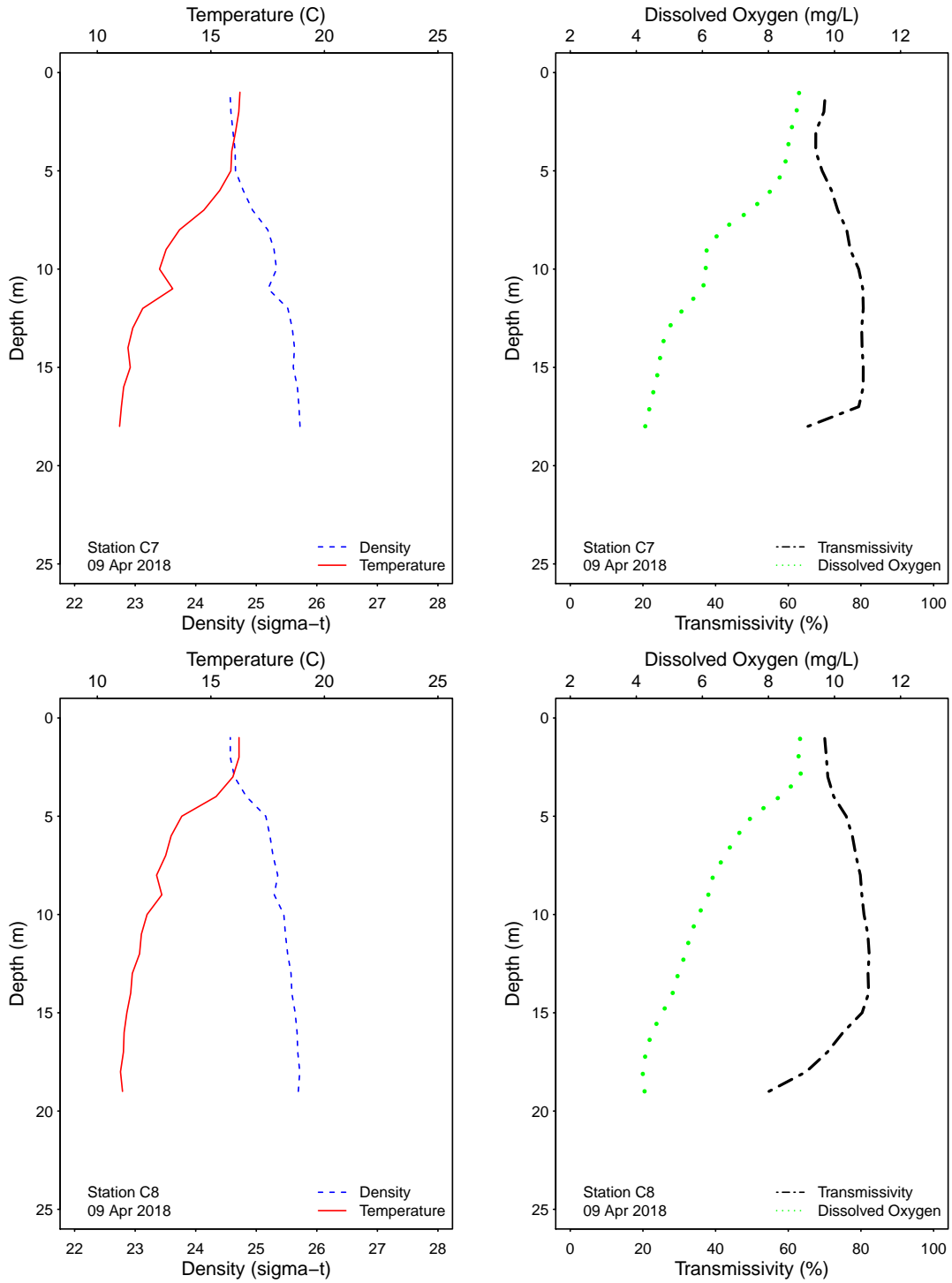


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

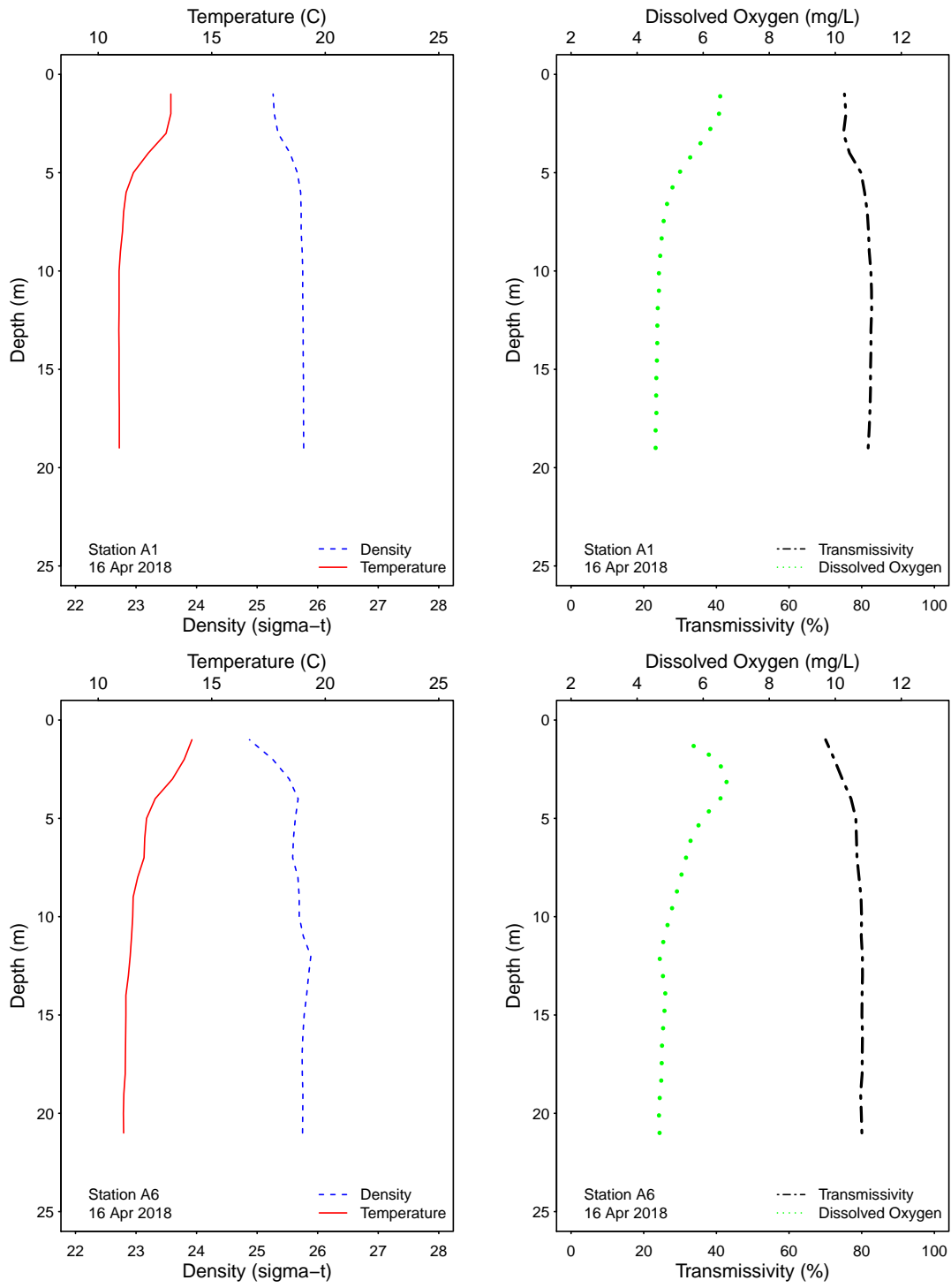


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

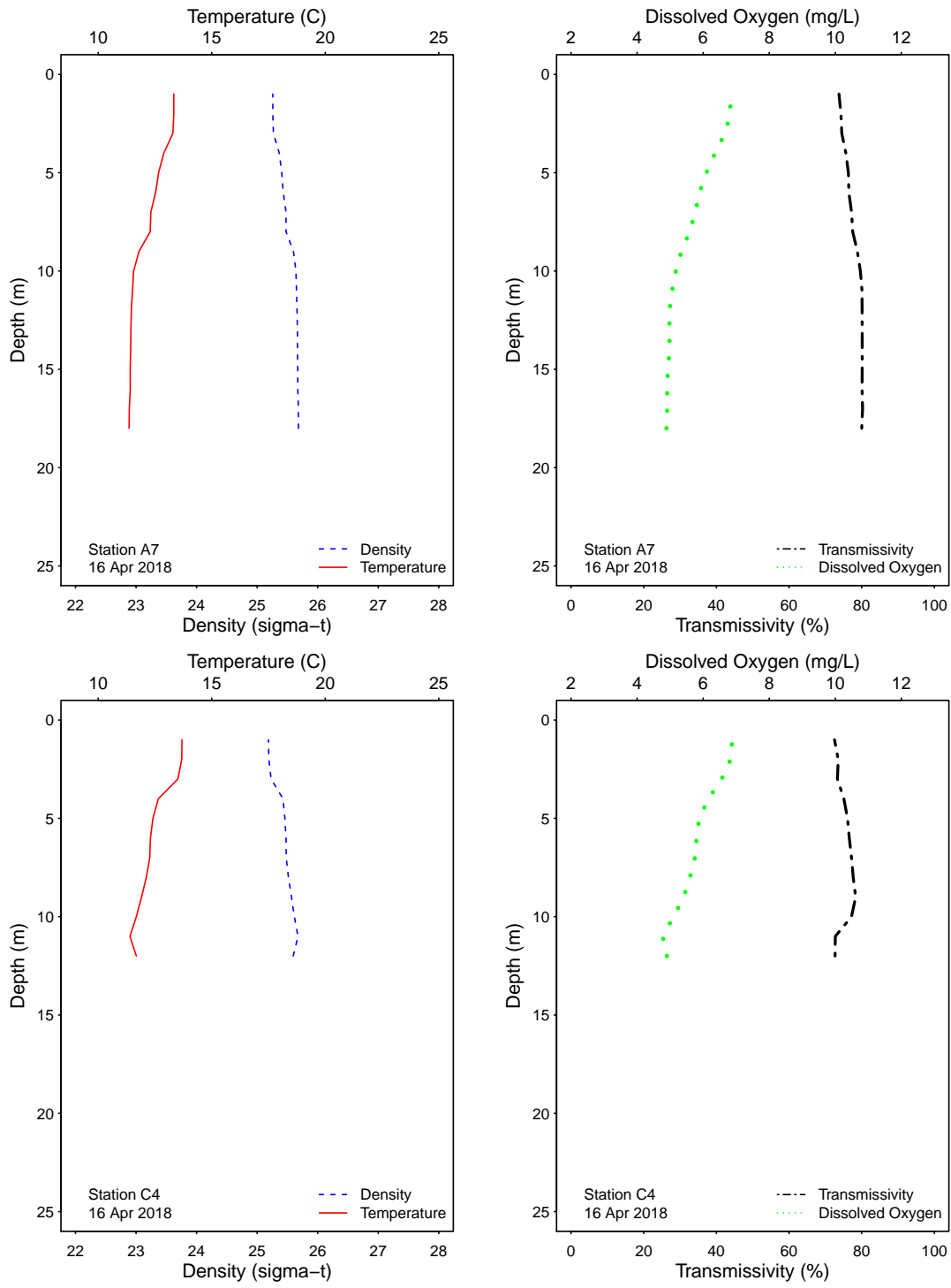


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

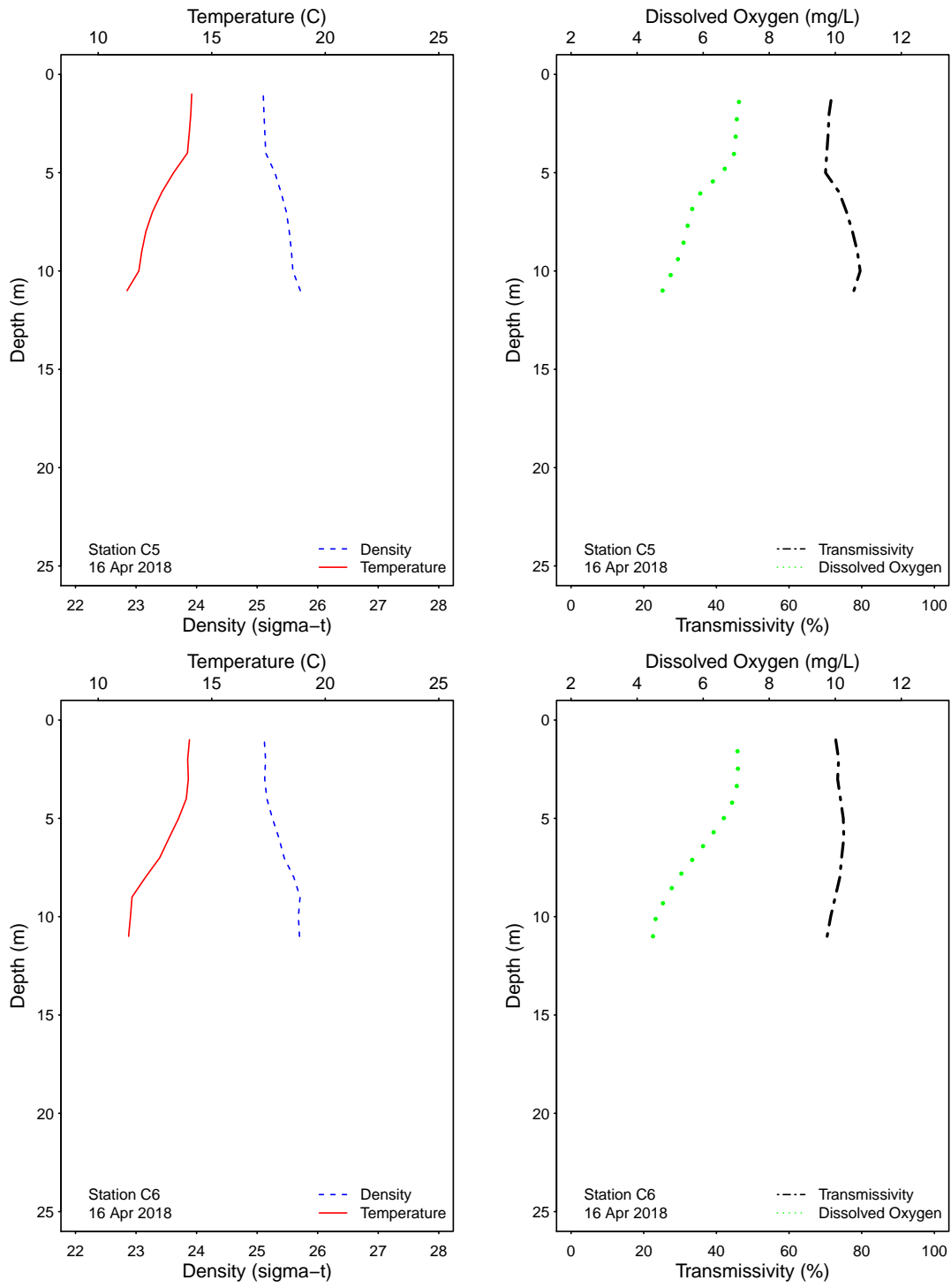


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

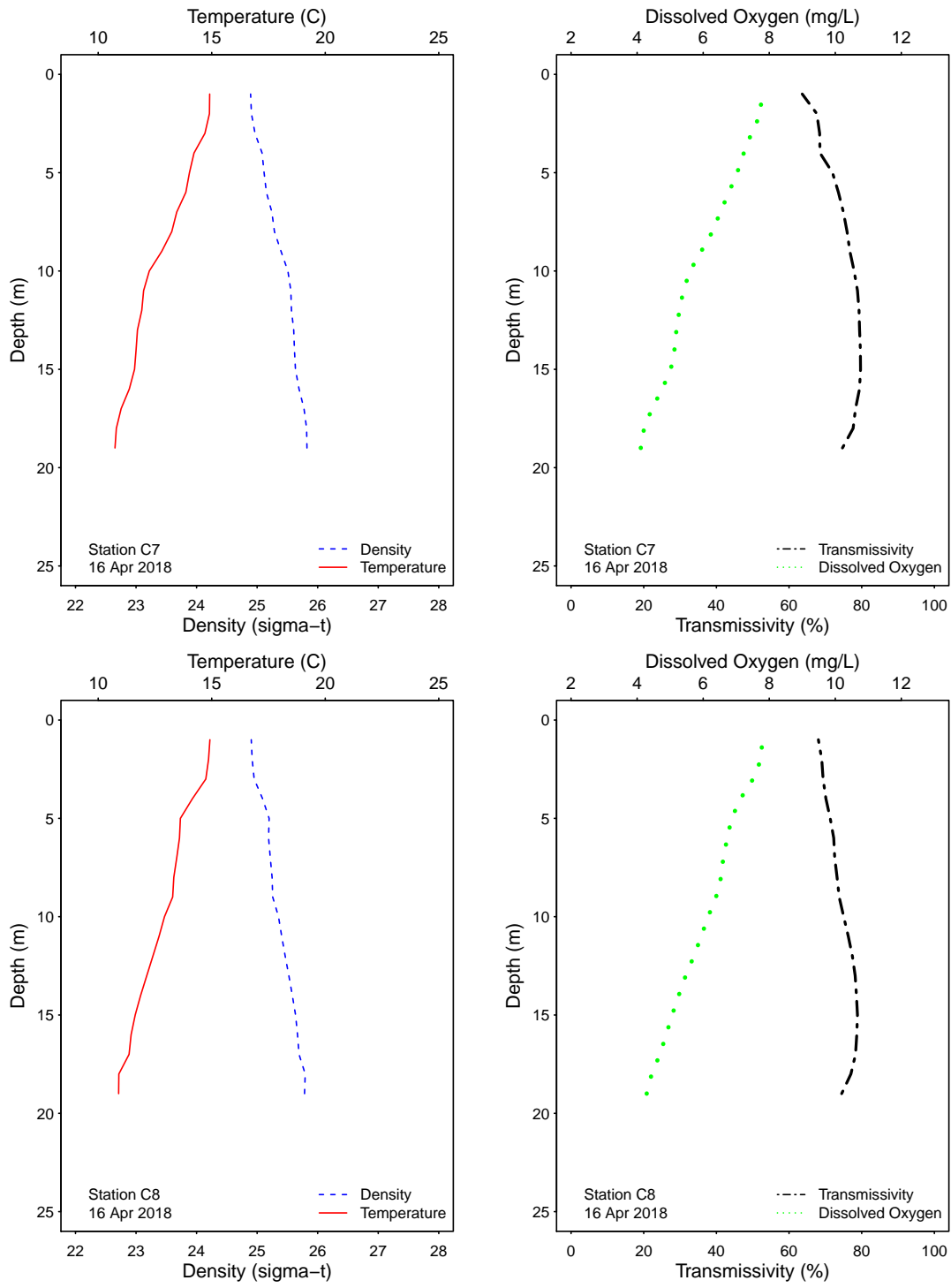


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

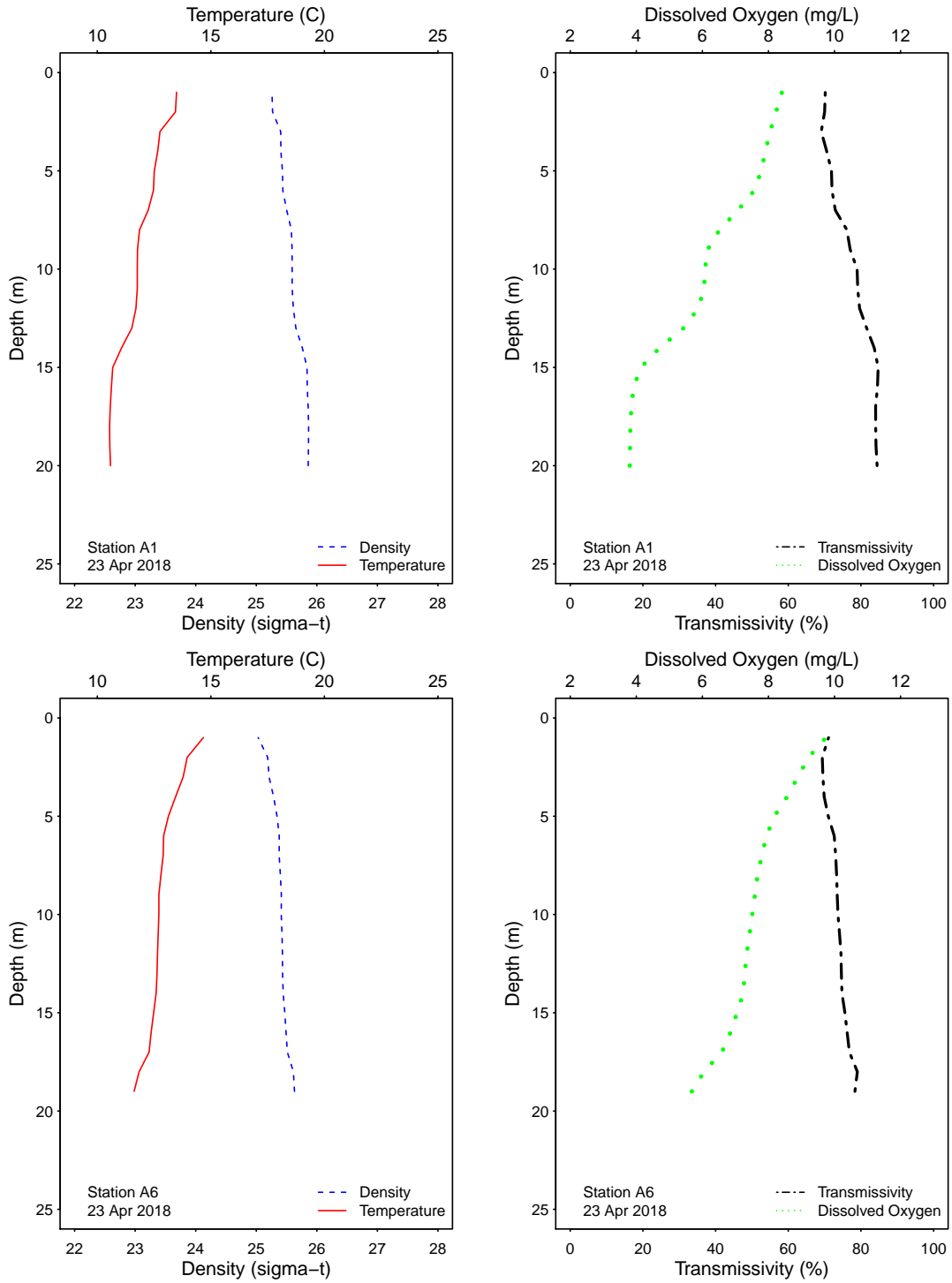


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

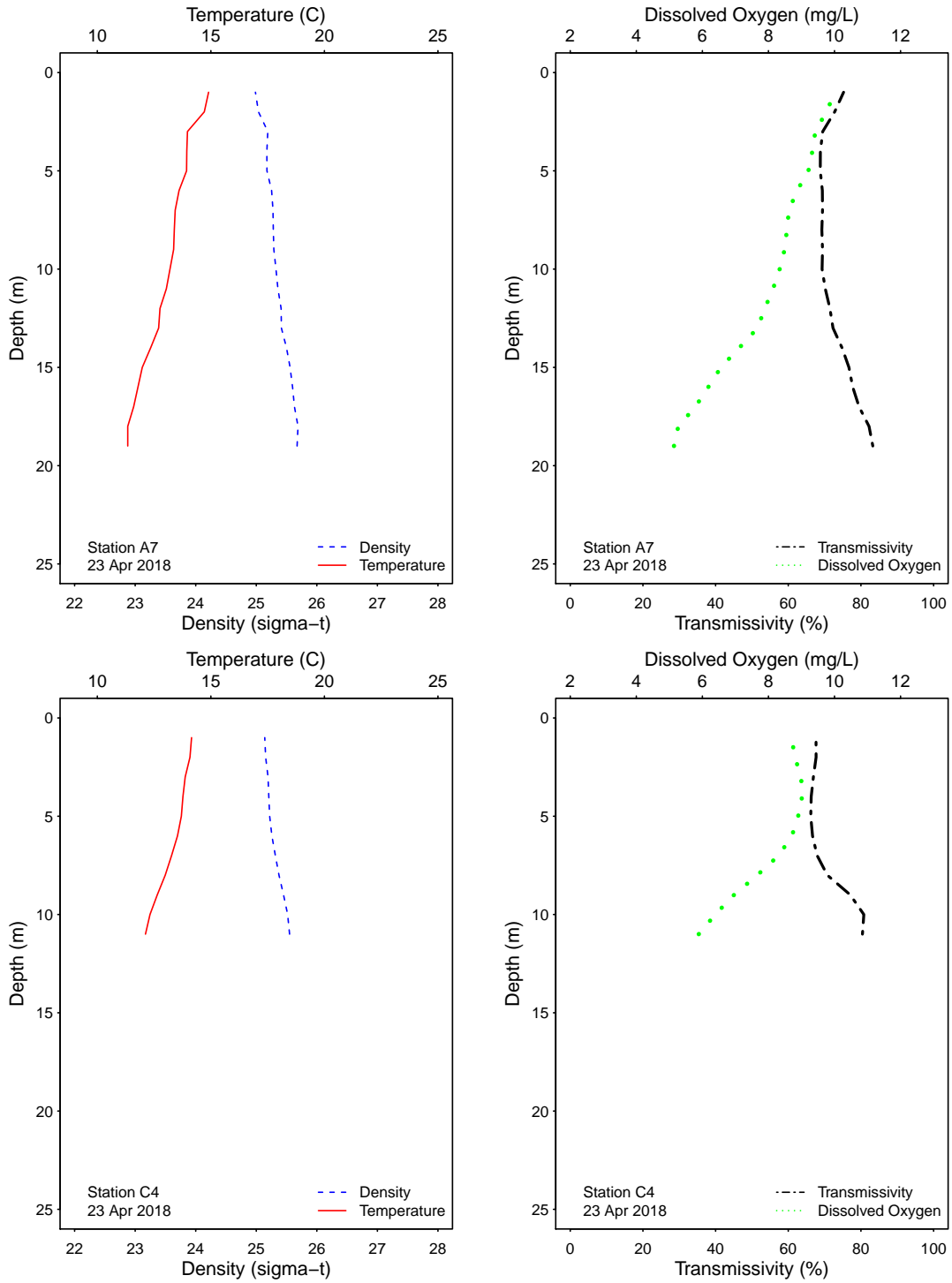


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

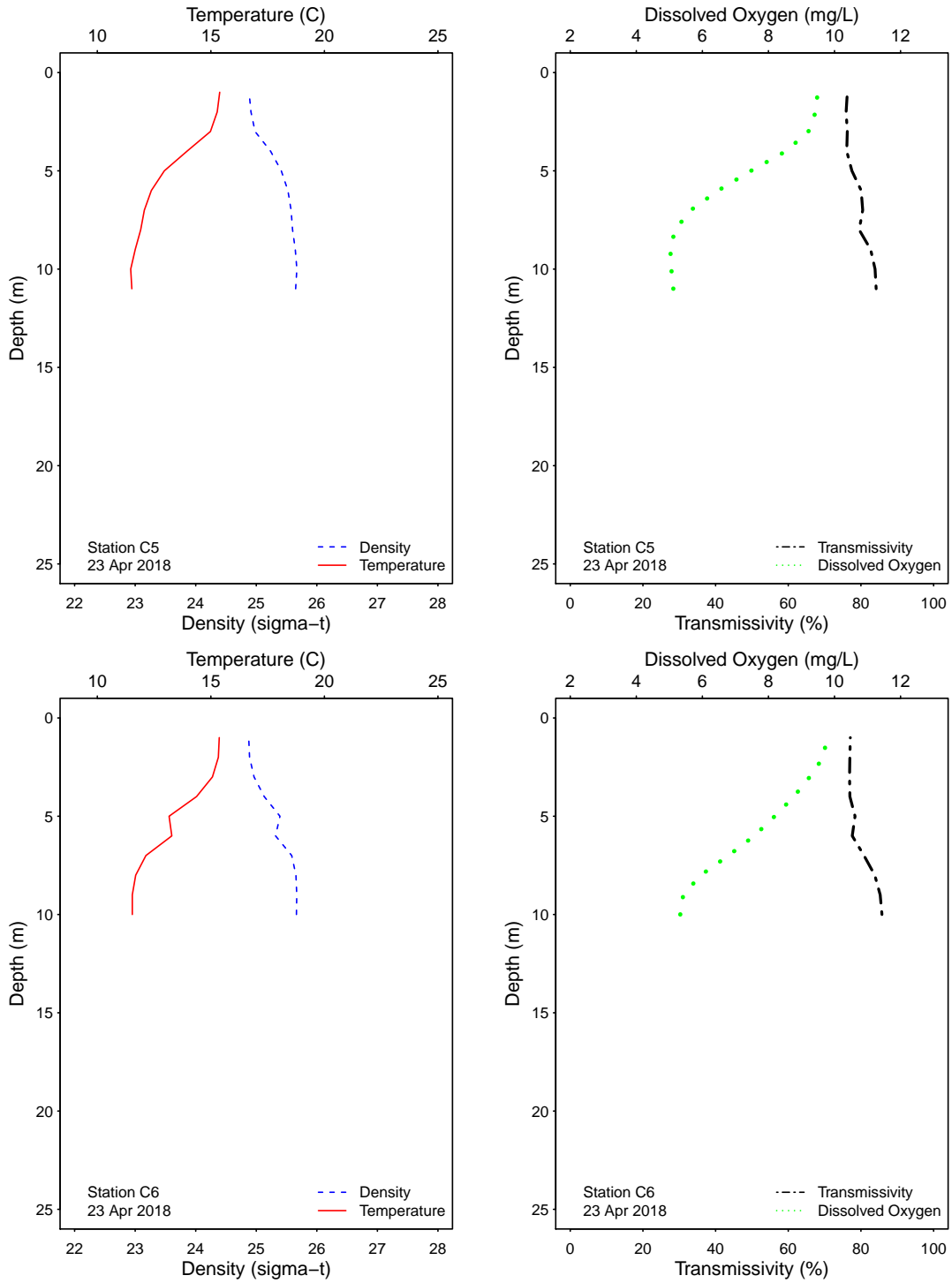


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

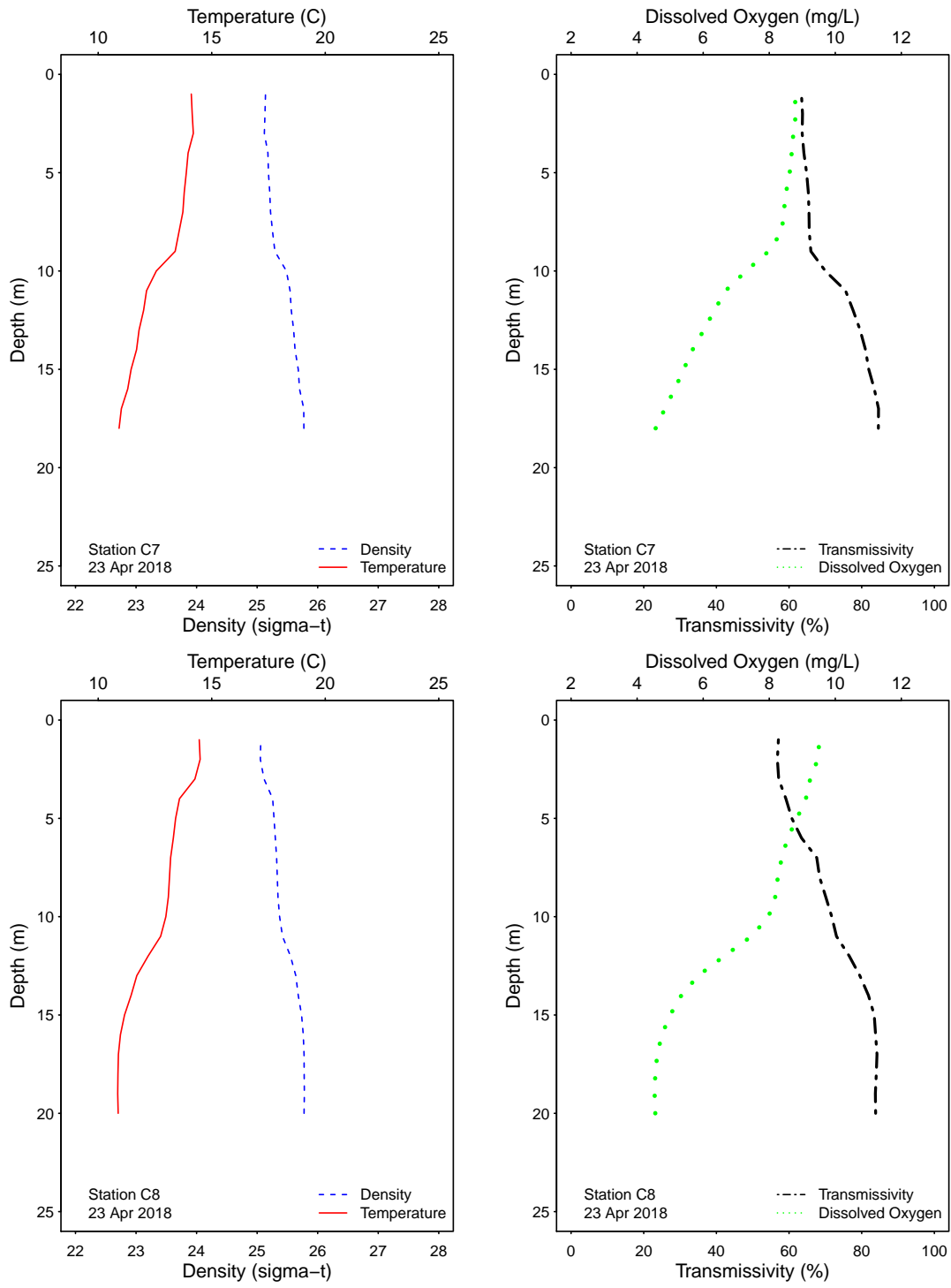


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

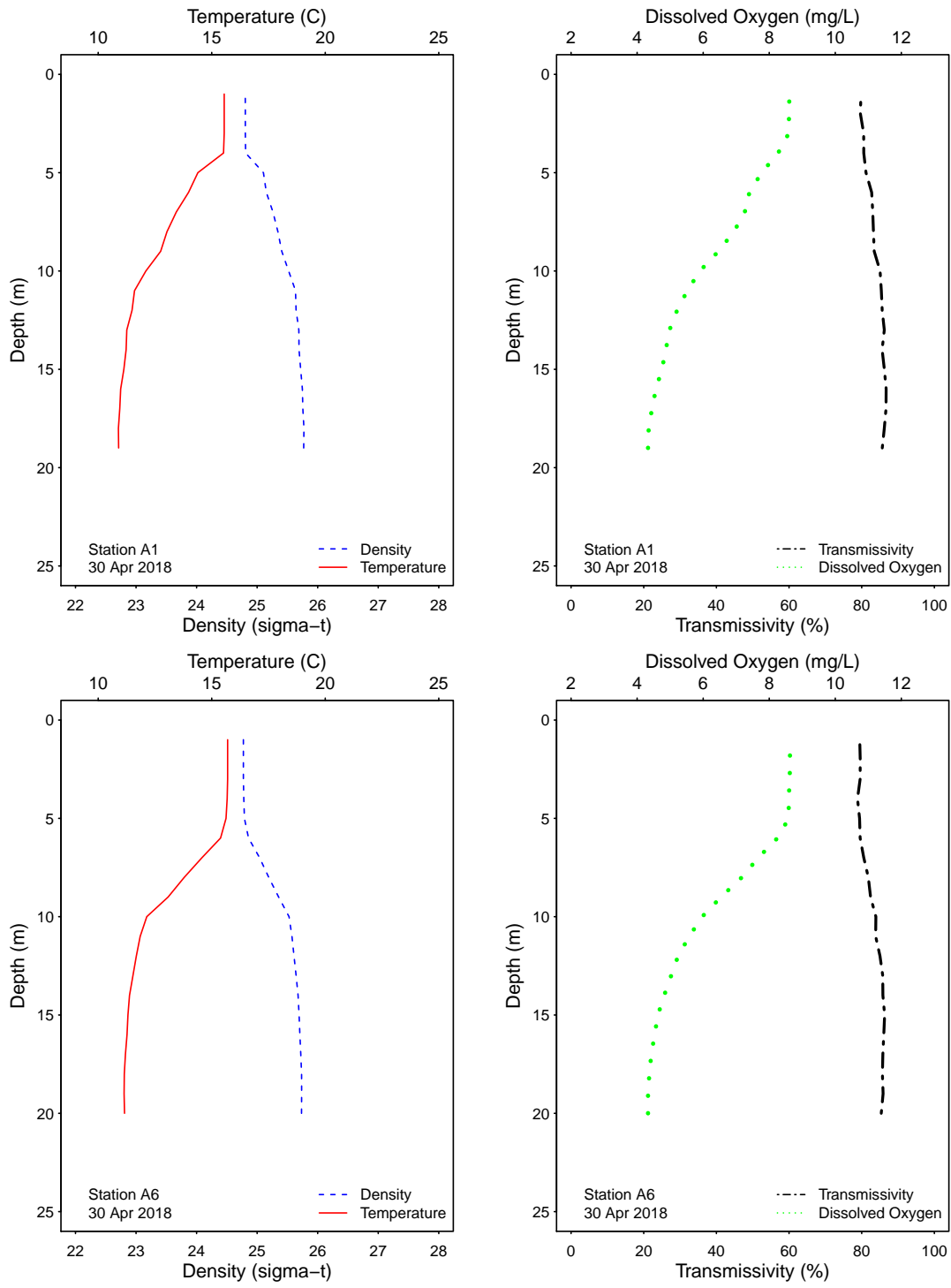


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

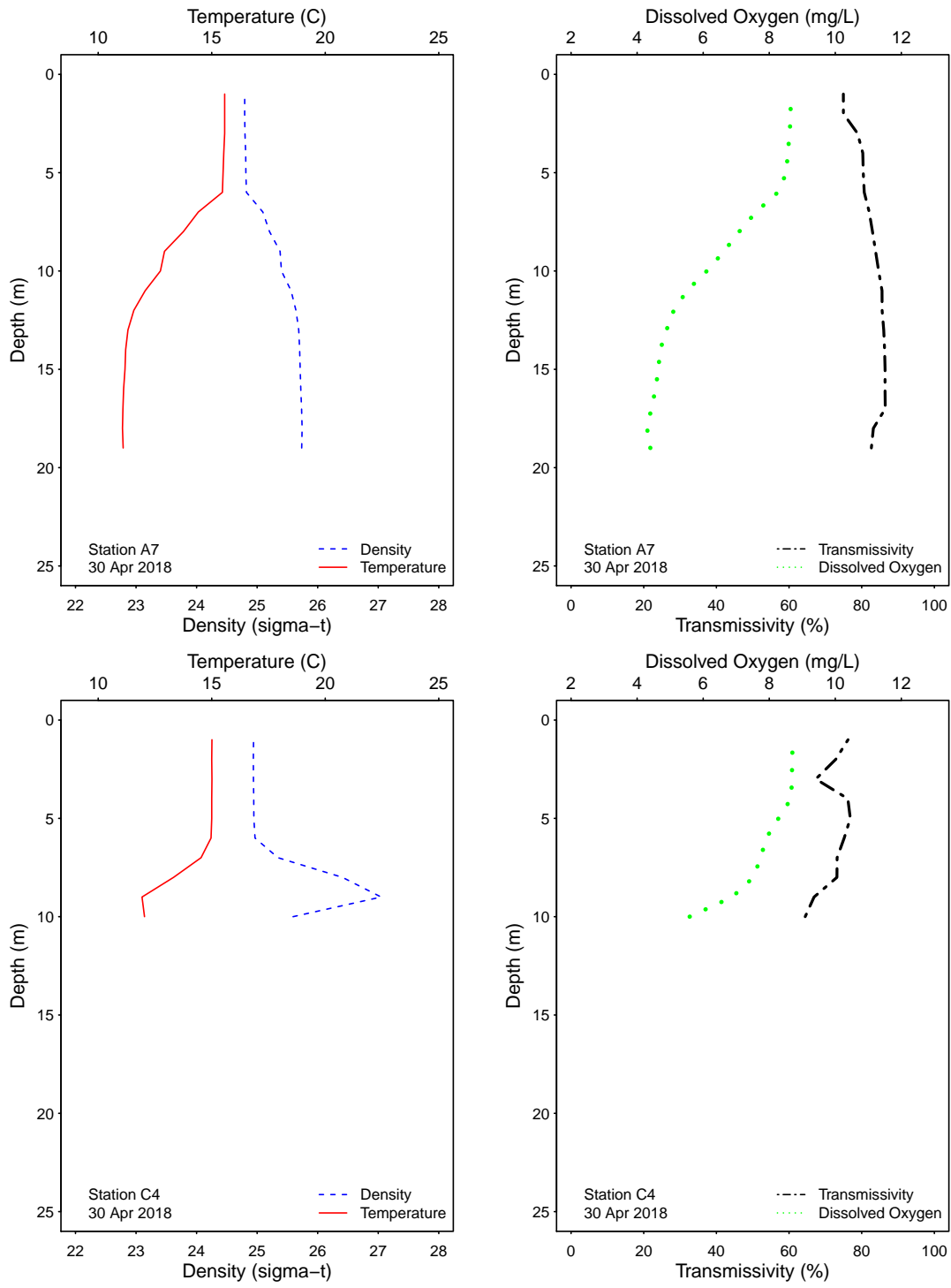


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

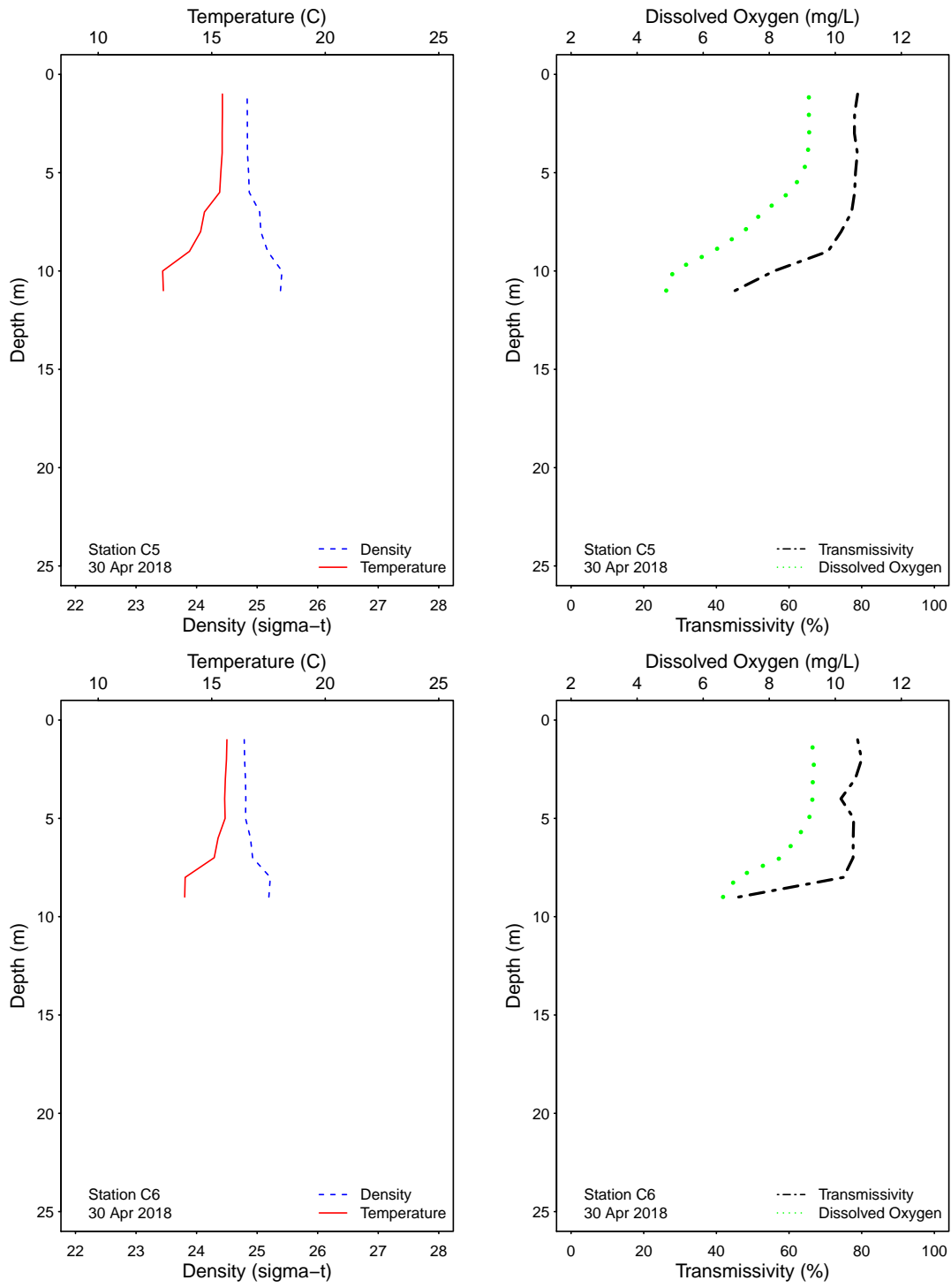


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

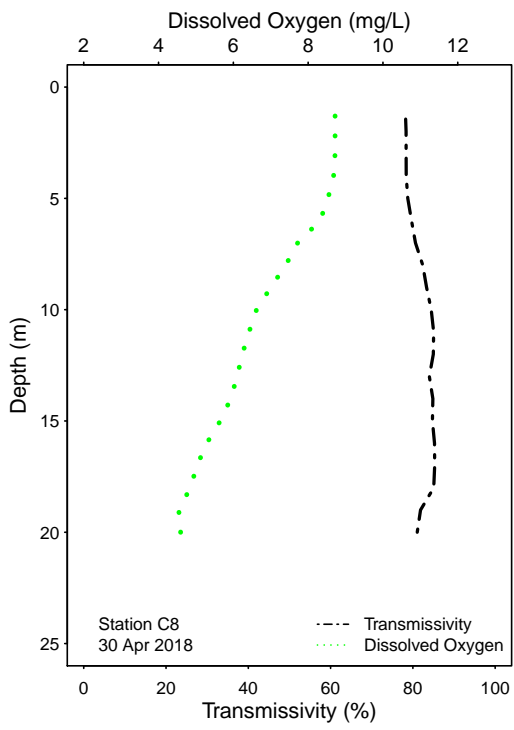
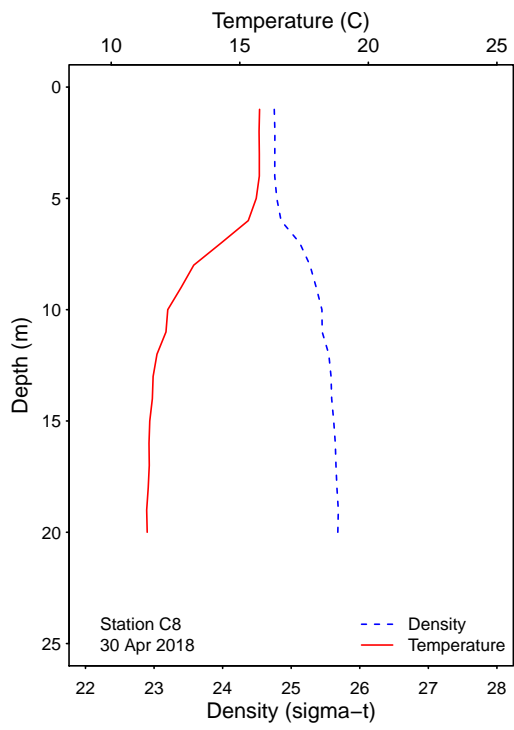
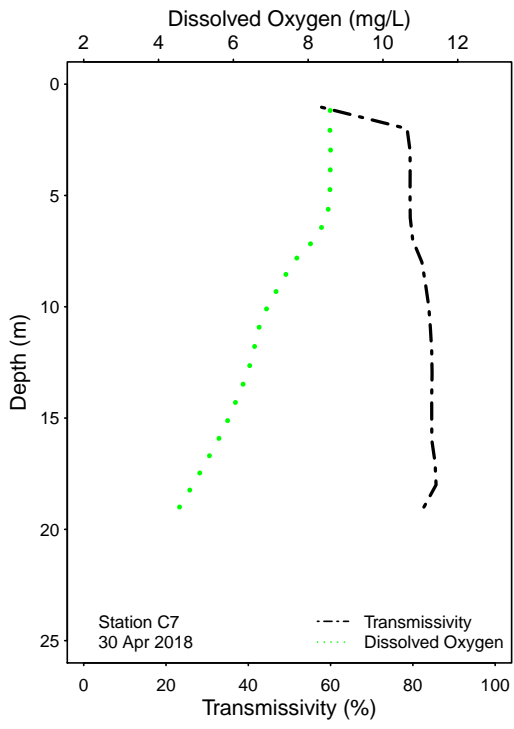
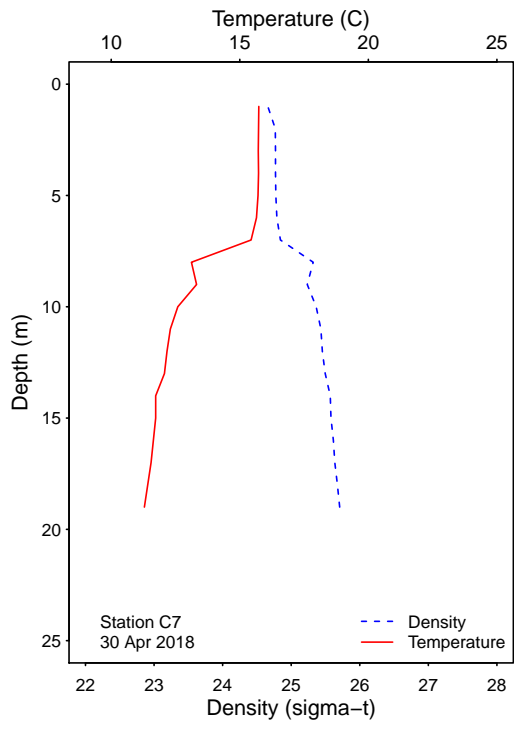


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

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 Apr 2018	18	ZV	LAB DUPLICATE	8e	<2	<2
A7	09 Apr 2018	18	LMA	LAB DUPLICATE	66	<2	4e
A7	16 Apr 2018	18	ZV	LAB DUPLICATE	160	14e	12e
A7	23 Apr 2018	18	AE	LAB DUPLICATE	<2	<2	<2
A7	30 Apr 2018	18	JT	LAB DUPLICATE	2e	<2	<2
C7	02 Apr 2018	18	AE	LAB DUPLICATE	2e	2e	<2
C7	09 Apr 2018	18	AE	LAB DUPLICATE	38e	2e	2e
C7	16 Apr 2018	18	ZV	LAB DUPLICATE	580	22e	12e
C7	23 Apr 2018	18	LMA	LAB DUPLICATE	6e	<2	<2
C7	30 Apr 2018	18	ZV	LAB DUPLICATE	2e	<2	<2
C8	02 Apr 2018	12	AE	LAB DUPLICATE	<2	<2	<2
C8	09 Apr 2018	12	AE	LAB DUPLICATE	<2	<2	<2
C8	16 Apr 2018	12	AE	LAB DUPLICATE	70	2e	2e
C8	23 Apr 2018	12	LMA	LAB DUPLICATE	2e	<2	<2
C8	30 Apr 2018	12	ZV	LAB DUPLICATE	<2	<2	<2
D12	04 Apr 2018		JT	FIELD DUPLICATE	<20	<2	<2
D12	04 Apr 2018		JT	LAB DUPLICATE	<2	<2	<2
D12	11 Apr 2018		AE	FIELD DUPLICATE	<20	<2	<2
D12	11 Apr 2018		AE	LAB DUPLICATE	<20	<2	<2
D12	18 Apr 2018		JT	FIELD DUPLICATE	<2	<2	<2
D12	18 Apr 2018		JT	LAB DUPLICATE	<2	<2	<2
D12	25 Apr 2018		ZV	FIELD DUPLICATE	<2	<2	<2
D12	25 Apr 2018		AR	LAB DUPLICATE	<2	<2	<2

ns = not sampled

ND = no data

