



MONTHLY RECEIVING WATERS MONITORING REPORT FOR THE POINT LOMA OCEAN OUTFALL

(POINT LOMA METROPOLITAN WASTEWATER TREATMENT PLANT)
NPDES PERMIT No. CA 0107409

JULY 2016

CITY OF SAN DIEGO
OCEAN MONITORING PROGRAM
PUBLIC UTILITIES DEPARTMENT
ENVIRONMENTAL MONITORING AND TECHNICAL SERVICES DIVISION



THE CITY OF SAN DIEGO

August 31, 2016

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

Attention: POTW Compliance Unit

Dear Mr. Gibson:

Enclosed is the July 2016 Monthly Receiving Waters Monitoring Report for the Point Loma Ocean Outfall, Point Loma Wastewater Treatment Plant as required per Order No. R9-2009-0001, NPDES Permit No. CA0107409.

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

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

Sincerely,

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

TDS/asb

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

Environmental Monitoring and Technical Services Division • Public Utilities

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INTRODUCTION

Monthly reports of water quality and ocean conditions for the San Diego coastal region surrounding the Point Loma Ocean Outfall are submitted to the San Diego Regional Water Quality Control Board and U.S. EPA Region 9 in accordance with Order No. R9-2009-0001, NPDES Permit No. CA0107409 for the Point Loma Wastewater Treatment Plant (PLWTP), Point Loma Ocean Outfall (PLOO). This report includes receiving waters monitoring data collected from all shore, kelp and offshore stations specified in the above order. Data for influent and effluent monitoring activities for the PLWTP are presented in separate reports.

MATERIALS AND METHODS

Shore Stations

Water quality conditions are monitored at eight shore stations (D4, D5, D7–D12). These stations range from the tip of the Point Loma Peninsula to west of Mission Bay (see station locations map). Due to site inaccessibility, station D8 has been temporarily abandoned and replaced with station D8-A. This new location will be sampled until access is restored at the original location. Seawater samples are collected from the surf zone at each station five times during the month. These samples are subsequently transported to the City's Marine Microbiology Laboratory and analyzed for the presence of several types of fecal indicator bacteria (FIBs), including total coliforms, fecal coliforms, and *Enterococcus*. Visual observations of water color and clarity, surf height, human or animal activity, and weather conditions are also recorded at the time of sample collection. Wind speed and direction are measured using a hand-held anemometer with a compass.

Kelp Bed Stations

The eight kelp stations are sampled five times during the month according to permit specifications in order to monitor water quality conditions within the Point Loma kelp forest. These stations include three sites located along the inshore edge of the kelp bed paralleling the 9-m depth contour (i.e., stations C4, C5 and C6), and five sites located near the offshore edge of the kelp bed along the 18-m depth contour (i.e., stations A1, A6, A7, C7 and C8).

Routine weekly monitoring at each of the kelp bed sites consists primarily of collecting seawater samples at discrete depths to determine concentrations of indicator bacteria (i.e., total coliforms, fecal coliforms, and *Enterococcus*). Additional samples for ammonium analysis are collected at these same sites and depths on a quarterly basis in order to correspond to sampling at the offshore stations located within State waters that is typically scheduled during the months of February, May, August and November. Water column profiles of various physical/chemical parameters are also generated during each sampling event, and visual observations of weather and water conditions are recorded at each station.

Seawater samples at the kelp bed stations are primarily collected using a CTD-integrated rosette sampler with Niskin bottles. Aliquots for ammonium and bacteriological analyses are then drawn from these bottles into sterile sample bottles for processing at the City's Toxicology Laboratory (ammonium) and Marine Microbiology Laboratory (bacteria), respectively. Water column profiles of temperature, transmissivity, dissolved oxygen, pH, salinity, density, chlorophyll *a* are generated using a Sea-Bird conductivity, temperature and depth instrument (CTD), which collects these data

at a rate of eight scans per second. These scans are then internally averaged to create water column profiles with data readings at a rate of one per meter. The CTD data are presented in both graphical and tabular form. Additionally, data for depths closest to those where bacteriological samples are collected are extracted from the CTD profiles and presented with the bacteriological data.

Offshore Stations

Offshore water quality sampling is conducted quarterly, typically during the months of February, May, August and November. A total of 36 offshore stations (F01–F36) are sampled during each survey usually over a 3-day period. Three of the stations (F01–F03) are located along the 18-m depth contour, while 11 stations are located along each of the following contours: 60 m (stations F04–F14); 80 m (stations F15–F25); 98 m (stations F26–F36). Of these 36 stations, 15 (F01–F03, F06–F14, F18–F20) are located within State jurisdictional waters (i.e., within 3 nautical miles of shore) and are subject to the California Ocean Plan's compliance standards.

Monitoring at all offshore sites includes measurements of *Enterococcus* bacteria, water temperature, salinity, density, dissolved oxygen, pH, chlorophyll *a*, transmissivity, chromomorphic dissolved organic matter (CDOM), and visual observations of weather and water conditions. Monitoring at sites within State waters also include the collection of discrete grab samples for ammonium analysis (see Table 4.2).

Seawater samples for ammonium and bacteriological analyses at the offshore stations are primarily collected using a CTD-integrated rosette sampler with Niskin bottles. Profiles of the various physical/chemical parameters (listed above) are taken using a Sea-Bird CTD. The CTD profile data are then presented in both graphical and tabular form. Additionally, data for depths closest to those at which bacteriological samples are collected are extracted from the CTD profiles and presented with the bacteriological data.

Bacteriological Reporting and Quality Assurance

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

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

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

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

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

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

Single Sample Maximums:

- (1) Total coliform density shall not exceed 10,000 CFU/100 mL;
- (2) Fecal coliform density shall not exceed 400 CFU/100 mL;
- (3) *Enterococcus* density shall not exceed 104 CFU/100 mL;
- (4) Total coliform density shall not exceed 1,000 CFU/100 mL when the fecal coliform/total coliform ratio exceeds 0.1.

Quality controls of bacteriological data include laboratory and field duplicate analyses. Laboratory duplicates are performed on approximately 10% of the water quality samples, while field duplicates are performed six times a month (see Appendix A). Laboratory duplicates represent two aliquots of the original sample that are split in the laboratory and analyzed by the same analyst using identical procedures within the same analytical run. The results of these analyses provide a measure of intra-analyst precision. In contrast, field duplicates represent two separate samples collected at the same time from the same site, which are handled under identical circumstances and treated exactly the same throughout field and lab procedures. The results of these analyses provide a measure of precision associated with sample collection, preservation, storage, and lab procedures. The sign test (see Gilbert, 1987) is used to statistically compare both the results from the laboratory duplicates, as well as the results from the field duplicates. These data will be further analyzed in the City's 2016 Quality Assurance Report, which will be completed in March 2017.

SUMMARY OF RESULTS

Shore Stations

- During July 2016, one of the eight shore stations was out of compliance with various water-contact standards specified in the Ocean Plan as follows:
 - o The single sample maximum (SSM) standard for fecal coliforms was exceeded at station D8-A on July 21.
- Per permit requirements, a resample was collected in response to this SSM exceedance (see Table 2.8 for details).
- Over the years, elevated bacteria levels at shore and kelp bed stations have tended to be associated with rainfall events, heavy recreational use, or the presence of seabirds or decaying kelp and surfgrass. See the City of San Diego's most recent *Point Loma Ocean Outfall Annual Receiving Waters Monitoring and Assessment Report* for details (<http://www.sandiego.gov/mwwd/environment/oceanmonitor/reports/index.shtml>).
- Nothing of sewage origin was observed at any of the shore stations.

Kelp Bed Stations

- The eight kelp bed water quality stations (A1, A6, A7, C4, C5, C6, C7, C8) were sampled five times during July (i.e. July 7, 13, 19, 25, 31).
- During July, all of the kelp bed stations were in compliance with all water-contact standards specified in the Ocean Plan.

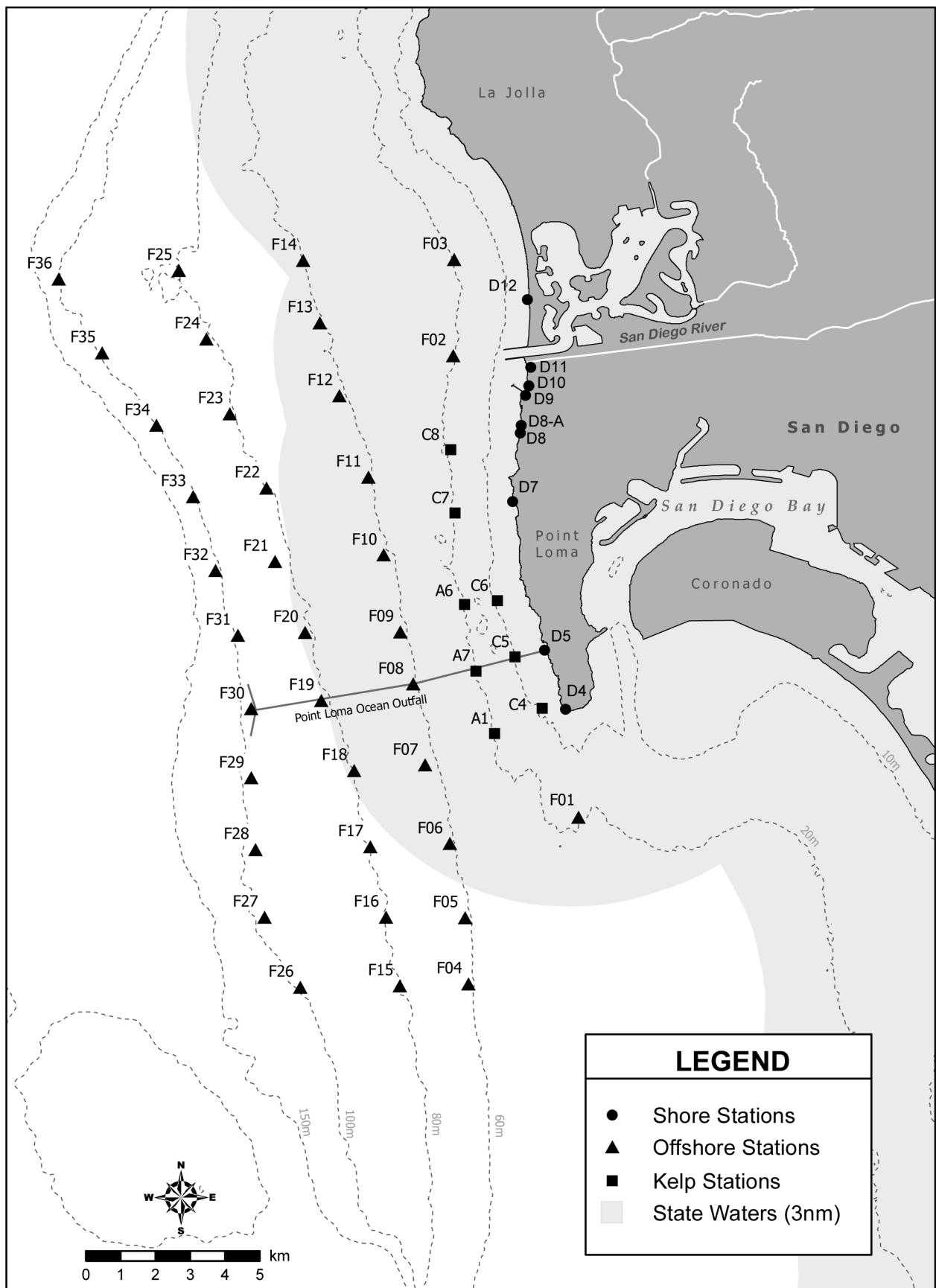
- Water column temperatures ranged from 13.08 to 22.61°C during the month. The difference between surface and bottom waters ranged from 0.93 to 8.91°C, indicating that the water column was stratified at some of the kelp bed stations during the month.
- Chlorophyll *a* concentrations ranged from 0.29 to 6.47 µg/L during July, suggesting the presence of phytoplankton blooms during the month.
- There were no notable visual observations for July.

Offshore Stations

- Quarterly sampling was not conducted during July at the offshore stations. The next quarterly sampling is scheduled for August 2016.



TABLES AND FIGURES



Shore Stations

Table 2.1

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

Date	D4	D5	D7	D8-A	D9	D10	D11	D12
01 Jul 2016	4	13	5	20*	6	21	33	8
02 Jul 2016	5*	11*	4*	20*	5*	22*	37*	7*
03 Jul 2016	4	13	5	20*	8	25	33	7
04 Jul 2016	4	13	5	20*	8	25	33	7
05 Jul 2016	4	13	5	20*	8	25	33	7
06 Jul 2016	4	13	5	20*	8	25	33	7
07 Jul 2016	4	13	5	20*	8	25	33	7
08 Jul 2016	4*	20*	6*	20*	11*	15*	31*	4*
09 Jul 2016	3	20	8	13*	12	14	29	5
10 Jul 2016	3	20	8	13*	12	14	29	5
11 Jul 2016	3	20	8	13*	12	14	29	5
12 Jul 2016	3	20	8	13*	12	14	29	5
13 Jul 2016	3	20	8	13*	12	14	29	5
14 Jul 2016	4*	20*	6*	13*	13*	13*	31*	6*
15 Jul 2016	4	20	8	14	13	13	29	7
16 Jul 2016	4	20	8	14	13	13	29	7
17 Jul 2016	4	20	8	14	13	13	29	7
18 Jul 2016	4	20	8	14	13	13	29	7
19 Jul 2016	4	20	8	14	13	13	29	7
20 Jul 2016	2*	20*	11*	13*	12*	22*	31*	10*
21 Jul 2016	4	20	20	31	13	21	29	12
22 Jul 2016	4	20	20	31	13	21	29	12
23 Jul 2016	4	20	20	31	13	21	29	12
24 Jul 2016	4	20	20	31	13	21	29	12
25 Jul 2016	4	20	20	31	13	21	29	12
26 Jul 2016	4	20	20	31	13	21	29	12
27 Jul 2016	4	20	20	31	21	20	20	13
28 Jul 2016	4	20	20	31	21	20	20	13
29 Jul 2016	4	20	20	31	21	20	20	13
30 Jul 2016	4	20	20	31	21	20	20	13
31 Jul 2016	4	20	20	31	21	20	20	13

* Geometric mean calculated using n<5

ns = not sampled

Table 2.2

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

Date	D4	D5	D7	D8-A	D9	D10	D11	D12
01 Jul 2016	2	2	2	2*	2	2	4	3
02 Jul 2016	2*	2*	2*	2*	2*	2*	4*	3*
03 Jul 2016	2	2	3	2*	2	3	5	3
04 Jul 2016	2	2	3	2*	2	3	5	3
05 Jul 2016	2	2	3	2*	2	3	5	3
06 Jul 2016	2	2	3	2*	2	3	5	3
07 Jul 2016	2	2	3	2*	2	3	5	3
08 Jul 2016	2*	2*	3*	2*	2*	3*	6*	2*
09 Jul 2016	2	2	3	2*	2	3	6	2
10 Jul 2016	2	2	3	2*	2	3	6	2
11 Jul 2016	2	2	3	2*	2	3	6	2
12 Jul 2016	2	2	3	2*	2	3	6	2
13 Jul 2016	2	2	3	2*	2	3	6	2
14 Jul 2016	2*	2*	3*	2*	2*	3*	8*	2*
15 Jul 2016	2	2	3	2	2	3	6	2
16 Jul 2016	2	2	3	2	2	3	6	2
17 Jul 2016	2	2	3	2	2	3	6	2
18 Jul 2016	2	2	3	2	2	3	6	2
19 Jul 2016	2	2	3	2	2	3	6	2
20 Jul 2016	2*	2*	3*	2*	2*	3*	8*	2*
21 Jul 2016	2	2	6	7	2	3	7	2
22 Jul 2016	2	2	6	5	2	3	7	2
23 Jul 2016	2	2	6	5	2	3	7	2
24 Jul 2016	2	2	6	5	2	3	7	2
25 Jul 2016	2	2	6	5	2	3	7	2
26 Jul 2016	2	2	6	5	2	3	7	2
27 Jul 2016	2	2	6	5	2	2	4	2
28 Jul 2016	2	2	6	5	2	2	4	2
29 Jul 2016	2	2	6	5	2	2	4	2
30 Jul 2016	2	2	6	5	2	2	4	2
31 Jul 2016	2	2	6	5	2	2	4	2

* Geometric mean calculated using n<5

ns = not sampled

Table 2.3

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

Date	D4	D5	D7	D8-A	D9	D10	D11	D12
01 Jul 2016	2	2	2	2*	2	2	2	3
02 Jul 2016	2*	2*	2*	2*	2*	2*	2*	3*
03 Jul 2016	2	2	2	2*	3	3	2	3
04 Jul 2016	2	2	2	2*	3	3	2	3
05 Jul 2016	2	2	2	2*	3	3	2	3
06 Jul 2016	2	2	2	2*	3	3	2	3
07 Jul 2016	2	2	2	2*	3	3	2	3
08 Jul 2016	3*	2*	2*	2*	3*	3*	2*	3*
09 Jul 2016	2	2	2	2*	3	3	2	3
10 Jul 2016	2	2	2	2*	3	3	2	3
11 Jul 2016	2	2	2	2*	3	3	2	3
12 Jul 2016	2	2	2	2*	3	3	2	3
13 Jul 2016	2	2	2	2*	3	3	2	3
14 Jul 2016	3*	2*	2*	2*	3*	3*	2*	3*
15 Jul 2016	2	2	2	2	3	3	2	3
16 Jul 2016	2	2	2	2	3	3	2	3
17 Jul 2016	2	2	2	2	3	3	2	3
18 Jul 2016	2	2	2	2	3	3	2	3
19 Jul 2016	2	2	2	2	3	3	2	3
20 Jul 2016	3*	2*	2*	2*	2*	3*	2*	3*
21 Jul 2016	2	2	2	2	2	3	3	3
22 Jul 2016	2	2	2	2	2	3	3	3
23 Jul 2016	2	2	2	2	2	3	3	3
24 Jul 2016	2	2	2	2	2	3	3	3
25 Jul 2016	2	2	2	2	2	3	3	3
26 Jul 2016	2	2	2	2	2	3	3	3
27 Jul 2016	2	2	2	2	2	3	3	2
28 Jul 2016	2	2	2	2	2	3	3	2
29 Jul 2016	2	2	2	2	2	3	3	2
30 Jul 2016	2	2	2	2	2	3	3	2
31 Jul 2016	2	2	2	2	2	3	3	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-A	D9	D10	D11	D12
03 Jul 2016	IC	IC	IC	IC	IC	IC	IC	IC
09 Jul 2016	IC	IC	IC	IC	IC	IC	IC	IC
15 Jul 2016	IC	IC	IC	IC	IC	IC	IC	IC
21 Jul 2016	IC	IC	IC	IC	IC	IC	IC	IC
27 Jul 2016	IC	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

Table 2.5

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

Date	D4	D5	D7	D8-A	D9	D10	D11	D12
03 Jul 2016	IC	IC	IC	IC	IC	IC	IC	IC
09 Jul 2016	IC	IC	IC	IC	IC	IC	IC	IC
15 Jul 2016	IC	IC	IC	IC	IC	IC	IC	IC
21 Jul 2016	IC	IC	IC	E	IC	IC	IC	IC
22 Jul 2016	ns	ns	ns	IC	ns	ns	ns	ns
27 Jul 2016	IC	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

Table 2.6

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

Date	D4	D5	D7	D8-A	D9	D10	D11	D12
03 Jul 2016	IC	IC	IC	IC	IC	IC	IC	IC
09 Jul 2016	IC	IC	IC	IC	IC	IC	IC	IC
15 Jul 2016	IC	IC	IC	IC	IC	IC	IC	IC
21 Jul 2016	IC	IC	IC	IC	IC	IC	IC	IC
27 Jul 2016	IC	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

Table 2.7

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

Date	D4	D5	D7	D8-A	D9	D10	D11	D12
03 Jul 2016	IC	IC	IC	IC	IC	IC	IC	IC
09 Jul 2016	IC	IC	IC	IC	IC	IC	IC	IC
15 Jul 2016	IC	IC	IC	IC	IC	IC	IC	IC
21 Jul 2016	IC	IC	IC	IC	IC	IC	IC	IC
27 Jul 2016	IC	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

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* (Enter) 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	Enter	F:T
D4	03 Jul 2016	840	2e	<2	6e	1.00
	09 Jul 2016	1112	2e	<2	<2	1.00
	15 Jul 2016	814	4e	<2	2e	0.50
	21 Jul 2016	1520	<20	<2	<2	0.10
	27 Jul 2016	1140	<2	<2	<2	1.00
D5	03 Jul 2016	823	<20	<2	<2	0.10
	09 Jul 2016	1055	<20	<2	<2	0.10
	15 Jul 2016	753	20e	<2	2e	0.10
	21 Jul 2016	1145	<20	<2	<2	0.10
	27 Jul 2016	1124	<20	2e	<2	0.10
D7	03 Jul 2016	908	<20	12e	<2	0.60
	09 Jul 2016	1026	<20	<2	<2	0.10
	15 Jul 2016	842	<20	<2	<2	0.10
	21 Jul 2016	1110	220e	58	<2	0.26
	27 Jul 2016	1051	<2	<2	<2	1.00
D8-A	03 Jul 2016	923	<20	<2	<2	0.10
	09 Jul 2016	1010	4e	<2	<2	0.50
	15 Jul 2016	900	<20	<2	<2	0.10
	21 Jul 2016	1055	960	800e	4e	0.83
	22 Jul 2016	1421	ns	<2	ns	ns
	27 Jul 2016	1028	20e	<2	<2	0.10
D9	03 Jul 2016	936	40e	<2	4e	0.05
	09 Jul 2016	959	<20	<2	<2	0.10
	15 Jul 2016	913	12e	<2	<2	0.17
	21 Jul 2016	1040	20e	<2	<2	0.10
	27 Jul 2016	1011	<20	<2	<2	0.10
D10	03 Jul 2016	951	40e	6e	10e	0.15
	09 Jul 2016	948	12e	<2	2e	0.17
	15 Jul 2016	925	16e	<2	2e	0.12
	21 Jul 2016	1021	<20	<2	2e	0.10
	27 Jul 2016	952	<20	<2	<2	0.10
D11	03 Jul 2016	1008	20e	6e	2e	0.30
	09 Jul 2016	935	<20	6e	<2	0.30
	15 Jul 2016	944	20e	2e	<2	0.10
	21 Jul 2016	1008	<20	4e	10e	0.20
	27 Jul 2016	937	20e	2e	6e	0.10

Station	Date	Time	Total	Fecal	Enteric	F:T
D12	03 Jul 2016	1036	8e	<2	<2	0.25
D12	09 Jul 2016	915	6e	<2	<2	0.33
D12	15 Jul 2016	1015	<20	4e	<2	0.20
D12	21 Jul 2016	947	<20	<2	<2	0.10
D12	27 Jul 2016	915	<20	<2	<2	0.10

ns = not sampled

ND = no data

Comments

Station	Date	Depth	Parameter	Comments
D8-A	22 Jul 2016			Resample

Table 2.9

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

Station	Date	Parameter	Value
D4	03 Jul 2016	Arrive Time	840
D4	03 Jul 2016	Weather	Cloudy
D4	03 Jul 2016	Wind Speed (kts)	0.9
D4	03 Jul 2016	Wind Dir	W
D4	03 Jul 2016	Animal Life	2 Seals
D4	03 Jul 2016	Floatables	None
D4	03 Jul 2016	Water Color	Green
D4	03 Jul 2016	Current Direction	W
D4	03 Jul 2016	Wave Height Low (ft)	2
D4	03 Jul 2016	High Tide (ft)	4.1
D4	03 Jul 2016	High Tide Time	938
D4	03 Jul 2016	Low Tide (ft)	-1.2
D4	03 Jul 2016	Low Tide Time	323
D4	03 Jul 2016	Comments	Kelp; Seagrass; Water clear
D4	09 Jul 2016	Arrive Time	1112
D4	09 Jul 2016	Weather	Sunny
D4	09 Jul 2016	Wind Speed (kts)	6.8
D4	09 Jul 2016	Wind Dir	W
D4	09 Jul 2016	Animal Life	None
D4	09 Jul 2016	Floatables	None
D4	09 Jul 2016	Water Color	Green
D4	09 Jul 2016	Current Direction	W
D4	09 Jul 2016	Wave Height Low (ft)	2
D4	09 Jul 2016	High Tide (ft)	4.2
D4	09 Jul 2016	High Tide Time	1411
D4	09 Jul 2016	Low Tide (ft)	0.4
D4	09 Jul 2016	Low Tide Time	730
D4	09 Jul 2016	Comments	Water clear
D4	15 Jul 2016	Arrive Time	814
D4	15 Jul 2016	Weather	Cloudy
D4	15 Jul 2016	Wind Speed (kts)	1.1
D4	15 Jul 2016	Wind Dir	W
D4	15 Jul 2016	Animal Life	None
D4	15 Jul 2016	Floatables	None
D4	15 Jul 2016	Water Color	Green
D4	15 Jul 2016	Current Direction	S
D4	15 Jul 2016	Wave Height Low (ft)	1
D4	15 Jul 2016	High Tide (ft)	3.3
D4	15 Jul 2016	High Tide Time	742
D4	15 Jul 2016	Low Tide (ft)	2.1
D4	15 Jul 2016	Low Tide Time	1235
D4	15 Jul 2016	Comments	Seagrass; Water clear
D4	21 Jul 2016	Arrive Time	1520
D4	21 Jul 2016	Weather	Sunny
D4	21 Jul 2016	Wind Speed (kts)	5.6
D4	21 Jul 2016	Wind Dir	W
D4	21 Jul 2016	Animal Life	None
D4	21 Jul 2016	Floatables	None

Station	Date	Parameter	Value
D4	21 Jul 2016	Water Color	Green
D4	21 Jul 2016	Current Direction	N
D4	21 Jul 2016	Wave Height Low (ft)	2
D4	21 Jul 2016	High Tide (ft)	4.3
D4	21 Jul 2016	High Tide Time	1117
D4	21 Jul 2016	Low Tide (ft)	1.7
D4	21 Jul 2016	Low Tide Time	1637
D4	21 Jul 2016	Comments	Water clear
D4	27 Jul 2016	Arrive Time	1140
D4	27 Jul 2016	Weather	Partly Cloudy
D4	27 Jul 2016	Wind Speed (kts)	3.4
D4	27 Jul 2016	Wind Dir	W
D4	27 Jul 2016	Animal Life	None
D4	27 Jul 2016	Floatables	None
D4	27 Jul 2016	Water Color	Green
D4	27 Jul 2016	Current Direction	N
D4	27 Jul 2016	Wave Height Low (ft)	2
D4	27 Jul 2016	High Tide (ft)	5.3
D4	27 Jul 2016	High Tide Time	1624
D4	27 Jul 2016	Low Tide (ft)	1.5
D4	27 Jul 2016	Low Tide Time	942
D4	27 Jul 2016	Comments	Water clear
D5	03 Jul 2016	Arrive Time	823
D5	03 Jul 2016	Weather	Cloudy
D5	03 Jul 2016	Wind Speed (kts)	2.3
D5	03 Jul 2016	Wind Dir	W
D5	03 Jul 2016	Animal Life	None
D5	03 Jul 2016	Floatables	None
D5	03 Jul 2016	Water Color	Green
D5	03 Jul 2016	Current Direction	W
D5	03 Jul 2016	Wave Height Low (ft)	1
D5	03 Jul 2016	High Tide (ft)	4.1
D5	03 Jul 2016	High Tide Time	938
D5	03 Jul 2016	Low Tide (ft)	-1.2
D5	03 Jul 2016	Low Tide Time	323
D5	03 Jul 2016	Comments	Algae; Water clear
D5	09 Jul 2016	Arrive Time	1055
D5	09 Jul 2016	Weather	Sunny
D5	09 Jul 2016	Wind Speed (kts)	0.3
D5	09 Jul 2016	Wind Dir	W
D5	09 Jul 2016	Animal Life	None
D5	09 Jul 2016	Floatables	None
D5	09 Jul 2016	Water Color	Grey
D5	09 Jul 2016	Current Direction	W
D5	09 Jul 2016	Wave Height Low (ft)	1
D5	09 Jul 2016	High Tide (ft)	4.2
D5	09 Jul 2016	High Tide Time	1411
D5	09 Jul 2016	Low Tide (ft)	0.4
D5	09 Jul 2016	Low Tide Time	730
D5	09 Jul 2016	Comments	Water clear
D5	15 Jul 2016	Arrive Time	753

Station	Date	Parameter	Value
D5	15 Jul 2016	Weather	Cloudy
D5	15 Jul 2016	Wind Speed (kts)	0.9
D5	15 Jul 2016	Wind Dir	W
D5	15 Jul 2016	Animal Life	None
D5	15 Jul 2016	Floatables	None
D5	15 Jul 2016	Water Color	Green
D5	15 Jul 2016	Current Direction	S
D5	15 Jul 2016	Wave Height Low (ft)	1
D5	15 Jul 2016	High Tide (ft)	3.3
D5	15 Jul 2016	High Tide Time	742
D5	15 Jul 2016	Low Tide (ft)	2.1
D5	15 Jul 2016	Low Tide Time	1235
D5	15 Jul 2016	Comments	Seagrass; Water clear
D5	21 Jul 2016	Arrive Time	1145
D5	21 Jul 2016	Weather	Sunny
D5	21 Jul 2016	Wind Speed (kts)	0.7
D5	21 Jul 2016	Wind Dir	W
D5	21 Jul 2016	Animal Life	None
D5	21 Jul 2016	Floatables	None
D5	21 Jul 2016	Water Color	Green
D5	21 Jul 2016	Current Direction	N
D5	21 Jul 2016	Wave Height Low (ft)	4
D5	21 Jul 2016	High Tide (ft)	4.3
D5	21 Jul 2016	High Tide Time	1117
D5	21 Jul 2016	Low Tide (ft)	1.7
D5	21 Jul 2016	Low Tide Time	1637
D5	21 Jul 2016	Comments	Water clear
D5	27 Jul 2016	Arrive Time	1124
D5	27 Jul 2016	Weather	Partly Cloudy
D5	27 Jul 2016	Wind Speed (kts)	5
D5	27 Jul 2016	Wind Dir	W
D5	27 Jul 2016	Animal Life	None
D5	27 Jul 2016	Floatables	None
D5	27 Jul 2016	Water Color	Green
D5	27 Jul 2016	Current Direction	N
D5	27 Jul 2016	Wave Height Low (ft)	3
D5	27 Jul 2016	High Tide (ft)	5.3
D5	27 Jul 2016	High Tide Time	1624
D5	27 Jul 2016	Low Tide (ft)	1.5
D5	27 Jul 2016	Low Tide Time	942
D5	27 Jul 2016	Comments	Water clear
D7	03 Jul 2016	Arrive Time	908
D7	03 Jul 2016	Weather	Cloudy
D7	03 Jul 2016	Wind Speed (kts)	1.1
D7	03 Jul 2016	Wind Dir	NW
D7	03 Jul 2016	Animal Life	None
D7	03 Jul 2016	Floatables	None
D7	03 Jul 2016	Water Color	Green
D7	03 Jul 2016	Current Direction	NW
D7	03 Jul 2016	Wave Height Low (ft)	3
D7	03 Jul 2016	High Tide (ft)	4.1
D7	03 Jul 2016	High Tide Time	938

Station	Date	Parameter	Value
D7	03 Jul 2016	Low Tide (ft)	-1.2
D7	03 Jul 2016	Low Tide Time	323
D7	03 Jul 2016	Comments	Kelp; Seagrass; 2 Surfers; Water clear
D7	09 Jul 2016	Arrive Time	1026
D7	09 Jul 2016	Weather	Sunny
D7	09 Jul 2016	Wind Speed (kts)	1.9
D7	09 Jul 2016	Wind Dir	W
D7	09 Jul 2016	Animal Life	None
D7	09 Jul 2016	Floatables	None
D7	09 Jul 2016	Water Color	Green
D7	09 Jul 2016	Current Direction	W
D7	09 Jul 2016	Wave Height Low (ft)	2
D7	09 Jul 2016	High Tide (ft)	4.2
D7	09 Jul 2016	High Tide Time	1411
D7	09 Jul 2016	Low Tide (ft)	0.4
D7	09 Jul 2016	Low Tide Time	730
D7	09 Jul 2016	Comments	9 Surfers; Water clear
D7	15 Jul 2016	Arrive Time	842
D7	15 Jul 2016	Weather	Cloudy
D7	15 Jul 2016	Wind Speed (kts)	1
D7	15 Jul 2016	Wind Dir	W
D7	15 Jul 2016	Animal Life	None
D7	15 Jul 2016	Floatables	None
D7	15 Jul 2016	Water Color	Green
D7	15 Jul 2016	Current Direction	S
D7	15 Jul 2016	Wave Height Low (ft)	2
D7	15 Jul 2016	High Tide (ft)	3.3
D7	15 Jul 2016	High Tide Time	742
D7	15 Jul 2016	Low Tide (ft)	2.1
D7	15 Jul 2016	Low Tide Time	1235
D7	15 Jul 2016	Comments	2 Persons; Water clear
D7	21 Jul 2016	Arrive Time	1110
D7	21 Jul 2016	Weather	Sunny
D7	21 Jul 2016	Wind Speed (kts)	1.9
D7	21 Jul 2016	Wind Dir	W
D7	21 Jul 2016	Animal Life	None
D7	21 Jul 2016	Floatables	None
D7	21 Jul 2016	Water Color	Green
D7	21 Jul 2016	Current Direction	N
D7	21 Jul 2016	Wave Height Low (ft)	4
D7	21 Jul 2016	High Tide (ft)	4.3
D7	21 Jul 2016	High Tide Time	1117
D7	21 Jul 2016	Low Tide (ft)	1.7
D7	21 Jul 2016	Low Tide Time	1637
D7	21 Jul 2016	Comments	Water clear
D7	27 Jul 2016	Arrive Time	1051
D7	27 Jul 2016	Weather	Partly Cloudy
D7	27 Jul 2016	Wind Speed (kts)	2.7
D7	27 Jul 2016	Wind Dir	W
D7	27 Jul 2016	Animal Life	None
D7	27 Jul 2016	Floatables	None

Station	Date	Parameter	Value
D7	27 Jul 2016	Water Color	Green
D7	27 Jul 2016	Current Direction	N
D7	27 Jul 2016	Wave Height Low (ft)	3
D7	27 Jul 2016	High Tide (ft)	5.3
D7	27 Jul 2016	High Tide Time	1624
D7	27 Jul 2016	Low Tide (ft)	1.5
D7	27 Jul 2016	Low Tide Time	942
D7	27 Jul 2016	Comments	5 Surfers; Water clear
D8-A	03 Jul 2016	Arrive Time	923
D8-A	03 Jul 2016	Weather	Cloudy
D8-A	03 Jul 2016	Wind Speed (kts)	0.7
D8-A	03 Jul 2016	Wind Dir	NW
D8-A	03 Jul 2016	Animal Life	None
D8-A	03 Jul 2016	Floatables	None
D8-A	03 Jul 2016	Water Color	Green
D8-A	03 Jul 2016	Current Direction	NW
D8-A	03 Jul 2016	Wave Height Low (ft)	1
D8-A	03 Jul 2016	High Tide (ft)	4.1
D8-A	03 Jul 2016	High Tide Time	938
D8-A	03 Jul 2016	Low Tide (ft)	1.5
D8-A	03 Jul 2016	Low Tide Time	1448
D8-A	03 Jul 2016	Comments	Seagrass; Algae; Water clear
D8-A	09 Jul 2016	Arrive Time	1010
D8-A	09 Jul 2016	Weather	Sunny
D8-A	09 Jul 2016	Wind Speed (kts)	1.8
D8-A	09 Jul 2016	Wind Dir	W
D8-A	09 Jul 2016	Animal Life	None
D8-A	09 Jul 2016	Floatables	None
D8-A	09 Jul 2016	Water Color	Green
D8-A	09 Jul 2016	Current Direction	W
D8-A	09 Jul 2016	Wave Height Low (ft)	3
D8-A	09 Jul 2016	High Tide (ft)	4.2
D8-A	09 Jul 2016	High Tide Time	1411
D8-A	09 Jul 2016	Low Tide (ft)	0.4
D8-A	09 Jul 2016	Low Tide Time	730
D8-A	09 Jul 2016	Comments	Water clear
D8-A	15 Jul 2016	Arrive Time	900
D8-A	15 Jul 2016	Weather	Cloudy
D8-A	15 Jul 2016	Wind Speed (kts)	1.1
D8-A	15 Jul 2016	Wind Dir	W
D8-A	15 Jul 2016	Animal Life	None
D8-A	15 Jul 2016	Floatables	None
D8-A	15 Jul 2016	Water Color	Green
D8-A	15 Jul 2016	Current Direction	S
D8-A	15 Jul 2016	Wave Height Low (ft)	2
D8-A	15 Jul 2016	High Tide (ft)	3.3
D8-A	15 Jul 2016	High Tide Time	742
D8-A	15 Jul 2016	Low Tide (ft)	2.1
D8-A	15 Jul 2016	Low Tide Time	1235
D8-A	15 Jul 2016	Comments	Kelp; Seagrass; Water clear
D8-A	21 Jul 2016	Arrive Time	1055

Station	Date	Parameter	Value
D8-A	21 Jul 2016	Weather	Sunny
D8-A	21 Jul 2016	Wind Speed (kts)	2.4
D8-A	21 Jul 2016	Wind Dir	W
D8-A	21 Jul 2016	Animal Life	None
D8-A	21 Jul 2016	Floatables	None
D8-A	21 Jul 2016	Water Color	Green
D8-A	21 Jul 2016	Current Direction	N
D8-A	21 Jul 2016	Wave Height Low (ft)	4
D8-A	21 Jul 2016	High Tide (ft)	4.3
D8-A	21 Jul 2016	High Tide Time	1117
D8-A	21 Jul 2016	Low Tide (ft)	1.7
D8-A	21 Jul 2016	Low Tide Time	1637
D8-A	21 Jul 2016	Comments	Water clear
D8-A	22 Jul 2016	Arrive Time	1421
D8-A	22 Jul 2016	Weather	Sunny
D8-A	22 Jul 2016	Wind Speed (kts)	6
D8-A	22 Jul 2016	Wind Dir	W
D8-A	22 Jul 2016	Animal Life	None
D8-A	22 Jul 2016	Floatables	None
D8-A	22 Jul 2016	Water Color	Green
D8-A	22 Jul 2016	Current Direction	N
D8-A	22 Jul 2016	Wave Height Low (ft)	4
D8-A	22 Jul 2016	High Tide (ft)	4.4
D8-A	22 Jul 2016	High Tide Time	1156
D8-A	22 Jul 2016	Low Tide (ft)	1.7
D8-A	22 Jul 2016	Low Tide Time	1724
D8-A	22 Jul 2016	Comments	Resample; Kelp; Seagrass; Algae; Water turbid
D8-A	27 Jul 2016	Arrive Time	1028
D8-A	27 Jul 2016	Weather	Sunny
D8-A	27 Jul 2016	Wind Speed (kts)	1.5
D8-A	27 Jul 2016	Wind Dir	W
D8-A	27 Jul 2016	Animal Life	None
D8-A	27 Jul 2016	Floatables	None
D8-A	27 Jul 2016	Water Color	Green
D8-A	27 Jul 2016	Current Direction	N
D8-A	27 Jul 2016	Wave Height Low (ft)	4
D8-A	27 Jul 2016	High Tide (ft)	5.3
D8-A	27 Jul 2016	High Tide Time	1624
D8-A	27 Jul 2016	Low Tide (ft)	1.5
D8-A	27 Jul 2016	Low Tide Time	942
D8-A	27 Jul 2016	Comments	2 Persons; Water clear
D9	03 Jul 2016	Arrive Time	936
D9	03 Jul 2016	Weather	Cloudy
D9	03 Jul 2016	Wind Speed (kts)	0.7
D9	03 Jul 2016	Wind Dir	W
D9	03 Jul 2016	Animal Life	None
D9	03 Jul 2016	Floatables	None
D9	03 Jul 2016	Water Color	Green
D9	03 Jul 2016	Current Direction	W
D9	03 Jul 2016	Wave Height Low (ft)	2
D9	03 Jul 2016	High Tide (ft)	4.1
D9	03 Jul 2016	High Tide Time	938

Station	Date	Parameter	Value
D9	03 Jul 2016	Low Tide (ft)	1.5
D9	03 Jul 2016	Low Tide Time	1448
D9	03 Jul 2016	Comments	Seagrass; 2 Persons; Water clear
D9	09 Jul 2016	Arrive Time	959
D9	09 Jul 2016	Weather	Sunny
D9	09 Jul 2016	Wind Speed (kts)	1.5
D9	09 Jul 2016	Wind Dir	W
D9	09 Jul 2016	Animal Life	None
D9	09 Jul 2016	Floatables	None
D9	09 Jul 2016	Water Color	Green
D9	09 Jul 2016	Current Direction	W
D9	09 Jul 2016	Wave Height Low (ft)	2
D9	09 Jul 2016	High Tide (ft)	4.2
D9	09 Jul 2016	High Tide Time	1411
D9	09 Jul 2016	Low Tide (ft)	0.4
D9	09 Jul 2016	Low Tide Time	730
D9	09 Jul 2016	Comments	Water clear
D9	15 Jul 2016	Arrive Time	913
D9	15 Jul 2016	Weather	Cloudy
D9	15 Jul 2016	Wind Speed (kts)	5.6
D9	15 Jul 2016	Wind Dir	S
D9	15 Jul 2016	Animal Life	None
D9	15 Jul 2016	Floatables	None
D9	15 Jul 2016	Water Color	Green
D9	15 Jul 2016	Current Direction	S
D9	15 Jul 2016	Wave Height Low (ft)	2
D9	15 Jul 2016	High Tide (ft)	3.3
D9	15 Jul 2016	High Tide Time	742
D9	15 Jul 2016	Low Tide (ft)	2.1
D9	15 Jul 2016	Low Tide Time	1235
D9	15 Jul 2016	Comments	Seagrass; Water clear
D9	21 Jul 2016	Arrive Time	1040
D9	21 Jul 2016	Weather	Sunny
D9	21 Jul 2016	Wind Speed (kts)	2.7
D9	21 Jul 2016	Wind Dir	W
D9	21 Jul 2016	Animal Life	None
D9	21 Jul 2016	Floatables	None
D9	21 Jul 2016	Water Color	Green
D9	21 Jul 2016	Current Direction	N
D9	21 Jul 2016	Wave Height Low (ft)	4
D9	21 Jul 2016	High Tide (ft)	4.3
D9	21 Jul 2016	High Tide Time	1117
D9	21 Jul 2016	Low Tide (ft)	-0.7
D9	21 Jul 2016	Low Tide Time	503
D9	21 Jul 2016	Comments	Water clear
D9	27 Jul 2016	Arrive Time	1011
D9	27 Jul 2016	Weather	Sunny
D9	27 Jul 2016	Wind Speed (kts)	3.5
D9	27 Jul 2016	Wind Dir	W
D9	27 Jul 2016	Animal Life	None
D9	27 Jul 2016	Floatables	None

Station	Date	Parameter	Value
D9	27 Jul 2016	Water Color	Green
D9	27 Jul 2016	Current Direction	N
D9	27 Jul 2016	Wave Height Low (ft)	4
D9	27 Jul 2016	High Tide (ft)	3.4
D9	27 Jul 2016	High Tide Time	359
D9	27 Jul 2016	Low Tide (ft)	1.5
D9	27 Jul 2016	Low Tide Time	942
D9	27 Jul 2016	Comments	Water clear
D10	03 Jul 2016	Arrive Time	951
D10	03 Jul 2016	Weather	Cloudy
D10	03 Jul 2016	Wind Speed (kts)	1.7
D10	03 Jul 2016	Wind Dir	W
D10	03 Jul 2016	Animal Life	None
D10	03 Jul 2016	Floatables	None
D10	03 Jul 2016	Water Color	Green
D10	03 Jul 2016	Current Direction	W
D10	03 Jul 2016	Wave Height Low (ft)	3
D10	03 Jul 2016	High Tide (ft)	4.1
D10	03 Jul 2016	High Tide Time	938
D10	03 Jul 2016	Low Tide (ft)	1.5
D10	03 Jul 2016	Low Tide Time	1448
D10	03 Jul 2016	Comments	23 Persons; 3 Surfers; 6 Swimmers; Water clear
D10	09 Jul 2016	Arrive Time	948
D10	09 Jul 2016	Weather	Sunny
D10	09 Jul 2016	Wind Speed (kts)	1.5
D10	09 Jul 2016	Wind Dir	W
D10	09 Jul 2016	Animal Life	None
D10	09 Jul 2016	Floatables	None
D10	09 Jul 2016	Water Color	Green
D10	09 Jul 2016	Current Direction	W
D10	09 Jul 2016	Wave Height Low (ft)	3
D10	09 Jul 2016	High Tide (ft)	4.2
D10	09 Jul 2016	High Tide Time	1411
D10	09 Jul 2016	Low Tide (ft)	0.4
D10	09 Jul 2016	Low Tide Time	730
D10	09 Jul 2016	Comments	7 Persons; 7 Surfers; Water clear
D10	15 Jul 2016	Arrive Time	925
D10	15 Jul 2016	Weather	Cloudy
D10	15 Jul 2016	Wind Speed (kts)	4.2
D10	15 Jul 2016	Wind Dir	W
D10	15 Jul 2016	Animal Life	None
D10	15 Jul 2016	Floatables	None
D10	15 Jul 2016	Water Color	Green
D10	15 Jul 2016	Current Direction	W
D10	15 Jul 2016	Wave Height Low (ft)	2
D10	15 Jul 2016	High Tide (ft)	3.3
D10	15 Jul 2016	High Tide Time	742
D10	15 Jul 2016	Low Tide (ft)	2.1
D10	15 Jul 2016	Low Tide Time	1235
D10	15 Jul 2016	Comments	Seagrass; 10 Persons; 25 Surfers; Water clear
D10	21 Jul 2016	Arrive Time	1021

Station	Date	Parameter	Value
D10	21 Jul 2016	Weather	Sunny
D10	21 Jul 2016	Wind Speed (kts)	6.6
D10	21 Jul 2016	Wind Dir	W
D10	21 Jul 2016	Animal Life	None
D10	21 Jul 2016	Floatables	None
D10	21 Jul 2016	Water Color	Green
D10	21 Jul 2016	Current Direction	N
D10	21 Jul 2016	Wave Height Low (ft)	5
D10	21 Jul 2016	High Tide (ft)	4.3
D10	21 Jul 2016	High Tide Time	1117
D10	21 Jul 2016	Low Tide (ft)	-0.7
D10	21 Jul 2016	Low Tide Time	503
D10	21 Jul 2016	Comments	4 Persons; 5 Surfers; Water clear
D10	27 Jul 2016	Arrive Time	952
D10	27 Jul 2016	Weather	Sunny
D10	27 Jul 2016	Wind Speed (kts)	3.6
D10	27 Jul 2016	Wind Dir	W
D10	27 Jul 2016	Animal Life	None
D10	27 Jul 2016	Floatables	None
D10	27 Jul 2016	Water Color	Green
D10	27 Jul 2016	Current Direction	N
D10	27 Jul 2016	Wave Height Low (ft)	2
D10	27 Jul 2016	High Tide (ft)	3.4
D10	27 Jul 2016	High Tide Time	359
D10	27 Jul 2016	Low Tide (ft)	1.5
D10	27 Jul 2016	Low Tide Time	942
D10	27 Jul 2016	Comments	5 Persons; 11 Surfers; Water clear
D11	03 Jul 2016	Arrive Time	1008
D11	03 Jul 2016	Weather	Cloudy
D11	03 Jul 2016	Wind Speed (kts)	3.6
D11	03 Jul 2016	Wind Dir	W
D11	03 Jul 2016	Animal Life	None
D11	03 Jul 2016	Floatables	None
D11	03 Jul 2016	Water Color	Green
D11	03 Jul 2016	Current Direction	W
D11	03 Jul 2016	Wave Height Low (ft)	2
D11	03 Jul 2016	High Tide (ft)	4.1
D11	03 Jul 2016	High Tide Time	938
D11	03 Jul 2016	Low Tide (ft)	1.5
D11	03 Jul 2016	Low Tide Time	1448
D11	03 Jul 2016	Comments	Seagrass; 12 Persons; 2 Surfers; Water clear
D11	09 Jul 2016	Arrive Time	935
D11	09 Jul 2016	Weather	Sunny
D11	09 Jul 2016	Wind Speed (kts)	1.5
D11	09 Jul 2016	Wind Dir	W
D11	09 Jul 2016	Animal Life	None
D11	09 Jul 2016	Floatables	None
D11	09 Jul 2016	Water Color	Green
D11	09 Jul 2016	Current Direction	W
D11	09 Jul 2016	Wave Height Low (ft)	2
D11	09 Jul 2016	High Tide (ft)	4.2
D11	09 Jul 2016	High Tide Time	1411

Station	Date	Parameter	Value
D11	09 Jul 2016	Low Tide (ft)	0.4
D11	09 Jul 2016	Low Tide Time	730
D11	09 Jul 2016	Comments	10 Persons; 7 Surfers; Water clear
D11	15 Jul 2016	Arrive Time	944
D11	15 Jul 2016	Weather	Cloudy
D11	15 Jul 2016	Wind Speed (kts)	4.4
D11	15 Jul 2016	Wind Dir	W
D11	15 Jul 2016	Animal Life	None
D11	15 Jul 2016	Floatables	None
D11	15 Jul 2016	Water Color	Green
D11	15 Jul 2016	Current Direction	W
D11	15 Jul 2016	Wave Height Low (ft)	3
D11	15 Jul 2016	High Tide (ft)	3.3
D11	15 Jul 2016	High Tide Time	742
D11	15 Jul 2016	Low Tide (ft)	2.1
D11	15 Jul 2016	Low Tide Time	1235
D11	15 Jul 2016	Comments	4 Persons; 1 Surfer; Water clear
D11	21 Jul 2016	Arrive Time	1008
D11	21 Jul 2016	Weather	Sunny
D11	21 Jul 2016	Wind Speed (kts)	5.9
D11	21 Jul 2016	Wind Dir	W
D11	21 Jul 2016	Animal Life	None
D11	21 Jul 2016	Floatables	None
D11	21 Jul 2016	Water Color	Green
D11	21 Jul 2016	Current Direction	N
D11	21 Jul 2016	Wave Height Low (ft)	5
D11	21 Jul 2016	High Tide (ft)	4.3
D11	21 Jul 2016	High Tide Time	1117
D11	21 Jul 2016	Low Tide (ft)	-0.7
D11	21 Jul 2016	Low Tide Time	503
D11	21 Jul 2016	Comments	6 Persons; 5 Surfers; Water clear
D11	27 Jul 2016	Arrive Time	937
D11	27 Jul 2016	Weather	Sunny
D11	27 Jul 2016	Wind Speed (kts)	3.6
D11	27 Jul 2016	Wind Dir	W
D11	27 Jul 2016	Animal Life	None
D11	27 Jul 2016	Floatables	None
D11	27 Jul 2016	Water Color	Green
D11	27 Jul 2016	Current Direction	N
D11	27 Jul 2016	Wave Height Low (ft)	3
D11	27 Jul 2016	High Tide (ft)	3.4
D11	27 Jul 2016	High Tide Time	359
D11	27 Jul 2016	Low Tide (ft)	1.5
D11	27 Jul 2016	Low Tide Time	942
D11	27 Jul 2016	Comments	2 Persons; 3 Surfers; Water clear
D12	03 Jul 2016	Arrive Time	1036
D12	03 Jul 2016	Weather	Cloudy
D12	03 Jul 2016	Wind Speed (kts)	3.1
D12	03 Jul 2016	Wind Dir	W
D12	03 Jul 2016	Animal Life	None
D12	03 Jul 2016	Floatables	None

Station	Date	Parameter	Value
D12	03 Jul 2016	Water Color	Green
D12	03 Jul 2016	Current Direction	W
D12	03 Jul 2016	Wave Height Low (ft)	2
D12	03 Jul 2016	High Tide (ft)	4.1
D12	03 Jul 2016	High Tide Time	938
D12	03 Jul 2016	Low Tide (ft)	1.5
D12	03 Jul 2016	Low Tide Time	1448
D12	03 Jul 2016	Comments	Seagrass; 45 Persons; 3 Surfers; 16 Swimmers; Water clear
D12	09 Jul 2016	Arrive Time	915
D12	09 Jul 2016	Weather	Sunny
D12	09 Jul 2016	Wind Speed (kts)	1.7
D12	09 Jul 2016	Wind Dir	W
D12	09 Jul 2016	Animal Life	None
D12	09 Jul 2016	Floatables	None
D12	09 Jul 2016	Water Color	Green
D12	09 Jul 2016	Current Direction	W
D12	09 Jul 2016	Wave Height Low (ft)	1.5
D12	09 Jul 2016	High Tide (ft)	4.2
D12	09 Jul 2016	High Tide Time	1411
D12	09 Jul 2016	Low Tide (ft)	0.4
D12	09 Jul 2016	Low Tide Time	730
D12	09 Jul 2016	Comments	15 Persons; Water clear
D12	15 Jul 2016	Arrive Time	1015
D12	15 Jul 2016	Weather	Sunny
D12	15 Jul 2016	Wind Speed (kts)	4.4
D12	15 Jul 2016	Wind Dir	S
D12	15 Jul 2016	Animal Life	None
D12	15 Jul 2016	Floatables	None
D12	15 Jul 2016	Water Color	Green
D12	15 Jul 2016	Current Direction	S
D12	15 Jul 2016	Wave Height Low (ft)	3
D12	15 Jul 2016	High Tide (ft)	3.3
D12	15 Jul 2016	High Tide Time	742
D12	15 Jul 2016	Low Tide (ft)	2.1
D12	15 Jul 2016	Low Tide Time	1235
D12	15 Jul 2016	Comments	25 Persons; 3 Surfers; 5 Swimmers; Water clear
D12	21 Jul 2016	Arrive Time	947
D12	21 Jul 2016	Weather	Sunny
D12	21 Jul 2016	Wind Speed (kts)	6.6
D12	21 Jul 2016	Wind Dir	W
D12	21 Jul 2016	Animal Life	None
D12	21 Jul 2016	Floatables	None
D12	21 Jul 2016	Water Color	Green
D12	21 Jul 2016	Current Direction	N
D12	21 Jul 2016	Wave Height Low (ft)	3
D12	21 Jul 2016	High Tide (ft)	4.3
D12	21 Jul 2016	High Tide Time	1117
D12	21 Jul 2016	Low Tide (ft)	-0.7
D12	21 Jul 2016	Low Tide Time	503
D12	21 Jul 2016	Comments	10 Persons; 9 Swimmers; Water clear
D12	27 Jul 2016	Arrive Time	915

Station	Date	Parameter	Value
D12	27 Jul 2016	Weather	Sunny
D12	27 Jul 2016	Wind Speed (kts)	4.6
D12	27 Jul 2016	Wind Dir	W
D12	27 Jul 2016	Animal Life	None
D12	27 Jul 2016	Floatables	None
D12	27 Jul 2016	Water Color	Green
D12	27 Jul 2016	Current Direction	N
D12	27 Jul 2016	Wave Height Low (ft)	4
D12	27 Jul 2016	High Tide (ft)	3.4
D12	27 Jul 2016	High Tide Time	359
D12	27 Jul 2016	Low Tide (ft)	1.5
D12	27 Jul 2016	Low Tide Time	942
D12	27 Jul 2016	Comments	8 Persons; Water clear

Kelp Stations

Table 3.1

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

Date	A1	A6	A7	C4	C5	C6	C7	C8
01 Jul 2016	17	8	6	3	3	6	4	4
02 Jul 2016	17	8	6	3	3	6	4	4
03 Jul 2016	17	8	6	3	3	6	4	4
04 Jul 2016	19*	7*	5*	3*	3*	7*	4*	4*
05 Jul 2016	19*	7*	5*	3*	3*	7*	4*	4*
06 Jul 2016	19*	7*	5*	3*	3*	7*	4*	4*
07 Jul 2016	12	7	4	3	3	7	4	4
08 Jul 2016	12	7	4	3	3	7	4	4
09 Jul 2016	12	7	4	3	3	7	4	4
10 Jul 2016	12	7	4	3	3	7	4	4
11 Jul 2016	12	7	4	3	3	7	4	4
12 Jul 2016	12	7	4	3	3	7	4	4
13 Jul 2016	9	6	4	4	3	6	3	3
14 Jul 2016	9	6	4	4	3	6	3	3
15 Jul 2016	9	6	4	4	3	6	3	3
16 Jul 2016	5	5	4	3	2	5	3	2
17 Jul 2016	5	5	4	3	2	5	3	2
18 Jul 2016	5	5	4	3	2	5	3	2
19 Jul 2016	4	4	4	3	2	4	3	2
20 Jul 2016	3	3	2	3	2	3	3	2
21 Jul 2016	3	3	2	3	2	3	3	2
22 Jul 2016	2*	3*	2*	3*	2*	4*	3*	2*
23 Jul 2016	2*	3*	2*	3*	2*	4*	3*	2*
24 Jul 2016	2*	3*	2*	3*	2*	4*	3*	2*
25 Jul 2016	2	3	2	3	3	3	2	2
26 Jul 2016	2	3	2	3	3	3	2	2
27 Jul 2016	2*	4*	2*	4*	3*	3*	3*	2*
28 Jul 2016	2*	4*	2*	4*	3*	3*	3*	2*
29 Jul 2016	2*	4*	2*	4*	3*	3*	3*	2*
30 Jul 2016	2*	4*	2*	4*	3*	3*	3*	2*
31 Jul 2016	2	3	2	3	3	3	2	3

* Geometric mean calculated using n<5

Table 3.2

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

Date	A1	A6	A7	C4	C5	C6	C7	C8
01 Jul 2016	2	2	2	2	2	2	2	2
02 Jul 2016	2	2	2	2	2	2	2	2
03 Jul 2016	2	2	2	2	2	2	2	2
04 Jul 2016	2*	2*	2*	2*	2*	2*	2*	2*
05 Jul 2016	2*	2*	2*	2*	2*	2*	2*	2*
06 Jul 2016	2*	2*	2*	2*	2*	2*	2*	2*
07 Jul 2016	2	2	2	2	2	2	2	2
08 Jul 2016	2	2	2	2	2	2	2	2
09 Jul 2016	2	2	2	2	2	2	2	2
10 Jul 2016	2	2	2	2	2	2	2	2
11 Jul 2016	2	2	2	2	2	2	2	2
12 Jul 2016	2	2	2	2	2	2	2	2
13 Jul 2016	2	2	2	2	2	2	2	2
14 Jul 2016	2	2	2	2	2	2	2	2
15 Jul 2016	2	2	2	2	2	2	2	2
16 Jul 2016	2	2	2	2	2	2	2	2
17 Jul 2016	2	2	2	2	2	2	2	2
18 Jul 2016	2	2	2	2	2	2	2	2
19 Jul 2016	2	2	2	2	2	2	2	2
20 Jul 2016	2	2	2	2	2	2	2	2
21 Jul 2016	2	2	2	2	2	2	2	2
22 Jul 2016	2*	2*	2*	2*	2*	2*	2*	2*
23 Jul 2016	2*	2*	2*	2*	2*	2*	2*	2*
24 Jul 2016	2*	2*	2*	2*	2*	2*	2*	2*
25 Jul 2016	2	2	2	2	2	2	2	2
26 Jul 2016	2	2	2	2	2	2	2	2
27 Jul 2016	2*	2*	2*	2*	2*	2*	2*	2*
28 Jul 2016	2*	2*	2*	2*	2*	2*	2*	2*
29 Jul 2016	2*	2*	2*	2*	2*	2*	2*	2*
30 Jul 2016	2*	2*	2*	2*	2*	2*	2*	2*
31 Jul 2016	2	2	2	2	2	2	2	2

* Geometric mean calculated using n<5

Table 3.3

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

Date	A1	A6	A7	C4	C5	C6	C7	C8
01 Jul 2016	2	2	2	2	2	2	2	2
02 Jul 2016	2	2	2	2	2	2	2	2
03 Jul 2016	2	2	2	2	2	2	2	2
04 Jul 2016	2*	2*	2*	2*	2*	2*	2*	2*
05 Jul 2016	2*	2*	2*	2*	2*	2*	2*	2*
06 Jul 2016	2*	2*	2*	2*	2*	2*	2*	2*
07 Jul 2016	2	2	2	2	2	2	2	2
08 Jul 2016	2	2	2	2	2	2	2	2
09 Jul 2016	2	2	2	2	2	2	2	2
10 Jul 2016	2	2	2	2	2	2	2	2
11 Jul 2016	2	2	2	2	2	2	2	2
12 Jul 2016	2	2	2	2	2	2	2	2
13 Jul 2016	2	2	2	2	2	2	2	2
14 Jul 2016	2	2	2	2	2	2	2	2
15 Jul 2016	2	2	2	2	2	2	2	2
16 Jul 2016	2	2	2	2	2	2	2	2
17 Jul 2016	2	2	2	2	2	2	2	2
18 Jul 2016	2	2	2	2	2	2	2	2
19 Jul 2016	2	2	2	2	2	2	2	2
20 Jul 2016	2	2	2	2	2	2	2	2
21 Jul 2016	2	2	2	2	2	2	2	2
22 Jul 2016	2*	2*	2*	2*	2*	2*	2*	2*
23 Jul 2016	2*	2*	2*	2*	2*	2*	2*	2*
24 Jul 2016	2*	2*	2*	2*	2*	2*	2*	2*
25 Jul 2016	2	2	2	2	2	2	2	2
26 Jul 2016	2	2	2	2	2	2	2	2
27 Jul 2016	2*	2*	2*	2*	2*	2*	2*	2*
28 Jul 2016	2*	2*	2*	2*	2*	2*	2*	2*
29 Jul 2016	2*	2*	2*	2*	2*	2*	2*	2*
30 Jul 2016	2*	2*	2*	2*	2*	2*	2*	2*
31 Jul 2016	2	2	2	2	2	2	2	2

* Geometric mean calculated using n<5

Table 3.4

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

Date	A1	A6	A7	C4	C5	C6	C7	C8
07 Jul 2016	IC							
13 Jul 2016	IC							
19 Jul 2016	IC							
25 Jul 2016	IC							
31 Jul 2016	IC							

IC = In Compliance

E = Exceedance

ns = not sampled

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
07 Jul 2016	IC							
13 Jul 2016	IC							
19 Jul 2016	IC							
25 Jul 2016	IC							
31 Jul 2016	IC							

IC = In Compliance

E = Exceedance

ns = not sampled

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
07 Jul 2016	IC							
13 Jul 2016	IC							
19 Jul 2016	IC							
25 Jul 2016	IC							
31 Jul 2016	IC							

IC = In Compliance

E = Exceedance

ns = not sampled

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
07 Jul 2016	IC							
13 Jul 2016	IC							
19 Jul 2016	IC							
25 Jul 2016	IC							
31 Jul 2016	IC							

IC = In Compliance

E = Exceedance

ns = not sampled

Table 3.8

Summary of water quality parameters at the PLOO kelp stations for each sample date. Densities of total coliform (Total), fecal coliform (Fecal) and *Enterococcus* (Entero) bacteria are reported as CFU/100 mL; the fecal:total coliform ratio (F:T) is unitless; ammonium (N-NH₃) values are reported as mg/L; values for temperature (Temp, °C), transmissivity (XMS, %), dissolved oxygen (DO, mg/L), salinity (Sal, ppt) and pH were extracted from CTD profile data for depths closest to those at which the bacteriological samples were collected. Comments follow the data summary.

Station	Date	Time	Depth	Total	Fecal	Entero	F:T	N-NH ₃	Temp	XMS	DO	Sal	pH
A1	07 Jul 2016	750	1	2e	<2	<2	1.00	ns	19.2	68.87	8.0	33.59	8.1
A1	07 Jul 2016	750	12	<2	<2	<2	1.00	ns	14.1	83.42	5.9	33.41	8.0
A1	07 Jul 2016	750	18	2e	<2	<2	1.00	ns	13.4	84.58	6.1	33.41	7.9
A1	13 Jul 2016	749	1	<2	<2	<2	1.00	ns	21.4	77.65	7.3	33.60	8.2
A1	13 Jul 2016	749	12	<2	<2	<2	1.00	ns	17.1	82.22	6.8	34.69	8.1
A1	13 Jul 2016	749	18	<2	<2	<2	1.00	ns	15.0	83.93	6.6	34.59	8.0
A1	19 Jul 2016	754	1	<2	<2	<2	1.00	ns	21.6	78.05	8.0	33.66	8.2
A1	19 Jul 2016	754	12	<2	<2	<2	1.00	ns	13.9	83.03	5.7	33.33	8.0
A1	19 Jul 2016	754	18	<2	<2	<2	1.00	ns	13.1	85.89	5.6	33.37	7.9
A1	25 Jul 2016	754	1	<2	<2	<2	1.00	ns	20.3	81.74	8.0	33.55	8.2
A1	25 Jul 2016	754	12	<2	<2	<2	1.00	ns	17.7	80.69	7.4	33.45	8.2
A1	25 Jul 2016	754	18	<2	<2	<2	1.00	ns	15.5	80.03	5.8	33.40	8.1
A1	31 Jul 2016	832	1	6e	<2	2e	0.33	ns	22.6	80.54	9.2	33.65	8.3
A1	31 Jul 2016	832	12	2e	<2	<2	1.00	ns	19.2	80.72	7.9	33.44	8.3
A1	31 Jul 2016	832	18	4e	<2	<2	0.50	ns	15.0	80.97	8.0	33.36	8.1
C4	07 Jul 2016	936	1	<2	<2	<2	1.00	ns	20.0	76.59	7.3	33.62	8.2
C4	07 Jul 2016	936	3	<2	<2	<2	1.00	ns	18.9	75.84	6.8	33.52	8.2
C4	07 Jul 2016	936	9	<2	<2	<2	1.00	ns	15.5	75.78	6.4	33.45	8.0
C4	13 Jul 2016	930	1	<20	<2	<2	0.10	ns	21.5	78.02	6.4	33.61	8.2
C4	13 Jul 2016	930	3	<2	<2	<2	1.00	ns	21.5	77.95	6.7	33.64	8.2
C4	13 Jul 2016	930	9	<2	2e	<2	1.00	ns	20.6	74.48	6.3	33.86	8.2
C4	19 Jul 2016	1004	1	<2	<2	<2	1.00	ns	21.4	74.28	7.8	33.65	8.2
C4	19 Jul 2016	1004	3	<2	<2	<2	1.00	ns	21.0	75.53	7.1	33.60	8.2
C4	19 Jul 2016	1004	9	<2	<2	<2	1.00	ns	16.0	76.91	5.7	33.43	8.0
C4	25 Jul 2016	1001	1	<2	<2	<2	1.00	ns	20.8	77.95	7.5	33.56	8.2
C4	25 Jul 2016	1001	3	<20	<2	<2	0.10	ns	20.2	78.65	8.0	33.52	8.2
C4	25 Jul 2016	1001	9	<2	<2	<2	1.00	ns	18.7	76.34	6.5	33.50	8.2
C4	31 Jul 2016	1030	1	2e	<2	<2	1.00	ns	21.3	76.65	8.4	33.60	8.2
C4	31 Jul 2016	1030	3	2e	<2	<2	1.00	ns	20.8	79.21	8.6	33.58	8.2
C4	31 Jul 2016	1030	9	<2	<2	<2	1.00	ns	18.7	80.13	7.9	33.47	8.2
C5	07 Jul 2016	925	1	<2	<2	<2	1.00	ns	20.9	74.72	8.0	33.65	8.2
C5	07 Jul 2016	925	3	<2	<2	<2	1.00	ns	19.7	73.49	7.2	33.55	8.2
C5	07 Jul 2016	925	9	<2	<2	<2	1.00	ns	15.8	81.53	6.0	33.40	8.1
C5	13 Jul 2016	919	1	<2	<2	<2	1.00	ns	21.5	77.75	6.6	33.53	8.2
C5	13 Jul 2016	919	3	<2	<2	<2	1.00	ns	21.4	80.43	6.9	33.69	8.2

Station	Date	Time	Depth	Total	Fecal	Enteric	F:T	N-NH3	Temp	XMS	DO	Sal	pH
C5	13 Jul 2016	919	9	<2	<2	<2	1.00	ns	18.2	81.07	6.4	34.02	8.1
C5	19 Jul 2016	951	1	<2	<2	<2	1.00	ns	21.9	75.41	7.6	33.64	8.2
C5	19 Jul 2016	951	3	2e	2e	<2	1.00	ns	21.5	75.26	6.6	33.64	8.2
C5	19 Jul 2016	951	9	<2	<2	<2	1.00	ns	16.2	81.31	6.1	33.44	8.0
C5	25 Jul 2016	943	1	<20	<2	<2	0.10	ns	21.1	77.01	7.0	33.59	8.2
C5	25 Jul 2016	943	3	<20	<2	<2	0.10	ns	20.9	76.59	7.0	33.57	8.2
C5	25 Jul 2016	943	9	<2	<2	<2	1.00	ns	18.4	79.56	7.0	33.48	8.2
C5	31 Jul 2016	1019	1	<2	<2	<2	1.00	ns	21.3	81.90	9.2	33.57	8.3
C5	31 Jul 2016	1019	3	<2	<2	<2	1.00	ns	21.1	80.86	9.0	33.57	8.3
C5	31 Jul 2016	1019	9	2e	<2	<2	1.00	ns	17.6	81.38	7.4	33.44	8.2
A6	07 Jul 2016	825	1	<2	<2	<2	1.00	ns	20.8	72.50	7.9	33.65	8.2
A6	07 Jul 2016	825	12	2e	<2	<2	1.00	ns	15.6	80.86	6.6	33.43	8.1
A6	07 Jul 2016	825	18	22e	<2	<2	0.09	ns	13.8	83.32	6.5	33.38	8.0
A6	13 Jul 2016	816	1	<2	<2	<2	1.00	ns	21.3	80.81	6.8	33.60	8.2
A6	13 Jul 2016	816	12	<2	<2	<2	1.00	ns	19.5	80.59	7.4	33.89	8.2
A6	13 Jul 2016	816	18	4e	<2	<2	0.50	ns	16.8	84.56	6.5	34.05	8.1
A6	19 Jul 2016	828	1	2e	<2	<2	1.00	ns	22.0	79.01	7.8	33.66	8.2
A6	19 Jul 2016	828	12	<2	<2	<2	1.00	ns	14.3	80.27	6.2	33.35	8.0
A6	19 Jul 2016	828	18	2e	<2	<2	1.00	ns	13.3	85.63	5.5	33.38	8.0
A6	25 Jul 2016	827	1	<2	<2	<2	1.00	ns	21.3	84.45	7.3	33.56	8.2
A6	25 Jul 2016	827	12	<2	<2	<2	1.00	ns	18.7	79.72	6.7	33.48	8.2
A6	25 Jul 2016	827	18	8e	<2	<2	0.25	ns	14.7	81.50	6.7	33.38	8.1
A6	31 Jul 2016	917	1	<2	<2	<2	1.00	ns	21.8	82.65	9.1	33.61	8.3
A6	31 Jul 2016	917	12	<2	<2	<2	1.00	ns	20.1	81.57	9.1	33.53	8.3
A6	31 Jul 2016	917	18	2e	2e	<2	1.00	ns	17.1	81.47	8.2	33.42	8.2
C6	07 Jul 2016	914	1	<20	<2	<2	0.10	ns	20.9	75.20	7.8	33.65	8.2
C6	07 Jul 2016	914	3	<2	<2	<2	1.00	ns	20.8	74.18	7.3	33.64	8.2
C6	07 Jul 2016	914	9	<2	<2	<2	1.00	ns	15.6	79.94	6.7	33.46	8.1
C6	13 Jul 2016	908	1	<2	<2	<2	1.00	ns	21.4	79.26	7.3	33.59	8.2
C6	13 Jul 2016	908	3	2e	<2	<2	1.00	ns	21.3	79.94	6.9	33.64	8.2
C6	13 Jul 2016	908	9	<2	<2	<2	1.00	ns	18.9	82.51	6.3	34.11	8.2
C6	19 Jul 2016	938	1	<2	<2	<2	1.00	ns	22.0	76.49	7.3	33.66	8.2
C6	19 Jul 2016	938	3	2e	<2	<2	1.00	ns	21.0	76.93	6.9	33.61	8.2
C6	19 Jul 2016	938	9	<2	<2	<2	1.00	ns	16.1	82.21	6.3	33.46	8.0
C6	25 Jul 2016	929	1	2e	2e	<2	1.00	ns	21.3	74.52	7.1	33.58	8.2
C6	25 Jul 2016	929	3	<2	<2	<2	1.00	ns	20.5	78.01	7.4	33.56	8.2
C6	25 Jul 2016	929	9	<2	<2	<2	1.00	ns	18.5	80.74	7.1	33.51	8.1
C6	31 Jul 2016	1010	1	<2	<2	<2	1.00	ns	21.7	81.45	9.3	33.60	8.3
C6	31 Jul 2016	1010	3	<2	<2	<2	1.00	ns	21.5	81.34	9.2	33.59	8.3
C6	31 Jul 2016	1010	9	<2	<2	<2	1.00	ns	17.8	77.10	7.3	33.43	8.2
A7	07 Jul 2016	806	1	<2	2e	<2	1.00	ns	20.1	73.17	7.9	33.62	8.2

Station	Date	Time	Depth	Total	Fecal	Enteric	F:T	N-NH3	Temp	XMS	DO	Sal	pH
A7	07 Jul 2016	806	12	4e	<2	<2	0.50	ns	14.4	83.30	6.2	33.41	8.0
A7	07 Jul 2016	806	18	2e	<2	<2	1.00	ns	13.9	84.43	6.3	33.42	8.0
A7	13 Jul 2016	803	1	<2	<2	<2	1.00	ns	21.4	80.43	7.2	33.61	8.2
A7	13 Jul 2016	803	12	<2	<2	<2	1.00	ns	20.4	80.02	7.0	33.70	8.2
A7	13 Jul 2016	803	18	<2	<2	<2	1.00	ns	17.6	83.36	7.3	34.53	8.1
A7	19 Jul 2016	809	1	<2	<2	<2	1.00	ns	22.0	78.68	7.8	33.68	8.2
A7	19 Jul 2016	809	12	2e	<2	2e	1.00	ns	14.1	83.21	5.7	33.34	8.0
A7	19 Jul 2016	809	18	<2	<2	<2	1.00	ns	13.4	85.51	5.6	33.37	8.0
A7	25 Jul 2016	810	1	<2	<2	<2	1.00	ns	20.9	82.45	7.6	33.57	8.2
A7	25 Jul 2016	810	12	2e	<2	<2	1.00	ns	17.3	77.36	6.6	33.45	8.1
A7	25 Jul 2016	810	18	2e	<2	<2	1.00	ns	14.0	80.29	6.1	33.37	8.0
A7	31 Jul 2016	857	1	<2	<2	<2	1.00	ns	22.2	81.76	9.2	33.62	8.3
A7	31 Jul 2016	857	12	<2	<2	<2	1.00	ns	18.4	80.85	9.1	33.45	8.2
A7	31 Jul 2016	857	18	<2	<2	<2	1.00	ns	17.7	79.92	7.3	33.46	8.2
C7	07 Jul 2016	841	1	<2	<2	<2	1.00	ns	21.3	65.72	8.0	33.67	8.2
C7	07 Jul 2016	841	12	<2	<2	<2	1.00	ns	17.3	74.53	6.8	33.45	8.2
C7	07 Jul 2016	841	18	2e	<2	<2	1.00	ns	14.1	85.63	6.0	33.42	8.0
C7	13 Jul 2016	831	1	<2	<2	<2	1.00	ns	21.4	81.70	7.3	33.60	8.2
C7	13 Jul 2016	831	12	<2	<2	<2	1.00	ns	19.1	79.97	6.8	33.82	8.2
C7	13 Jul 2016	831	18	2e	2e	<2	1.00	ns	15.7	84.32	6.7	34.71	8.1
C7	19 Jul 2016	847	1	12e	<2	4e	0.17	ns	21.2	77.72	7.5	33.63	8.2
C7	19 Jul 2016	847	12	<2	<2	<2	1.00	ns	14.2	82.48	6.1	33.37	8.0
C7	19 Jul 2016	847	18	<2	<2	<2	1.00	ns	13.5	85.63	5.7	33.40	7.9
C7	25 Jul 2016	847	1	<2	<2	<2	1.00	ns	20.6	79.75	7.7	33.56	8.2
C7	25 Jul 2016	847	12	<2	<2	<2	1.00	ns	18.3	79.92	7.6	33.48	8.2
C7	25 Jul 2016	847	18	<2	<2	<2	1.00	ns	16.3	80.38	6.7	33.43	8.1
C7	31 Jul 2016	934	1	<2	<2	<2	1.00	ns	22.6	80.54	9.2	33.65	8.3
C7	31 Jul 2016	934	12	<2	<2	<2	1.00	ns	19.2	80.72	7.9	33.44	8.3
C7	31 Jul 2016	934	18	<2	<2	<2	1.00	ns	15.0	80.97	8.0	33.36	8.1
C8	07 Jul 2016	852	1	<2	<2	<2	1.00	ns	20.5	74.63	7.5	33.63	8.2
C8	07 Jul 2016	852	12	<2	<2	<2	1.00	ns	17.6	72.22	7.0	33.53	8.1
C8	07 Jul 2016	852	18	<2	<2	<2	1.00	ns	14.1	84.29	6.0	33.41	8.0
C8	13 Jul 2016	846	1	<2	<2	<2	1.00	ns	21.4	82.15	6.8	33.59	8.2
C8	13 Jul 2016	846	12	<2	<2	<2	1.00	ns	19.9	80.66	7.1	33.71	8.2
C8	13 Jul 2016	846	18	<2	<2	<2	1.00	ns	15.3	84.46	6.4	34.68	8.1
C8	19 Jul 2016	916	1	<2	<2	<2	1.00	ns	22.4	78.17	7.9	33.68	8.2
C8	19 Jul 2016	916	12	<2	<2	<2	1.00	ns	14.8	80.10	6.2	33.37	8.1
C8	19 Jul 2016	916	18	<2	<2	<2	1.00	ns	13.9	84.67	5.7	33.38	8.0
C8	25 Jul 2016	908	1	<2	<2	<2	1.00	ns	20.3	79.57	7.6	33.55	8.2
C8	25 Jul 2016	908	12	<2	<2	<2	1.00	ns	18.0	81.39	7.8	33.48	8.2
C8	25 Jul 2016	908	18	<2	<2	<2	1.00	ns	16.5	81.54	6.9	33.43	8.1

Station	Date	Time	Depth	Total	Fecal	Enter	F:T	N-NH3	Temp	XMS	DO	Sal	pH
C8	31 Jul 2016	951	1	<20	<2	<2	0.10	ns	22.5	77.96	9.3	33.62	8.3
C8	31 Jul 2016	951	12	<2	<2	<2	1.00	ns	18.1	81.33	8.4	33.43	8.2
C8	31 Jul 2016	951	18	<2	2e	<2	1.00	ns	15.4	79.67	7.4	33.38	8.1

ns = not sampled

ND = no data

Table 3.9

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

Station	Date	Parameter	Value
A1	07 Jul 2016	Depth (m)	18
A1	07 Jul 2016	Arrive Time	750
A1	07 Jul 2016	Depart Time	759
A1	07 Jul 2016	Air Temp (C)	18
A1	07 Jul 2016	Weather	Continuous layer of clouds
A1	07 Jul 2016	Visibility (mi)	8
A1	07 Jul 2016	Wind Speed (kts)	1
A1	07 Jul 2016	Wind Dir	SW
A1	07 Jul 2016	Water Color	Green
A1	07 Jul 2016	Wave Ht Low (ft)	3
A1	07 Jul 2016	Wave Period (sec)	9
A1	07 Jul 2016	Sea State	Calm
A1	07 Jul 2016	High Tide (ft)	4.23
A1	07 Jul 2016	High Tide Time	1235
A1	07 Jul 2016	Low Tide (ft)	-0.58
A1	07 Jul 2016	Low Tide Time	609
A1	07 Jul 2016	Comments	Kelp; Boats
A1	13 Jul 2016	Depth (m)	18
A1	13 Jul 2016	Arrive Time	749
A1	13 Jul 2016	Depart Time	756
A1	13 Jul 2016	Air Temp (C)	19
A1	13 Jul 2016	Weather	Continuous layer of clouds
A1	13 Jul 2016	Visibility (mi)	3
A1	13 Jul 2016	Wind Speed (kts)	3
A1	13 Jul 2016	Wind Dir	N
A1	13 Jul 2016	Water Color	Green
A1	13 Jul 2016	Wave Ht Low (ft)	3
A1	13 Jul 2016	Wave Period (sec)	13
A1	13 Jul 2016	Sea State	Calm
A1	13 Jul 2016	High Tide (ft)	2.99
A1	13 Jul 2016	High Tide Time	530
A1	13 Jul 2016	Low Tide (ft)	1.92
A1	13 Jul 2016	Low Tide Time	1051
A1	13 Jul 2016	Comments	Kelp
A1	19 Jul 2016	Depth (m)	14
A1	19 Jul 2016	Arrive Time	754
A1	19 Jul 2016	Depart Time	758
A1	19 Jul 2016	Air Temp (C)	20
A1	19 Jul 2016	Weather	Partly Cloudy
A1	19 Jul 2016	Visibility (mi)	9
A1	19 Jul 2016	Wind Speed (kts)	6
A1	19 Jul 2016	Wind Dir	SW
A1	19 Jul 2016	Water Color	Bluish-Green
A1	19 Jul 2016	Wave Ht Low (ft)	4
A1	19 Jul 2016	Wave Period (sec)	13
A1	19 Jul 2016	Sea State	Light chop
A1	19 Jul 2016	High Tide (ft)	4.05
A1	19 Jul 2016	High Tide Time	1006
A1	19 Jul 2016	Low Tide (ft)	1.75

Station	Date	Parameter	Value
A1	19 Jul 2016	Low Tide Time	1515
A1	19 Jul 2016	Comments	
A1	25 Jul 2016	Depth (m)	18
A1	25 Jul 2016	Arrive Time	754
A1	25 Jul 2016	Depart Time	806
A1	25 Jul 2016	Air Temp (C)	20
A1	25 Jul 2016	Weather	Overcast
A1	25 Jul 2016	Visibility (mi)	3
A1	25 Jul 2016	Wind Speed (kts)	2
A1	25 Jul 2016	Wind Dir	SE
A1	25 Jul 2016	Water Color	Greenish-Blue
A1	25 Jul 2016	Wave Ht Low (ft)	3
A1	25 Jul 2016	Wave Period (sec)	13
A1	25 Jul 2016	Sea State	Calm
A1	25 Jul 2016	High Tide (ft)	4.81
A1	25 Jul 2016	High Tide Time	1420
A1	25 Jul 2016	Low Tide (ft)	0.62
A1	25 Jul 2016	Low Tide Time	744
A1	25 Jul 2016	Comments	Kelp
A1	31 Jul 2016	Depth (m)	19
A1	31 Jul 2016	Arrive Time	832
A1	31 Jul 2016	Depart Time	844
A1	31 Jul 2016	Air Temp (C)	21
A1	31 Jul 2016	Weather	Overcast
A1	31 Jul 2016	Visibility (mi)	5
A1	31 Jul 2016	Wind Speed (kts)	0
A1	31 Jul 2016	Wind Dir	
A1	31 Jul 2016	Water Color	Green
A1	31 Jul 2016	Wave Ht Low (ft)	3
A1	31 Jul 2016	Wave Period (sec)	9
A1	31 Jul 2016	Sea State	Calm
A1	31 Jul 2016	High Tide (ft)	4.12
A1	31 Jul 2016	High Tide Time	846
A1	31 Jul 2016	Low Tide (ft)	1.66
A1	31 Jul 2016	Low Tide Time	1355
A1	31 Jul 2016	Comments	Kelp; Kelp debris
C4	07 Jul 2016	Depth (m)	9
C4	07 Jul 2016	Arrive Time	936
C4	07 Jul 2016	Depart Time	939
C4	07 Jul 2016	Air Temp (C)	19
C4	07 Jul 2016	Weather	Partly Cloudy
C4	07 Jul 2016	Visibility (mi)	8
C4	07 Jul 2016	Wind Speed (kts)	3
C4	07 Jul 2016	Wind Dir	N
C4	07 Jul 2016	Water Color	Green
C4	07 Jul 2016	Wave Ht Low (ft)	3
C4	07 Jul 2016	Wave Period (sec)	9
C4	07 Jul 2016	Sea State	Calm
C4	07 Jul 2016	High Tide (ft)	4.23
C4	07 Jul 2016	High Tide Time	1235
C4	07 Jul 2016	Low Tide (ft)	-0.58
C4	07 Jul 2016	Low Tide Time	609

Station	Date	Parameter	Value
C4	07 Jul 2016	Comments	
C4	13 Jul 2016	Depth (m)	9
C4	13 Jul 2016	Arrive Time	930
C4	13 Jul 2016	Depart Time	933
C4	13 Jul 2016	Air Temp (C)	19
C4	13 Jul 2016	Weather	Continuous layer of clouds
C4	13 Jul 2016	Visibility (mi)	3
C4	13 Jul 2016	Wind Speed (kts)	4
C4	13 Jul 2016	Wind Dir	SW
C4	13 Jul 2016	Water Color	Green
C4	13 Jul 2016	Wave Ht Low (ft)	3
C4	13 Jul 2016	Wave Period (sec)	13
C4	13 Jul 2016	Sea State	Calm
C4	13 Jul 2016	High Tide (ft)	2.99
C4	13 Jul 2016	High Tide Time	530
C4	13 Jul 2016	Low Tide (ft)	1.92
C4	13 Jul 2016	Low Tide Time	1051
C4	13 Jul 2016	Comments	Kelp
C4	19 Jul 2016	Depth (m)	9
C4	19 Jul 2016	Arrive Time	1004
C4	19 Jul 2016	Depart Time	1009
C4	19 Jul 2016	Air Temp (C)	21
C4	19 Jul 2016	Weather	Clear
C4	19 Jul 2016	Visibility (mi)	11
C4	19 Jul 2016	Wind Speed (kts)	7
C4	19 Jul 2016	Wind Dir	SE
C4	19 Jul 2016	Water Color	Green
C4	19 Jul 2016	Wave Ht Low (ft)	4
C4	19 Jul 2016	Wave Period (sec)	13
C4	19 Jul 2016	Sea State	Light chop
C4	19 Jul 2016	High Tide (ft)	4.05
C4	19 Jul 2016	High Tide Time	1006
C4	19 Jul 2016	Low Tide (ft)	1.75
C4	19 Jul 2016	Low Tide Time	1515
C4	19 Jul 2016	Comments	
C4	25 Jul 2016	Depth (m)	10
C4	25 Jul 2016	Arrive Time	1001
C4	25 Jul 2016	Depart Time	1004
C4	25 Jul 2016	Air Temp (C)	21
C4	25 Jul 2016	Weather	Overcast
C4	25 Jul 2016	Visibility (mi)	5
C4	25 Jul 2016	Wind Speed (kts)	6
C4	25 Jul 2016	Wind Dir	SW
C4	25 Jul 2016	Water Color	Green
C4	25 Jul 2016	Wave Ht Low (ft)	3
C4	25 Jul 2016	Wave Period (sec)	13
C4	25 Jul 2016	Sea State	Calm
C4	25 Jul 2016	High Tide (ft)	4.81
C4	25 Jul 2016	High Tide Time	1420
C4	25 Jul 2016	Low Tide (ft)	0.62
C4	25 Jul 2016	Low Tide Time	744
C4	25 Jul 2016	Comments	

Station	Date	Parameter	Value
C4	31 Jul 2016	Depth (m)	9
C4	31 Jul 2016	Arrive Time	1030
C4	31 Jul 2016	Depart Time	1033
C4	31 Jul 2016	Air Temp (C)	21
C4	31 Jul 2016	Weather	Overcast
C4	31 Jul 2016	Visibility (mi)	5
C4	31 Jul 2016	Wind Speed (kts)	3
C4	31 Jul 2016	Wind Dir	E
C4	31 Jul 2016	Water Color	Green
C4	31 Jul 2016	Wave Ht Low (ft)	3
C4	31 Jul 2016	Wave Period (sec)	9
C4	31 Jul 2016	Sea State	Calm
C4	31 Jul 2016	High Tide (ft)	4.12
C4	31 Jul 2016	High Tide Time	846
C4	31 Jul 2016	Low Tide (ft)	1.66
C4	31 Jul 2016	Low Tide Time	1355
C4	31 Jul 2016	Comments	Kelp; Kelp debris
C5	07 Jul 2016	Depth (m)	9
C5	07 Jul 2016	Arrive Time	925
C5	07 Jul 2016	Depart Time	928
C5	07 Jul 2016	Air Temp (C)	19
C5	07 Jul 2016	Weather	Partly Cloudy
C5	07 Jul 2016	Visibility (mi)	8
C5	07 Jul 2016	Wind Speed (kts)	3
C5	07 Jul 2016	Wind Dir	NE
C5	07 Jul 2016	Water Color	Green
C5	07 Jul 2016	Wave Ht Low (ft)	3
C5	07 Jul 2016	Wave Period (sec)	9
C5	07 Jul 2016	Sea State	Calm
C5	07 Jul 2016	High Tide (ft)	4.23
C5	07 Jul 2016	High Tide Time	1235
C5	07 Jul 2016	Low Tide (ft)	-0.58
C5	07 Jul 2016	Low Tide Time	609
C5	07 Jul 2016	Comments	Kelp
C5	13 Jul 2016	Depth (m)	9
C5	13 Jul 2016	Arrive Time	919
C5	13 Jul 2016	Depart Time	922
C5	13 Jul 2016	Air Temp (C)	19
C5	13 Jul 2016	Weather	Continuous layer of clouds
C5	13 Jul 2016	Visibility (mi)	3
C5	13 Jul 2016	Wind Speed (kts)	6
C5	13 Jul 2016	Wind Dir	NE
C5	13 Jul 2016	Water Color	Green
C5	13 Jul 2016	Wave Ht Low (ft)	3
C5	13 Jul 2016	Wave Period (sec)	13
C5	13 Jul 2016	Sea State	Calm
C5	13 Jul 2016	High Tide (ft)	2.99
C5	13 Jul 2016	High Tide Time	530
C5	13 Jul 2016	Low Tide (ft)	1.92
C5	13 Jul 2016	Low Tide Time	1051
C5	13 Jul 2016	Comments	Kelp

Station	Date	Parameter	Value
C5	19 Jul 2016	Depth (m)	9
C5	19 Jul 2016	Arrive Time	951
C5	19 Jul 2016	Depart Time	958
C5	19 Jul 2016	Air Temp (C)	21
C5	19 Jul 2016	Weather	Partly Cloudy
C5	19 Jul 2016	Visibility (mi)	11
C5	19 Jul 2016	Wind Speed (kts)	5
C5	19 Jul 2016	Wind Dir	SE
C5	19 Jul 2016	Water Color	Green
C5	19 Jul 2016	Wave Ht Low (ft)	4
C5	19 Jul 2016	Wave Period (sec)	13
C5	19 Jul 2016	Sea State	Light chop
C5	19 Jul 2016	High Tide (ft)	4.05
C5	19 Jul 2016	High Tide Time	1006
C5	19 Jul 2016	Low Tide (ft)	1.75
C5	19 Jul 2016	Low Tide Time	1515
C5	19 Jul 2016	Comments	Kelp
C5	25 Jul 2016	Depth (m)	9
C5	25 Jul 2016	Arrive Time	943
C5	25 Jul 2016	Depart Time	952
C5	25 Jul 2016	Air Temp (C)	21
C5	25 Jul 2016	Weather	Overcast
C5	25 Jul 2016	Visibility (mi)	5
C5	25 Jul 2016	Wind Speed (kts)	3
C5	25 Jul 2016	Wind Dir	NW
C5	25 Jul 2016	Water Color	Green
C5	25 Jul 2016	Wave Ht Low (ft)	3
C5	25 Jul 2016	Wave Period (sec)	13
C5	25 Jul 2016	Sea State	Calm
C5	25 Jul 2016	High Tide (ft)	4.81
C5	25 Jul 2016	High Tide Time	1420
C5	25 Jul 2016	Low Tide (ft)	0.62
C5	25 Jul 2016	Low Tide Time	744
C5	25 Jul 2016	Comments	
C5	31 Jul 2016	Depth (m)	11
C5	31 Jul 2016	Arrive Time	1019
C5	31 Jul 2016	Depart Time	1024
C5	31 Jul 2016	Air Temp (C)	21
C5	31 Jul 2016	Weather	Overcast
C5	31 Jul 2016	Visibility (mi)	5
C5	31 Jul 2016	Wind Speed (kts)	4
C5	31 Jul 2016	Wind Dir	NW
C5	31 Jul 2016	Water Color	Green
C5	31 Jul 2016	Wave Ht Low (ft)	3
C5	31 Jul 2016	Wave Period (sec)	9
C5	31 Jul 2016	Sea State	Calm
C5	31 Jul 2016	High Tide (ft)	4.12
C5	31 Jul 2016	High Tide Time	846
C5	31 Jul 2016	Low Tide (ft)	1.66
C5	31 Jul 2016	Low Tide Time	1355
C5	31 Jul 2016	Comments	Kelp
A6	07 Jul 2016	Depth (m)	18

Station	Date	Parameter	Value
A6	07 Jul 2016	Arrive Time	825
A6	07 Jul 2016	Depart Time	828
A6	07 Jul 2016	Air Temp (C)	18
A6	07 Jul 2016	Weather	Continuous layer of clouds
A6	07 Jul 2016	Visibility (mi)	8
A6	07 Jul 2016	Wind Speed (kts)	4
A6	07 Jul 2016	Wind Dir	SE
A6	07 Jul 2016	Water Color	Green
A6	07 Jul 2016	Wave Ht Low (ft)	3
A6	07 Jul 2016	Wave Period (sec)	9
A6	07 Jul 2016	Sea State	Calm
A6	07 Jul 2016	High Tide (ft)	4.23
A6	07 Jul 2016	High Tide Time	1235
A6	07 Jul 2016	Low Tide (ft)	-0.58
A6	07 Jul 2016	Low Tide Time	609
A6	07 Jul 2016	Comments	Kelp
A6	13 Jul 2016	Depth (m)	18
A6	13 Jul 2016	Arrive Time	816
A6	13 Jul 2016	Depart Time	820
A6	13 Jul 2016	Air Temp (C)	19
A6	13 Jul 2016	Weather	Continuous layer of clouds
A6	13 Jul 2016	Visibility (mi)	3
A6	13 Jul 2016	Wind Speed (kts)	2
A6	13 Jul 2016	Wind Dir	NW
A6	13 Jul 2016	Water Color	Green
A6	13 Jul 2016	Wave Ht Low (ft)	3
A6	13 Jul 2016	Wave Period (sec)	13
A6	13 Jul 2016	Sea State	Calm
A6	13 Jul 2016	High Tide (ft)	2.99
A6	13 Jul 2016	High Tide Time	530
A6	13 Jul 2016	Low Tide (ft)	1.92
A6	13 Jul 2016	Low Tide Time	1051
A6	13 Jul 2016	Comments	Kelp; Boats
A6	19 Jul 2016	Depth (m)	18
A6	19 Jul 2016	Arrive Time	828
A6	19 Jul 2016	Depart Time	835
A6	19 Jul 2016	Air Temp (C)	20
A6	19 Jul 2016	Weather	Partly Cloudy
A6	19 Jul 2016	Visibility (mi)	9
A6	19 Jul 2016	Wind Speed (kts)	4
A6	19 Jul 2016	Wind Dir	W
A6	19 Jul 2016	Water Color	Bluish-Green
A6	19 Jul 2016	Wave Ht Low (ft)	4
A6	19 Jul 2016	Wave Period (sec)	13
A6	19 Jul 2016	Sea State	Light chop
A6	19 Jul 2016	High Tide (ft)	4.05
A6	19 Jul 2016	High Tide Time	1006
A6	19 Jul 2016	Low Tide (ft)	1.75
A6	19 Jul 2016	Low Tide Time	1515
A6	19 Jul 2016	Comments	Sea lion; Kelp debris
A6	25 Jul 2016	Depth (m)	18
A6	25 Jul 2016	Arrive Time	827

Station	Date	Parameter	Value
A6	25 Jul 2016	Depart Time	831
A6	25 Jul 2016	Air Temp (C)	21
A6	25 Jul 2016	Weather	Overcast
A6	25 Jul 2016	Visibility (mi)	3
A6	25 Jul 2016	Wind Speed (kts)	2
A6	25 Jul 2016	Wind Dir	NW
A6	25 Jul 2016	Water Color	Greenish-Blue
A6	25 Jul 2016	Wave Ht Low (ft)	3
A6	25 Jul 2016	Wave Period (sec)	13
A6	25 Jul 2016	Sea State	Calm
A6	25 Jul 2016	High Tide (ft)	4.81
A6	25 Jul 2016	High Tide Time	1420
A6	25 Jul 2016	Low Tide (ft)	0.62
A6	25 Jul 2016	Low Tide Time	744
A6	25 Jul 2016	Comments	
A6	31 Jul 2016	Depth (m)	18
A6	31 Jul 2016	Arrive Time	917
A6	31 Jul 2016	Depart Time	923
A6	31 Jul 2016	Air Temp (C)	21
A6	31 Jul 2016	Weather	Overcast
A6	31 Jul 2016	Visibility (mi)	5
A6	31 Jul 2016	Wind Speed (kts)	0
A6	31 Jul 2016	Wind Dir	
A6	31 Jul 2016	Water Color	Green
A6	31 Jul 2016	Wave Ht Low (ft)	3
A6	31 Jul 2016	Wave Period (sec)	9
A6	31 Jul 2016	Sea State	Calm
A6	31 Jul 2016	High Tide (ft)	4.12
A6	31 Jul 2016	High Tide Time	846
A6	31 Jul 2016	Low Tide (ft)	1.66
A6	31 Jul 2016	Low Tide Time	1355
A6	31 Jul 2016	Comments	Kelp; Boats
C6	07 Jul 2016	Depth (m)	9
C6	07 Jul 2016	Arrive Time	914
C6	07 Jul 2016	Depart Time	916
C6	07 Jul 2016	Air Temp (C)	19
C6	07 Jul 2016	Weather	Partly Cloudy
C6	07 Jul 2016	Visibility (mi)	8
C6	07 Jul 2016	Wind Speed (kts)	0
C6	07 Jul 2016	Wind Dir	
C6	07 Jul 2016	Water Color	Green
C6	07 Jul 2016	Wave Ht Low (ft)	3
C6	07 Jul 2016	Wave Period (sec)	9
C6	07 Jul 2016	Sea State	Calm
C6	07 Jul 2016	High Tide (ft)	4.23
C6	07 Jul 2016	High Tide Time	1235
C6	07 Jul 2016	Low Tide (ft)	-0.58
C6	07 Jul 2016	Low Tide Time	609
C6	07 Jul 2016	Comments	Kelp
C6	13 Jul 2016	Depth (m)	9
C6	13 Jul 2016	Arrive Time	908
C6	13 Jul 2016	Depart Time	911

Station	Date	Parameter	Value
C6	13 Jul 2016	Air Temp (C)	19
C6	13 Jul 2016	Weather	Continuous layer of clouds
C6	13 Jul 2016	Visibility (mi)	3
C6	13 Jul 2016	Wind Speed (kts)	3
C6	13 Jul 2016	Wind Dir	N
C6	13 Jul 2016	Water Color	Green
C6	13 Jul 2016	Wave Ht Low (ft)	3
C6	13 Jul 2016	Wave Period (sec)	13
C6	13 Jul 2016	Sea State	Calm
C6	13 Jul 2016	High Tide (ft)	2.99
C6	13 Jul 2016	High Tide Time	530
C6	13 Jul 2016	Low Tide (ft)	1.92
C6	13 Jul 2016	Low Tide Time	1051
C6	13 Jul 2016	Comments	Kelp
C6	19 Jul 2016	Depth (m)	9
C6	19 Jul 2016	Arrive Time	938
C6	19 Jul 2016	Depart Time	944
C6	19 Jul 2016	Air Temp (C)	21
C6	19 Jul 2016	Weather	Partly Cloudy
C6	19 Jul 2016	Visibility (mi)	11
C6	19 Jul 2016	Wind Speed (kts)	3
C6	19 Jul 2016	Wind Dir	NW
C6	19 Jul 2016	Water Color	Green
C6	19 Jul 2016	Wave Ht Low (ft)	4
C6	19 Jul 2016	Wave Period (sec)	13
C6	19 Jul 2016	Sea State	Light chop
C6	19 Jul 2016	High Tide (ft)	4.05
C6	19 Jul 2016	High Tide Time	1006
C6	19 Jul 2016	Low Tide (ft)	1.75
C6	19 Jul 2016	Low Tide Time	1515
C6	19 Jul 2016	Comments	Kelp debris
C6	25 Jul 2016	Depth (m)	9
C6	25 Jul 2016	Arrive Time	929
C6	25 Jul 2016	Depart Time	933
C6	25 Jul 2016	Air Temp (C)	21
C6	25 Jul 2016	Weather	Overcast
C6	25 Jul 2016	Visibility (mi)	5
C6	25 Jul 2016	Wind Speed (kts)	1
C6	25 Jul 2016	Wind Dir	SW
C6	25 Jul 2016	Water Color	Green
C6	25 Jul 2016	Wave Ht Low (ft)	3
C6	25 Jul 2016	Wave Period (sec)	13
C6	25 Jul 2016	Sea State	Calm
C6	25 Jul 2016	High Tide (ft)	4.81
C6	25 Jul 2016	High Tide Time	1420
C6	25 Jul 2016	Low Tide (ft)	0.62
C6	25 Jul 2016	Low Tide Time	744
C6	25 Jul 2016	Comments	
C6	31 Jul 2016	Depth (m)	10
C6	31 Jul 2016	Arrive Time	1010
C6	31 Jul 2016	Depart Time	1012
C6	31 Jul 2016	Air Temp (C)	22

Station	Date	Parameter	Value
C6	31 Jul 2016	Weather	Overcast
C6	31 Jul 2016	Visibility (mi)	5
C6	31 Jul 2016	Wind Speed (kts)	2
C6	31 Jul 2016	Wind Dir	NE
C6	31 Jul 2016	Water Color	Green
C6	31 Jul 2016	Wave Ht Low (ft)	3
C6	31 Jul 2016	Wave Period (sec)	9
C6	31 Jul 2016	Sea State	Calm
C6	31 Jul 2016	High Tide (ft)	4.12
C6	31 Jul 2016	High Tide Time	846
C6	31 Jul 2016	Low Tide (ft)	1.66
C6	31 Jul 2016	Low Tide Time	1355
C6	31 Jul 2016	Comments	Kelp
A7	07 Jul 2016	Depth (m)	18
A7	07 Jul 2016	Arrive Time	806
A7	07 Jul 2016	Depart Time	811
A7	07 Jul 2016	Air Temp (C)	18
A7	07 Jul 2016	Weather	Continuous layer of clouds
A7	07 Jul 2016	Visibility (mi)	8
A7	07 Jul 2016	Wind Speed (kts)	4
A7	07 Jul 2016	Wind Dir	SE
A7	07 Jul 2016	Water Color	Green
A7	07 Jul 2016	Wave Ht Low (ft)	3
A7	07 Jul 2016	Wave Period (sec)	9
A7	07 Jul 2016	Sea State	Calm
A7	07 Jul 2016	High Tide (ft)	4.23
A7	07 Jul 2016	High Tide Time	1235
A7	07 Jul 2016	Low Tide (ft)	-0.58
A7	07 Jul 2016	Low Tide Time	609
A7	07 Jul 2016	Comments	Kelp
A7	13 Jul 2016	Depth (m)	18
A7	13 Jul 2016	Arrive Time	803
A7	13 Jul 2016	Depart Time	808
A7	13 Jul 2016	Air Temp (C)	19
A7	13 Jul 2016	Weather	Continuous layer of clouds
A7	13 Jul 2016	Visibility (mi)	3
A7	13 Jul 2016	Wind Speed (kts)	4
A7	13 Jul 2016	Wind Dir	NE
A7	13 Jul 2016	Water Color	Green
A7	13 Jul 2016	Wave Ht Low (ft)	3
A7	13 Jul 2016	Wave Period (sec)	13
A7	13 Jul 2016	Sea State	Calm
A7	13 Jul 2016	High Tide (ft)	2.99
A7	13 Jul 2016	High Tide Time	530
A7	13 Jul 2016	Low Tide (ft)	1.92
A7	13 Jul 2016	Low Tide Time	1051
A7	13 Jul 2016	Comments	Kelp
A7	19 Jul 2016	Depth (m)	20
A7	19 Jul 2016	Arrive Time	809
A7	19 Jul 2016	Depart Time	814
A7	19 Jul 2016	Air Temp (C)	20
A7	19 Jul 2016	Weather	Partly Cloudy

Station	Date	Parameter	Value
A7	19 Jul 2016	Visibility (mi)	9
A7	19 Jul 2016	Wind Speed (kts)	5
A7	19 Jul 2016	Wind Dir	W
A7	19 Jul 2016	Water Color	Bluish-Green
A7	19 Jul 2016	Wave Ht Low (ft)	4
A7	19 Jul 2016	Wave Period (sec)	13
A7	19 Jul 2016	Sea State	Light chop
A7	19 Jul 2016	High Tide (ft)	4.05
A7	19 Jul 2016	High Tide Time	1006
A7	19 Jul 2016	Low Tide (ft)	1.75
A7	19 Jul 2016	Low Tide Time	1515
A7	19 Jul 2016	Comments	Kelp
A7	25 Jul 2016	Depth (m)	18
A7	25 Jul 2016	Arrive Time	810
A7	25 Jul 2016	Depart Time	816
A7	25 Jul 2016	Air Temp (C)	21
A7	25 Jul 2016	Weather	Overcast
A7	25 Jul 2016	Visibility (mi)	3
A7	25 Jul 2016	Wind Speed (kts)	1
A7	25 Jul 2016	Wind Dir	SW
A7	25 Jul 2016	Water Color	Greenish-Blue
A7	25 Jul 2016	Wave Ht Low (ft)	3
A7	25 Jul 2016	Wave Period (sec)	13
A7	25 Jul 2016	Sea State	Calm
A7	25 Jul 2016	High Tide (ft)	4.81
A7	25 Jul 2016	High Tide Time	1420
A7	25 Jul 2016	Low Tide (ft)	0.62
A7	25 Jul 2016	Low Tide Time	744
A7	25 Jul 2016	Comments	
A7	31 Jul 2016	Depth (m)	18
A7	31 Jul 2016	Arrive Time	857
A7	31 Jul 2016	Depart Time	909
A7	31 Jul 2016	Air Temp (C)	21
A7	31 Jul 2016	Weather	Overcast
A7	31 Jul 2016	Visibility (mi)	5
A7	31 Jul 2016	Wind Speed (kts)	0
A7	31 Jul 2016	Wind Dir	
A7	31 Jul 2016	Water Color	Green
A7	31 Jul 2016	Wave Ht Low (ft)	3
A7	31 Jul 2016	Wave Period (sec)	9
A7	31 Jul 2016	Sea State	Calm
A7	31 Jul 2016	High Tide (ft)	4.12
A7	31 Jul 2016	High Tide Time	846
A7	31 Jul 2016	Low Tide (ft)	1.66
A7	31 Jul 2016	Low Tide Time	1355
A7	31 Jul 2016	Comments	Boats; Kelp
C7	07 Jul 2016	Depth (m)	18
C7	07 Jul 2016	Arrive Time	841
C7	07 Jul 2016	Depart Time	845
C7	07 Jul 2016	Air Temp (C)	19
C7	07 Jul 2016	Weather	Continuous layer of clouds
C7	07 Jul 2016	Visibility (mi)	8

Station	Date	Parameter	Value
C7	07 Jul 2016	Wind Speed (kts)	5
C7	07 Jul 2016	Wind Dir	SE
C7	07 Jul 2016	Water Color	Green
C7	07 Jul 2016	Wave Ht Low (ft)	3
C7	07 Jul 2016	Wave Period (sec)	9
C7	07 Jul 2016	Sea State	Calm
C7	07 Jul 2016	High Tide (ft)	4.23
C7	07 Jul 2016	High Tide Time	1235
C7	07 Jul 2016	Low Tide (ft)	-0.58
C7	07 Jul 2016	Low Tide Time	609
C7	07 Jul 2016	Comments	
C7	13 Jul 2016	Depth (m)	18
C7	13 Jul 2016	Arrive Time	831
C7	13 Jul 2016	Depart Time	835
C7	13 Jul 2016	Air Temp (C)	19
C7	13 Jul 2016	Weather	Continuous layer of clouds
C7	13 Jul 2016	Visibility (mi)	3
C7	13 Jul 2016	Wind Speed (kts)	2
C7	13 Jul 2016	Wind Dir	S
C7	13 Jul 2016	Water Color	Green
C7	13 Jul 2016	Wave Ht Low (ft)	3
C7	13 Jul 2016	Wave Period (sec)	13
C7	13 Jul 2016	Sea State	Calm
C7	13 Jul 2016	High Tide (ft)	2.99
C7	13 Jul 2016	High Tide Time	530
C7	13 Jul 2016	Low Tide (ft)	1.92
C7	13 Jul 2016	Low Tide Time	1051
C7	13 Jul 2016	Comments	Boats
C7	19 Jul 2016	Depth (m)	17
C7	19 Jul 2016	Arrive Time	847
C7	19 Jul 2016	Depart Time	913
C7	19 Jul 2016	Air Temp (C)	21
C7	19 Jul 2016	Weather	Partly Cloudy
C7	19 Jul 2016	Visibility (mi)	9
C7	19 Jul 2016	Wind Speed (kts)	4
C7	19 Jul 2016	Wind Dir	NW
C7	19 Jul 2016	Water Color	Bluish-Green
C7	19 Jul 2016	Wave Ht Low (ft)	4
C7	19 Jul 2016	Wave Period (sec)	13
C7	19 Jul 2016	Sea State	Light chop
C7	19 Jul 2016	High Tide (ft)	4.05
C7	19 Jul 2016	High Tide Time	1006
C7	19 Jul 2016	Low Tide (ft)	1.75
C7	19 Jul 2016	Low Tide Time	1515
C7	19 Jul 2016	Comments	Surface bin not acquired
C7	25 Jul 2016	Depth (m)	17
C7	25 Jul 2016	Arrive Time	847
C7	25 Jul 2016	Depart Time	901
C7	25 Jul 2016	Air Temp (C)	21
C7	25 Jul 2016	Weather	Overcast
C7	25 Jul 2016	Visibility (mi)	5
C7	25 Jul 2016	Wind Speed (kts)	0

Station	Date	Parameter	Value
C7	25 Jul 2016	Wind Dir	
C7	25 Jul 2016	Water Color	Greenish-Blue
C7	25 Jul 2016	Wave Ht Low (ft)	3
C7	25 Jul 2016	Wave Period (sec)	13
C7	25 Jul 2016	Sea State	Calm
C7	25 Jul 2016	High Tide (ft)	4.81
C7	25 Jul 2016	High Tide Time	1420
C7	25 Jul 2016	Low Tide (ft)	0.62
C7	25 Jul 2016	Low Tide Time	744
C7	25 Jul 2016	Comments	Unable to reach target depth of 18m within 0.05 nm of station due to low tide
C7	31 Jul 2016	Depth (m)	19
C7	31 Jul 2016	Arrive Time	934
C7	31 Jul 2016	Depart Time	937
C7	31 Jul 2016	Air Temp (C)	22
C7	31 Jul 2016	Weather	Overcast
C7	31 Jul 2016	Visibility (mi)	5
C7	31 Jul 2016	Wind Speed (kts)	1
C7	31 Jul 2016	Wind Dir	NW
C7	31 Jul 2016	Water Color	Green
C7	31 Jul 2016	Wave Ht Low (ft)	3
C7	31 Jul 2016	Wave Period (sec)	9
C7	31 Jul 2016	Sea State	Calm
C7	31 Jul 2016	High Tide (ft)	4.12
C7	31 Jul 2016	High Tide Time	846
C7	31 Jul 2016	Low Tide (ft)	1.66
C7	31 Jul 2016	Low Tide Time	1355
C7	31 Jul 2016	Comments	Kelp; Kelp debris
C8	07 Jul 2016	Depth (m)	18
C8	07 Jul 2016	Arrive Time	852
C8	07 Jul 2016	Depart Time	855
C8	07 Jul 2016	Air Temp (C)	19
C8	07 Jul 2016	Weather	Partly Cloudy
C8	07 Jul 2016	Visibility (mi)	8
C8	07 Jul 2016	Wind Speed (kts)	3
C8	07 Jul 2016	Wind Dir	SE
C8	07 Jul 2016	Water Color	Green
C8	07 Jul 2016	Wave Ht Low (ft)	3
C8	07 Jul 2016	Wave Period (sec)	9
C8	07 Jul 2016	Sea State	Calm
C8	07 Jul 2016	High Tide (ft)	4.23
C8	07 Jul 2016	High Tide Time	1235
C8	07 Jul 2016	Low Tide (ft)	-0.58
C8	07 Jul 2016	Low Tide Time	609
C8	07 Jul 2016	Comments	
C8	13 Jul 2016	Depth (m)	18
C8	13 Jul 2016	Arrive Time	846
C8	13 Jul 2016	Depart Time	850
C8	13 Jul 2016	Air Temp (C)	19
C8	13 Jul 2016	Weather	Continuous layer of clouds
C8	13 Jul 2016	Visibility (mi)	3
C8	13 Jul 2016	Wind Speed (kts)	4

Station	Date	Parameter	Value
C8	13 Jul 2016	Wind Dir	SE
C8	13 Jul 2016	Water Color	Green
C8	13 Jul 2016	Wave Ht Low (ft)	3
C8	13 Jul 2016	Wave Period (sec)	13
C8	13 Jul 2016	Sea State	Calm
C8	13 Jul 2016	High Tide (ft)	2.99
C8	13 Jul 2016	High Tide Time	530
C8	13 Jul 2016	Low Tide (ft)	1.92
C8	13 Jul 2016	Low Tide Time	1051
C8	13 Jul 2016	Comments	
C8	19 Jul 2016	Depth (m)	19
C8	19 Jul 2016	Arrive Time	916
C8	19 Jul 2016	Depart Time	925
C8	19 Jul 2016	Air Temp (C)	21
C8	19 Jul 2016	Weather	Partly Cloudy
C8	19 Jul 2016	Visibility (mi)	9
C8	19 Jul 2016	Wind Speed (kts)	6
C8	19 Jul 2016	Wind Dir	E
C8	19 Jul 2016	Water Color	Bluish-Green
C8	19 Jul 2016	Wave Ht Low (ft)	4
C8	19 Jul 2016	Wave Period (sec)	13
C8	19 Jul 2016	Sea State	Light chop
C8	19 Jul 2016	High Tide (ft)	4.05
C8	19 Jul 2016	High Tide Time	1006
C8	19 Jul 2016	Low Tide (ft)	1.75
C8	19 Jul 2016	Low Tide Time	1515
C8	19 Jul 2016	Comments	
C8	25 Jul 2016	Depth (m)	18
C8	25 Jul 2016	Arrive Time	908
C8	25 Jul 2016	Depart Time	912
C8	25 Jul 2016	Air Temp (C)	21
C8	25 Jul 2016	Weather	Overcast
C8	25 Jul 2016	Visibility (mi)	5
C8	25 Jul 2016	Wind Speed (kts)	3
C8	25 Jul 2016	Wind Dir	N
C8	25 Jul 2016	Water Color	Greenish-Blue
C8	25 Jul 2016	Wave Ht Low (ft)	3
C8	25 Jul 2016	Wave Period (sec)	13
C8	25 Jul 2016	Sea State	Calm
C8	25 Jul 2016	High Tide (ft)	4.81
C8	25 Jul 2016	High Tide Time	1420
C8	25 Jul 2016	Low Tide (ft)	0.62
C8	25 Jul 2016	Low Tide Time	744
C8	25 Jul 2016	Comments	
C8	31 Jul 2016	Depth (m)	18
C8	31 Jul 2016	Arrive Time	951
C8	31 Jul 2016	Depart Time	1000
C8	31 Jul 2016	Air Temp (C)	22
C8	31 Jul 2016	Weather	Overcast
C8	31 Jul 2016	Visibility (mi)	5
C8	31 Jul 2016	Wind Speed (kts)	10
C8	31 Jul 2016	Wind Dir	NW

Station	Date	Parameter	Value
C8	31 Jul 2016	Water Color	Green
C8	31 Jul 2016	Wave Ht Low (ft)	3
C8	31 Jul 2016	Wave Period (sec)	9
C8	31 Jul 2016	Sea State	Calm
C8	31 Jul 2016	High Tide (ft)	4.12
C8	31 Jul 2016	High Tide Time	846
C8	31 Jul 2016	Low Tide (ft)	1.66
C8	31 Jul 2016	Low Tide Time	1355
C8	31 Jul 2016	Comments	Kelp

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 ($\mu\text{g/L}$)
A1	07 Jul 2016	1	19.24	68.87	8.0	33.59	8.1	23.9	3.69
A1	07 Jul 2016	2	19.27	69.72	7.3	33.57	8.1	23.9	4.62
A1	07 Jul 2016	3	18.30	75.24	7.2	33.46	8.1	24.0	4.79
A1	07 Jul 2016	4	16.44	75.98	7.4	33.43	8.1	24.4	4.74
A1	07 Jul 2016	5	15.79	76.87	7.5	33.45	8.1	24.6	4.58
A1	07 Jul 2016	6	15.60	77.56	7.4	33.44	8.1	24.6	3.80
A1	07 Jul 2016	7	15.56	77.82	6.9	33.45	8.1	24.7	3.11
A1	07 Jul 2016	8	15.58	78.08	6.3	33.42	8.1	24.6	2.79
A1	07 Jul 2016	9	15.00	80.02	6.3	33.39	8.0	24.7	2.53
A1	07 Jul 2016	10	14.56	81.51	6.2	33.41	8.0	24.8	2.30
A1	07 Jul 2016	11	14.25	82.53	6.1	33.40	8.0	24.9	2.01
A1	07 Jul 2016	12	14.06	83.42	5.9	33.41	8.0	24.9	1.95
A1	07 Jul 2016	13	13.89	83.91	5.8	33.38	8.0	25.0	1.93
A1	07 Jul 2016	14	13.53	84.36	6.0	33.39	8.0	25.0	1.88
A1	07 Jul 2016	15	13.43	84.46	6.0	33.41	7.9	25.1	1.75
A1	07 Jul 2016	16	13.46	84.48	6.0	33.40	7.9	25.1	1.70
A1	07 Jul 2016	17	13.36	84.71	6.0	33.41	7.9	25.1	1.71
A1	07 Jul 2016	18	13.36	84.58	6.1	33.41	7.9	25.1	1.75
A1	13 Jul 2016	1	21.36	77.65	7.3	33.60	8.2	23.3	0.29
A1	13 Jul 2016	2	21.37	77.53	7.0	33.62	8.2	23.3	0.32
A1	13 Jul 2016	3	21.29	77.73	6.8	33.64	8.2	23.4	0.69
A1	13 Jul 2016	4	21.19	78.60	7.1	33.67	8.2	23.4	2.48
A1	13 Jul 2016	5	21.13	79.17	6.8	33.68	8.2	23.5	2.84
A1	13 Jul 2016	6	20.80	79.35	6.7	33.76	8.2	23.6	2.93
A1	13 Jul 2016	7	20.43	79.52	7.1	33.89	8.2	23.8	3.07
A1	13 Jul 2016	8	20.19	79.39	7.2	33.87	8.2	23.9	2.76
A1	13 Jul 2016	9	19.96	79.19	6.8	33.81	8.2	23.9	2.63
A1	13 Jul 2016	10	19.61	79.04	6.6	33.97	8.1	24.1	1.95
A1	13 Jul 2016	11	18.75	79.75	6.5	34.19	8.1	24.5	1.62
A1	13 Jul 2016	12	17.11	82.22	6.8	34.69	8.1	25.2	1.57
A1	13 Jul 2016	13	16.55	83.31	6.7	35.33	8.0	25.9	1.58
A1	13 Jul 2016	14	15.91	83.63	6.2	34.38	8.0	25.3	1.70
A1	13 Jul 2016	15	15.32	83.19	6.2	34.01	8.0	25.1	1.59
A1	13 Jul 2016	16	15.15	83.19	6.3	34.01	8.0	25.2	1.59
A1	13 Jul 2016	17	15.13	83.73	6.6	34.73	8.0	25.7	1.64
A1	13 Jul 2016	18	15.03	83.93	6.6	34.59	8.0	25.7	1.67
A1	19 Jul 2016	1	21.63	78.05	8.0	33.66	8.2	23.3	2.75
A1	19 Jul 2016	2	21.43	78.31	7.8	33.63	8.2	23.3	3.09
A1	19 Jul 2016	3	20.83	79.08	7.4	33.59	8.2	23.5	3.40
A1	19 Jul 2016	4	20.12	79.23	6.8	33.52	8.2	23.6	4.13
A1	19 Jul 2016	5	19.21	78.92	6.2	33.48	8.2	23.8	5.50
A1	19 Jul 2016	6	17.65	77.98	5.9	33.37	8.1	24.1	5.75
A1	19 Jul 2016	7	16.03	77.16	6.2	33.36	8.1	24.5	4.51
A1	19 Jul 2016	8	15.22	75.43	6.2	33.38	8.0	24.7	3.73
A1	19 Jul 2016	9	14.73	77.28	6.0	33.32	8.0	24.7	3.41
A1	19 Jul 2016	10	14.17	80.18	6.0	33.31	8.0	24.8	2.77
A1	19 Jul 2016	11	13.90	82.07	5.8	33.35	8.0	24.9	2.34
A1	19 Jul 2016	12	13.91	83.03	5.7	33.33	8.0	24.9	2.24

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ($\sigma\text{-t}$)	Chlor ($\mu\text{g/L}$)
A1	19 Jul 2016	13	13.65	83.78	5.8	33.34	8.0	25.0	2.02
A1	19 Jul 2016	14	13.45	84.48	5.7	33.34	7.9	25.0	1.71
A1	19 Jul 2016	15	13.38	84.76	5.6	33.35	7.9	25.0	1.51
A1	19 Jul 2016	16	13.27	85.14	5.6	33.35	7.9	25.1	1.47
A1	19 Jul 2016	17	13.16	85.51	5.6	33.36	7.9	25.1	1.33
A1	19 Jul 2016	18	13.14	85.89	5.6	33.37	7.9	25.1	1.26
A1	19 Jul 2016	19	13.12	85.80	5.6	33.37	7.9	25.1	1.25
A1	19 Jul 2016	20	13.11	85.68	5.6	33.38	7.9	25.1	1.25
A1	25 Jul 2016	1	20.34	81.74	8.0	33.55	8.2	23.6	2.07
A1	25 Jul 2016	2	20.34	81.62	7.9	33.55	8.2	23.6	2.29
A1	25 Jul 2016	3	20.32	81.65	7.8	33.54	8.2	23.6	2.51
A1	25 Jul 2016	4	20.10	81.42	7.8	33.54	8.2	23.6	2.84
A1	25 Jul 2016	5	20.00	81.34	7.8	33.53	8.2	23.6	3.02
A1	25 Jul 2016	6	19.62	80.94	8.0	33.51	8.2	23.7	3.10
A1	25 Jul 2016	7	19.33	80.45	7.9	33.53	8.2	23.8	3.15
A1	25 Jul 2016	8	19.20	80.87	7.8	33.49	8.2	23.8	3.16
A1	25 Jul 2016	9	18.71	80.96	7.7	33.48	8.2	23.9	3.27
A1	25 Jul 2016	10	18.42	81.02	7.4	33.49	8.2	24.0	3.47
A1	25 Jul 2016	11	18.06	80.78	7.3	33.46	8.2	24.1	3.46
A1	25 Jul 2016	12	17.74	80.69	7.4	33.45	8.2	24.1	3.65
A1	25 Jul 2016	13	17.53	80.12	7.3	33.46	8.2	24.2	3.77
A1	25 Jul 2016	14	17.49	80.00	6.8	33.45	8.1	24.2	4.06
A1	25 Jul 2016	15	17.35	79.61	6.4	33.43	8.1	24.2	3.94
A1	25 Jul 2016	16	16.46	78.50	6.3	33.42	8.1	24.4	3.47
A1	25 Jul 2016	17	16.45	79.25	5.8	33.42	8.1	24.4	3.16
A1	25 Jul 2016	18	15.52	80.03	5.8	33.40	8.1	24.6	3.01
A1	31 Jul 2016	1	22.61	80.54	9.2	33.65	8.3	23.0	2.57
A1	31 Jul 2016	2	22.60	80.60	9.1	33.65	8.3	23.0	2.45
A1	31 Jul 2016	3	22.38	80.59	8.9	33.62	8.3	23.1	2.34
A1	31 Jul 2016	4	22.02	80.57	8.9	33.60	8.3	23.1	2.33
A1	31 Jul 2016	5	21.86	79.64	8.9	33.58	8.3	23.2	2.26
A1	31 Jul 2016	6	21.83	79.71	8.9	33.58	8.3	23.2	2.24
A1	31 Jul 2016	7	21.69	79.76	8.9	33.57	8.3	23.2	2.34
A1	31 Jul 2016	8	21.57	79.82	8.9	33.57	8.3	23.2	2.29
A1	31 Jul 2016	9	21.31	80.05	8.7	33.56	8.3	23.3	2.41
A1	31 Jul 2016	10	20.89	80.45	8.5	33.53	8.3	23.4	2.59
A1	31 Jul 2016	11	20.18	80.58	8.2	33.51	8.3	23.6	3.01
A1	31 Jul 2016	12	19.17	80.72	7.9	33.44	8.3	23.8	3.87
A1	31 Jul 2016	13	18.10	80.36	7.5	33.43	8.2	24.0	4.25
A1	31 Jul 2016	14	16.94	79.01	7.6	33.41	8.2	24.3	4.50
A1	31 Jul 2016	15	16.48	78.78	7.9	33.38	8.2	24.4	4.24
A1	31 Jul 2016	16	15.64	78.98	7.9	33.37	8.2	24.6	3.61
A1	31 Jul 2016	17	15.31	79.72	7.8	33.35	8.1	24.6	3.60
A1	31 Jul 2016	18	15.03	80.97	8.0	33.36	8.1	24.7	3.87
C4	07 Jul 2016	1	20.04	76.59	7.3	33.62	8.2	23.7	2.49
C4	07 Jul 2016	2	19.90	76.38	7.0	33.58	8.2	23.7	3.30
C4	07 Jul 2016	3	18.91	75.84	6.8	33.52	8.2	23.9	3.55
C4	07 Jul 2016	4	17.77	76.65	6.9	33.48	8.2	24.2	2.81
C4	07 Jul 2016	5	17.03	77.24	6.4	33.49	8.1	24.4	1.75
C4	07 Jul 2016	6	16.81	75.99	5.8	33.46	8.1	24.4	1.13
C4	07 Jul 2016	7	16.06	79.90	5.9	33.43	8.1	24.5	1.37
C4	07 Jul 2016	8	15.45	82.93	6.3	33.41	8.1	24.7	1.34

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ($\sigma\text{-t}$)	Chlor ($\mu\text{g/L}$)
C4	07 Jul 2016	9	15.48	75.78	6.4	33.45	8.0	24.7	1.23
C4	07 Jul 2016	10	15.40	72.05	6.5	33.42	8.0	24.7	1.34
C4	13 Jul 2016	1	21.48	78.02	6.4	33.61	8.2	23.3	0.37
C4	13 Jul 2016	2	21.49	78.01	6.9	33.62	8.2	23.3	0.38
C4	13 Jul 2016	3	21.48	77.95	6.7	33.64	8.2	23.3	0.44
C4	13 Jul 2016	4	21.46	77.93	6.5	33.64	8.2	23.3	1.55
C4	13 Jul 2016	5	21.45	77.71	6.7	33.64	8.2	23.3	1.27
C4	13 Jul 2016	6	21.44	77.31	6.6	33.65	8.2	23.3	1.67
C4	13 Jul 2016	7	21.28	77.26	6.6	33.73	8.2	23.4	1.55
C4	13 Jul 2016	8	20.95	77.10	6.5	33.76	8.2	23.6	1.90
C4	13 Jul 2016	9	20.61	74.48	6.3	33.86	8.2	23.7	1.72
C4	13 Jul 2016	10	20.56	74.20	5.8	33.84	8.2	23.7	0.73
C4	19 Jul 2016	1	21.43	74.28	7.8	33.65	8.2	23.4	2.44
C4	19 Jul 2016	2	21.22	74.87	7.5	33.62	8.2	23.4	2.55
C4	19 Jul 2016	3	21.00	75.53	7.1	33.60	8.2	23.4	2.70
C4	19 Jul 2016	4	19.26	77.27	7.1	33.50	8.2	23.8	3.46
C4	19 Jul 2016	5	18.76	77.39	6.4	33.54	8.2	24.0	4.31
C4	19 Jul 2016	6	17.91	76.98	6.2	33.44	8.1	24.1	4.23
C4	19 Jul 2016	7	17.13	76.17	5.9	33.47	8.1	24.3	3.40
C4	19 Jul 2016	8	16.99	76.43	5.5	33.42	8.1	24.3	2.94
C4	19 Jul 2016	9	16.02	76.91	5.7	33.43	8.0	24.5	2.56
C4	19 Jul 2016	10	15.93	76.65	5.9	33.42	8.0	24.5	2.65
C4	25 Jul 2016	1	20.82	77.95	7.5	33.56	8.2	23.4	1.64
C4	25 Jul 2016	2	20.75	77.86	8.0	33.54	8.2	23.4	1.78
C4	25 Jul 2016	3	20.24	78.65	8.0	33.52	8.2	23.6	1.95
C4	25 Jul 2016	4	20.12	79.83	7.8	33.52	8.2	23.6	2.16
C4	25 Jul 2016	5	19.98	79.98	7.8	33.52	8.2	23.6	2.16
C4	25 Jul 2016	6	19.85	80.23	7.4	33.52	8.2	23.7	1.52
C4	25 Jul 2016	7	19.50	80.57	6.7	33.51	8.2	23.8	0.95
C4	25 Jul 2016	8	19.10	81.04	6.2	33.49	8.2	23.8	0.81
C4	25 Jul 2016	9	18.69	76.34	6.5	33.50	8.2	24.0	0.89
C4	25 Jul 2016	10	18.60	72.55	6.9	33.50	8.1	24.0	0.95
C4	31 Jul 2016	1	21.30	76.65	8.4	33.60	8.2	23.4	1.25
C4	31 Jul 2016	2	21.18	77.58	8.6	33.59	8.2	23.4	1.61
C4	31 Jul 2016	3	20.80	79.21	8.6	33.58	8.2	23.5	1.95
C4	31 Jul 2016	4	20.51	78.86	8.6	33.56	8.2	23.5	1.99
C4	31 Jul 2016	5	20.06	78.53	8.6	33.54	8.2	23.6	2.03
C4	31 Jul 2016	6	19.53	79.05	8.8	33.50	8.2	23.7	2.10
C4	31 Jul 2016	7	19.17	80.00	8.8	33.49	8.2	23.8	2.26
C4	31 Jul 2016	8	19.00	80.06	8.6	33.48	8.2	23.9	2.48
C4	31 Jul 2016	9	18.71	80.13	7.9	33.47	8.2	23.9	2.92
C4	31 Jul 2016	10	18.25	79.94	7.2	33.45	8.2	24.0	3.31
C4	31 Jul 2016	11	17.38	79.90	7.4	33.42	8.2	24.2	3.19
C4	31 Jul 2016	12	17.13	79.38	7.9	33.44	8.1	24.3	3.05
C5	07 Jul 2016	1	20.88	74.72	8.0	33.65	8.2	23.5	2.21
C5	07 Jul 2016	2	20.64	75.04	7.8	33.61	8.2	23.5	3.77
C5	07 Jul 2016	3	19.67	73.49	7.2	33.55	8.2	23.7	4.82
C5	07 Jul 2016	4	18.61	72.31	6.7	33.51	8.2	24.0	3.05
C5	07 Jul 2016	5	17.83	71.18	6.4	33.49	8.2	24.2	1.82
C5	07 Jul 2016	6	17.41	74.26	6.1	33.48	8.2	24.2	1.30

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ($\sigma\text{-t}$)	Chlor ($\mu\text{g/L}$)
C5	07 Jul 2016	7	16.99	77.42	5.9	33.45	8.1	24.3	1.12
C5	07 Jul 2016	8	16.41	79.64	5.8	33.45	8.1	24.5	1.12
C5	07 Jul 2016	9	15.78	81.53	6.0	33.40	8.1	24.6	1.19
C5	07 Jul 2016	10	15.07	78.57	6.3	33.44	8.0	24.8	1.25
C5	13 Jul 2016	1	21.47	77.75	6.6	33.53	8.2	23.2	0.35
C5	13 Jul 2016	2	21.48	78.10	6.5	33.62	8.2	23.3	0.38
C5	13 Jul 2016	3	21.35	80.43	6.9	33.69	8.2	23.4	1.28
C5	13 Jul 2016	4	21.20	81.09	7.2	33.69	8.2	23.4	1.96
C5	13 Jul 2016	5	21.10	79.08	7.1	33.72	8.2	23.5	2.25
C5	13 Jul 2016	6	20.61	79.82	6.7	33.77	8.2	23.7	2.22
C5	13 Jul 2016	7	19.84	80.11	7.0	34.16	8.2	24.2	2.15
C5	13 Jul 2016	8	19.34	80.54	7.0	34.39	8.1	24.5	2.18
C5	13 Jul 2016	9	18.16	81.07	6.4	34.02	8.1	24.5	2.04
C5	13 Jul 2016	10	17.51	79.46	6.1	34.16	8.1	24.7	1.62
C5	19 Jul 2016	1	21.86	75.41	7.6	33.64	8.2	23.2	2.16
C5	19 Jul 2016	2	21.75	74.29	7.3	33.65	8.2	23.3	2.40
C5	19 Jul 2016	3	21.50	75.26	6.6	33.64	8.2	23.3	2.38
C5	19 Jul 2016	4	21.05	75.08	6.2	33.57	8.2	23.4	2.24
C5	19 Jul 2016	5	19.32	73.93	6.0	33.55	8.2	23.8	2.05
C5	19 Jul 2016	6	19.15	75.38	5.5	33.46	8.1	23.8	1.62
C5	19 Jul 2016	7	17.73	79.27	5.5	33.51	8.1	24.2	1.49
C5	19 Jul 2016	8	17.08	81.23	5.8	33.41	8.1	24.3	1.42
C5	19 Jul 2016	9	16.25	81.31	6.1	33.44	8.0	24.5	1.41
C5	25 Jul 2016	1	21.15	77.01	7.0	33.59	8.2	23.4	1.40
C5	25 Jul 2016	2	21.09	76.99	7.1	33.58	8.2	23.4	1.51
C5	25 Jul 2016	3	20.89	76.59	7.0	33.57	8.2	23.4	1.60
C5	25 Jul 2016	4	20.60	76.72	6.8	33.55	8.2	23.5	1.46
C5	25 Jul 2016	5	20.08	78.83	6.6	33.53	8.2	23.6	1.53
C5	25 Jul 2016	6	19.76	79.93	6.7	33.53	8.2	23.7	2.72
C5	25 Jul 2016	7	19.55	81.47	7.3	33.51	8.1	23.7	3.64
C5	25 Jul 2016	8	18.77	80.03	7.5	33.47	8.2	23.9	3.54
C5	25 Jul 2016	9	18.36	79.56	7.0	33.48	8.2	24.0	2.74
C5	25 Jul 2016	10	18.01	78.84	6.6	33.47	8.2	24.1	2.40
C5	25 Jul 2016	11	17.86	77.97	6.8	33.48	8.2	24.1	2.48
C5	31 Jul 2016	1	21.31	81.90	9.2	33.57	8.3	23.3	1.17
C5	31 Jul 2016	2	21.14	81.61	9.2	33.57	8.3	23.4	1.44
C5	31 Jul 2016	3	21.08	80.86	9.0	33.57	8.3	23.4	1.67
C5	31 Jul 2016	4	21.00	80.51	8.6	33.57	8.3	23.4	1.86
C5	31 Jul 2016	5	20.76	80.41	8.0	33.55	8.3	23.5	2.34
C5	31 Jul 2016	6	20.34	80.82	7.4	33.52	8.2	23.5	2.53
C5	31 Jul 2016	7	19.02	80.36	7.4	33.45	8.2	23.8	2.31
C5	31 Jul 2016	8	18.16	80.57	7.4	33.46	8.2	24.1	2.09
C5	31 Jul 2016	9	17.65	81.38	7.4	33.44	8.2	24.2	2.01
C5	31 Jul 2016	10	17.22	81.62	7.6	33.43	8.1	24.3	2.05
C5	31 Jul 2016	11	16.94	80.97	7.7	33.42	8.1	24.3	2.00
A6	07 Jul 2016	1	20.81	72.50	7.9	33.65	8.2	23.5	3.79
A6	07 Jul 2016	2	20.81	72.42	7.9	33.65	8.2	23.5	4.15
A6	07 Jul 2016	3	20.78	72.38	7.8	33.64	8.2	23.5	4.47
A6	07 Jul 2016	4	20.57	72.52	7.6	33.62	8.2	23.6	4.99
A6	07 Jul 2016	5	20.10	72.60	7.4	33.60	8.2	23.7	5.46

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ($\sigma\text{-t}$)	Chlor ($\mu\text{g/L}$)
A6	07 Jul 2016	6	19.44	72.65	7.3	33.55	8.2	23.8	5.41
A6	07 Jul 2016	7	18.57	72.67	7.1	33.50	8.2	24.0	5.05
A6	07 Jul 2016	8	17.77	73.37	7.0	33.48	8.2	24.2	4.63
A6	07 Jul 2016	9	17.04	74.29	6.9	33.48	8.1	24.3	3.84
A6	07 Jul 2016	10	16.62	76.79	6.7	33.47	8.1	24.4	2.86
A6	07 Jul 2016	11	16.34	78.33	6.4	33.44	8.1	24.5	2.76
A6	07 Jul 2016	12	15.61	80.86	6.6	33.43	8.1	24.6	2.74
A6	07 Jul 2016	13	15.27	81.38	6.8	33.42	8.1	24.7	2.50
A6	07 Jul 2016	14	15.00	82.61	6.5	33.43	8.1	24.8	2.31
A6	07 Jul 2016	15	14.87	82.84	6.2	33.39	8.1	24.8	2.37
A6	07 Jul 2016	16	14.16	83.52	6.3	33.41	8.0	24.9	2.20
A6	07 Jul 2016	17	14.04	83.66	6.3	33.40	8.0	24.9	2.11
A6	07 Jul 2016	18	13.84	83.32	6.5	33.38	8.0	25.0	2.31
A6	13 Jul 2016	1	21.33	80.81	6.8	33.60	8.2	23.3	0.33
A6	13 Jul 2016	2	21.33	80.83	6.9	33.63	8.2	23.4	0.36
A6	13 Jul 2016	3	21.22	80.64	7.0	33.68	8.2	23.4	0.37
A6	13 Jul 2016	4	21.00	80.29	7.4	33.75	8.2	23.5	1.88
A6	13 Jul 2016	5	20.71	80.51	7.5	33.84	8.2	23.7	2.84
A6	13 Jul 2016	6	20.36	80.37	7.2	33.71	8.2	23.7	2.76
A6	13 Jul 2016	7	20.09	80.01	7.5	33.86	8.2	23.9	2.79
A6	13 Jul 2016	8	20.10	79.82	7.2	33.73	8.2	23.8	3.03
A6	13 Jul 2016	9	19.77	79.58	7.5	33.76	8.2	23.9	2.62
A6	13 Jul 2016	10	19.83	79.44	6.9	33.73	8.2	23.8	2.05
A6	13 Jul 2016	11	19.59	79.51	6.9	33.70	8.2	23.9	1.67
A6	13 Jul 2016	12	19.47	80.59	7.4	33.89	8.2	24.1	1.34
A6	13 Jul 2016	13	19.24	81.57	7.3	33.79	8.2	24.0	1.36
A6	13 Jul 2016	14	18.85	83.54	7.1	33.98	8.1	24.3	1.29
A6	13 Jul 2016	15	18.57	84.62	6.7	33.80	8.1	24.2	1.26
A6	13 Jul 2016	16	17.65	84.27	6.9	34.14	8.1	24.7	1.24
A6	13 Jul 2016	17	17.48	84.40	6.6	33.84	8.1	24.5	1.24
A6	13 Jul 2016	18	16.79	84.56	6.5	34.05	8.1	24.8	1.24
A6	19 Jul 2016	1	21.99	79.01	7.8	33.66	8.2	23.2	2.23
A6	19 Jul 2016	2	21.71	78.86	7.4	33.63	8.2	23.3	2.55
A6	19 Jul 2016	3	20.05	79.20	6.8	33.51	8.2	23.6	3.65
A6	19 Jul 2016	4	18.47	78.80	6.4	33.48	8.2	24.0	4.01
A6	19 Jul 2016	5	16.79	77.58	6.7	33.40	8.1	24.3	3.87
A6	19 Jul 2016	6	16.90	77.91	6.5	33.44	8.1	24.3	4.01
A6	19 Jul 2016	7	15.69	78.78	6.8	33.39	8.1	24.6	4.59
A6	19 Jul 2016	8	15.52	79.55	7.1	33.36	8.1	24.6	4.78
A6	19 Jul 2016	9	14.92	78.95	7.0	33.37	8.1	24.7	4.64
A6	19 Jul 2016	10	14.76	78.70	6.8	33.36	8.1	24.8	3.92
A6	19 Jul 2016	11	14.55	79.24	6.4	33.35	8.1	24.8	2.97
A6	19 Jul 2016	12	14.27	80.27	6.2	33.35	8.0	24.9	2.79
A6	19 Jul 2016	13	14.09	81.65	6.2	33.36	8.0	24.9	2.63
A6	19 Jul 2016	14	14.05	83.44	6.0	33.38	8.0	24.9	1.98
A6	19 Jul 2016	15	14.02	83.85	5.8	33.34	8.0	24.9	1.75
A6	19 Jul 2016	16	13.62	84.28	5.7	33.37	8.0	25.0	1.45
A6	19 Jul 2016	17	13.60	84.95	5.5	33.37	8.0	25.0	1.20
A6	19 Jul 2016	18	13.29	85.63	5.5	33.38	8.0	25.1	1.18
A6	19 Jul 2016	19	13.17	85.93	5.5	33.38	7.9	25.1	1.06
A6	19 Jul 2016	20	13.17	86.05	5.4	33.39	7.9	25.1	0.95
A6	19 Jul 2016	21	13.08	86.02	5.3	33.39	7.9	25.1	0.88

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ($\sigma\text{-t}$)	Chlor ($\mu\text{g/L}$)
A6	25 Jul 2016	1	21.26	84.45	7.3	33.56	8.2	23.3	1.38
A6	25 Jul 2016	2	21.26	84.26	7.4	33.56	8.2	23.3	2.15
A6	25 Jul 2016	3	21.14	84.22	7.6	33.54	8.2	23.3	2.77
A6	25 Jul 2016	4	20.31	82.12	7.6	33.53	8.2	23.6	2.91
A6	25 Jul 2016	5	19.99	81.03	7.6	33.52	8.2	23.6	2.94
A6	25 Jul 2016	6	19.57	80.30	7.7	33.51	8.2	23.7	3.02
A6	25 Jul 2016	7	19.41	80.15	7.7	33.52	8.2	23.8	3.09
A6	25 Jul 2016	8	19.46	79.95	7.6	33.50	8.2	23.8	3.07
A6	25 Jul 2016	9	19.22	79.67	7.5	33.50	8.2	23.8	3.20
A6	25 Jul 2016	10	19.01	79.84	7.4	33.49	8.2	23.9	3.55
A6	25 Jul 2016	11	18.84	79.82	7.1	33.49	8.2	23.9	3.56
A6	25 Jul 2016	12	18.66	79.72	6.7	33.48	8.2	23.9	3.20
A6	25 Jul 2016	13	18.17	79.10	6.3	33.47	8.2	24.1	3.09
A6	25 Jul 2016	14	17.54	79.93	6.2	33.44	8.1	24.2	3.05
A6	25 Jul 2016	15	16.55	80.75	6.2	33.40	8.1	24.4	2.95
A6	25 Jul 2016	16	16.07	80.96	6.3	33.43	8.1	24.5	2.90
A6	25 Jul 2016	17	15.57	81.23	6.4	33.36	8.1	24.6	2.96
A6	25 Jul 2016	18	14.72	81.50	6.7	33.38	8.1	24.8	2.92
A6	31 Jul 2016	1	21.82	82.65	9.1	33.61	8.3	23.2	1.52
A6	31 Jul 2016	2	21.55	82.66	9.0	33.59	8.3	23.3	1.65
A6	31 Jul 2016	3	21.21	82.41	9.1	33.56	8.3	23.3	1.82
A6	31 Jul 2016	4	20.67	82.02	9.1	33.55	8.3	23.5	2.01
A6	31 Jul 2016	5	20.40	81.70	9.2	33.53	8.3	23.5	2.11
A6	31 Jul 2016	6	20.17	81.63	9.2	33.53	8.3	23.6	2.08
A6	31 Jul 2016	7	20.10	81.52	9.2	33.53	8.3	23.6	2.08
A6	31 Jul 2016	8	20.10	81.60	9.2	33.53	8.3	23.6	2.16
A6	31 Jul 2016	9	20.11	81.53	9.2	33.53	8.3	23.6	2.11
A6	31 Jul 2016	10	20.13	81.37	9.2	33.53	8.3	23.6	2.18
A6	31 Jul 2016	11	20.12	81.53	9.2	33.53	8.3	23.6	2.22
A6	31 Jul 2016	12	20.06	81.57	9.1	33.53	8.3	23.6	2.31
A6	31 Jul 2016	13	19.97	81.49	8.8	33.53	8.3	23.6	2.54
A6	31 Jul 2016	14	19.72	81.37	8.4	33.52	8.3	23.7	2.83
A6	31 Jul 2016	15	19.14	81.13	8.2	33.49	8.2	23.8	2.92
A6	31 Jul 2016	16	18.51	80.87	8.0	33.47	8.2	24.0	2.99
A6	31 Jul 2016	17	17.81	80.99	7.9	33.45	8.2	24.1	2.95
A6	31 Jul 2016	18	17.10	81.47	8.2	33.42	8.2	24.3	2.90
C6	07 Jul 2016	1	20.89	75.20	7.8	33.65	8.2	23.5	3.08
C6	07 Jul 2016	2	20.86	75.06	7.6	33.65	8.2	23.5	5.30
C6	07 Jul 2016	3	20.79	74.18	7.3	33.64	8.2	23.5	6.47
C6	07 Jul 2016	4	20.13	73.39	7.2	33.53	8.2	23.6	5.65
C6	07 Jul 2016	5	18.75	71.41	6.9	33.52	8.2	24.0	3.74
C6	07 Jul 2016	6	18.13	70.47	6.1	33.51	8.2	24.1	1.88
C6	07 Jul 2016	7	17.54	72.99	5.6	33.48	8.2	24.2	1.54
C6	07 Jul 2016	8	16.64	76.64	5.9	33.39	8.1	24.4	2.02
C6	07 Jul 2016	9	15.57	79.94	6.7	33.46	8.1	24.7	2.17
C6	13 Jul 2016	1	21.37	79.26	7.3	33.59	8.2	23.3	2.05
C6	13 Jul 2016	2	21.33	79.47	7.3	33.63	8.2	23.4	2.07
C6	13 Jul 2016	3	21.27	79.94	6.9	33.64	8.2	23.4	2.13
C6	13 Jul 2016	4	21.19	80.39	7.1	33.66	8.2	23.4	2.16
C6	13 Jul 2016	5	21.10	80.51	7.0	33.68	8.2	23.5	1.33
C6	13 Jul 2016	6	20.95	80.51	6.7	33.69	8.2	23.5	0.79
C6	13 Jul 2016	7	20.74	80.61	6.8	33.74	8.2	23.6	1.72

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ($\sigma\text{-t}$)	Chlor ($\mu\text{g/L}$)
C6	13 Jul 2016	8	20.50	80.94	6.8	33.91	8.2	23.8	1.70
C6	13 Jul 2016	9	18.92	82.51	6.3	34.11	8.2	24.4	2.11
C6	19 Jul 2016	1	21.98	76.49	7.3	33.66	8.2	23.2	2.18
C6	19 Jul 2016	2	21.86	76.92	7.1	33.64	8.2	23.2	2.51
C6	19 Jul 2016	3	21.02	76.93	6.9	33.61	8.2	23.4	3.05
C6	19 Jul 2016	4	20.64	76.70	6.7	33.48	8.2	23.4	4.27
C6	19 Jul 2016	5	19.20	77.53	6.2	33.56	8.2	23.9	4.28
C6	19 Jul 2016	6	18.06	76.83	5.9	33.37	8.2	24.0	1.93
C6	19 Jul 2016	7	17.25	78.89	5.7	33.44	8.1	24.3	1.18
C6	19 Jul 2016	8	16.11	82.73	6.2	33.42	8.0	24.5	1.49
C6	19 Jul 2016	9	16.14	82.21	6.3	33.46	8.0	24.5	1.56
C6	25 Jul 2016	1	21.28	74.52	7.1	33.58	8.2	23.3	2.00
C6	25 Jul 2016	2	21.13	75.06	7.3	33.56	8.2	23.4	2.32
C6	25 Jul 2016	3	20.50	78.01	7.4	33.56	8.2	23.5	3.43
C6	25 Jul 2016	4	20.40	79.52	7.5	33.54	8.2	23.5	3.93
C6	25 Jul 2016	5	19.94	79.28	7.3	33.53	8.2	23.7	3.27
C6	25 Jul 2016	6	19.69	78.66	6.8	33.52	8.2	23.7	1.88
C6	25 Jul 2016	7	19.18	77.35	6.4	33.51	8.2	23.8	1.22
C6	25 Jul 2016	8	18.74	79.53	6.6	33.49	8.2	23.9	1.68
C6	25 Jul 2016	9	18.51	80.74	7.1	33.51	8.1	24.0	1.87
C6	31 Jul 2016	1	21.67	81.45	9.3	33.60	8.3	23.2	1.51
C6	31 Jul 2016	2	21.66	81.42	9.2	33.60	8.3	23.2	1.66
C6	31 Jul 2016	3	21.51	81.34	9.2	33.59	8.3	23.3	1.86
C6	31 Jul 2016	4	21.38	81.32	9.1	33.58	8.3	23.3	2.13
C6	31 Jul 2016	5	21.30	81.01	8.6	33.58	8.3	23.3	2.66
C6	31 Jul 2016	6	21.23	80.60	7.6	33.57	8.3	23.3	4.05
C6	31 Jul 2016	7	20.12	80.10	7.1	33.46	8.3	23.6	5.10
C6	31 Jul 2016	8	18.77	79.57	7.0	33.48	8.2	23.9	5.46
C6	31 Jul 2016	9	17.78	77.10	7.3	33.43	8.2	24.1	5.33
C6	31 Jul 2016	10	17.42	76.05	7.6	33.44	8.2	24.2	5.09
A7	07 Jul 2016	1	20.15	73.17	7.9	33.62	8.2	23.7	4.28
A7	07 Jul 2016	2	19.58	73.42	7.7	33.57	8.2	23.8	4.79
A7	07 Jul 2016	3	18.78	74.42	7.3	33.53	8.2	24.0	4.94
A7	07 Jul 2016	4	17.72	74.59	7.2	33.47	8.2	24.2	4.09
A7	07 Jul 2016	5	16.57	75.51	6.8	33.46	8.1	24.4	3.31
A7	07 Jul 2016	6	15.98	76.58	6.6	33.44	8.1	24.6	3.03
A7	07 Jul 2016	7	15.26	79.28	6.8	33.42	8.1	24.7	2.88
A7	07 Jul 2016	8	15.12	81.68	6.8	33.43	8.1	24.7	2.70
A7	07 Jul 2016	9	15.02	81.82	6.7	33.41	8.1	24.7	2.45
A7	07 Jul 2016	10	14.83	81.94	6.5	33.42	8.1	24.8	2.36
A7	07 Jul 2016	11	14.71	81.98	6.3	33.40	8.0	24.8	2.24
A7	07 Jul 2016	12	14.39	83.30	6.2	33.41	8.0	24.9	2.22
A7	07 Jul 2016	13	14.23	83.73	6.2	33.40	8.0	24.9	2.15
A7	07 Jul 2016	14	13.97	83.75	6.3	33.40	8.0	25.0	2.04
A7	07 Jul 2016	15	13.95	84.07	6.3	33.42	8.0	25.0	2.00
A7	07 Jul 2016	16	13.94	84.51	6.2	33.40	8.0	25.0	1.93
A7	07 Jul 2016	17	13.86	84.48	6.2	33.42	8.0	25.0	1.91
A7	07 Jul 2016	18	13.86	84.43	6.3	33.42	8.0	25.0	1.91
A7	07 Jul 2016	19	13.86	84.40	6.3	33.42	8.0	25.0	1.95
A7	13 Jul 2016	1	21.44	80.43	7.2	33.61	8.2	23.3	1.98

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ($\sigma\text{-t}$)	Chlor ($\mu\text{g/L}$)
A7	13 Jul 2016	2	21.44	80.57	7.5	33.62	8.2	23.3	1.94
A7	13 Jul 2016	3	21.36	80.51	7.4	33.66	8.2	23.4	1.97
A7	13 Jul 2016	4	21.06	80.68	7.4	33.75	8.2	23.5	2.01
A7	13 Jul 2016	5	20.87	80.83	7.5	33.70	8.2	23.5	2.02
A7	13 Jul 2016	6	20.84	80.73	7.6	33.67	8.2	23.5	2.05
A7	13 Jul 2016	7	20.83	80.71	7.4	33.66	8.2	23.5	2.06
A7	13 Jul 2016	8	20.82	80.84	7.5	33.65	8.2	23.5	2.16
A7	13 Jul 2016	9	20.80	80.77	7.6	33.64	8.2	23.5	2.23
A7	13 Jul 2016	10	20.78	80.75	7.5	33.65	8.2	23.5	2.01
A7	13 Jul 2016	11	20.62	80.58	7.2	33.68	8.2	23.6	1.95
A7	13 Jul 2016	12	20.39	80.02	7.0	33.70	8.2	23.7	1.96
A7	13 Jul 2016	13	20.16	79.28	7.2	33.73	8.2	23.8	1.65
A7	13 Jul 2016	14	20.00	78.95	7.4	33.91	8.2	23.9	1.37
A7	13 Jul 2016	15	19.57	81.18	6.9	33.88	8.2	24.0	1.29
A7	13 Jul 2016	16	18.58	81.51	6.7	33.77	8.1	24.2	1.30
A7	13 Jul 2016	17	18.07	82.00	7.0	34.14	8.1	24.6	1.35
A7	13 Jul 2016	18	17.63	83.36	7.3	34.53	8.1	25.0	1.26
A7	13 Jul 2016	19	18.17	84.11	7.0	34.01	8.1	24.5	1.35
A7	19 Jul 2016	1	21.98	78.68	7.8	33.68	8.2	23.2	2.61
A7	19 Jul 2016	2	21.95	78.70	7.3	33.67	8.2	23.2	3.25
A7	19 Jul 2016	3	21.25	78.80	7.1	33.55	8.2	23.3	3.64
A7	19 Jul 2016	4	19.37	78.17	6.9	33.55	8.2	23.8	4.46
A7	19 Jul 2016	5	18.82	77.64	6.6	33.49	8.2	23.9	4.80
A7	19 Jul 2016	6	17.39	77.73	6.6	33.40	8.2	24.2	4.74
A7	19 Jul 2016	7	16.77	76.35	6.4	33.46	8.1	24.4	4.42
A7	19 Jul 2016	8	16.14	76.40	6.4	33.33	8.1	24.4	3.90
A7	19 Jul 2016	9	15.17	77.81	6.4	33.37	8.1	24.7	2.90
A7	19 Jul 2016	10	15.16	79.66	6.0	33.39	8.0	24.7	2.18
A7	19 Jul 2016	11	14.73	81.32	5.7	33.31	8.0	24.7	1.89
A7	19 Jul 2016	12	14.05	83.21	5.7	33.34	8.0	24.9	1.83
A7	19 Jul 2016	13	13.81	84.21	5.8	33.35	8.0	24.9	1.73
A7	19 Jul 2016	14	13.68	84.83	5.8	33.36	8.0	25.0	1.60
A7	19 Jul 2016	15	13.68	84.88	5.7	33.35	8.0	25.0	1.49
A7	19 Jul 2016	16	13.52	84.97	5.7	33.35	8.0	25.0	1.45
A7	19 Jul 2016	17	13.45	85.30	5.7	33.37	8.0	25.0	1.48
A7	19 Jul 2016	18	13.44	85.51	5.6	33.37	8.0	25.0	1.20
A7	19 Jul 2016	19	13.43	85.54	5.5	33.37	8.0	25.0	1.17
A7	19 Jul 2016	20	13.36	85.54	5.6	33.38	7.9	25.1	1.29
A7	25 Jul 2016	1	20.90	82.45	7.6	33.57	8.2	23.4	2.25
A7	25 Jul 2016	2	20.75	82.45	7.7	33.54	8.2	23.4	2.50
A7	25 Jul 2016	3	20.06	81.24	7.6	33.54	8.2	23.6	3.00
A7	25 Jul 2016	4	19.90	80.72	7.5	33.52	8.2	23.7	3.53
A7	25 Jul 2016	5	19.45	79.96	7.3	33.51	8.2	23.8	4.16
A7	25 Jul 2016	6	19.17	79.80	7.1	33.50	8.2	23.8	4.42
A7	25 Jul 2016	7	18.52	79.04	7.1	33.47	8.2	24.0	4.65
A7	25 Jul 2016	8	18.08	78.36	7.2	33.48	8.2	24.1	4.85
A7	25 Jul 2016	9	17.97	78.03	7.2	33.48	8.2	24.1	5.27
A7	25 Jul 2016	10	17.72	78.01	7.1	33.46	8.2	24.2	4.98
A7	25 Jul 2016	11	17.49	77.78	6.9	33.46	8.2	24.2	4.31
A7	25 Jul 2016	12	17.30	77.36	6.6	33.45	8.1	24.3	3.57
A7	25 Jul 2016	13	17.09	77.79	6.1	33.44	8.1	24.3	3.48
A7	25 Jul 2016	14	16.65	79.06	5.8	33.41	8.1	24.4	3.77
A7	25 Jul 2016	15	15.15	80.62	5.8	33.33	8.1	24.6	3.82

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ($\sigma\text{-t}$)	Chlor ($\mu\text{g/L}$)
A7	25 Jul 2016	16	14.37	80.87	5.9	33.38	8.0	24.9	3.78
A7	25 Jul 2016	17	14.11	80.22	6.0	33.35	8.0	24.9	3.84
A7	25 Jul 2016	18	14.02	80.29	6.1	33.37	8.0	24.9	3.91
A7	31 Jul 2016	1	22.25	81.76	9.2	33.62	8.3	23.1	1.59
A7	31 Jul 2016	2	22.30	81.77	9.1	33.62	8.3	23.1	1.60
A7	31 Jul 2016	3	22.19	82.08	8.9	33.62	8.3	23.1	1.65
A7	31 Jul 2016	4	21.79	82.20	8.9	33.57	8.3	23.2	1.80
A7	31 Jul 2016	5	20.34	82.27	9.1	33.53	8.3	23.5	1.85
A7	31 Jul 2016	6	19.93	81.92	9.1	33.51	8.3	23.6	1.97
A7	31 Jul 2016	7	19.48	81.62	9.2	33.48	8.3	23.7	2.00
A7	31 Jul 2016	8	19.27	81.27	9.1	33.48	8.2	23.8	2.02
A7	31 Jul 2016	9	19.25	81.12	9.0	33.48	8.2	23.8	2.09
A7	31 Jul 2016	10	19.02	80.74	9.1	33.47	8.2	23.8	2.22
A7	31 Jul 2016	11	18.58	80.79	9.2	33.45	8.2	23.9	2.33
A7	31 Jul 2016	12	18.43	80.85	9.1	33.45	8.2	24.0	2.53
A7	31 Jul 2016	13	18.32	80.81	9.0	33.45	8.2	24.0	2.74
A7	31 Jul 2016	14	18.29	80.49	8.9	33.45	8.2	24.0	2.93
A7	31 Jul 2016	15	18.17	80.27	8.8	33.45	8.2	24.0	3.19
A7	31 Jul 2016	16	18.13	80.00	8.4	33.45	8.2	24.1	3.39
A7	31 Jul 2016	17	17.89	79.99	8.0	33.45	8.2	24.1	3.77
A7	31 Jul 2016	18	17.74	79.92	7.3	33.46	8.2	24.2	4.00
A7	31 Jul 2016	19	16.47	79.66	7.6	33.39	8.2	24.4	4.11
A7	31 Jul 2016	20	16.01	79.75	8.1	33.42	8.1	24.5	4.00
C7	07 Jul 2016	1	21.27	65.72	8.0	33.67	8.2	23.4	4.19
C7	07 Jul 2016	2	21.26	70.33	7.9	33.66	8.2	23.4	4.28
C7	07 Jul 2016	3	20.90	70.57	8.0	33.63	8.2	23.5	4.55
C7	07 Jul 2016	4	20.61	71.35	7.9	33.62	8.2	23.5	4.87
C7	07 Jul 2016	5	20.40	72.55	7.7	33.60	8.2	23.6	5.25
C7	07 Jul 2016	6	20.12	72.22	7.6	33.58	8.2	23.6	5.56
C7	07 Jul 2016	7	19.42	72.10	7.7	33.54	8.2	23.8	5.73
C7	07 Jul 2016	8	18.87	72.50	7.7	33.54	8.2	23.9	5.90
C7	07 Jul 2016	9	18.68	72.64	7.4	33.54	8.2	24.0	5.78
C7	07 Jul 2016	10	18.23	72.84	7.3	33.51	8.2	24.1	5.40
C7	07 Jul 2016	11	17.95	73.54	7.0	33.50	8.2	24.1	5.09
C7	07 Jul 2016	12	17.26	74.53	6.8	33.45	8.2	24.3	4.33
C7	07 Jul 2016	13	16.61	75.96	6.2	33.47	8.1	24.4	3.18
C7	07 Jul 2016	14	16.37	77.14	5.6	33.45	8.1	24.5	1.96
C7	07 Jul 2016	15	15.85	79.38	5.5	33.43	8.1	24.6	1.57
C7	07 Jul 2016	16	14.99	82.76	5.6	33.40	8.0	24.7	1.18
C7	07 Jul 2016	17	14.63	85.33	5.7	33.41	8.0	24.8	1.37
C7	07 Jul 2016	18	14.09	85.63	6.0	33.42	8.0	24.9	1.67
C7	13 Jul 2016	1	21.35	81.70	7.3	33.60	8.2	23.3	2.29
C7	13 Jul 2016	2	21.32	80.57	7.5	33.62	8.2	23.4	2.54
C7	13 Jul 2016	3	21.06	81.15	7.3	33.70	8.2	23.5	2.56
C7	13 Jul 2016	4	20.83	80.51	7.1	33.67	8.2	23.5	2.41
C7	13 Jul 2016	5	20.71	80.68	6.8	33.69	8.2	23.6	3.17
C7	13 Jul 2016	6	20.56	80.63	6.8	33.70	8.2	23.6	3.61
C7	13 Jul 2016	7	20.34	80.52	7.3	33.78	8.2	23.7	3.24
C7	13 Jul 2016	8	20.24	80.49	7.5	33.88	8.2	23.8	3.31
C7	13 Jul 2016	9	19.92	80.02	7.2	33.70	8.2	23.8	3.29
C7	13 Jul 2016	10	19.51	79.84	7.4	33.81	8.2	24.0	2.55
C7	13 Jul 2016	11	19.67	79.96	6.9	33.76	8.2	23.9	2.16

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor ($\mu\text{g/L}$)
C7	13 Jul 2016	12	19.12	79.97	6.8	33.82	8.2	24.1	2.05
C7	13 Jul 2016	13	18.77	80.00	7.2	34.22	8.1	24.5	2.04
C7	13 Jul 2016	14	18.32	80.33	6.8	34.11	8.1	24.5	1.64
C7	13 Jul 2016	15	16.64	82.00	6.6	33.92	8.1	24.8	1.46
C7	13 Jul 2016	16	16.19	83.47	6.9	34.31	8.1	25.2	1.28
C7	13 Jul 2016	17	15.85	84.03	6.8	34.20	8.1	25.2	1.31
C7	13 Jul 2016	18	15.74	84.32	6.7	34.71	8.1	25.6	1.29
C7	19 Jul 2016	2	21.23	77.72	7.5	33.63	8.2	23.4	2.16
C7	19 Jul 2016	3	20.04	77.63	7.5	33.55	8.2	23.6	2.39
C7	19 Jul 2016	4	18.46	78.32	7.8	33.50	8.2	24.0	2.62
C7	19 Jul 2016	5	17.96	79.02	7.2	33.49	8.2	24.1	3.32
C7	19 Jul 2016	6	17.42	79.70	6.4	33.41	8.2	24.2	3.78
C7	19 Jul 2016	7	15.83	79.24	6.6	33.41	8.1	24.6	4.68
C7	19 Jul 2016	8	15.74	79.05	6.4	33.40	8.1	24.6	5.18
C7	19 Jul 2016	9	15.09	77.93	6.4	33.38	8.1	24.7	4.56
C7	19 Jul 2016	10	14.92	77.77	6.4	33.38	8.0	24.7	3.40
C7	19 Jul 2016	11	14.53	79.94	6.2	33.37	8.0	24.8	2.61
C7	19 Jul 2016	12	14.19	82.48	6.1	33.37	8.0	24.9	2.40
C7	19 Jul 2016	13	13.98	83.45	6.1	33.37	8.0	24.9	2.14
C7	19 Jul 2016	14	13.98	83.71	5.9	33.38	8.0	24.9	1.84
C7	19 Jul 2016	15	13.76	83.83	5.8	33.35	8.0	25.0	1.47
C7	19 Jul 2016	16	13.65	84.51	5.5	33.39	8.0	25.0	1.07
C7	19 Jul 2016	17	13.59	85.41	5.4	33.38	8.0	25.0	1.19
C7	19 Jul 2016	18	13.48	85.63	5.7	33.40	7.9	25.1	1.15
C7	25 Jul 2016	1	20.62	79.75	7.7	33.56	8.2	23.5	2.06
C7	25 Jul 2016	2	20.53	80.68	7.6	33.54	8.2	23.5	2.46
C7	25 Jul 2016	3	19.89	80.45	7.6	33.52	8.2	23.7	2.65
C7	25 Jul 2016	4	19.56	79.39	7.6	33.52	8.2	23.7	2.72
C7	25 Jul 2016	5	19.27	79.47	7.7	33.49	8.2	23.8	2.75
C7	25 Jul 2016	6	18.83	79.26	7.8	33.48	8.2	23.9	2.81
C7	25 Jul 2016	7	18.55	79.77	7.8	33.49	8.2	24.0	2.92
C7	25 Jul 2016	8	18.50	80.15	7.7	33.49	8.2	24.0	3.03
C7	25 Jul 2016	9	18.44	80.11	7.7	33.49	8.2	24.0	2.95
C7	25 Jul 2016	10	18.43	79.99	7.7	33.49	8.2	24.0	3.07
C7	25 Jul 2016	11	18.37	79.99	7.6	33.49	8.2	24.0	3.21
C7	25 Jul 2016	12	18.29	79.92	7.6	33.48	8.2	24.0	3.25
C7	25 Jul 2016	13	18.12	79.92	7.5	33.48	8.2	24.1	3.33
C7	25 Jul 2016	14	18.11	79.92	7.3	33.47	8.2	24.1	3.47
C7	25 Jul 2016	15	17.60	79.99	7.1	33.46	8.2	24.2	2.74
C7	25 Jul 2016	16	17.33	79.96	6.2	33.45	8.2	24.2	1.72
C7	25 Jul 2016	17	16.28	80.38	6.7	33.43	8.1	24.5	2.30
C7	31 Jul 2016	1	22.61	80.54	9.2	33.65	8.3	23.0	2.57
C7	31 Jul 2016	2	22.60	80.60	9.1	33.65	8.3	23.0	2.45
C7	31 Jul 2016	3	22.38	80.59	8.9	33.62	8.3	23.1	2.34
C7	31 Jul 2016	4	22.02	80.57	8.9	33.60	8.3	23.1	2.33
C7	31 Jul 2016	5	21.86	79.64	8.9	33.58	8.3	23.2	2.26
C7	31 Jul 2016	6	21.83	79.71	8.9	33.58	8.3	23.2	2.24
C7	31 Jul 2016	7	21.69	79.76	8.9	33.57	8.3	23.2	2.34
C7	31 Jul 2016	8	21.57	79.82	8.9	33.57	8.3	23.2	2.29
C7	31 Jul 2016	9	21.31	80.05	8.7	33.56	8.3	23.3	2.41
C7	31 Jul 2016	10	20.89	80.45	8.5	33.53	8.3	23.4	2.59
C7	31 Jul 2016	11	20.18	80.58	8.2	33.51	8.3	23.6	3.01

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ($\sigma\text{-t}$)	Chlor ($\mu\text{g/L}$)
C7	31 Jul 2016	12	19.17	80.72	7.9	33.44	8.3	23.8	3.87
C7	31 Jul 2016	13	18.10	80.36	7.5	33.43	8.2	24.0	4.25
C7	31 Jul 2016	14	16.94	79.01	7.6	33.41	8.2	24.3	4.50
C7	31 Jul 2016	15	16.48	78.78	7.9	33.38	8.2	24.4	4.24
C7	31 Jul 2016	16	15.64	78.98	7.9	33.37	8.2	24.6	3.61
C7	31 Jul 2016	17	15.31	79.72	7.8	33.35	8.1	24.6	3.60
C7	31 Jul 2016	18	15.03	80.97	8.0	33.36	8.1	24.7	3.87
C8	07 Jul 2016	1	20.46	74.63	7.5	33.63	8.2	23.6	3.33
C8	07 Jul 2016	2	20.23	74.36	7.6	33.61	8.2	23.6	3.68
C8	07 Jul 2016	3	19.66	71.05	7.9	33.58	8.2	23.8	4.46
C8	07 Jul 2016	4	18.97	75.17	7.6	33.55	8.2	23.9	5.05
C8	07 Jul 2016	5	18.51	74.97	7.3	33.53	8.2	24.0	5.22
C8	07 Jul 2016	6	18.28	73.76	7.1	33.55	8.2	24.1	5.20
C8	07 Jul 2016	7	18.24	72.30	6.9	33.55	8.1	24.1	5.15
C8	07 Jul 2016	8	18.09	72.07	7.0	33.54	8.1	24.1	5.23
C8	07 Jul 2016	9	17.95	72.10	7.0	33.54	8.1	24.2	5.40
C8	07 Jul 2016	10	17.90	72.18	7.0	33.55	8.1	24.2	5.60
C8	07 Jul 2016	11	17.78	72.26	7.1	33.53	8.1	24.2	5.76
C8	07 Jul 2016	12	17.63	72.22	7.0	33.53	8.1	24.2	5.38
C8	07 Jul 2016	13	17.36	72.32	6.5	33.51	8.1	24.3	4.40
C8	07 Jul 2016	14	16.68	73.36	6.0	33.47	8.1	24.4	2.95
C8	07 Jul 2016	15	15.93	75.91	5.8	33.46	8.1	24.6	2.06
C8	07 Jul 2016	16	15.08	78.17	5.8	33.41	8.0	24.7	1.69
C8	07 Jul 2016	17	14.27	83.48	6.0	33.42	8.0	24.9	1.59
C8	07 Jul 2016	18	14.10	84.29	6.0	33.41	8.0	24.9	1.63
C8	07 Jul 2016	19	14.03	84.43	6.1	33.42	8.0	25.0	1.66
C8	13 Jul 2016	1	21.44	82.15	6.8	33.59	8.2	23.3	1.62
C8	13 Jul 2016	2	21.48	82.23	6.9	33.60	8.2	23.3	1.77
C8	13 Jul 2016	3	21.42	82.05	7.3	33.65	8.2	23.4	2.41
C8	13 Jul 2016	4	21.03	81.79	7.3	33.77	8.2	23.5	2.56
C8	13 Jul 2016	5	20.52	81.42	7.2	33.81	8.2	23.7	2.61
C8	13 Jul 2016	6	20.32	81.13	7.4	33.74	8.2	23.7	2.70
C8	13 Jul 2016	7	20.29	81.01	7.3	33.83	8.2	23.8	2.85
C8	13 Jul 2016	8	20.18	81.09	7.1	33.67	8.2	23.7	2.82
C8	13 Jul 2016	9	20.13	81.00	7.2	33.72	8.2	23.8	2.86
C8	13 Jul 2016	10	20.12	81.02	7.0	33.69	8.2	23.7	2.75
C8	13 Jul 2016	11	20.01	80.84	7.1	33.67	8.2	23.7	2.79
C8	13 Jul 2016	12	19.91	80.66	7.1	33.71	8.2	23.8	2.07
C8	13 Jul 2016	13	19.34	80.37	7.2	33.97	8.2	24.1	2.12
C8	13 Jul 2016	14	18.97	80.21	6.8	34.06	8.2	24.3	1.69
C8	13 Jul 2016	15	17.29	80.53	6.6	33.89	8.1	24.6	1.70
C8	13 Jul 2016	16	15.78	82.23	7.0	34.52	8.1	25.4	1.46
C8	13 Jul 2016	17	15.45	83.21	7.0	34.09	8.1	25.2	1.39
C8	13 Jul 2016	18	15.29	84.46	6.4	34.68	8.1	25.7	1.41
C8	13 Jul 2016	19	15.15	84.35	6.2	34.77	8.1	25.8	1.45
C8	19 Jul 2016	1	22.41	78.17	7.9	33.68	8.2	23.1	1.85
C8	19 Jul 2016	2	22.29	78.10	7.8	33.66	8.2	23.1	2.12
C8	19 Jul 2016	3	21.56	77.56	7.6	33.63	8.2	23.3	2.20
C8	19 Jul 2016	4	20.55	77.66	7.4	33.57	8.2	23.5	2.36
C8	19 Jul 2016	5	18.91	79.15	7.4	33.45	8.2	23.9	2.69
C8	19 Jul 2016	6	17.37	79.46	7.5	33.42	8.2	24.2	2.80
C8	19 Jul 2016	7	16.83	79.86	7.5	33.42	8.2	24.3	2.93

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor ($\mu\text{g/L}$)
C8	19 Jul 2016	8	16.36	80.20	7.3	33.42	8.1	24.4	3.17
C8	19 Jul 2016	9	16.03	80.08	7.2	33.37	8.1	24.5	3.42
C8	19 Jul 2016	10	15.60	79.87	7.0	33.39	8.1	24.6	3.68
C8	19 Jul 2016	11	15.43	79.82	6.5	33.37	8.1	24.6	3.26
C8	19 Jul 2016	12	14.85	80.10	6.2	33.37	8.1	24.7	3.09
C8	19 Jul 2016	13	14.60	81.18	6.2	33.37	8.0	24.8	2.58
C8	19 Jul 2016	14	14.58	82.27	5.9	33.37	8.0	24.8	2.20
C8	19 Jul 2016	15	14.10	82.96	5.9	33.37	8.0	24.9	1.89
C8	19 Jul 2016	16	14.08	83.73	5.8	33.38	8.0	24.9	1.64
C8	19 Jul 2016	17	13.96	84.40	5.8	33.39	8.0	24.9	1.26
C8	19 Jul 2016	18	13.92	84.67	5.7	33.38	8.0	25.0	1.24
C8	19 Jul 2016	19	13.83	84.92	5.8	33.40	8.0	25.0	1.21
C8	19 Jul 2016	20	13.83	84.97	5.8	33.40	8.0	25.0	1.21
C8	25 Jul 2016	1	20.27	79.57	7.6	33.55	8.2	23.6	2.51
C8	25 Jul 2016	2	20.08	79.08	7.7	33.54	8.2	23.6	2.60
C8	25 Jul 2016	3	19.60	79.48	7.6	33.51	8.2	23.7	2.71
C8	25 Jul 2016	4	19.21	79.64	7.7	33.52	8.2	23.8	2.58
C8	25 Jul 2016	5	19.09	79.53	8.0	33.51	8.2	23.9	2.53
C8	25 Jul 2016	6	18.88	79.76	8.2	33.47	8.2	23.9	2.54
C8	25 Jul 2016	7	18.35	80.58	8.1	33.48	8.2	24.0	2.41
C8	25 Jul 2016	8	18.15	80.91	7.9	33.47	8.2	24.1	2.45
C8	25 Jul 2016	9	18.00	81.56	7.9	33.47	8.2	24.1	2.54
C8	25 Jul 2016	10	18.00	81.42	7.9	33.47	8.2	24.1	2.53
C8	25 Jul 2016	11	17.99	81.53	7.8	33.47	8.2	24.1	2.68
C8	25 Jul 2016	12	17.98	81.39	7.8	33.48	8.2	24.1	2.75
C8	25 Jul 2016	13	17.87	81.30	7.8	33.47	8.2	24.1	2.70
C8	25 Jul 2016	14	17.80	81.10	7.7	33.47	8.2	24.1	2.74
C8	25 Jul 2016	15	17.70	81.05	7.7	33.47	8.2	24.2	2.54
C8	25 Jul 2016	16	17.60	80.90	7.1	33.47	8.2	24.2	1.83
C8	25 Jul 2016	17	17.53	81.12	6.3	33.46	8.2	24.2	1.66
C8	25 Jul 2016	18	16.53	81.54	6.9	33.43	8.1	24.4	1.93
C8	31 Jul 2016	1	22.50	77.96	9.3	33.62	8.3	23.0	2.93
C8	31 Jul 2016	2	22.48	78.14	9.2	33.61	8.3	23.0	2.56
C8	31 Jul 2016	3	22.38	77.99	9.0	33.60	8.3	23.1	2.41
C8	31 Jul 2016	4	22.07	78.62	9.1	33.59	8.3	23.1	2.38
C8	31 Jul 2016	5	21.88	79.36	9.2	33.58	8.3	23.2	2.41
C8	31 Jul 2016	6	21.69	79.56	9.2	33.58	8.3	23.2	2.29
C8	31 Jul 2016	7	21.46	79.64	9.0	33.56	8.3	23.3	2.02
C8	31 Jul 2016	8	21.02	80.04	8.9	33.52	8.3	23.4	1.93
C8	31 Jul 2016	9	19.88	81.25	8.9	33.48	8.3	23.6	2.09
C8	31 Jul 2016	10	19.23	81.83	8.8	33.47	8.3	23.8	2.51
C8	31 Jul 2016	11	18.65	81.65	8.6	33.45	8.3	23.9	2.94
C8	31 Jul 2016	12	18.09	81.33	8.4	33.43	8.2	24.1	3.25
C8	31 Jul 2016	13	17.58	80.80	8.4	33.41	8.2	24.2	3.45
C8	31 Jul 2016	14	17.20	80.50	7.8	33.43	8.2	24.3	4.06
C8	31 Jul 2016	15	16.74	80.27	7.4	33.37	8.2	24.3	4.23
C8	31 Jul 2016	16	15.91	79.82	7.4	33.39	8.2	24.5	4.05
C8	31 Jul 2016	17	15.59	79.70	7.3	33.38	8.1	24.6	4.03
C8	31 Jul 2016	18	15.41	79.67	7.4	33.38	8.1	24.6	4.01
C8	31 Jul 2016	19	15.27	79.79	7.8	33.38	8.1	24.7	4.04

NA = not available

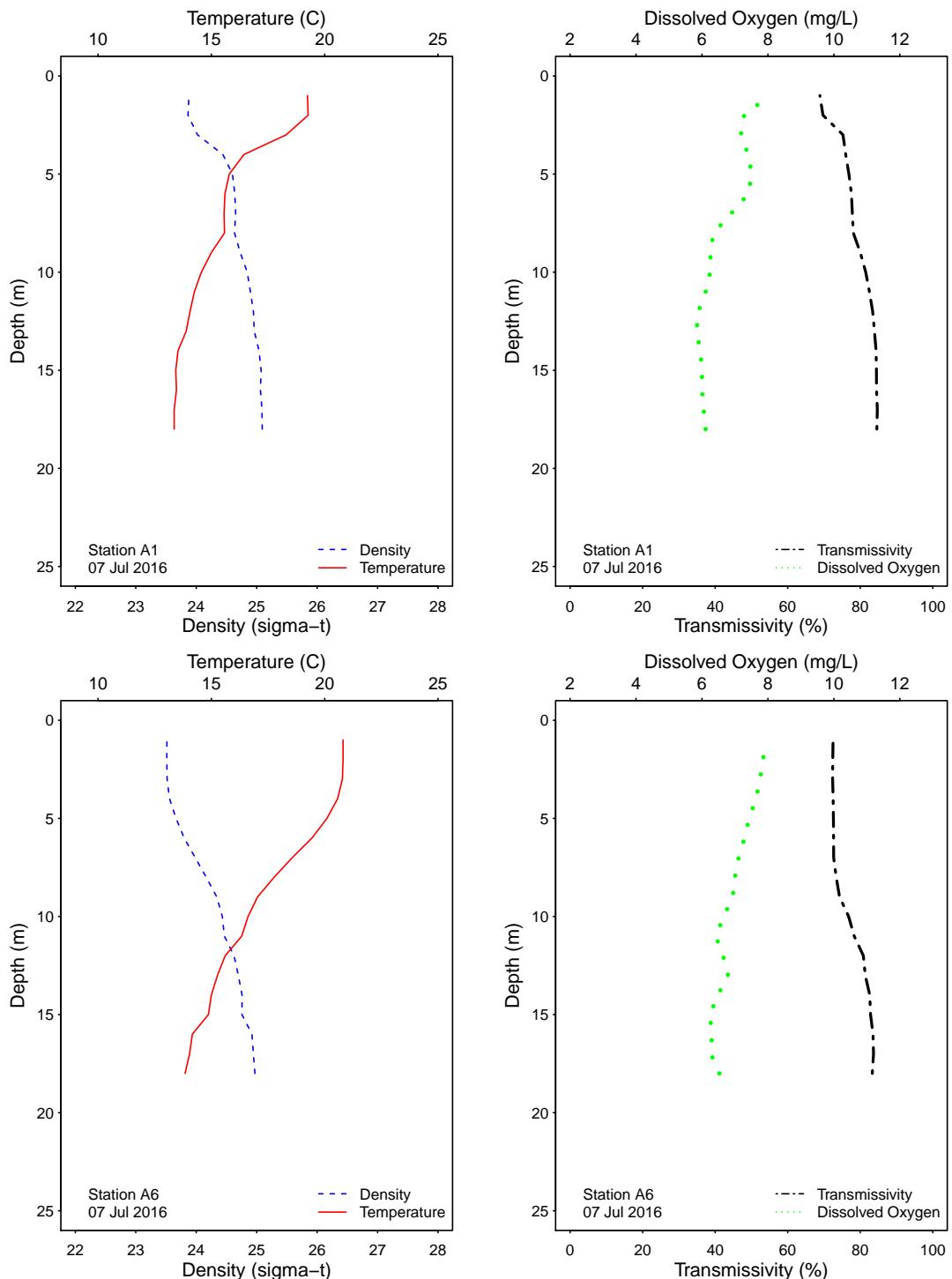


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

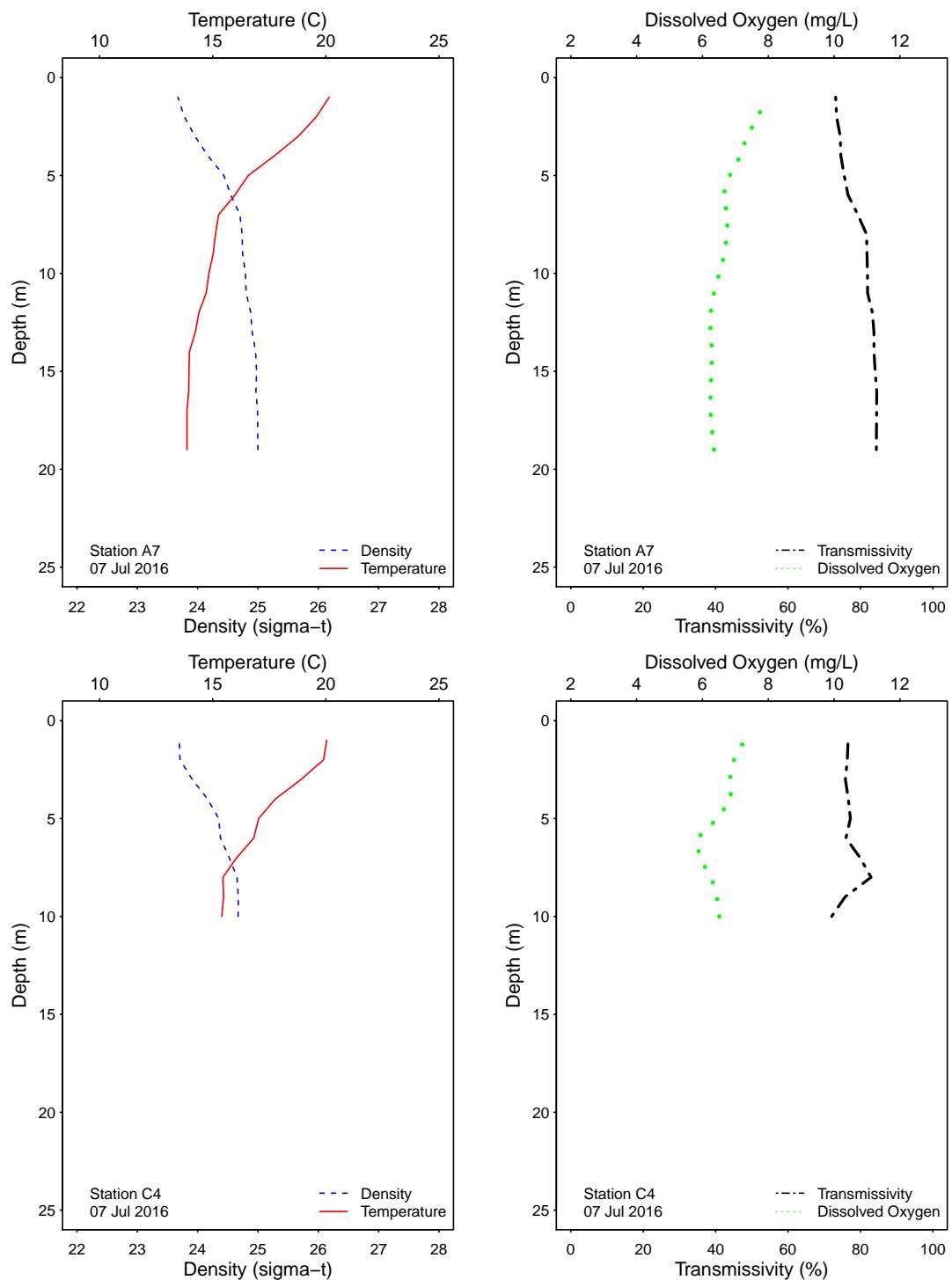


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

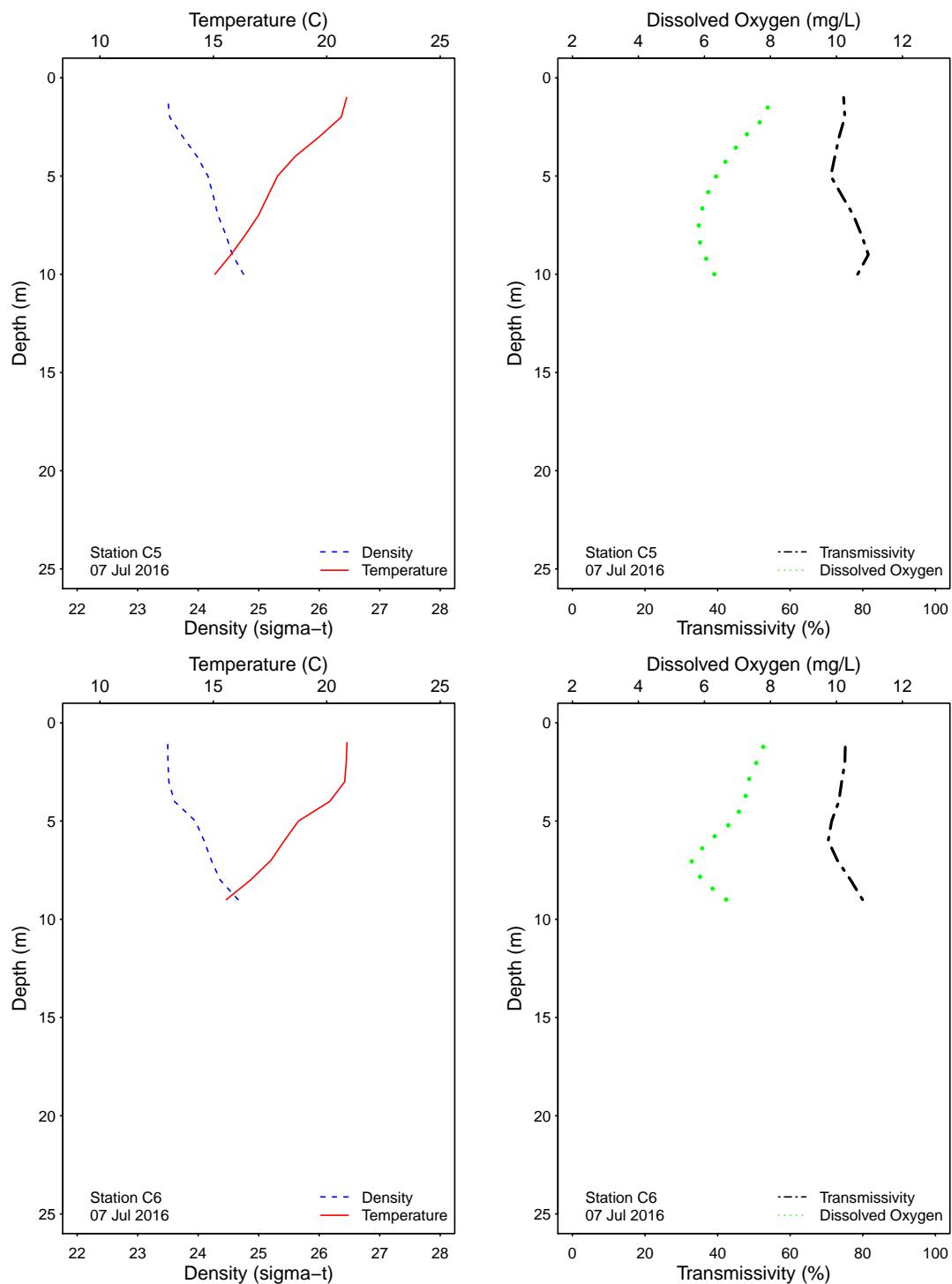


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

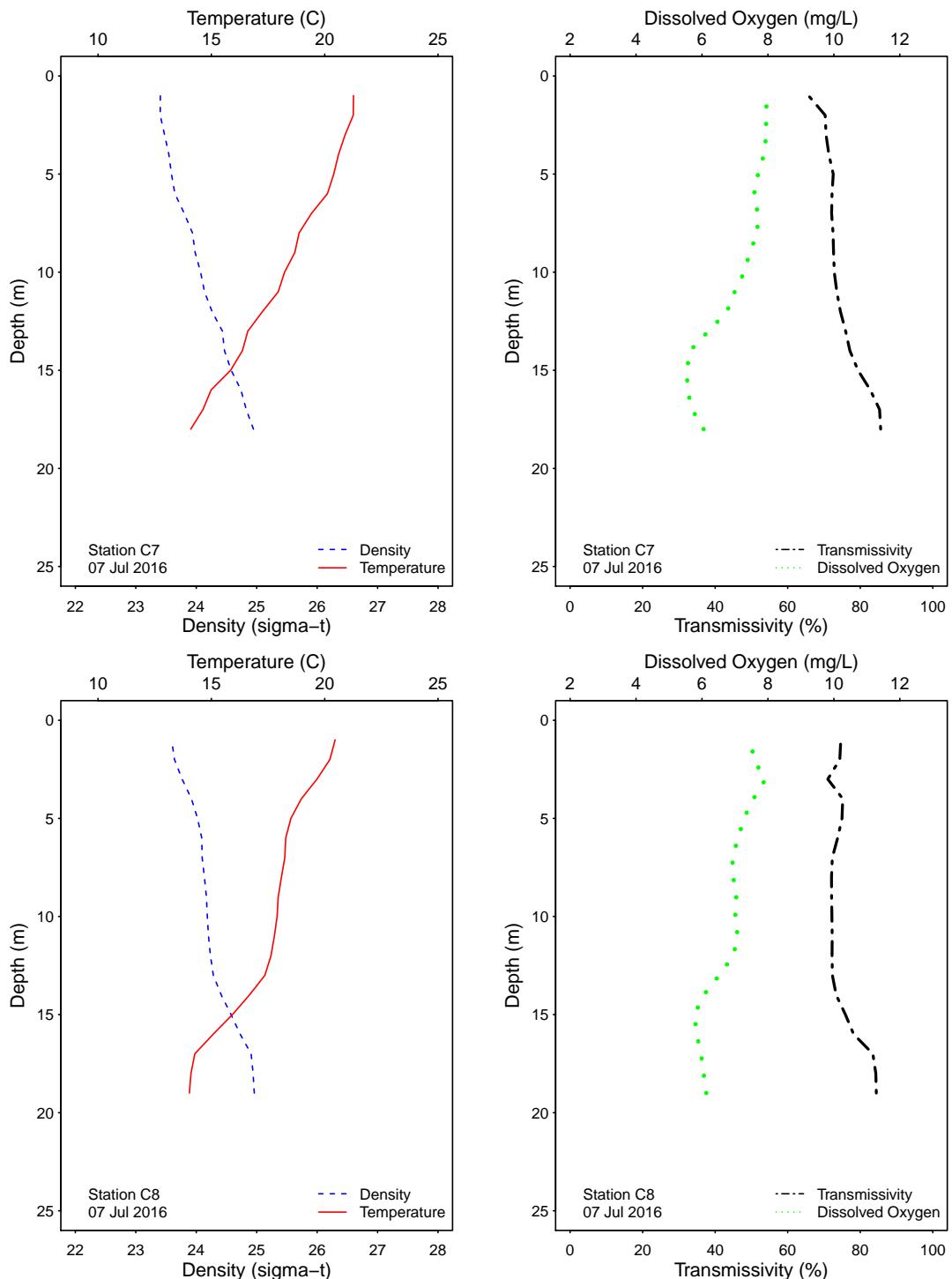


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

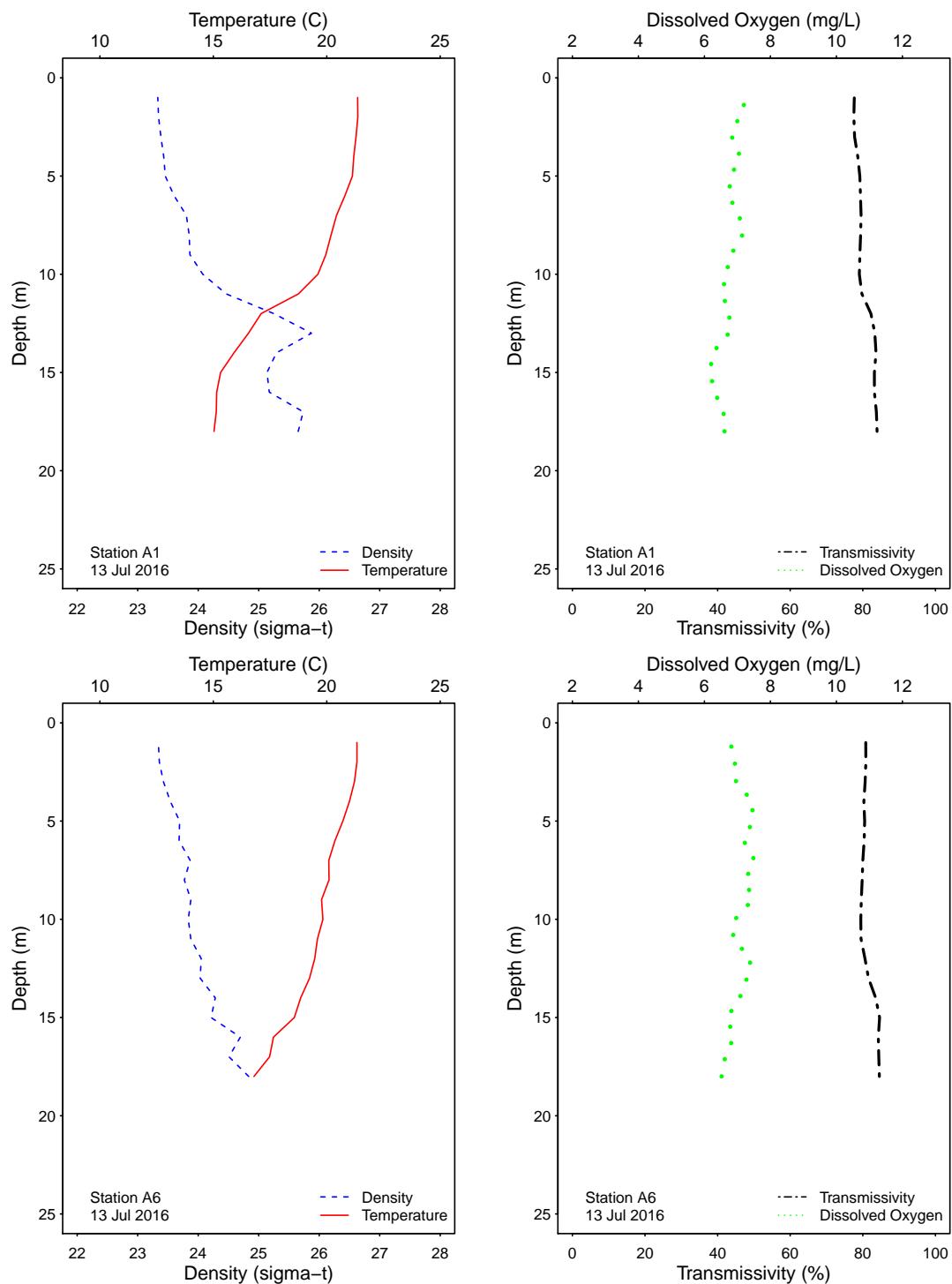


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

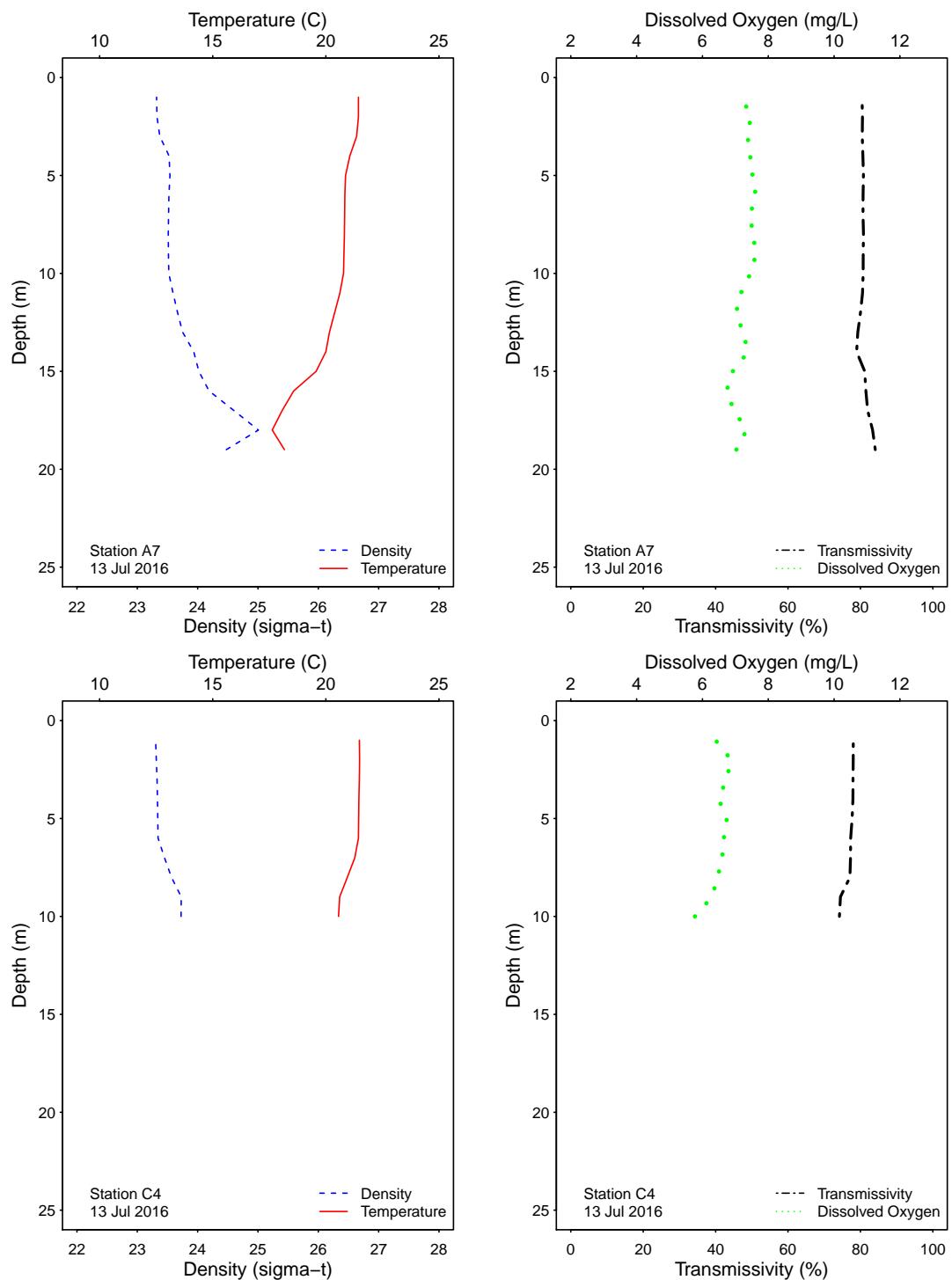


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

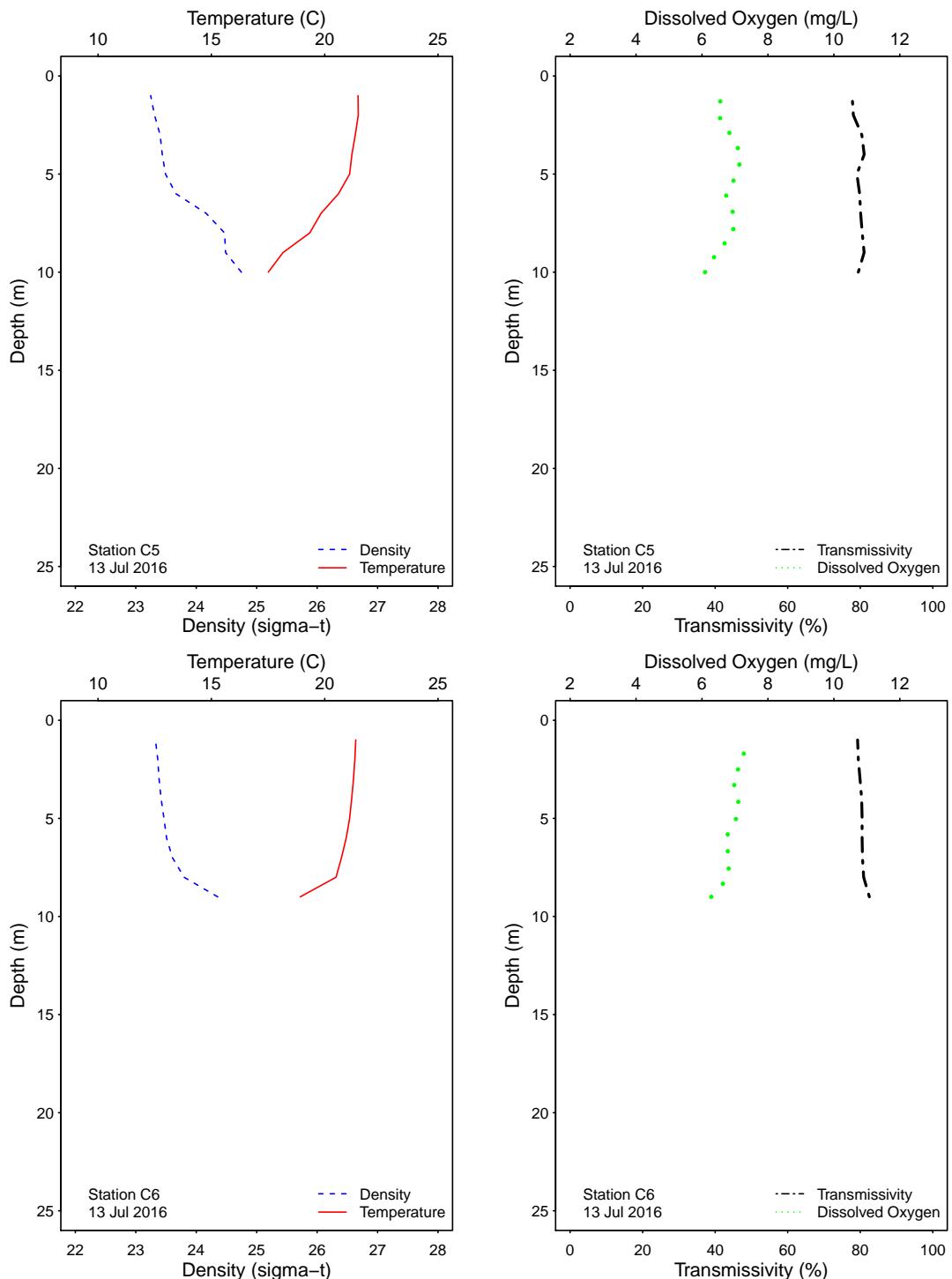


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

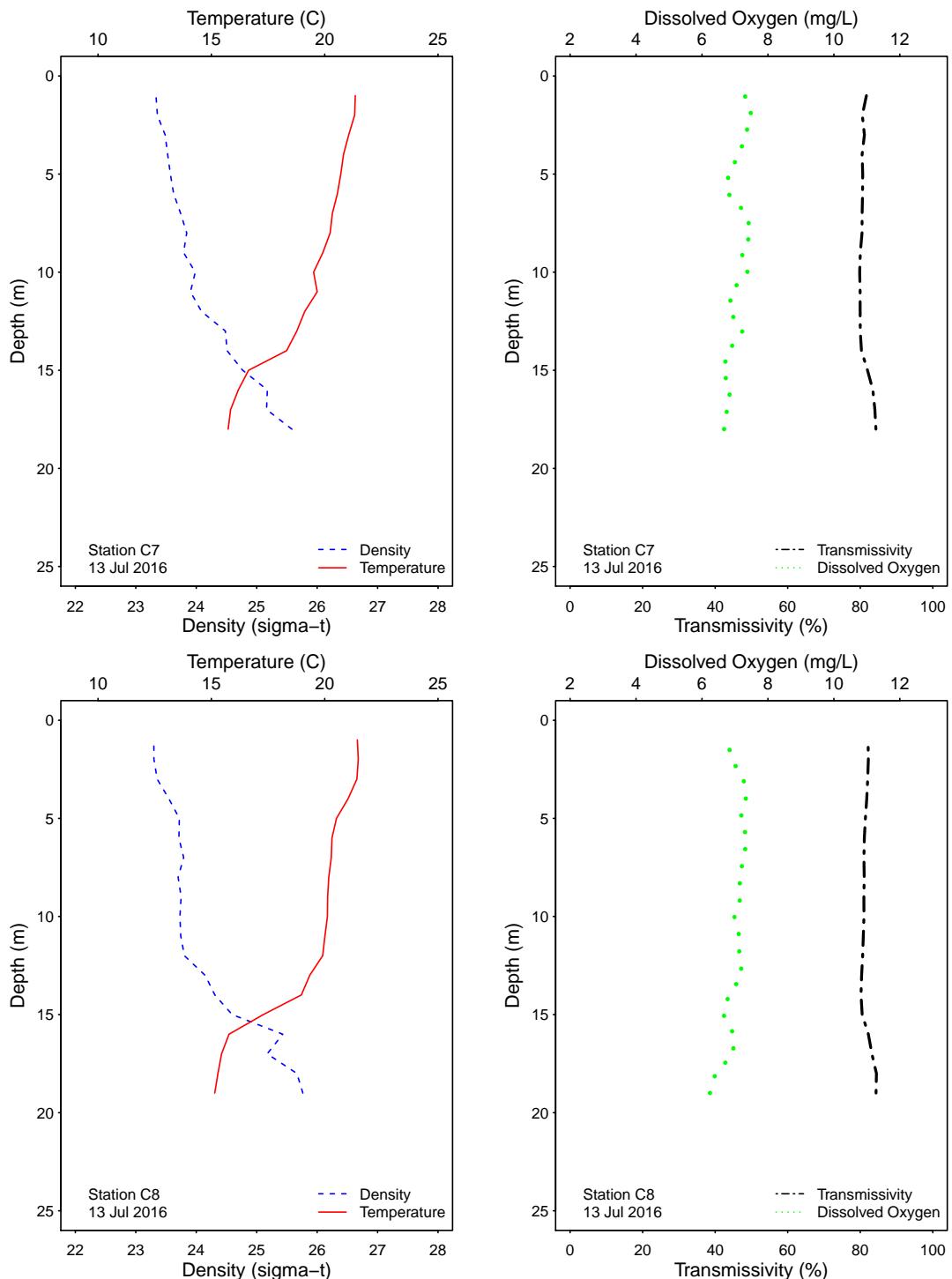


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

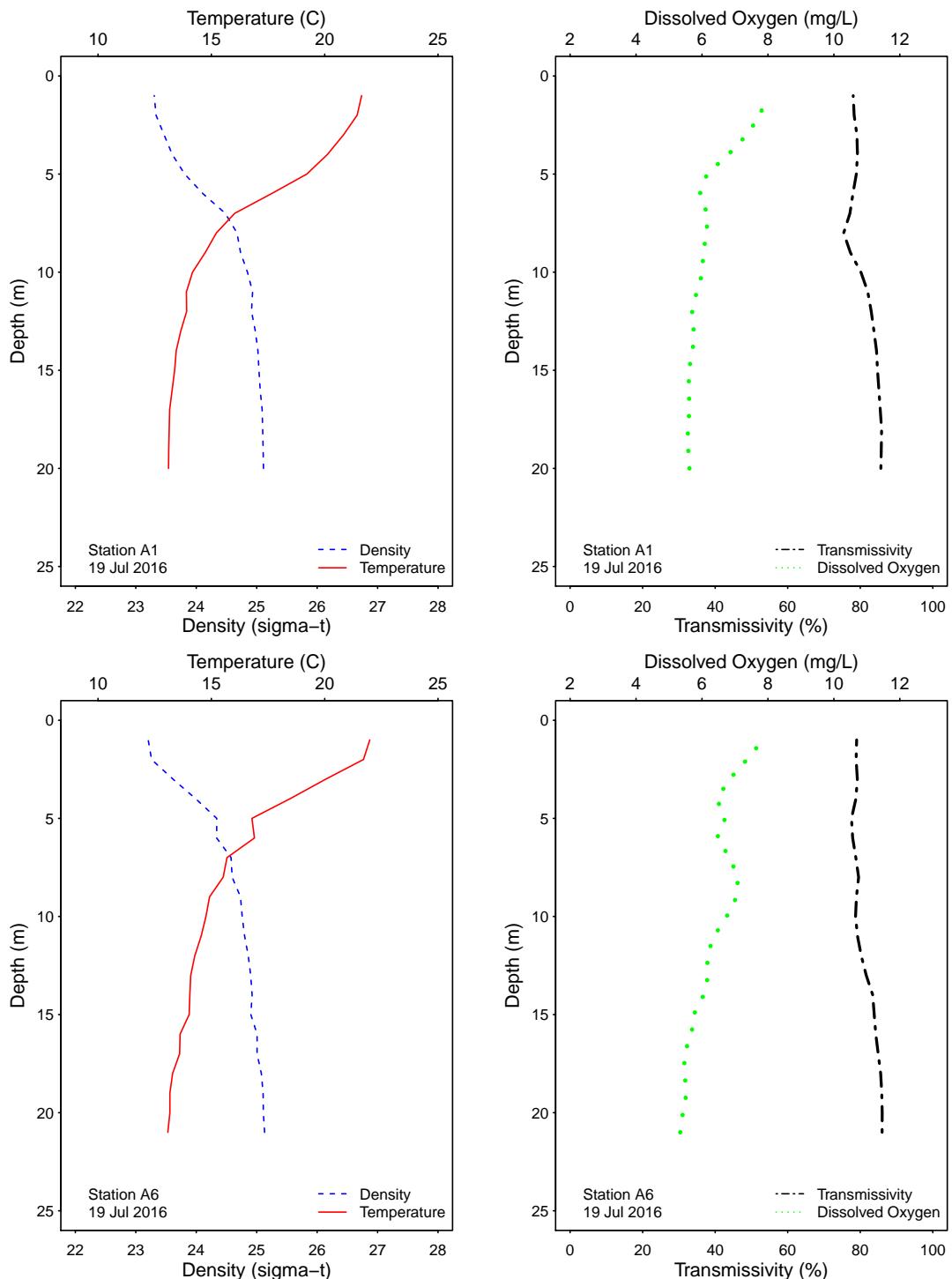


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

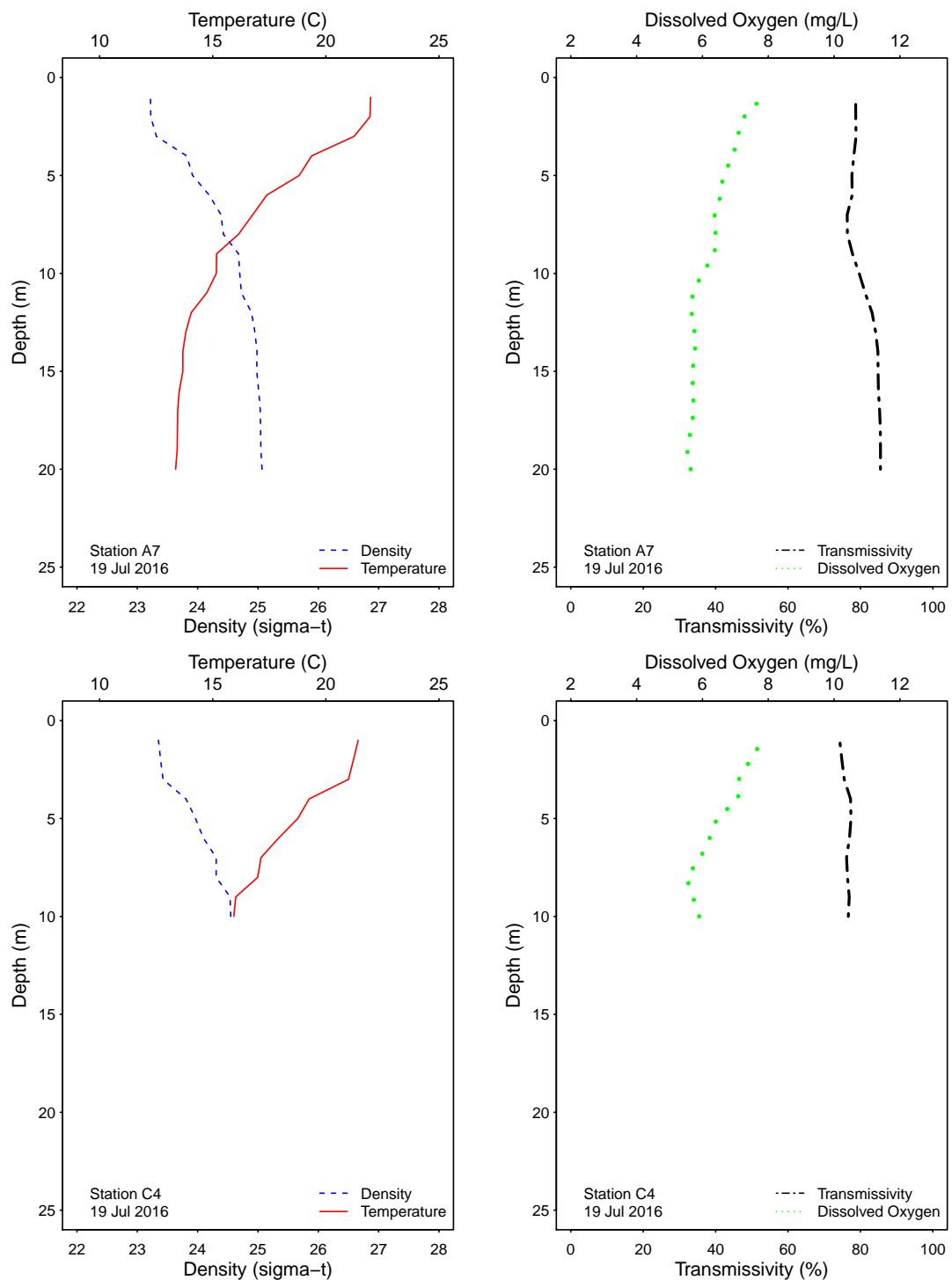


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

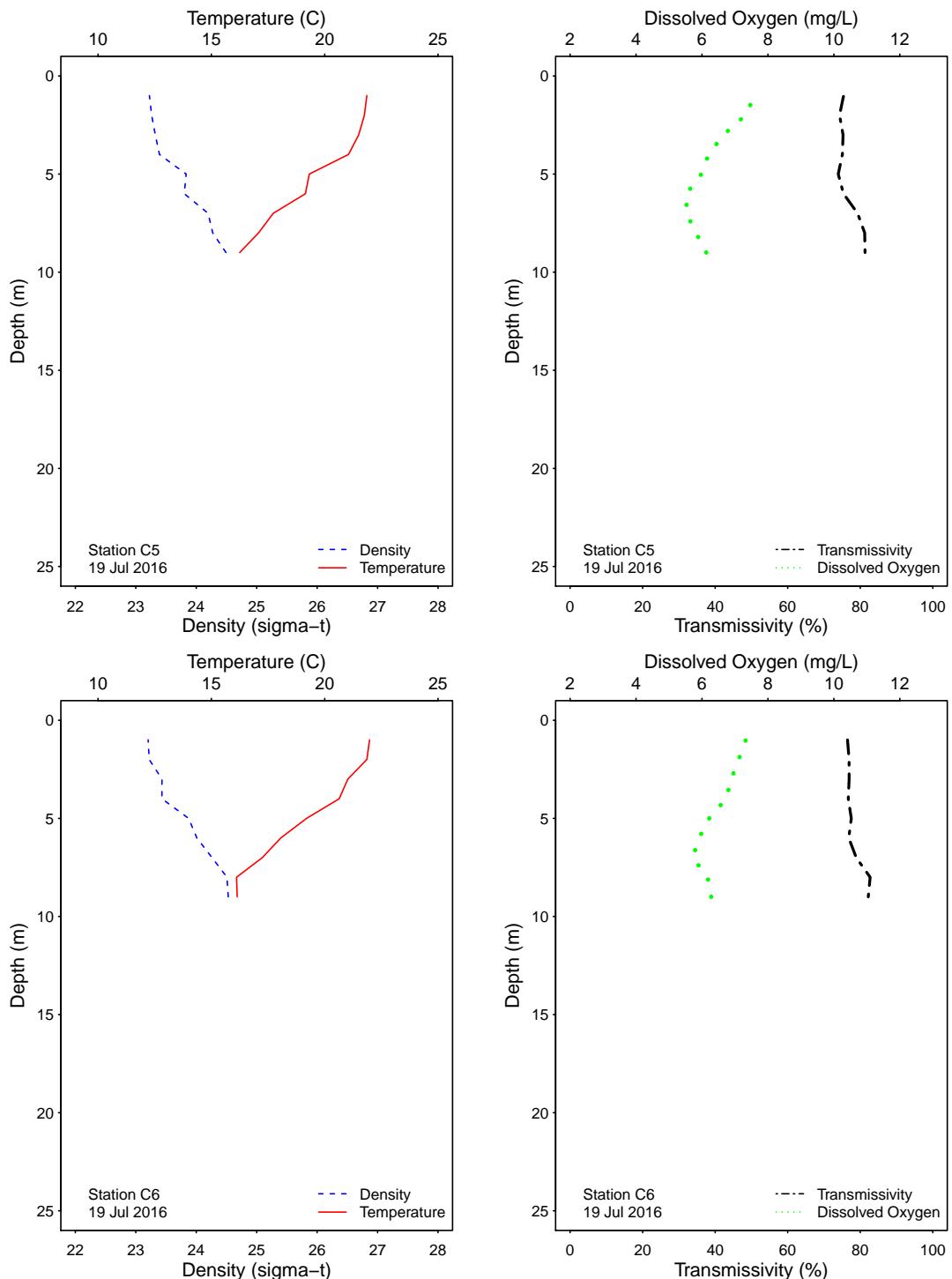


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

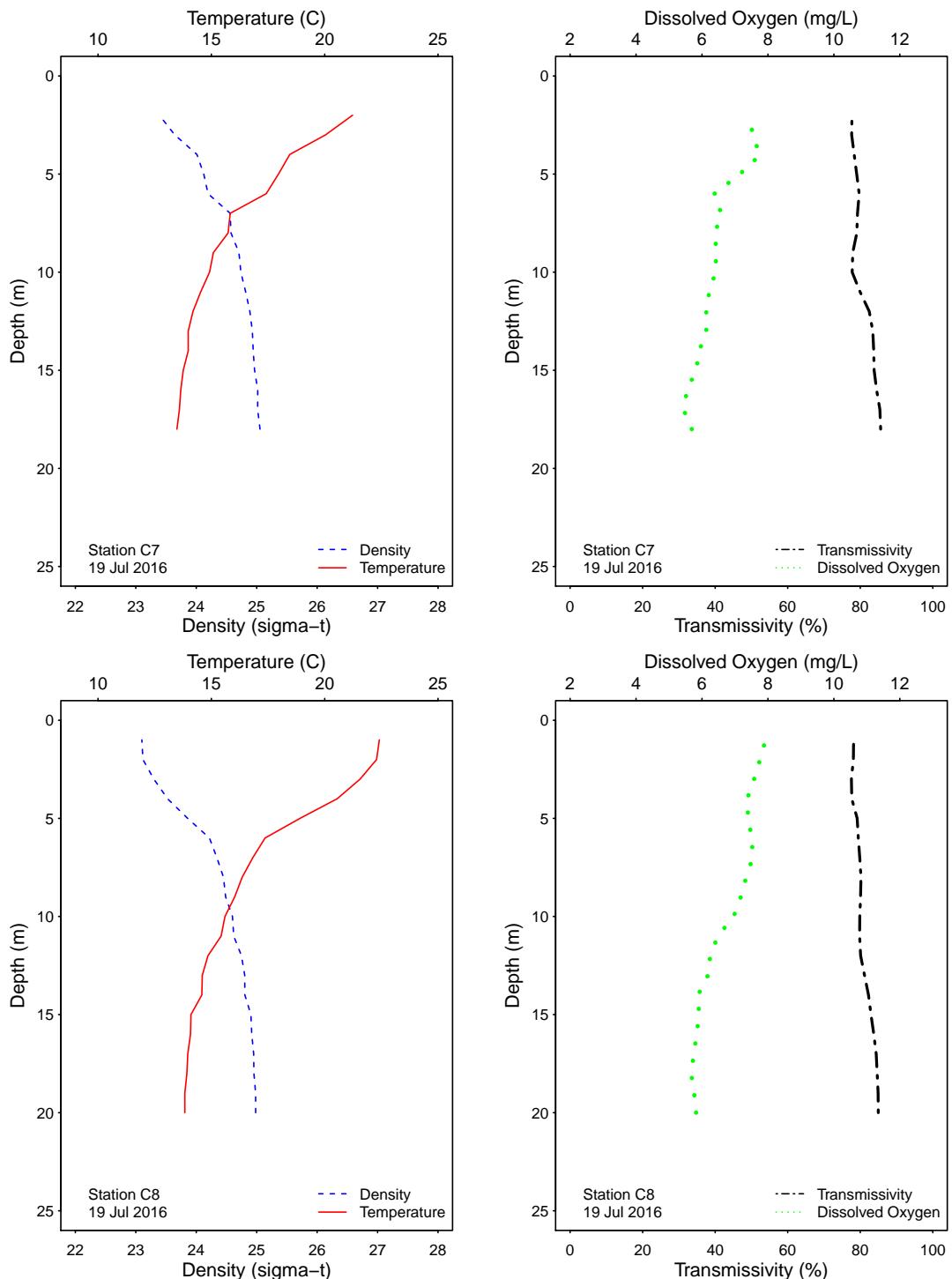


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

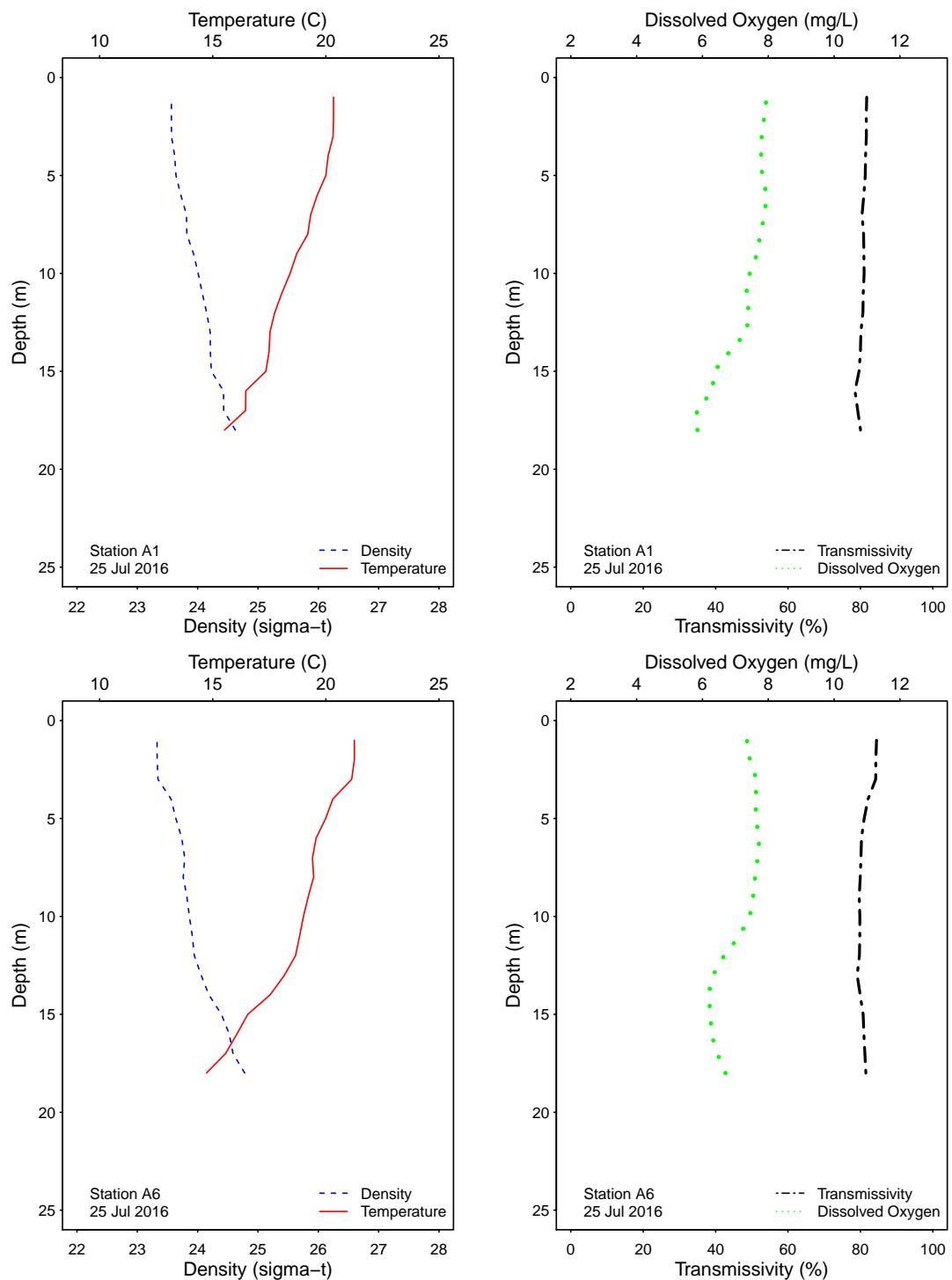


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

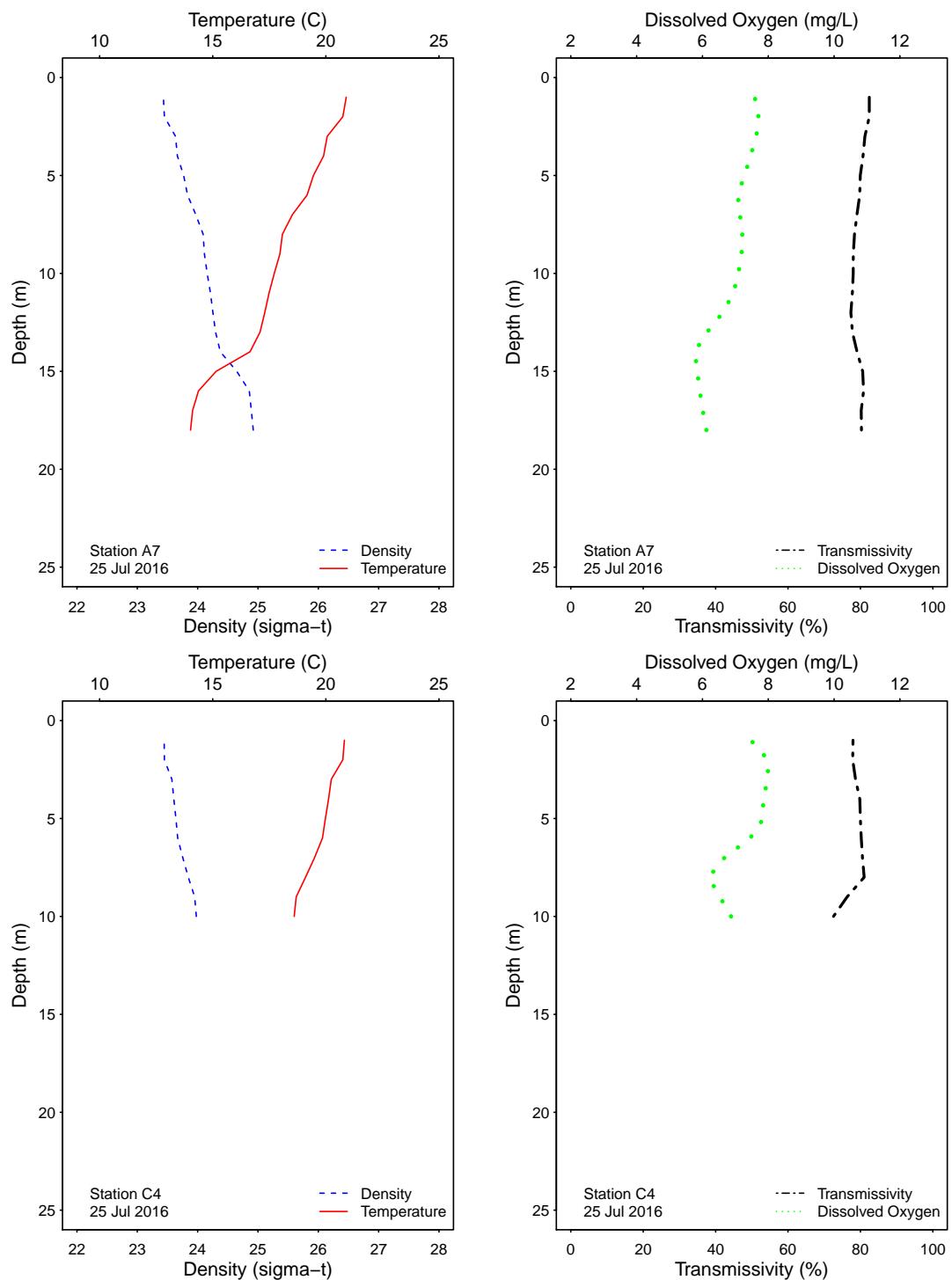


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

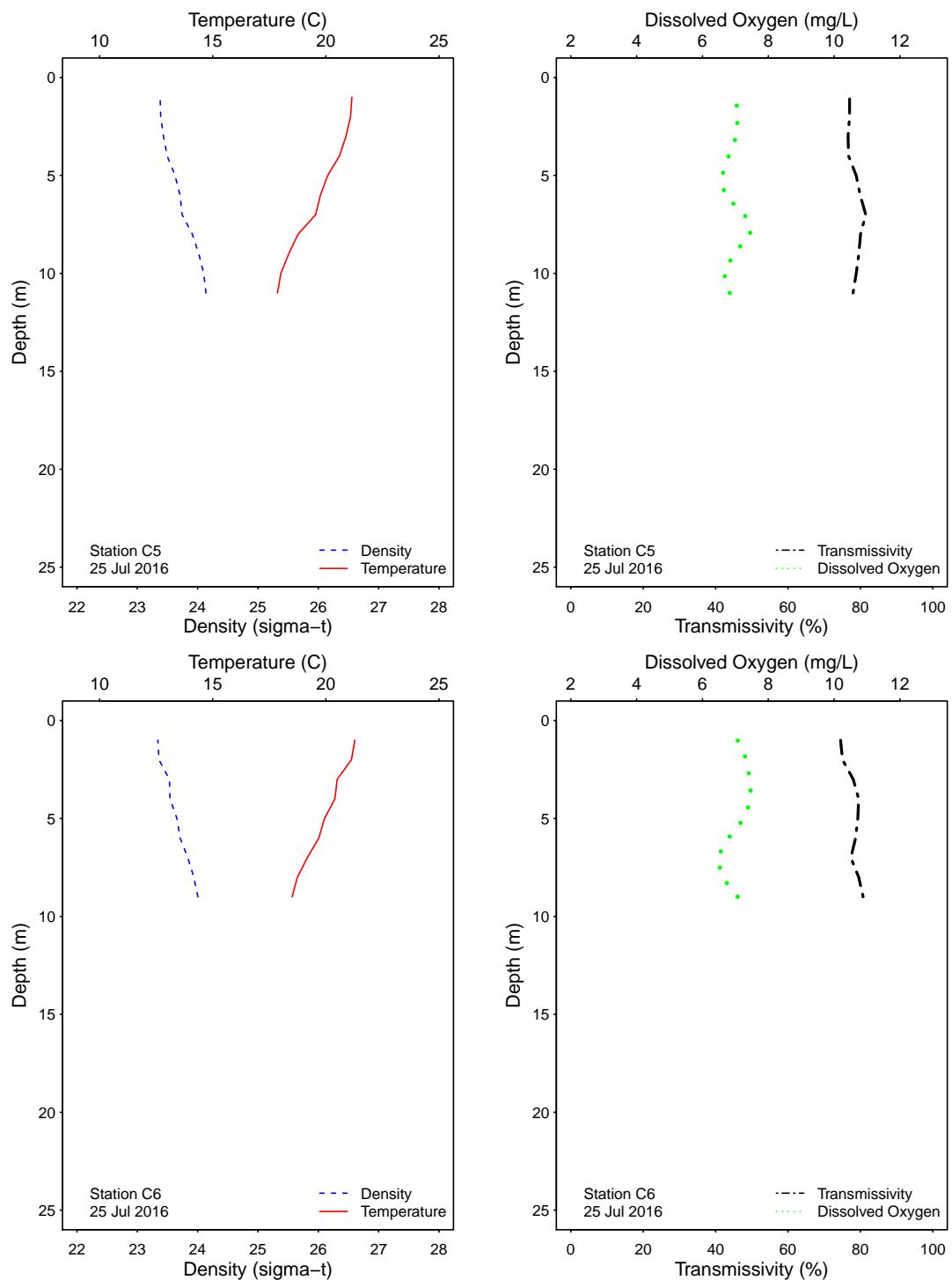


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

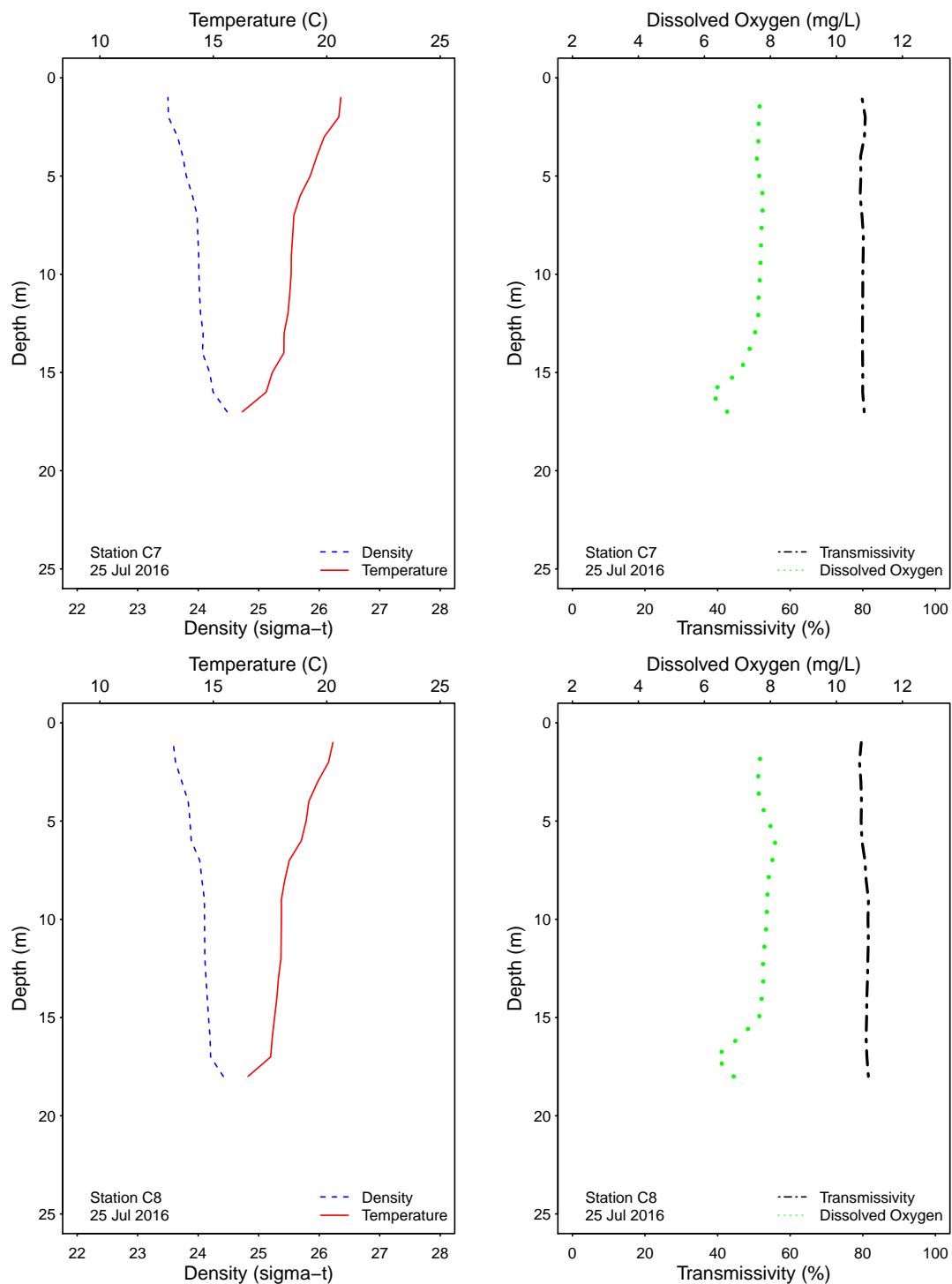


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

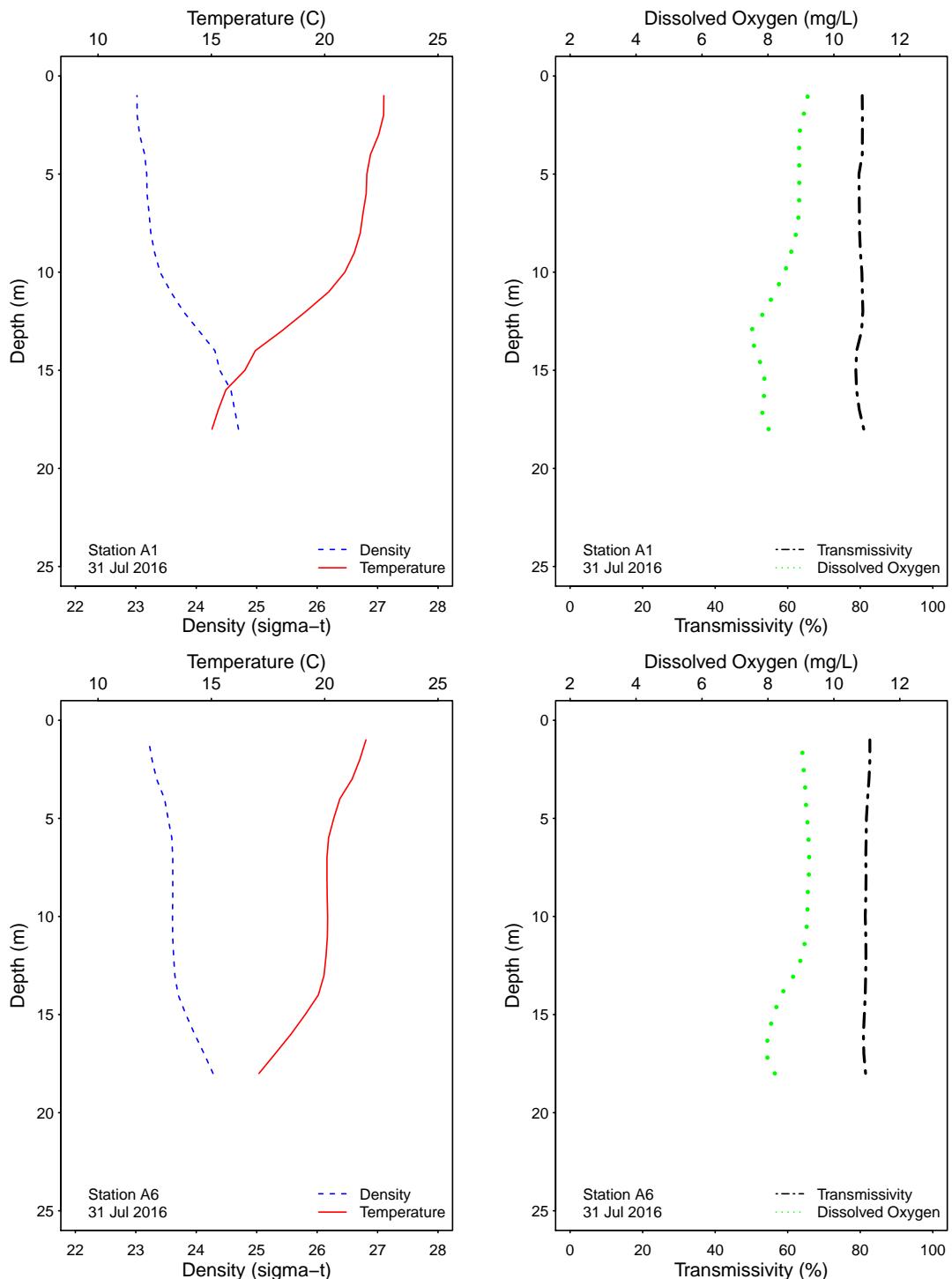


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

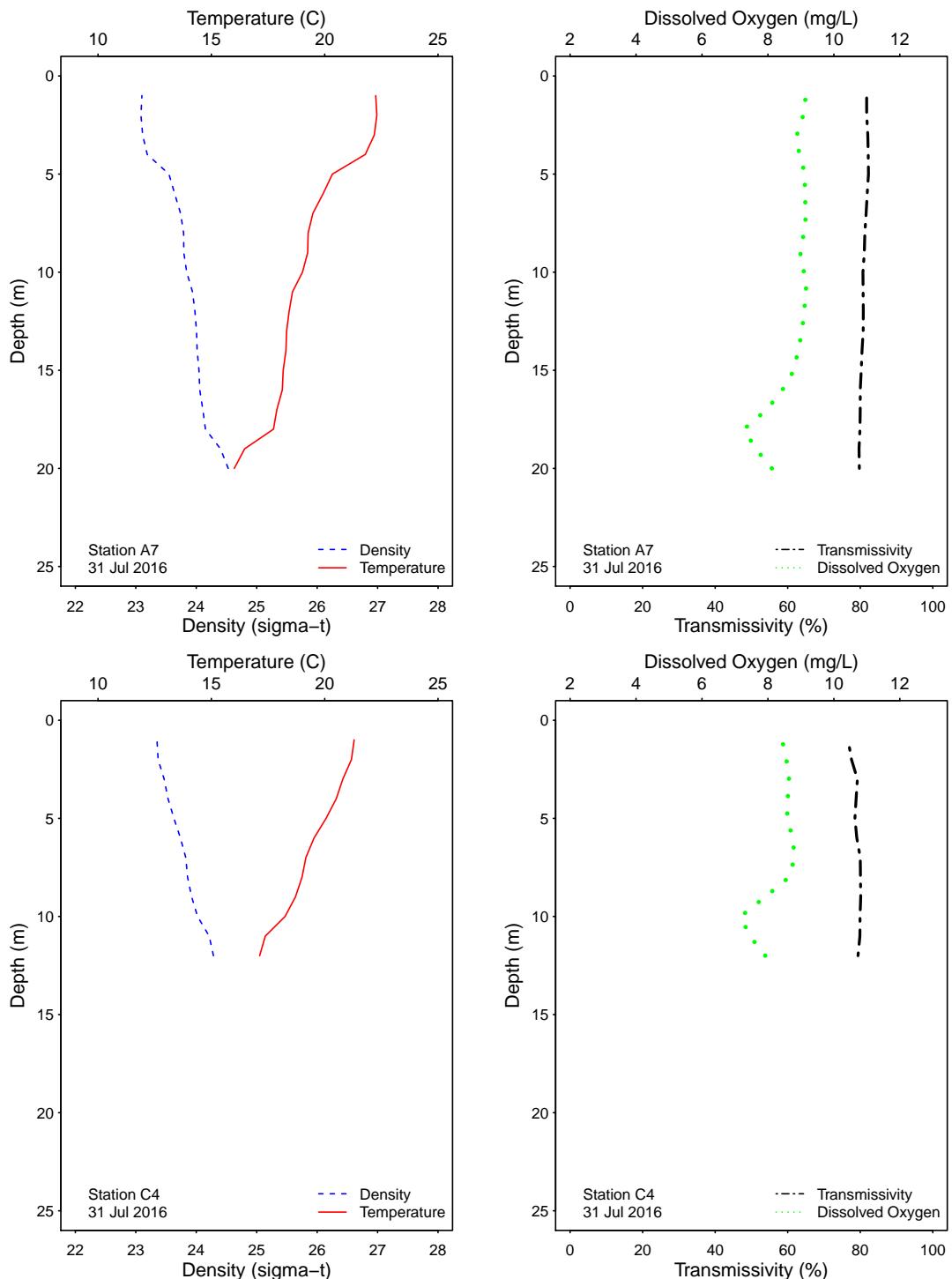


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

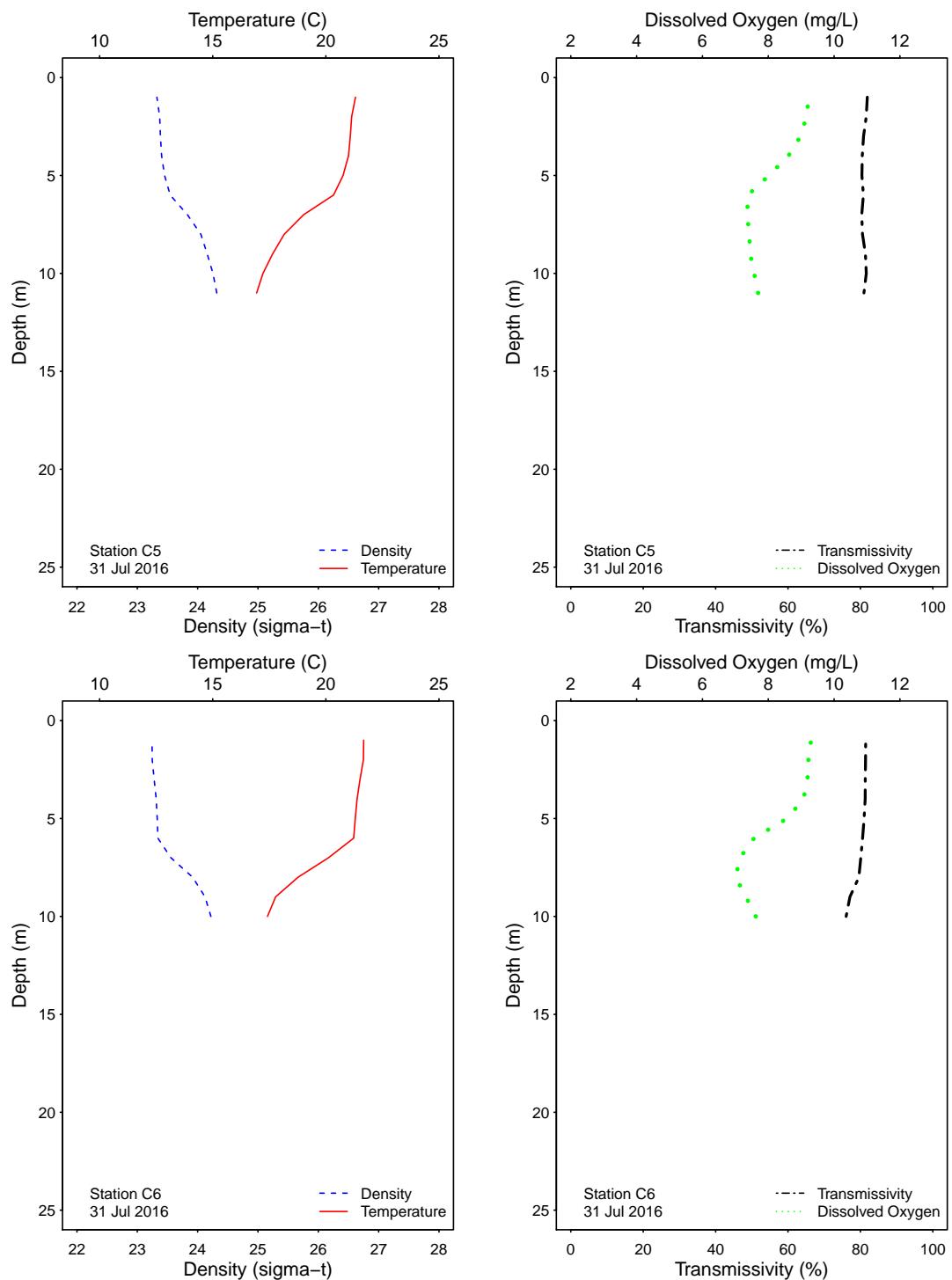


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

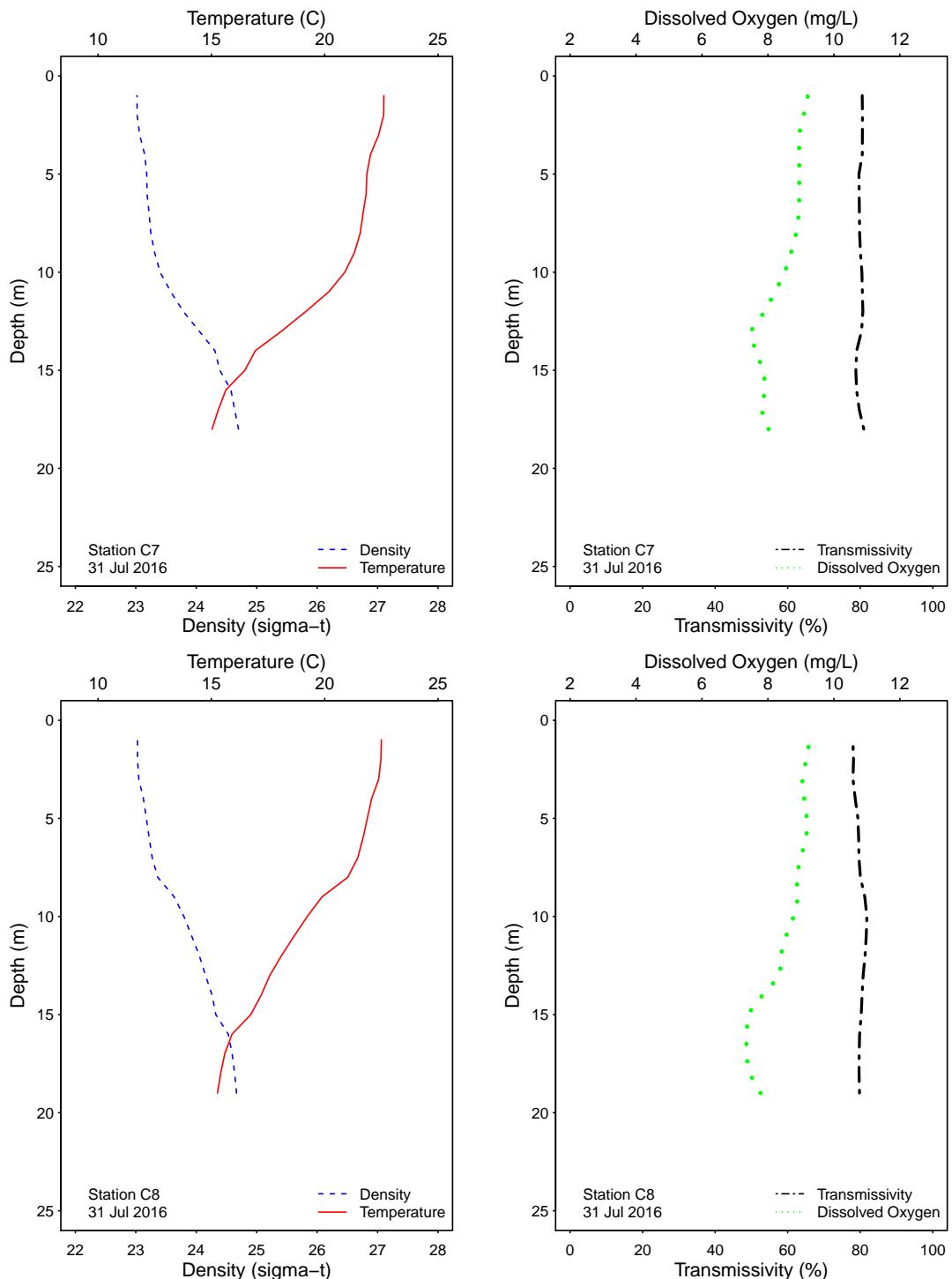


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

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* (Enter) are reported as CFU/100 mL.

Station	Date	Depth	Analyst	Procedure	Total	Fecal	Enter
A7	07 Jul 2016	18	AR	LAB DUPLICATE	<2	ns	ns
A7	07 Jul 2016	18	SR	LAB DUPLICATE	ns	<2	<2
A7	13 Jul 2016	18	AR	LAB DUPLICATE	2e	<2	<2
A7	19 Jul 2016	18	ZV	LAB DUPLICATE	<2	<2	<2
A7	25 Jul 2016	18	JT	LAB DUPLICATE	<2	<2	<2
A7	31 Jul 2016	18	JT	LAB DUPLICATE	2e	<2	ns
A7	31 Jul 2016	18	LMA	LAB DUPLICATE	ns	ns	<2
C7	07 Jul 2016	18	AR	LAB DUPLICATE	2e	ns	ns
C7	07 Jul 2016	18	SR	LAB DUPLICATE	ns	<2	<2
C7	13 Jul 2016	18	AR	LAB DUPLICATE	2e	<2	<2
C7	19 Jul 2016	18	ZV	LAB DUPLICATE	<2	<2	<2
C7	25 Jul 2016	18	JT	LAB DUPLICATE	<2	<2	<2
C7	31 Jul 2016	18	JT	LAB DUPLICATE	<2	<2	ns
C7	31 Jul 2016	18	LMA	LAB DUPLICATE	ns	ns	<2
C8	07 Jul 2016	12	AR	LAB DUPLICATE	2e	ns	ns
C8	07 Jul 2016	12	SR	LAB DUPLICATE	ns	<2	<2
C8	13 Jul 2016	12	AR	LAB DUPLICATE	<2	<2	<2
C8	19 Jul 2016	12	ZV	LAB DUPLICATE	<2	<2	<2
C8	25 Jul 2016	12	JT	LAB DUPLICATE	4e	<2	<2
C8	31 Jul 2016	12	JT	LAB DUPLICATE	<2	<2	ns
C8	31 Jul 2016	12	LMA	LAB DUPLICATE	ns	ns	<2
D12	03 Jul 2016		AR	FIELD DUPLICATE	2e	<2	2e
D12	03 Jul 2016		AR	LAB DUPLICATE	<20	2e	<2
D12	09 Jul 2016		LMA	FIELD DUPLICATE	<2	<2	<2
D12	09 Jul 2016		LMA	LAB DUPLICATE	<2	<2	<2
D12	15 Jul 2016		LMA	FIELD DUPLICATE	<20	<2	2e
D12	15 Jul 2016		LMA	LAB DUPLICATE	20e	2e	2e
D12	21 Jul 2016		JT	FIELD DUPLICATE	<20	<2	2e
D12	21 Jul 2016		JT	LAB DUPLICATE	<20	<2	<2
D12	27 Jul 2016		JT	FIELD DUPLICATE	<20	2e	<2
D12	27 Jul 2016		JT	LAB DUPLICATE	<20	2e	<2

ns = not sampled

ND = no data

