



POINT LOMA OCEAN OUTFALL MONTHLY RECEIVING WATERS MONITORING REPORT

POINT LOMA WASTEWATER TREATMENT PLANT

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

OCTOBER 2021

Environmental Monitoring and Technical Services
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Environmental Monitoring & Technical Services Division

November 30, 2021

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

Attention: POTW Compliance Unit

Dear Mr. Gibson:

Enclosed is the October 2021 Monthly Receiving Waters Monitoring Report for the Point Loma Ocean Outfall, Point Loma Wastewater Treatment Plant as required per Order No. R9-2017-0007, NPDES Permit No. CA0107409.

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

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

Sincerely,

A handwritten signature in blue ink, appearing to read "Peter S. Vroom".

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

PV/rk

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

INTRODUCTION

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

MATERIALS AND METHODS

Shore Stations

Water quality conditions are required to be monitored at eight shoreline stations, including D4, D5, D7, D8, D9, D10, D11 and D12, which range from the tip of the Point Loma Peninsula to west of Mission Bay (see station locations map). Over the past several years, due to increasing instability in several cliffside areas of Point Loma, City staff have been unable to safely access and sample several stations at various times. This has resulted in the following modifications:

- Station D8 was replaced by alternate station D8-A during July 2016, which was subsequently replaced by station D8-B in March 2018, after which sampling at station D8-A resumed in December 2020. Due to recent access issues at D8-A, sampling resumed at D8-B during February 2021.

Seawater samples are collected from the surf zone at each station on a weekly basis. These samples are subsequently transported to the City's Marine Microbiology Laboratory and analyzed for the presence of several types of fecal indicator bacteria (FIB), 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 weekly according to permit specifications 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 fecal indicator bacteria (i.e., total coliforms, fecal coliforms, and *Enterococcus*). 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 collected using a CTD-integrated rosette sampler with Niskin bottles. Aliquots for bacteriological analyses are drawn from these bottles into sterile sample bottles for processing at the City's Marine Microbiology Laboratory. Water column

profiles of temperature, transmissivity, dissolved oxygen, pH, salinity, density, chlorophyll *a* are generated using a Sea-Bird conductivity, temperature and depth instrument (CTD), which collects these data at a rate of ≥ 4 scans per second. These scans are then internally averaged to create water column profiles with data readings at a rate of one per meter. Additionally, CTD profile data for each water sample depth are presented with the bacteriological data.

Offshore Stations

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

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

- (1) Total coliform density shall not exceed 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 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, 1987²) 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 2021 Quality Assurance Report, which will be completed in March 2022.

SUMMARY OF RESULTS

As of October 2020, new 2019 Ocean Plan Water Quality Objectives are included for a six-week rolling geometric mean of *Enterococcus* density, which shall not exceed 30 cfu/100 ml, and a Statistical Threshold Value (STV) for *Enterococcus*, which shall not exceed 110 cfu/100 ml for more than 10% of samples per month (see Appendix B).

Shore Stations

- The eight shore stations (D4, D5, D7, D8-B, D9, D10, D11, D12) were sampled on October 6, 13, 20, and 27.
- During October, each of the shore stations was in compliance with the various 2015 California Ocean Plan (Ocean Plan) water contact standards.
- Nothing of sewage origin was observed at any of the shore stations.
- 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 surf grass. See the City of San Diego's most recent *Biennial Receiving Waters Monitoring and Assessment Report for the Point Loma and South Bay Ocean Outfalls* for details (<https://www.sandiego.gov/public-utilities/sustainability/ocean-monitoring/reports>).

Kelp Bed Stations

- The eight kelp bed water quality stations (A1, A6, A7, C4, C5, C6, C7, C8) were sampled on October 4, 11, 20, and 27.
- During October, each of the kelp stations was in compliance with the various 2015 California Ocean Plan (Ocean Plan) water contact standards.

² Gilbert, R.O. (1987). Statistical Methods for Environmental Pollution Monitoring. Van Nostrand Reinhold Co., New York.

- Water column temperatures ranged from 12.69 to 18.81°C. The difference between surface and bottom waters ranged from 1.53 to 5.85°C.
- Chlorophyll *a* concentrations ranged from 0.52 to 4.09 µg/L.
- Nothing of sewage origin was observed at any of the kelp stations.

Offshore Stations

- Quarterly water quality sampling was not conducted during October at the offshore stations. The next quarterly sampling is scheduled for November 2021.



TABLES AND FIGURES



Figure 1.1 Station Map

Shore Stations

Table 2.1

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

Date	D4	D5	D7	D8-B	D9	D10	D11	D12
01 Oct 2021	20	36	56	36	26	26	15	14
02 Oct 2021	20	36	56	36	26	26	15	14
03 Oct 2021	20	36	56	36	26	26	15	14
04 Oct 2021	20	36	56	36	26	26	15	14
05 Oct 2021	20	36	56	36	26	26	15	14
06 Oct 2021	20	32	72	50	34	39	29	19
07 Oct 2021	20	32	72	50	34	39	29	19
08 Oct 2021	20	36	99	63	39	47	31	34
09 Oct 2021	20	36	99	63	39	47	31	34
10 Oct 2021	20	36	99	63	39	47	31	34
11 Oct 2021	20	36	99	63	39	47	31	34
12 Oct 2021	20	36	99	63	39	47	31	34
13 Oct 2021	20	32	72	80	34	39	45	31
14 Oct 2021	20	32	72	80	34	39	45	31
15 Oct 2021	20	36	56	112	39	36	56	34
16 Oct 2021	20	36	56	112	39	36	56	34
17 Oct 2021	20	36	56	112	39	36	56	34
18 Oct 2021	20	36	56	112	39	36	56	34
19 Oct 2021	20	36	56	112	39	36	56	34
20 Oct 2021	20	32	72	126	34	32	57	49
21 Oct 2021	20	32	72	126	34	32	57	49
22 Oct 2021	20	36	75	200	39	36	99	61
23 Oct 2021	20	36	75	200	39	36	99	61
24 Oct 2021	20	36	75	200	39	36	99	61
25 Oct 2021	20	36	75	200	39	36	99	61
26 Oct 2021	20	36	75	200	39	36	99	61
27 Oct 2021	20	32	58	126	51	39	95	49
28 Oct 2021	20	32	58	126	51	39	95	49
29 Oct 2021	20	20	63	112	49	47	140	50
30 Oct 2021	20	20	63	112	49	47	140	50
31 Oct 2021	20	20	63	112	49	47	140	50

* Geometric mean calculated using n<5

ns = not sampled

Table 2.2

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

Date	D4	D5	D7	D8-B	D9	D10	D11	D12
01 Oct 2021	2	2	7	2	3	3	3	2
02 Oct 2021	2	2	7	2	3	3	3	2
03 Oct 2021	2	2	7	2	3	3	3	2
04 Oct 2021	2	2	7	2	3	3	3	2
05 Oct 2021	2	2	7	2	3	3	3	2
06 Oct 2021	2	2	8	3	3	4	5	4
07 Oct 2021	2	2	8	3	3	4	5	4
08 Oct 2021	2	2	11	4	2	4	4	4
09 Oct 2021	2	2	11	4	2	4	4	4
10 Oct 2021	2	2	11	4	2	4	4	4
11 Oct 2021	2	2	11	4	2	4	4	4
12 Oct 2021	2	2	11	4	2	4	4	4
13 Oct 2021	2	2	12	3	2	3	3	4
14 Oct 2021	2	2	12	3	2	3	3	4
15 Oct 2021	2	2	18	4	2	4	4	4
16 Oct 2021	2	2	18	4	2	4	4	4
17 Oct 2021	2	2	18	4	2	4	4	4
18 Oct 2021	2	2	18	4	2	4	4	4
19 Oct 2021	2	2	18	4	2	4	4	4
20 Oct 2021	2	2	12	3	2	3	3	4
21 Oct 2021	2	2	12	3	2	3	3	4
22 Oct 2021	2	2	9	4	2	4	4	4
23 Oct 2021	2	2	9	4	2	4	4	4
24 Oct 2021	2	2	9	4	2	4	4	4
25 Oct 2021	2	2	9	4	2	4	4	4
26 Oct 2021	2	2	9	4	2	4	4	4
27 Oct 2021	2	2	7	3	2	4	4	4
28 Oct 2021	2	2	7	3	2	4	4	4
29 Oct 2021	3	2	7	4	3	5	5	4
30 Oct 2021	3	2	7	4	3	5	5	4
31 Oct 2021	3	2	7	4	3	5	5	4

* Geometric mean calculated using n<5

ns = not sampled

Table 2.3

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

Date	D4	D5	D7	D8-B	D9	D10	D11	D12
01 Oct 2021	2	2	3	3	4	3	2	3
02 Oct 2021	2	2	3	3	4	3	2	3
03 Oct 2021	2	2	3	3	4	3	2	3
04 Oct 2021	2	2	3	3	4	3	2	3
05 Oct 2021	2	2	3	3	4	3	2	3
06 Oct 2021	3	2	4	5	3	3	3	4
07 Oct 2021	3	2	4	5	3	3	3	4
08 Oct 2021	4	2	4	5	2	3	3	4
09 Oct 2021	4	2	4	5	2	3	3	4
10 Oct 2021	4	2	4	5	2	3	3	4
11 Oct 2021	4	2	4	5	2	3	3	4
12 Oct 2021	4	2	4	5	2	3	3	4
13 Oct 2021	3	2	4	4	2	2	3	4
14 Oct 2021	3	2	4	4	2	2	3	4
15 Oct 2021	4	2	4	5	2	3	3	4
16 Oct 2021	4	2	4	5	2	3	3	4
17 Oct 2021	4	2	4	5	2	3	3	4
18 Oct 2021	4	2	4	5	2	3	3	4
19 Oct 2021	4	2	4	5	2	3	3	4
20 Oct 2021	3	2	3	5	2	2	4	7
21 Oct 2021	3	2	3	5	2	2	4	7
22 Oct 2021	4	2	4	5	2	3	5	9
23 Oct 2021	4	2	4	5	2	3	5	9
24 Oct 2021	4	2	4	5	2	3	5	9
25 Oct 2021	4	2	4	5	2	3	5	9
26 Oct 2021	4	2	4	5	2	3	5	9
27 Oct 2021	3	2	3	4	2	3	6	7
28 Oct 2021	3	2	3	4	2	3	6	7
29 Oct 2021	4	2	4	5	3	3	7	9
30 Oct 2021	4	2	4	5	3	3	7	9
31 Oct 2021	4	2	4	5	3	3	7	9

* Geometric mean calculated using n<5

ns = not sampled

Table 2.4

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

Date	D4	D5	D7	D8-B	D9	D10	D11	D12
06 Oct 2021	IC	IC	IC	IC	IC	IC	IC	IC
13 Oct 2021	IC	IC	IC	IC	IC	IC	IC	IC
20 Oct 2021	IC	IC	IC	IC	IC	IC	IC	IC
27 Oct 2021	IC	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 2.5

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

Date	D4	D5	D7	D8-B	D9	D10	D11	D12
06 Oct 2021	IC	IC	IC	IC	IC	IC	IC	IC
13 Oct 2021	IC	IC	IC	IC	IC	IC	IC	IC
20 Oct 2021	IC	IC	IC	IC	IC	IC	IC	IC
27 Oct 2021	IC	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 2.6

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

Date	D4	D5	D7	D8-B	D9	D10	D11	D12
06 Oct 2021	IC	IC	IC	IC	IC	IC	IC	IC
13 Oct 2021	IC	IC	IC	IC	IC	IC	IC	IC
20 Oct 2021	IC	IC	IC	IC	IC	IC	IC	IC
27 Oct 2021	IC	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 2.7

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

Date	D4	D5	D7	D8-B	D9	D10	D11	D12
06 Oct 2021	IC	IC	IC	IC	IC	IC	IC	IC
13 Oct 2021	IC	IC	IC	IC	IC	IC	IC	IC
20 Oct 2021	IC	IC	IC	IC	IC	IC	IC	IC
27 Oct 2021	IC	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 2.8

Summary of water quality parameters at the PLOO shore stations for each sample date. Densities of total coliform (Total), fecal coliform (Fecal), and *Enterococcus* (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	06 Oct 2021	1102	<20	<2	22e	0.10
D4	13 Oct 2021	840	20e	<2	<2	0.10
D4	20 Oct 2021	1105	<20	<2	<2	0.10
D4	27 Oct 2021	832	<20	6e	<2	0.30
D5	06 Oct 2021	1042	<20	2e	<2	0.10
D5	13 Oct 2021	825	<20	<2	<2	0.10
D5	20 Oct 2021	1044	<20	<2	<2	0.10
D5	27 Oct 2021	820	<20	<2	<2	0.10
D7	06 Oct 2021	1001	<200	16e	22e	0.08
D7	13 Oct 2021	909	20e	14e	<2	0.70
D7	20 Oct 2021	955	<200	<2	2e	0.01
D7	27 Oct 2021	852	20e	4e	2e	0.20
D8-B	06 Oct 2021	936	200e	<20	20e	0.10
D8-B	13 Oct 2021	928	<200	2e	<2	0.01
D8-B	20 Oct 2021	937	<200	2e	8e	0.01
D8-B	27 Oct 2021	908	20e	2e	2e	0.10
D9	06 Oct 2021	922	100e	2e	2e	0.02
D9	13 Oct 2021	950	20e	<2	<2	0.10
D9	20 Oct 2021	916	20e	2e	<2	0.10
D9	27 Oct 2021	918	140e	6e	6e	0.04
D10	06 Oct 2021	902	<200	20e	6e	0.10
D10	13 Oct 2021	1005	<20	<2	2e	0.10
D10	20 Oct 2021	858	<20	2e	2e	0.10
D10	27 Oct 2021	1001	60e	8e	4e	0.13
D11	06 Oct 2021	847	400e	<20	10e	0.05
D11	13 Oct 2021	1032	<200	2e	2e	0.01
D11	20 Oct 2021	841	60e	<2	14e	0.03
D11	27 Oct 2021	1011	80e	8e	10e	0.10
D12	06 Oct 2021	820	80e	40	38e	0.50
D12	13 Oct 2021	1100	<20	<2	<2	0.10
D12	20 Oct 2021	813	<200	<2	44	0.01
D12	27 Oct 2021	1058	<20	2e	<2	0.10

ns = not sampled

ND = no data

Table 2.9

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

Station	Date	Parameter	Value
D4	06 Oct 2021	Arrive Time	1042
D4	06 Oct 2021	Weather	Cloudy
D4	06 Oct 2021	Wind Speed (kts)	0
D4	06 Oct 2021	Wind Dir	
D4	06 Oct 2021	Animal Life	Seal/Sea Lion-1
D4	06 Oct 2021	Floatables	None
D4	06 Oct 2021	Water Color	Green
D4	06 Oct 2021	Current Direction	S
D4	06 Oct 2021	Water Temp (C)	20.2
D4	06 Oct 2021	Wave Height Low (ft)	3
D4	06 Oct 2021	High Tide (ft)	5.81
D4	06 Oct 2021	High Tide Time	930
D4	06 Oct 2021	Low Tide (ft)	0.07
D4	06 Oct 2021	Low Tide Time	324
D4	06 Oct 2021	Comments	Water clear; Boater/Kayaker-1; Trash-1; Kelp; Seagrass
D4	13 Oct 2021	Arrive Time	840
D4	13 Oct 2021	Weather	Sunny
D4	13 Oct 2021	Wind Speed (kts)	6.3
D4	13 Oct 2021	Wind Dir	E
D4	13 Oct 2021	Animal Life	Bird-2
D4	13 Oct 2021	Floatables	Foam
D4	13 Oct 2021	Water Color	Green
D4	13 Oct 2021	Current Direction	N
D4	13 Oct 2021	Water Temp (C)	17.9
D4	13 Oct 2021	Wave Height Low (ft)	3
D4	13 Oct 2021	High Tide (ft)	5.09
D4	13 Oct 2021	High Tide Time	1414
D4	13 Oct 2021	Low Tide (ft)	3.09
D4	13 Oct 2021	Low Tide Time	742
D4	13 Oct 2021	Comments	Water turbid; Surfer/Paddle boarder-4; Trash-1; Kelp; Seagrass; Algae
D4	20 Oct 2021	Arrive Time	1105
D4	20 Oct 2021	Weather	Sunny
D4	20 Oct 2021	Wind Speed (kts)	3
D4	20 Oct 2021	Wind Dir	NW
D4	20 Oct 2021	Animal Life	Bird-15; Pelican-1; Seal/Sea Lion-1
D4	20 Oct 2021	Floatables	Foam
D4	20 Oct 2021	Water Color	Green
D4	20 Oct 2021	Current Direction	N
D4	20 Oct 2021	Water Temp (C)	21
D4	20 Oct 2021	Wave Height Low (ft)	2
D4	20 Oct 2021	High Tide (ft)	5.6
D4	20 Oct 2021	High Tide Time	857
D4	20 Oct 2021	Low Tide (ft)	0.36
D4	20 Oct 2021	Low Tide Time	1522
D4	20 Oct 2021	Comments	Water turbid; Boater/Kayaker-1; Trash-1; Kelp; Seagrass
D4	27 Oct 2021	Arrive Time	832
D4	27 Oct 2021	Weather	Sunny
D4	27 Oct 2021	Wind Speed (kts)	0
D4	27 Oct 2021	Wind Dir	
D4	27 Oct 2021	Animal Life	
D4	27 Oct 2021	Floatables	Foam
D4	27 Oct 2021	Water Color	Green

Station	Date	Parameter	Value
D4	27 Oct 2021	Current Direction	N
D4	27 Oct 2021	Water Temp (C)	16.7
D4	27 Oct 2021	Wave Height Low (ft)	4
D4	27 Oct 2021	High Tide (ft)	4.31
D4	27 Oct 2021	High Tide Time	1255
D4	27 Oct 2021	Low Tide (ft)	0.92
D4	27 Oct 2021	Low Tide Time	2159
D4	27 Oct 2021	Comments	Water turbid; Surfer/Paddle boarder-5; Boater/Kayaker-5; Trash-1; Algae; Kelp; Seagrass
D5	06 Oct 2021	Arrive Time	1104
D5	06 Oct 2021	Weather	Cloudy
D5	06 Oct 2021	Wind Speed (kts)	4.2
D5	06 Oct 2021	Wind Dir	NW
D5	06 Oct 2021	Animal Life	
D5	06 Oct 2021	Floatables	Foam
D5	06 Oct 2021	Water Color	Green
D5	06 Oct 2021	Current Direction	S
D5	06 Oct 2021	Water Temp (C)	20.9
D5	06 Oct 2021	Wave Height Low (ft)	1
D5	06 Oct 2021	High Tide (ft)	5.81
D5	06 Oct 2021	High Tide Time	930
D5	06 Oct 2021	Low Tide (ft)	0.07
D5	06 Oct 2021	Low Tide Time	324
D5	06 Oct 2021	Comments	Kelp
D5	13 Oct 2021	Arrive Time	825
D5	13 Oct 2021	Weather	Sunny
D5	13 Oct 2021	Wind Speed (kts)	0.6
D5	13 Oct 2021	Wind Dir	SW
D5	13 Oct 2021	Animal Life	
D5	13 Oct 2021	Floatables	Foam
D5	13 Oct 2021	Water Color	Brown
D5	13 Oct 2021	Current Direction	N
D5	13 Oct 2021	Water Temp (C)	16.6
D5	13 Oct 2021	Wave Height Low (ft)	3
D5	13 Oct 2021	High Tide (ft)	5.09
D5	13 Oct 2021	High Tide Time	1414
D5	13 Oct 2021	Low Tide (ft)	3.09
D5	13 Oct 2021	Low Tide Time	742
D5	13 Oct 2021	Comments	Algae; Kelp; Seagrass
D5	20 Oct 2021	Arrive Time	1044
D5	20 Oct 2021	Weather	Sunny
D5	20 Oct 2021	Wind Speed (kts)	3.1
D5	20 Oct 2021	Wind Dir	NW
D5	20 Oct 2021	Animal Life	Flies-500
D5	20 Oct 2021	Floatables	Foam
D5	20 Oct 2021	Water Color	Green
D5	20 Oct 2021	Current Direction	S
D5	20 Oct 2021	Water Temp (C)	20.1
D5	20 Oct 2021	Wave Height Low (ft)	1
D5	20 Oct 2021	High Tide (ft)	5.6
D5	20 Oct 2021	High Tide Time	857
D5	20 Oct 2021	Low Tide (ft)	0.36
D5	20 Oct 2021	Low Tide Time	1522
D5	20 Oct 2021	Comments	Kelp; Seagrass
D5	27 Oct 2021	Arrive Time	820
D5	27 Oct 2021	Weather	Sunny
D5	27 Oct 2021	Wind Speed (kts)	0

Station	Date	Parameter	Value
D5	27 Oct 2021	Wind Dir	
D5	27 Oct 2021	Animal Life	Bird-2
D5	27 Oct 2021	Floatables	Foam
D5	27 Oct 2021	Water Color	Brown
D5	27 Oct 2021	Current Direction	N
D5	27 Oct 2021	Water Temp (C)	17.2
D5	27 Oct 2021	Wave Height Low (ft)	4
D5	27 Oct 2021	High Tide (ft)	4.31
D5	27 Oct 2021	High Tide Time	1255
D5	27 Oct 2021	Low Tide (ft)	0.92
D5	27 Oct 2021	Low Tide Time	2159
D5	27 Oct 2021	Comments	Kelp; Seagrass; Algae
D7	06 Oct 2021	Arrive Time	1001
D7	06 Oct 2021	Weather	Overcast
D7	06 Oct 2021	Wind Speed (kts)	2.8
D7	06 Oct 2021	Wind Dir	NW
D7	06 Oct 2021	Animal Life	Bird-2
D7	06 Oct 2021	Floatables	None
D7	06 Oct 2021	Water Color	Green
D7	06 Oct 2021	Current Direction	N
D7	06 Oct 2021	Water Temp (C)	20.8
D7	06 Oct 2021	Wave Height Low (ft)	4
D7	06 Oct 2021	High Tide (ft)	5.81
D7	06 Oct 2021	High Tide Time	930
D7	06 Oct 2021	Low Tide (ft)	0.07
D7	06 Oct 2021	Low Tide Time	324
D7	06 Oct 2021	Comments	Water clear; Surfer/Paddle boarder-2; Boater/Kayaker-2; Trash-1; Kelp; Seagrass; Algae; Person/Walker/Jogger-1
D7	13 Oct 2021	Arrive Time	909
D7	13 Oct 2021	Weather	Sunny
D7	13 Oct 2021	Wind Speed (kts)	0.9
D7	13 Oct 2021	Wind Dir	NW
D7	13 Oct 2021	Animal Life	
D7	13 Oct 2021	Floatables	None
D7	13 Oct 2021	Water Color	Green
D7	13 Oct 2021	Current Direction	S
D7	13 Oct 2021	Water Temp (C)	17.7
D7	13 Oct 2021	Wave Height Low (ft)	3
D7	13 Oct 2021	High Tide (ft)	5.09
D7	13 Oct 2021	High Tide Time	1414
D7	13 Oct 2021	Low Tide (ft)	3.09
D7	13 Oct 2021	Low Tide Time	742
D7	13 Oct 2021	Comments	Water turbid; Surfer/Paddle boarder-24; Trash-1; Kelp; Seagrass; Algae
D7	20 Oct 2021	Arrive Time	955
D7	20 Oct 2021	Weather	Sunny
D7	20 Oct 2021	Wind Speed (kts)	2.9
D7	20 Oct 2021	Wind Dir	NW
D7	20 Oct 2021	Animal Life	
D7	20 Oct 2021	Floatables	Foam
D7	20 Oct 2021	Water Color	Green
D7	20 Oct 2021	Current Direction	S
D7	20 Oct 2021	Water Temp (C)	19.4
D7	20 Oct 2021	Wave Height Low (ft)	1
D7	20 Oct 2021	High Tide (ft)	5.6
D7	20 Oct 2021	High Tide Time	857
D7	20 Oct 2021	Low Tide (ft)	0.36
D7	20 Oct 2021	Low Tide Time	1522

Station	Date	Parameter	Value
D7	20 Oct 2021	Comments	Water clear; Surfer/Paddle boarder-1; Trash-1; Kelp; Seagrass; Algae; Person/Walker/Jogger-2
D7	27 Oct 2021	Arrive Time	852
D7	27 Oct 2021	Weather	Sunny
D7	27 Oct 2021	Wind Speed (kts)	1.2
D7	27 Oct 2021	Wind Dir	W
D7	27 Oct 2021	Animal Life	
D7	27 Oct 2021	Floatables	Foam; Film
D7	27 Oct 2021	Water Color	Green
D7	27 Oct 2021	Current Direction	S
D7	27 Oct 2021	Water Temp (C)	17.8
D7	27 Oct 2021	Wave Height Low (ft)	4
D7	27 Oct 2021	High Tide (ft)	4.31
D7	27 Oct 2021	High Tide Time	1255
D7	27 Oct 2021	Low Tide (ft)	0.92
D7	27 Oct 2021	Low Tide Time	2159
D7	27 Oct 2021	Comments	Water turbid; Surfer/Paddle boarder-33; Trash-1; Kelp; Algae; Seagrass; Person/Walker/Jogger-2
D8-B	06 Oct 2021	Arrive Time	936
D8-B	06 Oct 2021	Weather	Cloudy
D8-B	06 Oct 2021	Wind Speed (kts)	2.4
D8-B	06 Oct 2021	Wind Dir	W
D8-B	06 Oct 2021	Animal Life	
D8-B	06 Oct 2021	Floatables	Foam
D8-B	06 Oct 2021	Water Color	Brown
D8-B	06 Oct 2021	Current Direction	N
D8-B	06 Oct 2021	Water Temp (C)	21.1
D8-B	06 Oct 2021	Wave Height Low (ft)	3
D8-B	06 Oct 2021	High Tide (ft)	5.81
D8-B	06 Oct 2021	High Tide Time	930
D8-B	06 Oct 2021	Low Tide (ft)	0.07
D8-B	06 Oct 2021	Low Tide Time	324
D8-B	06 Oct 2021	Comments	Water turbid; Boater/Kayaker-2; Trash-2; Kelp; Seagrass; Debris; Algae; Person/Walker/Jogger-1
D8-B	13 Oct 2021	Arrive Time	928
D8-B	13 Oct 2021	Weather	Sunny
D8-B	13 Oct 2021	Wind Speed (kts)	1.5
D8-B	13 Oct 2021	Wind Dir	W
D8-B	13 Oct 2021	Animal Life	Dog-1
D8-B	13 Oct 2021	Floatables	None
D8-B	13 Oct 2021	Water Color	Brown
D8-B	13 Oct 2021	Current Direction	S
D8-B	13 Oct 2021	Water Temp (C)	17.3
D8-B	13 Oct 2021	Wave Height Low (ft)	2
D8-B	13 Oct 2021	High Tide (ft)	5.09
D8-B	13 Oct 2021	High Tide Time	1414
D8-B	13 Oct 2021	Low Tide (ft)	3.09
D8-B	13 Oct 2021	Low Tide Time	742
D8-B	13 Oct 2021	Comments	Water turbid; Trash-1; Kelp; Algae; Seagrass; Person/Walker/Jogger-1
D8-B	20 Oct 2021	Arrive Time	937
D8-B	20 Oct 2021	Weather	Sunny
D8-B	20 Oct 2021	Wind Speed (kts)	2
D8-B	20 Oct 2021	Wind Dir	SW
D8-B	20 Oct 2021	Animal Life	Bird-1; Seagull-1; Flies-100
D8-B	20 Oct 2021	Floatables	Foam
D8-B	20 Oct 2021	Water Color	Brown

Station	Date	Parameter	Value
D8-B	20 Oct 2021	Current Direction	S
D8-B	20 Oct 2021	Water Temp (C)	18.5
D8-B	20 Oct 2021	Wave Height Low (ft)	1
D8-B	20 Oct 2021	High Tide (ft)	5.6
D8-B	20 Oct 2021	High Tide Time	857
D8-B	20 Oct 2021	Low Tide (ft)	0.36
D8-B	20 Oct 2021	Low Tide Time	1522
D8-B	20 Oct 2021	Comments	Water turbid; Boater/Kayaker-1; Trash-1; Kelp; Seagrass; Algae; Debris
D8-B	27 Oct 2021	Arrive Time	908
D8-B	27 Oct 2021	Weather	Sunny
D8-B	27 Oct 2021	Wind Speed (kts)	2.3
D8-B	27 Oct 2021	Wind Dir	W
D8-B	27 Oct 2021	Animal Life	
D8-B	27 Oct 2021	Floatables	Foam
D8-B	27 Oct 2021	Water Color	Green
D8-B	27 Oct 2021	Current Direction	S
D8-B	27 Oct 2021	Water Temp (C)	18.5
D8-B	27 Oct 2021	Wave Height Low (ft)	3
D8-B	27 Oct 2021	High Tide (ft)	4.31
D8-B	27 Oct 2021	High Tide Time	1255
D8-B	27 Oct 2021	Low Tide (ft)	0.92
D8-B	27 Oct 2021	Low Tide Time	2159
D8-B	27 Oct 2021	Comments	Water turbid; Surfer/Paddle boarder-1; Trash-1; Kelp; Algae
D9	06 Oct 2021	Arrive Time	922
D9	06 Oct 2021	Weather	Cloudy
D9	06 Oct 2021	Wind Speed (kts)	2.9
D9	06 Oct 2021	Wind Dir	W
D9	06 Oct 2021	Animal Life	
D9	06 Oct 2021	Floatables	None
D9	06 Oct 2021	Water Color	Green
D9	06 Oct 2021	Current Direction	N
D9	06 Oct 2021	Water Temp (C)	20.9
D9	06 Oct 2021	Wave Height Low (ft)	4
D9	06 Oct 2021	High Tide (ft)	5.81
D9	06 Oct 2021	High Tide Time	930
D9	06 Oct 2021	Low Tide (ft)	0.07
D9	06 Oct 2021	Low Tide Time	324
D9	06 Oct 2021	Comments	Water clear; Boater/Kayaker-1; Trash-1; Kelp; Seagrass
D9	13 Oct 2021	Arrive Time	950
D9	13 Oct 2021	Weather	Sunny
D9	13 Oct 2021	Wind Speed (kts)	2.2
D9	13 Oct 2021	Wind Dir	W
D9	13 Oct 2021	Animal Life	Bird-1; Seagull-1
D9	13 Oct 2021	Floatables	None
D9	13 Oct 2021	Water Color	Brown
D9	13 Oct 2021	Current Direction	S
D9	13 Oct 2021	Water Temp (C)	17.6
D9	13 Oct 2021	Wave Height Low (ft)	4
D9	13 Oct 2021	High Tide (ft)	5.09
D9	13 Oct 2021	High Tide Time	1414
D9	13 Oct 2021	Low Tide (ft)	3.09
D9	13 Oct 2021	Low Tide Time	742
D9	13 Oct 2021	Comments	Water turbid; Surfer/Paddle boarder-5; Trash-1; Algae; Seagrass; Kelp
D9	20 Oct 2021	Arrive Time	916
D9	20 Oct 2021	Weather	Sunny

Station	Date	Parameter	Value
D9	20 Oct 2021	Wind Speed (kts)	0
D9	20 Oct 2021	Wind Dir	
D9	20 Oct 2021	Animal Life	Flies-200
D9	20 Oct 2021	Floatables	Foam
D9	20 Oct 2021	Water Color	Brown
D9	20 Oct 2021	Current Direction	S
D9	20 Oct 2021	Water Temp (C)	18.1
D9	20 Oct 2021	Wave Height Low (ft)	1
D9	20 Oct 2021	High Tide (ft)	5.6
D9	20 Oct 2021	High Tide Time	857
D9	20 Oct 2021	Low Tide (ft)	0.36
D9	20 Oct 2021	Low Tide Time	1522
D9	20 Oct 2021	Comments	Water turbid; Trash-2; Debris; Person/Walker/Jogger-1
D9	27 Oct 2021	Arrive Time	918
D9	27 Oct 2021	Weather	Sunny
D9	27 Oct 2021	Wind Speed (kts)	3.2
D9	27 Oct 2021	Wind Dir	NW
D9	27 Oct 2021	Animal Life	
D9	27 Oct 2021	Floatables	Foam
D9	27 Oct 2021	Water Color	Brown
D9	27 Oct 2021	Current Direction	S
D9	27 Oct 2021	Water Temp (C)	18.8
D9	27 Oct 2021	Wave Height Low (ft)	6
D9	27 Oct 2021	High Tide (ft)	4.31
D9	27 Oct 2021	High Tide Time	1255
D9	27 Oct 2021	Low Tide (ft)	0.92
D9	27 Oct 2021	Low Tide Time	2159
D9	27 Oct 2021	Comments	Water turbid; Surfer/Paddle boarder-2; Boater/Kayaker-1; Trash-1; Kelp; Seagrass; Algae; Person/Walker/Jogger-1
D10	06 Oct 2021	Arrive Time	902
D10	06 Oct 2021	Weather	Cloudy
D10	06 Oct 2021	Wind Speed (kts)	2.6
D10	06 Oct 2021	Wind Dir	W
D10	06 Oct 2021	Animal Life	Bird-1; Dog-1
D10	06 Oct 2021	Floatables	None
D10	06 Oct 2021	Water Color	Green
D10	06 Oct 2021	Current Direction	N
D10	06 Oct 2021	Water Temp (C)	21
D10	06 Oct 2021	Wave Height Low (ft)	3
D10	06 Oct 2021	High Tide (ft)	5.81
D10	06 Oct 2021	High Tide Time	930
D10	06 Oct 2021	Low Tide (ft)	0.07
D10	06 Oct 2021	Low Tide Time	324
D10	06 Oct 2021	Comments	Water clear; Surfer/Paddle boarder-11; Trash-1; Kelp; Seagrass; Algae; Person/Walker/Jogger-15
D10	13 Oct 2021	Arrive Time	1005
D10	13 Oct 2021	Weather	Sunny
D10	13 Oct 2021	Wind Speed (kts)	2.1
D10	13 Oct 2021	Wind Dir	W
D10	13 Oct 2021	Animal Life	Bird-1; Dog-1
D10	13 Oct 2021	Floatables	None
D10	13 Oct 2021	Water Color	Brown
D10	13 Oct 2021	Current Direction	S
D10	13 Oct 2021	Water Temp (C)	17.5
D10	13 Oct 2021	Wave Height Low (ft)	4
D10	13 Oct 2021	High Tide (ft)	5.09
D10	13 Oct 2021	High Tide Time	1414
D10	13 Oct 2021	Low Tide (ft)	3.09

Station	Date	Parameter	Value
D10	13 Oct 2021	Low Tide Time	742
D10	13 Oct 2021	Comments	Water turbid; Surfer/Paddle boarder-21; Trash-1; Kelp; Seagrass; Person/Walker/Jogger-10
D10	20 Oct 2021	Arrive Time	858
D10	20 Oct 2021	Weather	Sunny
D10	20 Oct 2021	Wind Speed (kts)	1.9
D10	20 Oct 2021	Wind Dir	E
D10	20 Oct 2021	Animal Life	Seagull-5
D10	20 Oct 2021	Floatables	None
D10	20 Oct 2021	Water Color	Green
D10	20 Oct 2021	Current Direction	S
D10	20 Oct 2021	Water Temp (C)	18.2
D10	20 Oct 2021	Wave Height Low (ft)	3
D10	20 Oct 2021	High Tide (ft)	5.6
D10	20 Oct 2021	High Tide Time	857
D10	20 Oct 2021	Low Tide (ft)	0.36
D10	20 Oct 2021	Low Tide Time	1522
D10	20 Oct 2021	Comments	Water clear; Surfer/Paddle boarder-18; Trash-1; Kelp; Seagrass; Person/Walker/Jogger-5
D10	27 Oct 2021	Arrive Time	1001
D10	27 Oct 2021	Weather	Sunny
D10	27 Oct 2021	Wind Speed (kts)	3.1
D10	27 Oct 2021	Wind Dir	W
D10	27 Oct 2021	Animal Life	Dog-1
D10	27 Oct 2021	Floatables	Foam
D10	27 Oct 2021	Water Color	Green
D10	27 Oct 2021	Current Direction	N
D10	27 Oct 2021	Water Temp (C)	19.1
D10	27 Oct 2021	Wave Height Low (ft)	6
D10	27 Oct 2021	High Tide (ft)	4.31
D10	27 Oct 2021	High Tide Time	1255
D10	27 Oct 2021	Low Tide (ft)	0.92
D10	27 Oct 2021	Low Tide Time	2159
D10	27 Oct 2021	Comments	Water turbid; Surfer/Paddle boarder-14; Trash-1; Kelp; Seagrass; Person/Walker/Jogger-18
D11	06 Oct 2021	Arrive Time	847
D11	06 Oct 2021	Weather	Cloudy
D11	06 Oct 2021	Wind Speed (kts)	1.1
D11	06 Oct 2021	Wind Dir	W
D11	06 Oct 2021	Animal Life	Bird-2
D11	06 Oct 2021	Floatables	None
D11	06 Oct 2021	Water Color	Green
D11	06 Oct 2021	Current Direction	N
D11	06 Oct 2021	Water Temp (C)	20.5
D11	06 Oct 2021	Wave Height Low (ft)	2
D11	06 Oct 2021	High Tide (ft)	5.81
D11	06 Oct 2021	High Tide Time	930
D11	06 Oct 2021	Low Tide (ft)	0.07
D11	06 Oct 2021	Low Tide Time	324
D11	06 Oct 2021	Comments	Water clear; Surfer/Paddle boarder-10; Boater/Kayaker-1; Trash-1; Seagrass; Kelp; Person/Walker/Jogger-5
D11	13 Oct 2021	Arrive Time	1032
D11	13 Oct 2021	Weather	Sunny
D11	13 Oct 2021	Wind Speed (kts)	3
D11	13 Oct 2021	Wind Dir	W
D11	13 Oct 2021	Animal Life	Bird-3; Dog-5
D11	13 Oct 2021	Floatables	None

Station	Date	Parameter	Value
D11	13 Oct 2021	Water Color	Brown
D11	13 Oct 2021	Current Direction	S
D11	13 Oct 2021	Water Temp (C)	16.1
D11	13 Oct 2021	Wave Height Low (ft)	4
D11	13 Oct 2021	High Tide (ft)	5.09
D11	13 Oct 2021	High Tide Time	1414
D11	13 Oct 2021	Low Tide (ft)	3.09
D11	13 Oct 2021	Low Tide Time	742
D11	13 Oct 2021	Comments	Water turbid; Surfer/Paddle boarder-22; Trash-1; Kelp; Seagrass; Algae; Person/Walker/Jogger-8
D11	20 Oct 2021	Arrive Time	841
D11	20 Oct 2021	Weather	Sunny
D11	20 Oct 2021	Wind Speed (kts)	3.4
D11	20 Oct 2021	Wind Dir	E
D11	20 Oct 2021	Animal Life	
D11	20 Oct 2021	Floatables	None
D11	20 Oct 2021	Water Color	Green
D11	20 Oct 2021	Current Direction	
D11	20 Oct 2021	Water Temp (C)	18
D11	20 Oct 2021	Wave Height Low (ft)	3
D11	20 Oct 2021	High Tide (ft)	5.6
D11	20 Oct 2021	High Tide Time	857
D11	20 Oct 2021	Low Tide (ft)	0.36
D11	20 Oct 2021	Low Tide Time	
D11	20 Oct 2021	Comments	Water clear; Surfer/Paddle boarder-15; Trash-2; Kelp; Seagrass; Person/Walker/Jogger-4
D11	27 Oct 2021	Arrive Time	1011
D11	27 Oct 2021	Weather	Sunny
D11	27 Oct 2021	Wind Speed (kts)	2.7
D11	27 Oct 2021	Wind Dir	N
D11	27 Oct 2021	Animal Life	
D11	27 Oct 2021	Floatables	Foam
D11	27 Oct 2021	Water Color	Green
D11	27 Oct 2021	Current Direction	S
D11	27 Oct 2021	Water Temp (C)	18.9
D11	27 Oct 2021	Wave Height Low (ft)	3
D11	27 Oct 2021	High Tide (ft)	4.31
D11	27 Oct 2021	High Tide Time	1255
D11	27 Oct 2021	Low Tide (ft)	0.92
D11	27 Oct 2021	Low Tide Time	2159
D11	27 Oct 2021	Comments	Water turbid; Boogie boarder/Swimmer-2; Surfer/Paddle boarder-13; Trash-1; Kelp; Seagrass; Debris; Algae; Person/Walker/Jogger-9
D12	06 Oct 2021	Arrive Time	820
D12	06 Oct 2021	Weather	Cloudy
D12	06 Oct 2021	Wind Speed (kts)	1.5
D12	06 Oct 2021	Wind Dir	W
D12	06 Oct 2021	Animal Life	Bird-4
D12	06 Oct 2021	Floatables	None
D12	06 Oct 2021	Water Color	Green
D12	06 Oct 2021	Current Direction	N
D12	06 Oct 2021	Water Temp (C)	20.9
D12	06 Oct 2021	Wave Height Low (ft)	2
D12	06 Oct 2021	High Tide (ft)	5.81
D12	06 Oct 2021	High Tide Time	930
D12	06 Oct 2021	Low Tide (ft)	0.07
D12	06 Oct 2021	Low Tide Time	324

Station	Date	Parameter	Value
D12	06 Oct 2021	Comments	Water clear; Trash-1; Kelp; Seagrass; Person/Walker/Jogger-9
D12	13 Oct 2021	Arrive Time	1100
D12	13 Oct 2021	Weather	Sunny
D12	13 Oct 2021	Wind Speed (kts)	5
D12	13 Oct 2021	Wind Dir	W
D12	13 Oct 2021	Animal Life	Seagull-2
D12	13 Oct 2021	Floatables	None
D12	13 Oct 2021	Water Color	Brown
D12	13 Oct 2021	Current Direction	S
D12	13 Oct 2021	Water Temp (C)	20.6
D12	13 Oct 2021	Wave Height Low (ft)	3
D12	13 Oct 2021	High Tide (ft)	5.09
D12	13 Oct 2021	High Tide Time	1414
D12	13 Oct 2021	Low Tide (ft)	3.09
D12	13 Oct 2021	Low Tide Time	742
D12	13 Oct 2021	Comments	Water turbid; Surfer/Paddle boarder-5; Trash-1; Kelp; Seagrass; Person/Walker/Jogger-26
D12	20 Oct 2021	Arrive Time	813
D12	20 Oct 2021	Weather	Sunny
D12	20 Oct 2021	Wind Speed (kts)	4.2
D12	20 Oct 2021	Wind Dir	E
D12	20 Oct 2021	Animal Life	Seagull-8
D12	20 Oct 2021	Floatables	None
D12	20 Oct 2021	Water Color	Green
D12	20 Oct 2021	Current Direction	N
D12	20 Oct 2021	Water Temp (C)	17.8
D12	20 Oct 2021	Wave Height Low (ft)	2
D12	20 Oct 2021	High Tide (ft)	5.6
D12	20 Oct 2021	High Tide Time	857
D12	20 Oct 2021	Low Tide (ft)	0.36
D12	20 Oct 2021	Low Tide Time	1522
D12	20 Oct 2021	Comments	Water turbid; Trash-1; Kelp; Seagrass; Person/Walker/Jogger-6
D12	27 Oct 2021	Arrive Time	1058
D12	27 Oct 2021	Weather	Sunny
D12	27 Oct 2021	Wind Speed (kts)	4.5
D12	27 Oct 2021	Wind Dir	W
D12	27 Oct 2021	Animal Life	Seagull-48
D12	27 Oct 2021	Floatables	Foam
D12	27 Oct 2021	Water Color	Green
D12	27 Oct 2021	Current Direction	S
D12	27 Oct 2021	Water Temp (C)	18.2
D12	27 Oct 2021	Wave Height Low (ft)	3
D12	27 Oct 2021	High Tide (ft)	4.31
D12	27 Oct 2021	High Tide Time	1255
D12	27 Oct 2021	Low Tide (ft)	0.92
D12	27 Oct 2021	Low Tide Time	2159
D12	27 Oct 2021	Comments	Water turbid; Surfer/Paddle boarder-5; Trash-1; Kelp; Seagrass; Person/Walker/Jogger-13

Kelp Stations

Table 3.1

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

Date	A1	A6	A7	C4	C5	C6	C7	C8
01 Oct 2021	3	4	6	2	7	4	2	2
02 Oct 2021	3	4	6	2	7	4	2	2
03 Oct 2021	3	4	6	2	7	4	2	2
04 Oct 2021	3	6	6	3	7	5	4	3
05 Oct 2021	3	6	6	3	7	5	4	3
06 Oct 2021	3	6	6	3	7	5	4	3
07 Oct 2021	4	7	8	3	7	6	5	3
08 Oct 2021	4	7	8	3	7	6	5	3
09 Oct 2021	4	7	8	3	7	6	5	3
10 Oct 2021	4	7	8	3	7	6	5	3
11 Oct 2021	5	9	10	4	5	5	5	3
12 Oct 2021	5	9	10	4	5	5	5	3
13 Oct 2021	5	11	10	5	5	4	6	4
14 Oct 2021	5	11	10	5	5	4	6	4
15 Oct 2021	5	11	10	5	5	4	6	4
16 Oct 2021	5	11	10	5	5	4	6	4
17 Oct 2021	5	11	10	5	5	4	6	4
18 Oct 2021	5	11	10	5	5	4	6	4
19 Oct 2021	5	11	10	5	5	4	6	4
20 Oct 2021	5	11	7	4	4	3	5	4
21 Oct 2021	5	11	7	4	4	3	5	4
22 Oct 2021	7	12	6	5	3	4	7	5
23 Oct 2021	7	12	6	5	3	4	7	5
24 Oct 2021	7	12	6	5	3	4	7	5
25 Oct 2021	7	12	6	5	3	4	7	5
26 Oct 2021	7	12	6	5	3	4	7	5
27 Oct 2021	6	11	5	6	4	5	8	6
28 Oct 2021	9	16	5	8	5	6	11	8
29 Oct 2021	9	16	5	8	5	6	11	8
30 Oct 2021	9	16	5	8	5	6	11	8
31 Oct 2021	9	16	5	8	5	6	11	8

* Geometric mean calculated using n<5

Table 3.2

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

Date	A1	A6	A7	C4	C5	C6	C7	C8
01 Oct 2021	2	2	2	2	4	2	2	2
02 Oct 2021	2	2	2	2	4	2	2	2
03 Oct 2021	2	2	2	2	4	2	2	2
04 Oct 2021	2	2	2	2	3	2	2	2
05 Oct 2021	2	2	2	2	3	2	2	2
06 Oct 2021	2	2	2	2	3	2	2	2
07 Oct 2021	2	2	2	2	4	2	2	2
08 Oct 2021	2	2	2	2	4	2	2	2
09 Oct 2021	2	2	2	2	4	2	2	2
10 Oct 2021	2	2	2	2	4	2	2	2
11 Oct 2021	2	2	3	2	3	2	2	2
12 Oct 2021	2	2	3	2	3	2	2	2
13 Oct 2021	2	2	3	2	4	2	2	2
14 Oct 2021	2	2	3	2	4	2	2	2
15 Oct 2021	2	2	3	2	4	2	2	2
16 Oct 2021	2	2	3	2	4	2	2	2
17 Oct 2021	2	2	3	2	4	2	2	2
18 Oct 2021	2	2	3	2	4	2	2	2
19 Oct 2021	2	2	3	2	4	2	2	2
20 Oct 2021	2	2	3	2	3	2	2	2
21 Oct 2021	2	2	3	2	3	2	2	2
22 Oct 2021	2	2	2	2	2	2	2	2
23 Oct 2021	2	2	2	2	2	2	2	2
24 Oct 2021	2	2	2	2	2	2	2	2
25 Oct 2021	2	2	2	2	2	2	2	2
26 Oct 2021	2	2	2	2	2	2	2	2
27 Oct 2021	2	2	2	2	2	2	2	2
28 Oct 2021	2	2	2	2	2	2	2	2
29 Oct 2021	2	2	2	2	2	2	2	2
30 Oct 2021	2	2	2	2	2	2	2	2
31 Oct 2021	2	2	2	2	2	2	2	2

* Geometric mean calculated using n<5

Table 3.3

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

Date	A1	A6	A7	C4	C5	C6	C7	C8
01 Oct 2021	2	2	2	2	2	2	2	2
02 Oct 2021	2	2	2	2	2	2	2	2
03 Oct 2021	2	2	2	2	2	2	2	2
04 Oct 2021	2	2	2	2	2	2	2	2
05 Oct 2021	2	2	2	2	2	2	2	2
06 Oct 2021	2	2	2	2	2	2	2	2
07 Oct 2021	2	2	2	2	2	2	2	2
08 Oct 2021	2	2	2	2	2	2	2	2
09 Oct 2021	2	2	2	2	2	2	2	2
10 Oct 2021	2	2	2	2	2	2	2	2
11 Oct 2021	2	2	2	2	2	2	2	2
12 Oct 2021	2	2	2	2	2	2	2	2
13 Oct 2021	2	2	2	2	2	2	2	2
14 Oct 2021	2	2	2	2	2	2	2	2
15 Oct 2021	2	2	2	2	2	2	2	2
16 Oct 2021	2	2	2	2	2	2	2	2
17 Oct 2021	2	2	2	2	2	2	2	2
18 Oct 2021	2	2	2	2	2	2	2	2
19 Oct 2021	2	2	2	2	2	2	2	2
20 Oct 2021	2	2	2	2	2	2	2	2
21 Oct 2021	2	2	2	2	2	2	2	2
22 Oct 2021	2	2	2	2	2	2	2	2
23 Oct 2021	2	2	2	2	2	2	2	2
24 Oct 2021	2	2	2	2	2	2	2	2
25 Oct 2021	2	2	2	2	2	2	2	2
26 Oct 2021	2	2	2	2	2	2	2	2
27 Oct 2021	3	2	2	2	2	2	2	2
28 Oct 2021	3	2	2	2	2	2	2	2
29 Oct 2021	3	2	2	2	2	2	2	2
30 Oct 2021	3	2	2	2	2	2	2	2
31 Oct 2021	3	2	2	2	2	2	2	2

* Geometric mean calculated using n<5

Table 3.4

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

Date	A1	A6	A7	C4	C5	C6	C7	C8
04 Oct 2021	IC							
11 Oct 2021	IC							
20 Oct 2021	IC							
27 Oct 2021	IC							

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 3.5

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

Date	A1	A6	A7	C4	C5	C6	C7	C8
04 Oct 2021	IC							
11 Oct 2021	IC							
20 Oct 2021	IC							
27 Oct 2021	IC							

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 3.6

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

Date	A1	A6	A7	C4	C5	C6	C7	C8
04 Oct 2021	IC							
11 Oct 2021	IC							
20 Oct 2021	IC							
27 Oct 2021	IC							

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 3.7

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

Date	A1	A6	A7	C4	C5	C6	C7	C8
04 Oct 2021	IC							
11 Oct 2021	IC							
20 Oct 2021	IC							
27 Oct 2021	IC							

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 3.8

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

Station	Date	Time	Depth	Total	Fecal	Enter	F:T	Temp	XMS	DO	Sal	pH
A1	04 Oct 2021	824	1	2e	<2	<2	1.00	17.7	76.49	9.1	33.41	8.1
A1	04 Oct 2021	824	12	<2	2e	<2	1.00	14.6	80.80	6.4	33.44	7.8
A1	04 Oct 2021	824	18	<20	<2	2e	0.10	13.3	84.85	6.2	33.47	7.8
A1	11 Oct 2021	758	1	<20	<2	<2	0.10	18.3	81.70	8.1	33.42	8.0
A1	11 Oct 2021	758	12	16e	6e	<2	0.38	13.6	86.43	6.8	33.46	7.8
A1	11 Oct 2021	758	18	20e	6e	2e	0.30	12.7	85.87	6.0	33.49	7.8
A1	20 Oct 2021	755	1	<2	<2	2e	1.00	17.7	83.67	7.8	33.54	8.1
A1	20 Oct 2021	755	12	2e	<2	<2	1.00	14.1	83.26	7.2	33.52	8.0
A1	20 Oct 2021	755	18	<20	2e	<2	0.10	13.7	85.78	7.0	33.40	7.9
A1	27 Oct 2021	812	1	<2	<2	22e	1.00	16.7	77.93	7.6	33.52	8.0
A1	27 Oct 2021	812	12	6e	2e	<2	0.33	13.8	84.90	6.6	33.45	7.9
A1	27 Oct 2021	812	18	6e	<2	<2	0.33	13.3	83.65	6.3	33.44	7.8
A6	04 Oct 2021	849	1	<20	<1	<2	0.05	17.5	74.00	8.7	33.42	8.1
A6	04 Oct 2021	849	12	2e	<2	<2	1.00	14.7	82.25	7.1	33.47	7.9
A6	04 Oct 2021	849	18	80e	4e	<2	0.05	13.8	85.30	6.5	33.46	7.9
A6	11 Oct 2021	822	1	<2	<2	<2	1.00	18.8	80.79	8.5	33.42	8.1
A6	11 Oct 2021	822	12	10e	<2	<2	0.20	15.3	84.56	6.8	33.43	7.9
A6	11 Oct 2021	822	18	60e	6e	<2	0.10	13.1	84.77	6.2	33.50	7.8
A6	20 Oct 2021	820	1	12e	<2	<2	0.17	18.3	84.97	7.9	33.58	8.1
A6	20 Oct 2021	820	12	2e	<2	<2	1.00	14.9	85.56	7.3	33.66	8.1
A6	20 Oct 2021	820	18	<20	<2	<2	0.10	13.5	86.15	7.0	33.40	8.0
A6	27 Oct 2021	837	1	2e	<2	<2	1.00	17.2	77.85	7.7	33.52	8.0
A6	27 Oct 2021	837	12	12e	<2	<2	0.17	13.6	81.04	6.2	33.50	7.8
A6	27 Oct 2021	837	18	10e	<2	<2	0.20	12.9	81.96	6.1	33.48	7.8
A7	04 Oct 2021	837	1	<2	<2	<2	1.00	17.6	78.01	8.7	33.43	8.1
A7	04 Oct 2021	837	12	<2	<2	2e	1.00	13.5	85.27	6.5	33.45	7.9
A7	04 Oct 2021	837	18	<20	<2	<2	0.10	13.4	85.15	6.4	33.44	7.8
A7	11 Oct 2021	810	1	<20	2e	<2	0.10	18.6	80.63	7.2	33.00	8.0
A7	11 Oct 2021	810	12	<20	2e	<2	0.10	14.3	85.97	7.1	33.45	7.9
A7	11 Oct 2021	810	18	40e	6e	<2	0.15	12.8	85.85	6.1	33.48	7.8
A7	20 Oct 2021	808	1	<2	<2	<2	1.00	18.5	86.01	7.7	33.59	8.1
A7	20 Oct 2021	808	12	<2	<2	<2	1.00	13.9	85.36	7.1	33.41	7.9
A7	20 Oct 2021	808	18	<2	<2	<2	1.00	13.2	86.76	6.8	33.41	7.9
A7	27 Oct 2021	823	1	2e	<2	<2	1.00	17.1	77.00	7.5	33.50	8.0
A7	27 Oct 2021	823	12	<2	2e	<2	1.00	13.9	83.20	6.5	33.47	7.8
A7	27 Oct 2021	823	18	2e	<2	<2	1.00	13.2	81.11	6.2	33.47	7.8
C4	04 Oct 2021	1006	1	<20	<2	<2	0.10	17.3	75.89	8.2	33.43	8.0
C4	04 Oct 2021	1006	3	4e	2e	<2	0.50	16.9	75.46	8.0	33.48	8.0
C4	04 Oct 2021	1006	9	<20	<2	<2	0.10	16.0	76.13	7.3	33.44	8.0

Station	Date	Time	Depth	Total	Fecal	Enteric	F:T	Temp	XMS	DO	Sal	pH
C4	11 Oct 2021	930	1	<2	<2	<2	1.00	18.7	75.63	7.8	33.42	8.0
C4	11 Oct 2021	930	3	<20	<2	<2	0.10	18.7	75.41	7.8	33.42	8.0
C4	11 Oct 2021	930	9	2e	<2	<2	1.00	15.2	77.18	6.3	33.45	7.9
C4	20 Oct 2021	927	1	<2	<2	<2	1.00	18.2	83.85	7.8	33.57	8.1
C4	20 Oct 2021	927	3	<2	<2	<2	1.00	17.9	83.45	7.9	33.59	8.1
C4	20 Oct 2021	927	9	<2	<2	<2	1.00	15.8	79.56	6.9	33.49	8.0
C4	27 Oct 2021	944	1	<20	<2	<2	0.10	16.8	60.80	7.4	33.51	7.9
C4	27 Oct 2021	944	3	<20	<2	<2	0.10	16.8	58.59	7.4	33.51	7.9
C4	27 Oct 2021	944	9	<20	<2	<2	0.10	14.2	71.58	5.8	33.50	7.8
C5	04 Oct 2021	954	1	<2	<2	<2	1.00	17.3	75.14	8.2	33.42	8.1
C5	04 Oct 2021	954	3	<20	<2	<2	0.10	17.3	75.16	8.2	33.43	8.1
C5	04 Oct 2021	954	9	<2	<2	<2	1.00	15.2	79.26	6.4	33.44	7.9
C5	11 Oct 2021	922	1	<2	<2	<2	1.00	18.7	78.93	8.3	33.42	8.1
C5	11 Oct 2021	922	3	<2	<2	<2	1.00	18.6	78.87	8.3	33.42	8.1
C5	11 Oct 2021	922	9	<2	<2	2e	1.00	15.2	76.25	6.7	33.45	7.9
C5	20 Oct 2021	919	1	<2	<2	<2	1.00	18.7	85.34	7.7	33.59	8.1
C5	20 Oct 2021	919	3	<2	<2	<2	1.00	18.6	85.23	7.5	33.60	8.1
C5	20 Oct 2021	919	9	6e	<2	<2	0.33	14.7	83.14	7.0	33.48	8.0
C5	27 Oct 2021	933	1	<20	<2	<2	0.10	16.9	68.56	7.4	33.52	8.0
C5	27 Oct 2021	933	3	<20	<2	2e	0.10	16.8	66.92	7.5	33.52	8.0
C5	27 Oct 2021	933	9	<2	<2	<2	1.00	14.9	67.19	6.1	33.55	7.9
C6	04 Oct 2021	937	1	<20	<2	<2	0.10	18.0	76.31	8.2	33.42	8.0
C6	04 Oct 2021	937	3	<20	<2	<2	0.10	17.7	74.50	8.3	33.47	8.1
C6	04 Oct 2021	937	9	<20	<2	<2	0.10	15.1	81.49	6.5	33.42	7.9
C6	11 Oct 2021	907	1	2e	<2	<2	1.00	18.7	76.14	7.4	33.41	8.0
C6	11 Oct 2021	907	3	<2	<2	<2	1.00	18.7	75.93	7.4	33.42	8.0
C6	11 Oct 2021	907	9	<2	<2	<2	1.00	16.1	76.11	6.2	33.44	7.9
C6	20 Oct 2021	907	1	<2	<2	<2	1.00	18.4	83.46	7.7	33.58	8.1
C6	20 Oct 2021	907	3	<2	<2	<2	1.00	18.4	84.68	7.6	33.59	8.1
C6	20 Oct 2021	907	9	2e	<2	<2	1.00	15.1	84.12	7.0	33.48	8.0
C6	27 Oct 2021	923	1	<2	<2	<2	1.00	16.9	66.29	7.4	33.52	8.0
C6	27 Oct 2021	923	3	<20	<2	<2	0.10	16.7	64.84	7.2	33.53	8.0
C6	27 Oct 2021	923	9	20e	2e	<2	0.10	14.7	61.26	6.0	33.53	7.9
C7	04 Oct 2021	904	1	<20	<2	<2	0.10	17.3	78.27	8.9	33.43	8.1
C7	04 Oct 2021	904	12	<2	<2	<2	1.00	15.3	78.63	7.1	33.45	7.9
C7	04 Oct 2021	904	18	<200	2e	<2	0.01	13.9	84.41	6.7	33.45	7.9
C7	11 Oct 2021	835	1	<2	<2	<2	1.00	18.6	79.86	8.3	33.42	8.1
C7	11 Oct 2021	835	12	<2	<2	<2	1.00	15.4	85.43	7.7	33.41	8.0
C7	11 Oct 2021	835	18	6e	2e	<2	0.33	14.5	85.92	7.4	33.41	7.9
C7	20 Oct 2021	836	1	2e	<2	<2	1.00	17.9	84.49	7.9	33.55	8.1
C7	20 Oct 2021	836	12	4e	<2	<2	0.50	14.2	85.51	7.2	33.41	8.0
C7	20 Oct 2021	836	18	8e	<2	<2	0.25	13.4	86.74	6.9	33.40	7.9
C7	27 Oct 2021	851	1	<20	<2	<2	0.10	17.3	70.36	7.8	33.51	8.0
C7	27 Oct 2021	851	12	6e	<2	2e	0.33	14.3	79.55	6.6	33.51	7.9
C7	27 Oct 2021	851	18	10e	<2	6e	0.20	13.1	80.23	6.0	33.49	7.8

Station	Date	Time	Depth	Total	Fecal	Enter	F:T	Temp	XMS	DO	Sal	pH
C8	04 Oct 2021	916	1	<20	<2	2e	0.10	17.2	75.33	8.8	33.43	8.1
C8	04 Oct 2021	916	12	<2	<2	<2	1.00	14.7	80.46	7.1	33.42	7.9
C8	04 Oct 2021	916	18	<2	<2	<2	1.00	14.2	84.69	6.8	33.42	7.9
C8	11 Oct 2021	845	1	<2	<2	<2	1.00	18.5	77.97	8.3	33.41	8.1
C8	11 Oct 2021	845	12	<2	<2	<2	1.00	16.1	84.45	7.7	33.41	8.0
C8	11 Oct 2021	845	18	<20	<2	<2	0.10	14.4	84.68	7.3	33.39	7.9
C8	20 Oct 2021	849	1	2e	<2	<2	1.00	17.7	81.35	8.1	33.55	8.1
C8	20 Oct 2021	849	12	<2	<2	<2	1.00	15.8	83.69	7.5	33.52	8.1
C8	20 Oct 2021	849	18	14e	<2	<2	0.14	13.8	86.03	7.1	33.41	8.0
C8	27 Oct 2021	902	1	<2	<2	<2	1.00	17.2	66.21	7.7	33.52	8.0
C8	27 Oct 2021	902	12	4e	<2	<2	0.50	14.8	70.22	6.7	33.48	7.9
C8	27 Oct 2021	902	18	<20	10e	4e	0.50	13.0	66.16	6.1	33.53	7.8

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	04 Oct 2021	Depth (m)	18
A1	04 Oct 2021	Arrive Time	824
A1	04 Oct 2021	Depart Time	828
A1	04 Oct 2021	Air Temp (C)	19.5
A1	04 Oct 2021	Weather	Clear
A1	04 Oct 2021	Visibility (mi)	12
A1	04 Oct 2021	Wind Speed (kts)	3.8
A1	04 Oct 2021	Wind Dir	W
A1	04 Oct 2021	Water Color	Greenish-Blue
A1	04 Oct 2021	Wave Ht Low (ft)	4.6
A1	04 Oct 2021	Wave Period (sec)	11
A1	04 Oct 2021	Sea State	Calm
A1	04 Oct 2021	High Tide (ft)	5.71
A1	04 Oct 2021	High Tide Time	330
A1	04 Oct 2021	Low Tide (ft)	-0.07
A1	04 Oct 2021	Low Tide Time	918
A1	04 Oct 2021	Comments	Kelp
A1	11 Oct 2021	Depth (m)	17
A1	11 Oct 2021	Arrive Time	758
A1	11 Oct 2021	Depart Time	802
A1	11 Oct 2021	Air Temp (C)	16.4
A1	11 Oct 2021	Weather	Fog
A1	11 Oct 2021	Visibility (mi)	5
A1	11 Oct 2021	Wind Speed (kts)	4.5
A1	11 Oct 2021	Wind Dir	SE
A1	11 Oct 2021	Water Color	Blue
A1	11 Oct 2021	Wave Ht Low (ft)	3.9
A1	11 Oct 2021	Wave Period (sec)	18
A1	11 Oct 2021	Sea State	Regular Swell
A1	11 Oct 2021	High Tide (ft)	5.54
A1	11 Oct 2021	High Tide Time	1936
A1	11 Oct 2021	Low Tide (ft)	0.13
A1	11 Oct 2021	Low Tide Time	342
A1	11 Oct 2021	Comments	Kelp; Lobster Floats
A1	20 Oct 2021	Depth (m)	18
A1	20 Oct 2021	Arrive Time	755
A1	20 Oct 2021	Depart Time	803
A1	20 Oct 2021	Air Temp (C)	14.4
A1	20 Oct 2021	Weather	Clear
A1	20 Oct 2021	Visibility (mi)	12
A1	20 Oct 2021	Wind Speed (kts)	0
A1	20 Oct 2021	Wind Dir	N
A1	20 Oct 2021	Water Color	Blue
A1	20 Oct 2021	Wave Ht Low (ft)	3
A1	20 Oct 2021	Wave Period (sec)	12
A1	20 Oct 2021	Sea State	Calm
A1	20 Oct 2021	High Tide (ft)	5.64
A1	20 Oct 2021	High Tide Time	1624
A1	20 Oct 2021	Low Tide (ft)	0.26
A1	20 Oct 2021	Low Tide Time	2248
A1	20 Oct 2021	Comments	Kelp; Lobster Floats
A1	27 Oct 2021	Depth (m)	18
A1	27 Oct 2021	Arrive Time	812

Station	Date	Parameter	Value
A1	27 Oct 2021	Depart Time	816
A1	27 Oct 2021	Air Temp (C)	15
A1	27 Oct 2021	Weather	Clear
A1	27 Oct 2021	Visibility (mi)	10
A1	27 Oct 2021	Wind Speed (kts)	6.2
A1	27 Oct 2021	Wind Dir	E
A1	27 Oct 2021	Water Color	Green
A1	27 Oct 2021	Wave Ht Low (ft)	5.9
A1	27 Oct 2021	Wave Period (sec)	17
A1	27 Oct 2021	Sea State	Regular Swell
A1	27 Oct 2021	High Tide (ft)	4.4
A1	27 Oct 2021	High Tide Time	2000
A1	27 Oct 2021	Low Tide (ft)	0.89
A1	27 Oct 2021	Low Tide Time	442
A1	27 Oct 2021	Comments	Kelp; Lobster Floats
A6	04 Oct 2021	Depth (m)	15
A6	04 Oct 2021	Arrive Time	849
A6	04 Oct 2021	Depart Time	854
A6	04 Oct 2021	Air Temp (C)	19
A6	04 Oct 2021	Weather	Clear
A6	04 Oct 2021	Visibility (mi)	12
A6	04 Oct 2021	Wind Speed (kts)	0
A6	04 Oct 2021	Wind Dir	E
A6	04 Oct 2021	Water Color	Greenish-Blue
A6	04 Oct 2021	Wave Ht Low (ft)	4.6
A6	04 Oct 2021	Wave Period (sec)	11
A6	04 Oct 2021	Sea State	Calm
A6	04 Oct 2021	High Tide (ft)	5.71
A6	04 Oct 2021	High Tide Time	330
A6	04 Oct 2021	Low Tide (ft)	-0.07
A6	04 Oct 2021	Low Tide Time	918
A6	04 Oct 2021	Comments	Kelp; Lobster Floats
A6	11 Oct 2021	Depth (m)	17
A6	11 Oct 2021	Arrive Time	822
A6	11 Oct 2021	Depart Time	824
A6	11 Oct 2021	Air Temp (C)	17
A6	11 Oct 2021	Weather	Fog
A6	11 Oct 2021	Visibility (mi)	5
A6	11 Oct 2021	Wind Speed (kts)	8.9
A6	11 Oct 2021	Wind Dir	SE
A6	11 Oct 2021	Water Color	Blue
A6	11 Oct 2021	Wave Ht Low (ft)	3.9
A6	11 Oct 2021	Wave Period (sec)	18
A6	11 Oct 2021	Sea State	Regular Swell
A6	11 Oct 2021	High Tide (ft)	5.54
A6	11 Oct 2021	High Tide Time	1936
A6	11 Oct 2021	Low Tide (ft)	0.13
A6	11 Oct 2021	Low Tide Time	342
A6	11 Oct 2021	Comments	none
A6	20 Oct 2021	Depth (m)	17
A6	20 Oct 2021	Arrive Time	820
A6	20 Oct 2021	Depart Time	823
A6	20 Oct 2021	Air Temp (C)	15.5
A6	20 Oct 2021	Weather	Clear
A6	20 Oct 2021	Visibility (mi)	12
A6	20 Oct 2021	Wind Speed (kts)	3.9
A6	20 Oct 2021	Wind Dir	NE
A6	20 Oct 2021	Water Color	Blue

Station	Date	Parameter	Value
A6	20 Oct 2021	Wave Ht Low (ft)	3
A6	20 Oct 2021	Wave Period (sec)	12
A6	20 Oct 2021	Sea State	Calm
A6	20 Oct 2021	High Tide (ft)	5.64
A6	20 Oct 2021	High Tide Time	1624
A6	20 Oct 2021	Low Tide (ft)	0.26
A6	20 Oct 2021	Low Tide Time	2248
A6	20 Oct 2021	Comments	Kelp; Lobster Floats
A6	27 Oct 2021	Depth (m)	18
A6	27 Oct 2021	Arrive Time	837
A6	27 Oct 2021	Depart Time	840
A6	27 Oct 2021	Air Temp (C)	16.8
A6	27 Oct 2021	Weather	Clear
A6	27 Oct 2021	Visibility (mi)	10
A6	27 Oct 2021	Wind Speed (kts)	1.9
A6	27 Oct 2021	Wind Dir	S
A6	27 Oct 2021	Water Color	Green
A6	27 Oct 2021	Wave Ht Low (ft)	5.9
A6	27 Oct 2021	Wave Period (sec)	17
A6	27 Oct 2021	Sea State	Regular Swell
A6	27 Oct 2021	High Tide (ft)	4.4
A6	27 Oct 2021	High Tide Time	2000
A6	27 Oct 2021	Low Tide (ft)	0.89
A6	27 Oct 2021	Low Tide Time	442
A6	27 Oct 2021	Comments	Kelp; Lobster Floats
A7	04 Oct 2021	Depth (m)	20
A7	04 Oct 2021	Arrive Time	837
A7	04 Oct 2021	Depart Time	841
A7	04 Oct 2021	Air Temp (C)	18.8
A7	04 Oct 2021	Weather	Clear
A7	04 Oct 2021	Visibility (mi)	12
A7	04 Oct 2021	Wind Speed (kts)	6
A7	04 Oct 2021	Wind Dir	W
A7	04 Oct 2021	Water Color	Greenish-Blue
A7	04 Oct 2021	Wave Ht Low (ft)	4.6
A7	04 Oct 2021	Wave Period (sec)	11
A7	04 Oct 2021	Sea State	Calm
A7	04 Oct 2021	High Tide (ft)	5.71
A7	04 Oct 2021	High Tide Time	330
A7	04 Oct 2021	Low Tide (ft)	-0.07
A7	04 Oct 2021	Low Tide Time	918
A7	04 Oct 2021	Comments	Kelp
A7	11 Oct 2021	Depth (m)	15
A7	11 Oct 2021	Arrive Time	810
A7	11 Oct 2021	Depart Time	813
A7	11 Oct 2021	Air Temp (C)	16.8
A7	11 Oct 2021	Weather	Fog
A7	11 Oct 2021	Visibility (mi)	5
A7	11 Oct 2021	Wind Speed (kts)	7.3
A7	11 Oct 2021	Wind Dir	E
A7	11 Oct 2021	Water Color	Blue
A7	11 Oct 2021	Wave Ht Low (ft)	3.9
A7	11 Oct 2021	Wave Period (sec)	18
A7	11 Oct 2021	Sea State	Regular Swell
A7	11 Oct 2021	High Tide (ft)	5.54
A7	11 Oct 2021	High Tide Time	1936
A7	11 Oct 2021	Low Tide (ft)	0.13
A7	11 Oct 2021	Low Tide Time	342

Station	Date	Parameter	Value
A7	11 Oct 2021	Comments	Kelp; Lobster Floats
A7	20 Oct 2021	Depth (m)	18
A7	20 Oct 2021	Arrive Time	808
A7	20 Oct 2021	Depart Time	811
A7	20 Oct 2021	Air Temp (C)	15.7
A7	20 Oct 2021	Weather	Clear
A7	20 Oct 2021	Visibility (mi)	12
A7	20 Oct 2021	Wind Speed (kts)	4.8
A7	20 Oct 2021	Wind Dir	NW
A7	20 Oct 2021	Water Color	Blue
A7	20 Oct 2021	Wave Ht Low (ft)	3
A7	20 Oct 2021	Wave Period (sec)	12
A7	20 Oct 2021	Sea State	Calm
A7	20 Oct 2021	High Tide (ft)	5.64
A7	20 Oct 2021	High Tide Time	1624
A7	20 Oct 2021	Low Tide (ft)	0.26
A7	20 Oct 2021	Low Tide Time	2248
A7	20 Oct 2021	Comments	Kelp; Lobster Floats
A7	27 Oct 2021	Depth (m)	19
A7	27 Oct 2021	Arrive Time	823
A7	27 Oct 2021	Depart Time	828
A7	27 Oct 2021	Air Temp (C)	16.5
A7	27 Oct 2021	Weather	Clear
A7	27 Oct 2021	Visibility (mi)	10
A7	27 Oct 2021	Wind Speed (kts)	2
A7	27 Oct 2021	Wind Dir	N
A7	27 Oct 2021	Water Color	Green
A7	27 Oct 2021	Wave Ht Low (ft)	5.9
A7	27 Oct 2021	Wave Period (sec)	17
A7	27 Oct 2021	Sea State	Regular Swell
A7	27 Oct 2021	High Tide (ft)	4.4
A7	27 Oct 2021	High Tide Time	2000
A7	27 Oct 2021	Low Tide (ft)	0.89
A7	27 Oct 2021	Low Tide Time	442
A7	27 Oct 2021	Comments	Kelp; Lobster Floats
C4	04 Oct 2021	Depth (m)	11
C4	04 Oct 2021	Arrive Time	1006
C4	04 Oct 2021	Depart Time	1010
C4	04 Oct 2021	Air Temp (C)	21
C4	04 Oct 2021	Weather	Clear
C4	04 Oct 2021	Visibility (mi)	12
C4	04 Oct 2021	Wind Speed (kts)	3.9
C4	04 Oct 2021	Wind Dir	W
C4	04 Oct 2021	Water Color	Greenish-Blue
C4	04 Oct 2021	Wave Ht Low (ft)	4.6
C4	04 Oct 2021	Wave Period (sec)	11
C4	04 Oct 2021	Sea State	Calm
C4	04 Oct 2021	High Tide (ft)	5.71
C4	04 Oct 2021	High Tide Time	330
C4	04 Oct 2021	Low Tide (ft)	-0.07
C4	04 Oct 2021	Low Tide Time	918
C4	04 Oct 2021	Comments	Kelp; Lobster Floats
C4	11 Oct 2021	Depth (m)	10
C4	11 Oct 2021	Arrive Time	930
C4	11 Oct 2021	Depart Time	933
C4	11 Oct 2021	Air Temp (C)	18.1
C4	11 Oct 2021	Weather	Overcast

Station	Date	Parameter	Value
C4	11 Oct 2021	Visibility (mi)	7
C4	11 Oct 2021	Wind Speed (kts)	18
C4	11 Oct 2021	Wind Dir	SW
C4	11 Oct 2021	Water Color	Blue
C4	11 Oct 2021	Wave Ht Low (ft)	3.9
C4	11 Oct 2021	Wave Period (sec)	18
C4	11 Oct 2021	Sea State	Regular Swell
C4	11 Oct 2021	High Tide (ft)	5.54
C4	11 Oct 2021	High Tide Time	1936
C4	11 Oct 2021	Low Tide (ft)	0.13
C4	11 Oct 2021	Low Tide Time	342
C4	11 Oct 2021	Comments	Kelp; Lobster Floats
C4	20 Oct 2021	Depth (m)	11
C4	20 Oct 2021	Arrive Time	927
C4	20 Oct 2021	Depart Time	929
C4	20 Oct 2021	Air Temp (C)	14.8
C4	20 Oct 2021	Weather	Clear
C4	20 Oct 2021	Visibility (mi)	12
C4	20 Oct 2021	Wind Speed (kts)	6.2
C4	20 Oct 2021	Wind Dir	SE
C4	20 Oct 2021	Water Color	Blueish-Green
C4	20 Oct 2021	Wave Ht Low (ft)	3
C4	20 Oct 2021	Wave Period (sec)	12
C4	20 Oct 2021	Sea State	Calm
C4	20 Oct 2021	High Tide (ft)	5.64
C4	20 Oct 2021	High Tide Time	1624
C4	20 Oct 2021	Low Tide (ft)	0.26
C4	20 Oct 2021	Low Tide Time	2248
C4	20 Oct 2021	Comments	Kelp; Lobster Floats
C4	27 Oct 2021	Depth (m)	12
C4	27 Oct 2021	Arrive Time	944
C4	27 Oct 2021	Depart Time	947
C4	27 Oct 2021	Air Temp (C)	16.8
C4	27 Oct 2021	Weather	Clear
C4	27 Oct 2021	Visibility (mi)	10
C4	27 Oct 2021	Wind Speed (kts)	2.4
C4	27 Oct 2021	Wind Dir	NW
C4	27 Oct 2021	Water Color	Green
C4	27 Oct 2021	Wave Ht Low (ft)	5.9
C4	27 Oct 2021	Wave Period (sec)	17
C4	27 Oct 2021	Sea State	Regular Swell
C4	27 Oct 2021	High Tide (ft)	4.4
C4	27 Oct 2021	High Tide Time	2000
C4	27 Oct 2021	Low Tide (ft)	0.89
C4	27 Oct 2021	Low Tide Time	442
C4	27 Oct 2021	Comments	none
C5	04 Oct 2021	Depth (m)	8
C5	04 Oct 2021	Arrive Time	954
C5	04 Oct 2021	Depart Time	959
C5	04 Oct 2021	Air Temp (C)	21.2
C5	04 Oct 2021	Weather	Clear
C5	04 Oct 2021	Visibility (mi)	12
C5	04 Oct 2021	Wind Speed (kts)	1.3
C5	04 Oct 2021	Wind Dir	S
C5	04 Oct 2021	Water Color	Greenish-Blue
C5	04 Oct 2021	Wave Ht Low (ft)	4.6
C5	04 Oct 2021	Wave Period (sec)	11
C5	04 Oct 2021	Sea State	Calm

Station	Date	Parameter	Value
C5	04 Oct 2021	High Tide (ft)	5.71
C5	04 Oct 2021	High Tide Time	330
C5	04 Oct 2021	Low Tide (ft)	-0.07
C5	04 Oct 2021	Low Tide Time	918
C5	04 Oct 2021	Comments	Kelp; Lobster Floats
C5	11 Oct 2021	Depth (m)	10
C5	11 Oct 2021	Arrive Time	922
C5	11 Oct 2021	Depart Time	923
C5	11 Oct 2021	Air Temp (C)	18.1
C5	11 Oct 2021	Weather	Overcast
C5	11 Oct 2021	Visibility (mi)	7
C5	11 Oct 2021	Wind Speed (kts)	11.8
C5	11 Oct 2021	Wind Dir	SW
C5	11 Oct 2021	Water Color	Blue
C5	11 Oct 2021	Wave Ht Low (ft)	3.9
C5	11 Oct 2021	Wave Period (sec)	18
C5	11 Oct 2021	Sea State	Regular Swell
C5	11 Oct 2021	High Tide (ft)	5.54
C5	11 Oct 2021	High Tide Time	1936
C5	11 Oct 2021	Low Tide (ft)	0.13
C5	11 Oct 2021	Low Tide Time	342
C5	11 Oct 2021	Comments	Kelp; Lobster Floats
C5	20 Oct 2021	Depth (m)	11
C5	20 Oct 2021	Arrive Time	919
C5	20 Oct 2021	Depart Time	919
C5	20 Oct 2021	Air Temp (C)	16.1
C5	20 Oct 2021	Weather	Clear
C5	20 Oct 2021	Visibility (mi)	12
C5	20 Oct 2021	Wind Speed (kts)	1.9
C5	20 Oct 2021	Wind Dir	NE
C5	20 Oct 2021	Water Color	Blueish-Green
C5	20 Oct 2021	Wave Ht Low (ft)	3
C5	20 Oct 2021	Wave Period (sec)	12
C5	20 Oct 2021	Sea State	Calm
C5	20 Oct 2021	High Tide (ft)	5.64
C5	20 Oct 2021	High Tide Time	1624
C5	20 Oct 2021	Low Tide (ft)	0.26
C5	20 Oct 2021	Low Tide Time	2248
C5	20 Oct 2021	Comments	Kelp; Lobster Floats
C5	27 Oct 2021	Depth (m)	10
C5	27 Oct 2021	Arrive Time	933
C5	27 Oct 2021	Depart Time	943
C5	27 Oct 2021	Air Temp (C)	16.5
C5	27 Oct 2021	Weather	Clear
C5	27 Oct 2021	Visibility (mi)	10
C5	27 Oct 2021	Wind Speed (kts)	8.1
C5	27 Oct 2021	Wind Dir	W
C5	27 Oct 2021	Water Color	Green
C5	27 Oct 2021	Wave Ht Low (ft)	5.9
C5	27 Oct 2021	Wave Period (sec)	17
C5	27 Oct 2021	Sea State	Regular Swell
C5	27 Oct 2021	High Tide (ft)	4.4
C5	27 Oct 2021	High Tide Time	2000
C5	27 Oct 2021	Low Tide (ft)	0.89
C5	27 Oct 2021	Low Tide Time	442
C5	27 Oct 2021	Comments	none
C6	04 Oct 2021	Depth (m)	9

Station	Date	Parameter	Value
C6	04 Oct 2021	Arrive Time	937
C6	04 Oct 2021	Depart Time	946
C6	04 Oct 2021	Air Temp (C)	19.4
C6	04 Oct 2021	Weather	Clear
C6	04 Oct 2021	Visibility (mi)	12
C6	04 Oct 2021	Wind Speed (kts)	5
C6	04 Oct 2021	Wind Dir	S
C6	04 Oct 2021	Water Color	Greenish-Blue
C6	04 Oct 2021	Wave Ht Low (ft)	4.6
C6	04 Oct 2021	Wave Period (sec)	11
C6	04 Oct 2021	Sea State	Calm
C6	04 Oct 2021	High Tide (ft)	5.71
C6	04 Oct 2021	High Tide Time	330
C6	04 Oct 2021	Low Tide (ft)	-0.07
C6	04 Oct 2021	Low Tide Time	918
C6	04 Oct 2021	Comments	Missed depth; 2 casts needed; Kelp; Lobster Floats
C6	11 Oct 2021	Depth (m)	9
C6	11 Oct 2021	Arrive Time	907
C6	11 Oct 2021	Depart Time	912
C6	11 Oct 2021	Air Temp (C)	18.2
C6	11 Oct 2021	Weather	Overcast
C6	11 Oct 2021	Visibility (mi)	7
C6	11 Oct 2021	Wind Speed (kts)	9.6
C6	11 Oct 2021	Wind Dir	SW
C6	11 Oct 2021	Water Color	Blue
C6	11 Oct 2021	Wave Ht Low (ft)	3.9
C6	11 Oct 2021	Wave Period (sec)	18
C6	11 Oct 2021	Sea State	Regular Swell
C6	11 Oct 2021	High Tide (ft)	5.54
C6	11 Oct 2021	High Tide Time	1936
C6	11 Oct 2021	Low Tide (ft)	0.13
C6	11 Oct 2021	Low Tide Time	342
C6	11 Oct 2021	Comments	Kelp; Lobster Floats
C6	20 Oct 2021	Depth (m)	9
C6	20 Oct 2021	Arrive Time	907
C6	20 Oct 2021	Depart Time	909
C6	20 Oct 2021	Air Temp (C)	16.1
C6	20 Oct 2021	Weather	Clear
C6	20 Oct 2021	Visibility (mi)	12
C6	20 Oct 2021	Wind Speed (kts)	3.4
C6	20 Oct 2021	Wind Dir	N
C6	20 Oct 2021	Water Color	Blueish-Green
C6	20 Oct 2021	Wave Ht Low (ft)	3
C6	20 Oct 2021	Wave Period (sec)	12
C6	20 Oct 2021	Sea State	Calm
C6	20 Oct 2021	High Tide (ft)	5.64
C6	20 Oct 2021	High Tide Time	1624
C6	20 Oct 2021	Low Tide (ft)	0.26
C6	20 Oct 2021	Low Tide Time	2248
C6	20 Oct 2021	Comments	Kelp; Lobster Floats
C6	27 Oct 2021	Depth (m)	9
C6	27 Oct 2021	Arrive Time	923
C6	27 Oct 2021	Depart Time	926
C6	27 Oct 2021	Air Temp (C)	16.5
C6	27 Oct 2021	Weather	Clear
C6	27 Oct 2021	Visibility (mi)	10
C6	27 Oct 2021	Wind Speed (kts)	0.7
C6	27 Oct 2021	Wind Dir	W

Station	Date	Parameter	Value
C6	27 Oct 2021	Water Color	Green
C6	27 Oct 2021	Wave Ht Low (ft)	5.9
C6	27 Oct 2021	Wave Period (sec)	17
C6	27 Oct 2021	Sea State	Regular Swell
C6	27 Oct 2021	High Tide (ft)	4.4
C6	27 Oct 2021	High Tide Time	2000
C6	27 Oct 2021	Low Tide (ft)	0.89
C6	27 Oct 2021	Low Tide Time	442
C6	27 Oct 2021	Comments	Kelp; Lobster Floats
C7	04 Oct 2021	Depth (m)	18
C7	04 Oct 2021	Arrive Time	904
C7	04 Oct 2021	Depart Time	909
C7	04 Oct 2021	Air Temp (C)	18.9
C7	04 Oct 2021	Weather	Clear
C7	04 Oct 2021	Visibility (mi)	12
C7	04 Oct 2021	Wind Speed (kts)	1.1
C7	04 Oct 2021	Wind Dir	NE
C7	04 Oct 2021	Water Color	Greenish-Blue
C7	04 Oct 2021	Wave Ht Low (ft)	4.6
C7	04 Oct 2021	Wave Period (sec)	11
C7	04 Oct 2021	Sea State	Calm
C7	04 Oct 2021	High Tide (ft)	5.71
C7	04 Oct 2021	High Tide Time	330
C7	04 Oct 2021	Low Tide (ft)	-0.07
C7	04 Oct 2021	Low Tide Time	918
C7	04 Oct 2021	Comments	Kelp
C7	11 Oct 2021	Depth (m)	18
C7	11 Oct 2021	Arrive Time	835
C7	11 Oct 2021	Depart Time	839
C7	11 Oct 2021	Air Temp (C)	16.9
C7	11 Oct 2021	Weather	Fog
C7	11 Oct 2021	Visibility (mi)	5
C7	11 Oct 2021	Wind Speed (kts)	5.9
C7	11 Oct 2021	Wind Dir	SE
C7	11 Oct 2021	Water Color	Blue
C7	11 Oct 2021	Wave Ht Low (ft)	3.9
C7	11 Oct 2021	Wave Period (sec)	18
C7	11 Oct 2021	Sea State	Regular Swell
C7	11 Oct 2021	High Tide (ft)	5.54
C7	11 Oct 2021	High Tide Time	1936
C7	11 Oct 2021	Low Tide (ft)	0.13
C7	11 Oct 2021	Low Tide Time	342
C7	11 Oct 2021	Comments	Kelp
C7	20 Oct 2021	Depth (m)	18
C7	20 Oct 2021	Arrive Time	836
C7	20 Oct 2021	Depart Time	837
C7	20 Oct 2021	Air Temp (C)	15.4
C7	20 Oct 2021	Weather	Clear
C7	20 Oct 2021	Visibility (mi)	12
C7	20 Oct 2021	Wind Speed (kts)	3.1
C7	20 Oct 2021	Wind Dir	NE
C7	20 Oct 2021	Water Color	Blueish-Green
C7	20 Oct 2021	Wave Ht Low (ft)	3
C7	20 Oct 2021	Wave Period (sec)	12
C7	20 Oct 2021	Sea State	Calm
C7	20 Oct 2021	High Tide (ft)	5.64
C7	20 Oct 2021	High Tide Time	1624
C7	20 Oct 2021	Low Tide (ft)	0.26

Station	Date	Parameter	Value
C7	20 Oct 2021	Low Tide Time	2248
C7	20 Oct 2021	Comments	Kelp; Kelp Debris; Lobster Floats
C7	27 Oct 2021	Depth (m)	18
C7	27 Oct 2021	Arrive Time	851
C7	27 Oct 2021	Depart Time	854
C7	27 Oct 2021	Air Temp (C)	16.1
C7	27 Oct 2021	Weather	Clear
C7	27 Oct 2021	Visibility (mi)	10
C7	27 Oct 2021	Wind Speed (kts)	1.2
C7	27 Oct 2021	Wind Dir	SW
C7	27 Oct 2021	Water Color	Green
C7	27 Oct 2021	Wave Ht Low (ft)	5.9
C7	27 Oct 2021	Wave Period (sec)	17
C7	27 Oct 2021	Sea State	Regular Swell
C7	27 Oct 2021	High Tide (ft)	4.4
C7	27 Oct 2021	High Tide Time	2000
C7	27 Oct 2021	Low Tide (ft)	0.89
C7	27 Oct 2021	Low Tide Time	442
C7	27 Oct 2021	Comments	none
C8	04 Oct 2021	Depth (m)	19
C8	04 Oct 2021	Arrive Time	916
C8	04 Oct 2021	Depart Time	921
C8	04 Oct 2021	Air Temp (C)	19.9
C8	04 Oct 2021	Weather	Clear
C8	04 Oct 2021	Visibility (mi)	12
C8	04 Oct 2021	Wind Speed (kts)	2.4
C8	04 Oct 2021	Wind Dir	SW
C8	04 Oct 2021	Water Color	Greenish-Blue
C8	04 Oct 2021	Wave Ht Low (ft)	4.6
C8	04 Oct 2021	Wave Period (sec)	11
C8	04 Oct 2021	Sea State	Calm
C8	04 Oct 2021	High Tide (ft)	5.71
C8	04 Oct 2021	High Tide Time	330
C8	04 Oct 2021	Low Tide (ft)	-0.07
C8	04 Oct 2021	Low Tide Time	918
C8	04 Oct 2021	Comments	Kelp
C8	11 Oct 2021	Depth (m)	19
C8	11 Oct 2021	Arrive Time	845
C8	11 Oct 2021	Depart Time	848
C8	11 Oct 2021	Air Temp (C)	17.3
C8	11 Oct 2021	Weather	Overcast
C8	11 Oct 2021	Visibility (mi)	7
C8	11 Oct 2021	Wind Speed (kts)	6
C8	11 Oct 2021	Wind Dir	SE
C8	11 Oct 2021	Water Color	Blue
C8	11 Oct 2021	Wave Ht Low (ft)	3.9
C8	11 Oct 2021	Wave Period (sec)	18
C8	11 Oct 2021	Sea State	Regular Swell
C8	11 Oct 2021	High Tide (ft)	5.54
C8	11 Oct 2021	High Tide Time	1936
C8	11 Oct 2021	Low Tide (ft)	0.13
C8	11 Oct 2021	Low Tide Time	342
C8	11 Oct 2021	Comments	Seagrass
C8	20 Oct 2021	Depth (m)	20
C8	20 Oct 2021	Arrive Time	849
C8	20 Oct 2021	Depart Time	849
C8	20 Oct 2021	Air Temp (C)	15.2

Station	Date	Parameter	Value
C8	20 Oct 2021	Weather	Clear
C8	20 Oct 2021	Visibility (mi)	12
C8	20 Oct 2021	Wind Speed (kts)	3.2
C8	20 Oct 2021	Wind Dir	NE
C8	20 Oct 2021	Water Color	Blueish-Green
C8	20 Oct 2021	Wave Ht Low (ft)	3
C8	20 Oct 2021	Wave Period (sec)	12
C8	20 Oct 2021	Sea State	Calm
C8	20 Oct 2021	High Tide (ft)	5.64
C8	20 Oct 2021	High Tide Time	1624
C8	20 Oct 2021	Low Tide (ft)	0.26
C8	20 Oct 2021	Low Tide Time	2248
C8	20 Oct 2021	Comments	Kelp; Lobster Floats
C8	27 Oct 2021	Depth (m)	19
C8	27 Oct 2021	Arrive Time	902
C8	27 Oct 2021	Depart Time	906
C8	27 Oct 2021	Air Temp (C)	15.9
C8	27 Oct 2021	Weather	Clear
C8	27 Oct 2021	Visibility (mi)	10
C8	27 Oct 2021	Wind Speed (kts)	2.9
C8	27 Oct 2021	Wind Dir	W
C8	27 Oct 2021	Water Color	Green
C8	27 Oct 2021	Wave Ht Low (ft)	5.9
C8	27 Oct 2021	Wave Period (sec)	17
C8	27 Oct 2021	Sea State	Regular Swell
C8	27 Oct 2021	High Tide (ft)	4.4
C8	27 Oct 2021	High Tide Time	2000
C8	27 Oct 2021	Low Tide (ft)	0.89
C8	27 Oct 2021	Low Tide Time	442
C8	27 Oct 2021	Comments	Lobster Floats

Table 3.10

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

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ($\sigma\text{-t}$)	Chlor ($\mu\text{g/L}$)
A1	04 Oct 2021	1	17.72	76.49	9.1	33.41	8.1	24.1	2.04
A1	04 Oct 2021	2	17.57	75.91	8.9	33.43	8.1	24.2	2.07
A1	04 Oct 2021	3	17.30	75.89	8.8	33.43	8.1	24.2	2.26
A1	04 Oct 2021	4	17.19	75.77	8.7	33.43	8.0	24.3	2.62
A1	04 Oct 2021	5	17.02	75.83	8.6	33.43	8.0	24.3	2.88
A1	04 Oct 2021	6	16.87	76.08	8.5	33.43	8.0	24.3	3.04
A1	04 Oct 2021	7	16.59	76.05	8.2	33.47	8.0	24.4	3.10
A1	04 Oct 2021	8	15.82	76.51	7.8	33.46	8.0	24.6	3.18
A1	04 Oct 2021	9	15.53	77.78	7.4	33.43	7.9	24.6	3.02
A1	04 Oct 2021	10	15.38	78.38	7.2	33.43	7.9	24.7	2.92
A1	04 Oct 2021	11	14.99	79.46	6.8	33.44	7.9	24.8	2.62
A1	04 Oct 2021	12	14.65	80.80	6.4	33.44	7.8	24.8	2.14
A1	04 Oct 2021	13	14.47	81.63	6.3	33.44	7.8	24.9	1.43
A1	04 Oct 2021	14	14.36	82.42	6.2	33.42	7.8	24.9	1.06
A1	04 Oct 2021	15	14.27	82.50	6.2	33.45	7.8	24.9	0.89
A1	04 Oct 2021	16	13.82	82.85	6.2	33.48	7.8	25.1	0.71
A1	04 Oct 2021	17	13.60	84.23	6.2	33.47	7.8	25.1	0.65
A1	04 Oct 2021	18	13.35	84.85	6.2	33.47	7.8	25.1	0.62
A1	11 Oct 2021	1	18.32	81.70	8.1	33.42	8.0	24.0	1.93
A1	11 Oct 2021	2	18.33	81.87	8.1	33.43	8.0	24.0	2.05
A1	11 Oct 2021	3	18.33	81.86	8.1	33.43	8.0	24.0	2.17
A1	11 Oct 2021	4	18.28	81.99	8.0	33.44	8.0	24.0	2.14
A1	11 Oct 2021	5	18.07	81.58	7.9	33.46	8.0	24.1	2.12
A1	11 Oct 2021	6	16.80	81.59	7.6	33.56	8.0	24.5	2.22
A1	11 Oct 2021	7	15.82	82.44	7.3	33.51	7.9	24.6	2.36
A1	11 Oct 2021	8	15.29	83.52	7.1	33.47	7.9	24.7	2.14
A1	11 Oct 2021	9	14.58	84.72	7.0	33.51	7.9	24.9	1.70
A1	11 Oct 2021	10	14.04	85.41	7.0	33.46	7.9	25.0	1.39
A1	11 Oct 2021	11	13.85	86.08	6.9	33.45	7.9	25.0	1.07
A1	11 Oct 2021	12	13.60	86.43	6.8	33.46	7.8	25.1	0.83
A1	11 Oct 2021	13	13.34	86.62	6.7	33.47	7.8	25.1	0.80
A1	11 Oct 2021	14	13.23	86.76	6.5	33.46	7.8	25.2	0.71
A1	11 Oct 2021	15	12.84	86.46	6.3	33.52	7.8	25.3	0.76
A1	11 Oct 2021	16	12.71	86.32	6.1	33.49	7.8	25.3	0.72
A1	11 Oct 2021	17	12.69	85.92	6.0	33.49	7.8	25.3	0.62
A1	11 Oct 2021	18	12.69	85.87	6.0	33.49	7.8	25.3	0.54
A1	11 Oct 2021	19	12.69	85.92	6.0	33.48	7.8	25.3	0.57
A1	20 Oct 2021	1	17.69	83.67	7.8	33.54	8.1	24.2	1.89
A1	20 Oct 2021	2	17.86	83.14	7.7	33.53	8.1	24.2	1.95
A1	20 Oct 2021	3	17.16	83.23	7.7	33.64	8.1	24.4	1.98
A1	20 Oct 2021	4	16.42	81.32	8.0	33.53	8.0	24.5	2.22
A1	20 Oct 2021	5	16.28	80.84	8.0	33.49	8.0	24.5	2.51
A1	20 Oct 2021	6	16.15	80.43	7.9	33.48	8.0	24.5	2.50
A1	20 Oct 2021	7	16.10	80.29	7.9	33.48	8.0	24.6	2.53
A1	20 Oct 2021	8	15.92	80.64	7.8	33.49	8.0	24.6	2.59
A1	20 Oct 2021	9	15.66	81.38	7.7	33.48	8.0	24.7	2.40
A1	20 Oct 2021	10	15.52	81.65	7.6	33.48	8.0	24.7	2.23
A1	20 Oct 2021	11	15.12	82.47	7.3	33.50	8.0	24.8	2.07
A1	20 Oct 2021	12	14.07	83.26	7.2	33.52	8.0	25.0	2.00
A1	20 Oct 2021	13	13.84	84.39	7.1	33.43	7.9	25.0	1.94
A1	20 Oct 2021	14	13.81	85.16	7.0	33.41	7.9	25.0	1.58
A1	20 Oct 2021	15	13.80	85.54	7.0	33.42	7.9	25.0	1.44
A1	20 Oct 2021	16	13.78	85.68	7.0	33.41	7.9	25.0	1.57

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
A1	20 Oct 2021	17	13.76	85.73	7.0	33.40	7.9	25.0	1.87
A1	20 Oct 2021	18	13.69	85.78	7.0	33.40	7.9	25.0	1.61
A1	20 Oct 2021	19	13.56	85.90	7.0	33.42	7.9	25.1	1.44
A1	27 Oct 2021	1	16.74	77.93	7.6	33.52	8.0	24.4	2.84
A1	27 Oct 2021	2	16.75	78.12	7.6	33.51	8.0	24.4	2.83
A1	27 Oct 2021	3	16.78	78.23	7.5	33.52	8.0	24.4	3.08
A1	27 Oct 2021	4	16.74	77.74	7.5	33.52	8.0	24.4	3.19
A1	27 Oct 2021	5	16.53	77.54	7.3	33.54	8.0	24.5	3.40
A1	27 Oct 2021	6	15.74	79.15	7.1	33.56	7.9	24.7	3.45
A1	27 Oct 2021	7	14.94	81.13	6.9	33.56	7.9	24.9	3.13
A1	27 Oct 2021	8	14.38	83.25	6.8	33.49	7.9	24.9	2.41
A1	27 Oct 2021	9	14.35	84.34	6.8	33.46	7.9	24.9	1.78
A1	27 Oct 2021	10	14.03	84.81	6.8	33.48	7.9	25.0	1.47
A1	27 Oct 2021	11	13.86	84.87	6.7	33.45	7.9	25.0	1.33
A1	27 Oct 2021	12	13.77	84.90	6.6	33.45	7.9	25.0	1.30
A1	27 Oct 2021	13	13.76	84.88	6.6	33.45	7.9	25.0	1.22
A1	27 Oct 2021	14	13.64	84.80	6.6	33.46	7.8	25.1	1.23
A1	27 Oct 2021	15	13.54	84.56	6.5	33.46	7.8	25.1	1.25
A1	27 Oct 2021	16	13.50	84.39	6.5	33.46	7.8	25.1	1.39
A1	27 Oct 2021	17	13.20	84.02	6.4	33.49	7.8	25.2	1.16
A1	27 Oct 2021	18	13.27	83.65	6.3	33.44	7.8	25.1	1.09
A6	04 Oct 2021	1	17.52	74.00	8.7	33.42	8.1	24.2	2.62
A6	04 Oct 2021	2	17.48	73.77	8.7	33.43	8.1	24.2	2.66
A6	04 Oct 2021	3	17.38	73.98	8.7	33.43	8.1	24.2	2.76
A6	04 Oct 2021	4	17.31	74.23	8.6	33.42	8.1	24.2	2.89
A6	04 Oct 2021	5	17.20	74.52	8.5	33.45	8.1	24.3	3.13
A6	04 Oct 2021	6	16.83	74.87	8.4	33.45	8.0	24.4	3.25
A6	04 Oct 2021	7	16.42	75.57	8.0	33.46	8.0	24.5	3.35
A6	04 Oct 2021	8	15.80	77.30	7.7	33.48	8.0	24.6	3.38
A6	04 Oct 2021	9	15.46	79.72	7.5	33.44	8.0	24.7	3.05
A6	04 Oct 2021	10	15.43	80.98	7.3	33.42	7.9	24.7	2.59
A6	04 Oct 2021	11	15.24	81.40	7.2	33.44	7.9	24.7	2.20
A6	04 Oct 2021	12	14.68	82.25	7.1	33.47	7.9	24.9	1.98
A6	04 Oct 2021	13	14.59	82.91	7.0	33.41	7.9	24.8	1.82
A6	04 Oct 2021	14	14.48	83.14	7.0	33.43	7.9	24.9	1.79
A6	04 Oct 2021	15	14.30	83.28	6.9	33.44	7.9	24.9	1.75
A6	04 Oct 2021	16	13.80	83.63	6.7	33.48	7.9	25.1	1.67
A6	04 Oct 2021	17	13.69	84.89	6.5	33.46	7.9	25.1	1.33
A6	04 Oct 2021	18	13.80	85.30	6.5	33.46	7.9	25.0	1.01
A6	11 Oct 2021	1	18.81	80.79	8.5	33.42	8.1	23.9	2.02
A6	11 Oct 2021	2	18.81	80.52	8.5	33.42	8.1	23.9	2.06
A6	11 Oct 2021	3	18.80	80.89	8.5	33.42	8.1	23.9	2.16
A6	11 Oct 2021	4	18.75	80.85	8.3	33.43	8.1	23.9	2.25
A6	11 Oct 2021	5	18.41	80.82	8.1	33.47	8.1	24.0	2.34
A6	11 Oct 2021	6	17.85	81.38	7.8	33.49	8.0	24.2	2.46
A6	11 Oct 2021	7	17.02	82.45	7.5	33.50	8.0	24.4	2.42
A6	11 Oct 2021	8	16.28	84.04	7.2	33.48	8.0	24.5	2.34
A6	11 Oct 2021	9	15.91	84.38	6.9	33.44	7.9	24.6	1.86
A6	11 Oct 2021	10	15.66	84.46	6.7	33.44	7.9	24.6	1.30
A6	11 Oct 2021	11	15.48	84.40	6.7	33.42	7.9	24.7	1.03
A6	11 Oct 2021	12	15.31	84.56	6.8	33.43	7.9	24.7	0.96
A6	11 Oct 2021	13	15.08	84.77	6.9	33.43	7.9	24.7	0.82
A6	11 Oct 2021	14	14.89	85.06	6.8	33.45	7.9	24.8	0.76
A6	11 Oct 2021	15	14.50	85.30	6.6	33.45	7.9	24.9	0.73
A6	11 Oct 2021	16	14.17	85.24	6.4	33.46	7.8	25.0	0.66
A6	11 Oct 2021	17	13.59	85.18	6.2	33.53	7.8	25.1	0.64
A6	11 Oct 2021	18	13.12	84.77	6.2	33.50	7.8	25.2	0.63
A6	11 Oct 2021	19	12.96	84.74	6.1	33.49	7.8	25.2	0.52

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
A6	11 Oct 2021	20	12.97	84.77	6.1	33.47	7.8	25.2	0.55
A6	11 Oct 2021	21	13.01	84.41	6.1	33.48	7.8	25.2	0.55
A6	20 Oct 2021	1	18.31	84.97	7.9	33.58	8.1	24.1	1.33
A6	20 Oct 2021	2	18.31	84.88	7.9	33.58	8.1	24.1	1.28
A6	20 Oct 2021	3	18.32	84.86	7.9	33.58	8.1	24.1	1.34
A6	20 Oct 2021	4	18.31	84.91	7.9	33.58	8.1	24.1	1.34
A6	20 Oct 2021	5	18.28	84.63	7.8	33.58	8.1	24.1	1.45
A6	20 Oct 2021	6	18.18	84.58	7.8	33.59	8.1	24.1	1.46
A6	20 Oct 2021	7	17.80	83.88	7.8	33.58	8.1	24.2	1.61
A6	20 Oct 2021	8	17.50	83.71	7.8	33.56	8.1	24.3	1.74
A6	20 Oct 2021	9	17.32	83.83	7.8	33.54	8.1	24.3	1.86
A6	20 Oct 2021	10	17.28	83.98	7.6	33.53	8.1	24.3	1.89
A6	20 Oct 2021	11	16.63	85.07	7.4	33.55	8.1	24.5	1.87
A6	20 Oct 2021	12	14.93	85.56	7.3	33.66	8.1	24.9	1.70
A6	20 Oct 2021	13	14.16	85.42	7.2	33.47	8.0	25.0	1.63
A6	20 Oct 2021	14	13.97	85.52	7.2	33.42	8.0	25.0	1.51
A6	20 Oct 2021	15	13.81	85.58	7.1	33.41	8.0	25.0	1.38
A6	20 Oct 2021	16	13.75	85.76	7.1	33.41	8.0	25.0	1.40
A6	20 Oct 2021	17	13.64	85.82	7.1	33.40	8.0	25.0	1.38
A6	20 Oct 2021	18	13.54	86.15	7.0	33.40	8.0	25.0	1.36
A6	20 Oct 2021	19	13.44	86.06	6.9	33.42	7.9	25.1	1.25
A6	20 Oct 2021	20	13.25	86.01	6.9	33.46	7.9	25.2	1.26
A6	27 Oct 2021	1	17.18	77.85	7.7	33.52	8.0	24.3	3.22
A6	27 Oct 2021	2	17.18	77.68	7.7	33.52	8.0	24.3	3.08
A6	27 Oct 2021	3	17.17	77.11	7.7	33.52	8.0	24.3	3.41
A6	27 Oct 2021	4	17.02	76.66	7.5	33.55	8.0	24.4	3.72
A6	27 Oct 2021	5	16.48	77.37	7.2	33.59	8.0	24.6	4.09
A6	27 Oct 2021	6	15.80	79.17	7.0	33.58	8.0	24.7	3.99
A6	27 Oct 2021	7	15.39	79.52	6.7	33.57	7.9	24.8	3.27
A6	27 Oct 2021	8	14.67	80.15	6.5	33.56	7.9	24.9	2.45
A6	27 Oct 2021	9	14.25	80.89	6.4	33.53	7.9	25.0	1.75
A6	27 Oct 2021	10	13.87	81.79	6.4	33.52	7.9	25.1	1.48
A6	27 Oct 2021	11	13.68	81.46	6.3	33.50	7.8	25.1	1.29
A6	27 Oct 2021	12	13.56	81.04	6.2	33.50	7.8	25.1	1.18
A6	27 Oct 2021	13	13.30	81.09	6.2	33.51	7.8	25.2	1.06
A6	27 Oct 2021	14	13.04	82.41	6.2	33.50	7.8	25.2	0.99
A6	27 Oct 2021	15	12.93	82.82	6.1	33.49	7.8	25.2	0.96
A6	27 Oct 2021	16	12.91	82.96	6.1	33.48	7.8	25.2	1.02
A6	27 Oct 2021	17	12.88	82.55	6.1	33.48	7.8	25.2	0.97
A6	27 Oct 2021	18	12.89	81.96	6.1	33.48	7.8	25.2	0.97
A6	27 Oct 2021	19	12.91	81.67	6.0	33.48	7.8	25.2	0.92
A7	04 Oct 2021	1	17.55	78.01	8.7	33.43	8.1	24.2	2.18
A7	04 Oct 2021	2	17.52	77.57	8.7	33.43	8.1	24.2	2.20
A7	04 Oct 2021	3	17.33	76.56	8.6	33.45	8.1	24.2	2.43
A7	04 Oct 2021	4	17.03	76.65	8.3	33.45	8.0	24.3	2.95
A7	04 Oct 2021	5	16.64	77.97	7.9	33.47	8.0	24.4	2.98
A7	04 Oct 2021	6	16.24	80.03	7.3	33.47	8.0	24.5	2.78
A7	04 Oct 2021	7	15.50	81.90	6.7	33.51	7.9	24.7	2.09
A7	04 Oct 2021	8	14.71	83.33	6.5	33.49	7.9	24.9	1.45
A7	04 Oct 2021	9	14.46	83.97	6.6	33.44	7.9	24.9	1.25
A7	04 Oct 2021	10	13.98	84.41	6.6	33.51	7.9	25.0	1.12
A7	04 Oct 2021	11	13.59	84.91	6.6	33.45	7.9	25.1	0.97
A7	04 Oct 2021	12	13.53	85.27	6.5	33.45	7.9	25.1	1.02
A7	04 Oct 2021	13	13.49	85.46	6.5	33.44	7.8	25.1	0.96
A7	04 Oct 2021	14	13.40	85.38	6.4	33.45	7.8	25.1	0.92
A7	04 Oct 2021	15	13.39	85.20	6.4	33.44	7.8	25.1	0.90
A7	04 Oct 2021	16	13.39	85.35	6.4	33.44	7.8	25.1	0.96
A7	04 Oct 2021	17	13.39	85.33	6.4	33.44	7.8	25.1	0.87

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
A7	04 Oct 2021	18	13.37	85.15	6.4	33.44	7.8	25.1	0.88
A7	11 Oct 2021	1	18.58	80.63	7.2	33.00	8.0	23.6	2.16
A7	11 Oct 2021	2	18.59	80.94	8.4	33.37	8.0	23.9	2.11
A7	11 Oct 2021	3	18.51	81.22	8.3	33.42	8.0	23.9	2.23
A7	11 Oct 2021	4	18.11	81.03	8.2	33.46	8.0	24.1	2.22
A7	11 Oct 2021	5	17.89	80.93	8.0	33.43	8.0	24.1	2.29
A7	11 Oct 2021	6	17.19	81.22	7.7	33.53	8.0	24.3	2.40
A7	11 Oct 2021	7	16.22	83.24	7.5	33.50	8.0	24.5	2.51
A7	11 Oct 2021	8	15.75	84.41	7.3	33.47	7.9	24.6	2.39
A7	11 Oct 2021	9	15.17	85.54	7.4	33.45	7.9	24.7	1.86
A7	11 Oct 2021	10	14.85	85.91	7.4	33.44	7.9	24.8	1.63
A7	11 Oct 2021	11	14.57	85.92	7.3	33.45	7.9	24.9	1.39
A7	11 Oct 2021	12	14.28	85.97	7.1	33.45	7.9	24.9	1.08
A7	11 Oct 2021	13	14.01	86.03	7.0	33.44	7.9	25.0	1.07
A7	11 Oct 2021	14	13.73	86.33	6.8	33.48	7.9	25.1	0.94
A7	11 Oct 2021	15	13.22	86.55	6.6	33.51	7.8	25.2	0.84
A7	11 Oct 2021	16	13.12	86.43	6.4	33.47	7.8	25.2	0.79
A7	11 Oct 2021	17	12.95	86.17	6.3	33.49	7.8	25.2	0.82
A7	11 Oct 2021	18	12.81	85.85	6.1	33.48	7.8	25.3	0.69
A7	11 Oct 2021	19	12.85	85.49	6.1	33.48	7.8	25.2	0.65
A7	11 Oct 2021	20	12.86	85.09	6.1	33.47	7.8	25.2	0.66
A7	20 Oct 2021	1	18.54	86.01	7.7	33.59	8.1	24.1	0.97
A7	20 Oct 2021	2	18.51	85.97	7.6	33.59	8.1	24.1	1.02
A7	20 Oct 2021	3	17.99	85.69	7.6	33.64	8.1	24.2	1.07
A7	20 Oct 2021	4	17.06	84.63	7.7	33.58	8.1	24.4	1.28
A7	20 Oct 2021	5	16.63	83.78	7.8	33.53	8.1	24.5	1.67
A7	20 Oct 2021	6	16.49	83.27	7.8	33.50	8.1	24.5	1.90
A7	20 Oct 2021	7	15.95	83.43	7.5	33.56	8.1	24.7	1.95
A7	20 Oct 2021	8	15.07	84.40	7.3	33.50	8.0	24.8	1.79
A7	20 Oct 2021	9	14.53	85.12	7.2	33.47	8.0	24.9	1.63
A7	20 Oct 2021	10	14.17	85.37	7.2	33.43	8.0	24.9	1.46
A7	20 Oct 2021	11	14.03	85.33	7.1	33.41	8.0	25.0	1.35
A7	20 Oct 2021	12	13.87	85.36	7.1	33.41	7.9	25.0	1.36
A7	20 Oct 2021	13	13.72	85.69	7.1	33.40	7.9	25.0	1.27
A7	20 Oct 2021	14	13.52	85.83	7.0	33.41	7.9	25.1	1.20
A7	20 Oct 2021	15	13.28	85.93	6.9	33.42	7.9	25.1	1.13
A7	20 Oct 2021	16	13.25	86.44	6.9	33.41	7.9	25.1	1.07
A7	20 Oct 2021	17	13.25	86.60	6.8	33.41	7.9	25.1	1.02
A7	20 Oct 2021	18	13.25	86.76	6.8	33.41	7.9	25.1	0.95
A7	20 Oct 2021	19	13.25	86.58	6.7	33.41	7.9	25.1	1.04
A7	27 Oct 2021	1	17.05	77.00	7.5	33.50	8.0	24.4	1.90
A7	27 Oct 2021	2	17.03	76.83	7.4	33.52	8.0	24.4	2.00
A7	27 Oct 2021	3	16.64	75.47	7.2	33.55	7.9	24.5	2.14
A7	27 Oct 2021	4	16.33	74.75	6.9	33.54	7.9	24.6	1.93
A7	27 Oct 2021	5	16.10	75.72	6.7	33.53	7.9	24.6	1.68
A7	27 Oct 2021	6	15.72	77.18	6.6	33.54	7.9	24.7	1.42
A7	27 Oct 2021	7	15.52	77.36	6.6	33.53	7.9	24.7	1.26
A7	27 Oct 2021	8	15.09	77.56	6.5	33.54	7.9	24.8	1.17
A7	27 Oct 2021	9	14.50	78.39	6.5	33.52	7.9	24.9	1.07
A7	27 Oct 2021	10	14.33	79.81	6.6	33.49	7.9	24.9	1.06
A7	27 Oct 2021	11	13.96	82.27	6.6	33.49	7.9	25.0	1.17
A7	27 Oct 2021	12	13.86	83.20	6.5	33.47	7.8	25.0	1.08
A7	27 Oct 2021	13	13.68	82.56	6.4	33.50	7.8	25.1	1.11
A7	27 Oct 2021	14	13.34	84.28	6.3	33.50	7.8	25.2	1.11
A7	27 Oct 2021	15	13.17	84.74	6.4	33.47	7.8	25.2	1.18
A7	27 Oct 2021	16	13.15	83.51	6.3	33.46	7.8	25.2	1.06
A7	27 Oct 2021	17	13.15	81.11	6.2	33.47	7.8	25.2	1.02

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
C4	04 Oct 2021	1	17.26	75.89	8.2	33.43	8.0	24.2	1.62
	04 Oct 2021	2	17.25	75.89	8.2	33.44	8.0	24.3	1.67
	04 Oct 2021	3	16.89	75.46	8.0	33.48	8.0	24.4	1.74
	04 Oct 2021	4	16.47	75.22	7.8	33.46	8.0	24.5	1.96
	04 Oct 2021	5	16.30	75.60	7.7	33.44	8.0	24.5	2.32
	04 Oct 2021	6	16.19	75.68	7.6	33.43	8.0	24.5	2.55
	04 Oct 2021	7	16.16	75.58	7.6	33.42	8.0	24.5	2.76
	04 Oct 2021	8	16.12	75.57	7.6	33.42	8.0	24.5	2.80
	04 Oct 2021	9	16.01	76.13	7.3	33.44	8.0	24.5	2.77
	04 Oct 2021	10	15.80	77.63	6.8	33.44	7.9	24.6	2.62
	04 Oct 2021	11	15.74	76.90	6.4	33.42	7.9	24.6	1.97
	04 Oct 2021	12	15.73	72.29	6.3	33.42	7.9	24.6	1.56
C4	11 Oct 2021	1	18.66	75.63	7.8	33.42	8.0	23.9	1.83
	11 Oct 2021	2	18.66	75.15	7.8	33.42	8.0	23.9	1.98
	11 Oct 2021	3	18.66	75.41	7.8	33.42	8.0	23.9	1.95
	11 Oct 2021	4	18.63	75.75	7.8	33.42	8.0	23.9	2.06
	11 Oct 2021	5	18.20	77.35	7.7	33.46	8.0	24.0	2.16
	11 Oct 2021	6	17.44	79.29	7.4	33.49	8.0	24.2	2.34
	11 Oct 2021	7	17.22	80.68	7.0	33.40	8.0	24.2	2.23
	11 Oct 2021	8	15.87	79.71	6.6	33.55	7.9	24.7	1.95
	11 Oct 2021	9	15.16	77.18	6.3	33.45	7.9	24.7	1.69
	11 Oct 2021	10	15.03	71.33	6.2	33.41	7.9	24.7	1.23
	11 Oct 2021	11	15.03	62.59	6.2	33.40	7.9	24.7	0.85
	20 Oct 2021	1	18.23	83.85	7.8	33.57	8.1	24.1	0.97
C4	20 Oct 2021	2	18.25	83.77	7.8	33.59	8.1	24.1	1.00
	20 Oct 2021	3	17.88	83.45	7.9	33.59	8.1	24.2	1.02
	20 Oct 2021	4	17.20	82.29	8.1	33.59	8.1	24.4	1.37
	20 Oct 2021	5	16.60	79.26	8.1	33.53	8.1	24.5	1.93
	20 Oct 2021	6	16.36	77.59	7.9	33.51	8.1	24.5	2.45
	20 Oct 2021	7	16.18	77.57	7.6	33.49	8.1	24.5	2.67
	20 Oct 2021	8	16.00	78.75	7.3	33.48	8.0	24.6	2.48
	20 Oct 2021	9	15.82	79.56	6.9	33.49	8.0	24.6	2.07
	20 Oct 2021	10	15.72	79.90	6.7	33.47	8.0	24.6	1.68
	20 Oct 2021	11	15.71	79.23	6.5	33.46	8.0	24.6	1.30
	27 Oct 2021	1	16.80	60.80	7.4	33.51	7.9	24.4	1.13
	27 Oct 2021	2	16.79	60.21	7.4	33.52	7.9	24.4	1.14
C4	27 Oct 2021	3	16.81	58.59	7.4	33.51	7.9	24.4	1.20
	27 Oct 2021	4	16.81	57.72	7.3	33.52	7.9	24.4	1.20
	27 Oct 2021	5	16.34	57.17	6.9	33.61	7.9	24.6	1.22
	27 Oct 2021	6	14.79	61.91	6.3	33.64	7.9	25.0	1.22
	27 Oct 2021	7	14.52	66.91	5.9	33.53	7.8	24.9	1.10
	27 Oct 2021	8	14.29	71.03	5.8	33.52	7.8	25.0	0.87
	27 Oct 2021	9	14.15	71.58	5.8	33.50	7.8	25.0	0.77
	27 Oct 2021	10	14.05	65.73	5.8	33.49	7.8	25.0	0.74
	27 Oct 2021	11	14.04	54.99	5.7	33.48	7.8	25.0	0.70
	27 Oct 2021	12	14.04	52.11	5.6	33.48	7.8	25.0	0.69
C5	04 Oct 2021	1	17.32	75.14	8.2	33.42	8.1	24.2	1.83
	04 Oct 2021	2	17.31	75.10	8.2	33.42	8.1	24.2	1.87
	04 Oct 2021	3	17.28	75.16	8.2	33.43	8.1	24.2	1.86
	04 Oct 2021	4	17.27	75.18	8.2	33.42	8.1	24.2	1.97
	04 Oct 2021	5	17.27	75.14	8.1	33.43	8.1	24.2	2.13
	04 Oct 2021	6	17.23	75.23	7.9	33.43	8.0	24.3	2.26
	04 Oct 2021	7	16.54	75.69	7.2	33.49	8.0	24.5	2.18
	04 Oct 2021	8	15.69	76.28	6.6	33.50	7.9	24.7	1.76
	04 Oct 2021	9	15.25	79.26	6.4	33.44	7.9	24.7	1.41
	04 Oct 2021	10	15.16	80.89	6.3	33.42	7.9	24.7	1.00
	04 Oct 2021	11	15.11	79.32	6.3	33.41	7.9	24.7	0.85

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
C5	11 Oct 2021	1	18.67	78.93	8.3	33.42	8.1	23.9	2.53
C5	11 Oct 2021	2	18.65	79.05	8.3	33.42	8.1	23.9	2.64
C5	11 Oct 2021	3	18.63	78.87	8.3	33.42	8.1	23.9	2.79
C5	11 Oct 2021	4	18.49	78.42	8.1	33.44	8.1	24.0	2.85
C5	11 Oct 2021	5	18.04	78.95	7.9	33.45	8.0	24.1	2.99
C5	11 Oct 2021	6	17.58	80.12	7.5	33.45	8.0	24.2	3.16
C5	11 Oct 2021	7	16.89	81.23	7.2	33.48	8.0	24.4	3.01
C5	11 Oct 2021	8	16.00	81.18	6.9	33.49	7.9	24.6	2.43
C5	11 Oct 2021	9	15.25	76.25	6.7	33.45	7.9	24.7	1.71
C5	11 Oct 2021	10	15.18	74.50	6.7	33.40	7.9	24.7	1.15
C5	20 Oct 2021	1	18.68	85.34	7.7	33.59	8.1	24.0	0.71
C5	20 Oct 2021	2	18.67	85.23	7.6	33.59	8.1	24.0	0.73
C5	20 Oct 2021	3	18.61	85.23	7.5	33.60	8.1	24.0	0.77
C5	20 Oct 2021	4	17.82	85.25	7.3	33.64	8.1	24.3	0.81
C5	20 Oct 2021	5	17.07	84.83	7.1	33.56	8.1	24.4	0.77
C5	20 Oct 2021	6	16.41	84.23	6.9	33.54	8.0	24.5	0.74
C5	20 Oct 2021	7	16.01	83.45	6.7	33.51	8.0	24.6	0.66
C5	20 Oct 2021	8	15.37	83.18	6.8	33.51	8.0	24.7	0.56
C5	20 Oct 2021	9	14.70	83.14	7.0	33.48	8.0	24.9	0.56
C5	20 Oct 2021	10	14.62	83.13	7.1	33.44	8.0	24.8	0.60
C5	20 Oct 2021	11	14.62	83.18	7.1	33.43	8.0	24.8	0.68
C5	27 Oct 2021	1	16.87	68.56	7.4	33.52	8.0	24.4	1.36
C5	27 Oct 2021	2	16.85	67.67	7.5	33.52	8.0	24.4	1.37
C5	27 Oct 2021	3	16.82	66.92	7.5	33.52	8.0	24.4	1.42
C5	27 Oct 2021	4	16.78	63.75	7.5	33.53	8.0	24.4	1.50
C5	27 Oct 2021	5	16.61	61.35	7.4	33.55	8.0	24.5	1.48
C5	27 Oct 2021	6	16.33	61.22	7.0	33.54	7.9	24.6	1.36
C5	27 Oct 2021	7	15.73	63.63	6.6	33.60	7.9	24.7	1.18
C5	27 Oct 2021	8	15.28	65.85	6.3	33.55	7.9	24.8	1.06
C5	27 Oct 2021	9	14.86	67.19	6.1	33.55	7.9	24.9	0.98
C5	27 Oct 2021	10	14.58	65.12	6.0	33.55	7.9	24.9	0.91
C5	27 Oct 2021	11	14.04	45.33	6.0	33.53	7.8	25.0	0.86
C6	04 Oct 2021	1	17.96	76.31	8.2	33.42	8.0	24.1	1.58
C6	04 Oct 2021	2	18.00	75.94	8.2	33.44	8.0	24.1	1.58
C6	04 Oct 2021	3	17.66	74.50	8.3	33.47	8.1	24.2	1.72
C6	04 Oct 2021	4	17.31	71.25	8.2	33.45	8.1	24.2	2.41
C6	04 Oct 2021	5	16.99	74.50	8.1	33.46	8.0	24.3	2.51
C6	04 Oct 2021	6	16.43	78.63	7.9	33.47	8.0	24.5	2.19
C6	04 Oct 2021	7	15.91	79.56	7.5	33.46	8.0	24.6	2.03
C6	04 Oct 2021	8	15.32	81.15	7.0	33.45	8.0	24.7	1.85
C6	04 Oct 2021	9	15.06	81.49	6.5	33.42	7.9	24.7	1.41
C6	04 Oct 2021	10	15.00	80.18	6.3	33.41	7.9	24.7	1.20
C6	11 Oct 2021	1	18.74	76.14	7.4	33.41	8.0	23.9	1.35
C6	11 Oct 2021	2	18.74	75.86	7.3	33.41	8.0	23.9	1.40
C6	11 Oct 2021	3	18.72	75.93	7.4	33.42	8.0	23.9	1.36
C6	11 Oct 2021	4	18.71	76.26	7.4	33.42	8.0	23.9	1.42
C6	11 Oct 2021	5	18.46	77.04	7.1	33.45	8.0	24.0	1.43
C6	11 Oct 2021	6	17.92	78.15	6.9	33.47	8.0	24.1	1.39
C6	11 Oct 2021	7	17.33	81.50	6.8	33.46	8.0	24.3	1.25
C6	11 Oct 2021	8	16.88	83.32	6.6	33.44	7.9	24.3	1.24
C6	11 Oct 2021	9	16.11	76.11	6.2	33.44	7.9	24.5	1.15
C6	20 Oct 2021	1	18.44	83.46	7.7	33.58	8.1	24.1	0.92
C6	20 Oct 2021	2	18.44	84.70	7.6	33.59	8.1	24.1	0.89
C6	20 Oct 2021	3	18.37	84.68	7.6	33.59	8.1	24.1	0.90
C6	20 Oct 2021	4	18.23	84.67	7.5	33.60	8.1	24.1	0.98

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
C6	20 Oct 2021	5	17.55	84.78	7.4	33.62	8.1	24.3	0.94
C6	20 Oct 2021	6	16.84	84.59	7.2	33.58	8.1	24.5	0.84
C6	20 Oct 2021	7	16.37	84.29	7.0	33.54	8.0	24.5	0.75
C6	20 Oct 2021	8	15.55	84.33	6.9	33.56	8.0	24.7	0.66
C6	20 Oct 2021	9	15.13	84.12	7.0	33.48	8.0	24.8	0.61
C6	27 Oct 2021	1	16.89	66.29	7.4	33.52	8.0	24.4	1.00
C6	27 Oct 2021	2	16.85	66.07	7.3	33.53	8.0	24.4	1.03
C6	27 Oct 2021	3	16.72	64.84	7.2	33.53	8.0	24.5	1.05
C6	27 Oct 2021	4	16.56	64.95	7.1	33.53	8.0	24.5	1.07
C6	27 Oct 2021	5	16.36	68.00	6.9	33.53	7.9	24.5	1.00
C6	27 Oct 2021	6	16.09	70.87	6.6	33.55	7.9	24.6	0.92
C6	27 Oct 2021	7	15.48	71.53	6.4	33.59	7.9	24.8	0.88
C6	27 Oct 2021	8	14.79	68.14	6.1	33.58	7.9	24.9	0.83
C6	27 Oct 2021	9	14.71	61.26	6.0	33.53	7.9	24.9	0.74
C6	27 Oct 2021	10	14.83	59.77	6.1	33.52	7.9	24.9	0.69
C7	04 Oct 2021	1	17.29	78.27	8.9	33.43	8.1	24.2	2.22
C7	04 Oct 2021	2	17.17	77.33	8.9	33.44	8.1	24.3	2.33
C7	04 Oct 2021	3	17.03	74.97	8.9	33.43	8.1	24.3	2.73
C7	04 Oct 2021	4	16.96	74.90	8.8	33.43	8.1	24.3	3.36
C7	04 Oct 2021	5	16.92	75.15	8.7	33.42	8.1	24.3	3.72
C7	04 Oct 2021	6	16.91	75.23	8.7	33.42	8.1	24.3	3.85
C7	04 Oct 2021	7	16.81	75.25	8.6	33.43	8.1	24.4	3.94
C7	04 Oct 2021	8	16.79	75.50	8.6	33.42	8.1	24.4	3.84
C7	04 Oct 2021	9	16.52	75.67	8.3	33.47	8.1	24.4	3.81
C7	04 Oct 2021	10	15.80	76.56	7.8	33.47	8.0	24.6	3.84
C7	04 Oct 2021	11	15.61	77.46	7.4	33.43	8.0	24.6	3.76
C7	04 Oct 2021	12	15.27	78.63	7.1	33.45	7.9	24.7	3.49
C7	04 Oct 2021	13	14.79	80.02	6.9	33.45	7.9	24.8	3.17
C7	04 Oct 2021	14	14.57	81.65	6.9	33.43	7.9	24.9	2.86
C7	04 Oct 2021	15	14.47	82.41	6.8	33.42	7.9	24.9	2.59
C7	04 Oct 2021	16	14.42	83.09	6.7	33.42	7.9	24.9	2.14
C7	04 Oct 2021	17	14.29	84.04	6.7	33.44	7.9	24.9	1.79
C7	04 Oct 2021	18	13.92	84.41	6.7	33.45	7.9	25.0	1.52
C7	04 Oct 2021	19	13.86	84.77	6.6	33.43	7.9	25.0	1.43
C7	11 Oct 2021	1	18.64	79.86	8.3	33.42	8.1	23.9	2.23
C7	11 Oct 2021	2	18.64	79.91	8.3	33.42	8.1	23.9	2.20
C7	11 Oct 2021	3	18.59	79.64	8.3	33.43	8.1	23.9	2.30
C7	11 Oct 2021	4	18.25	79.36	8.2	33.44	8.0	24.0	2.63
C7	11 Oct 2021	5	17.85	80.26	8.0	33.45	8.0	24.1	2.87
C7	11 Oct 2021	6	17.22	80.72	8.0	33.47	8.0	24.3	3.02
C7	11 Oct 2021	7	16.57	82.84	7.8	33.45	8.0	24.4	3.07
C7	11 Oct 2021	8	16.13	84.44	7.7	33.42	8.0	24.5	2.52
C7	11 Oct 2021	9	15.96	84.62	7.7	33.42	8.0	24.5	2.09
C7	11 Oct 2021	10	15.77	84.87	7.6	33.41	8.0	24.6	1.79
C7	11 Oct 2021	11	15.64	85.03	7.7	33.41	8.0	24.6	1.61
C7	11 Oct 2021	12	15.38	85.43	7.7	33.41	8.0	24.7	1.34
C7	11 Oct 2021	13	15.22	85.77	7.7	33.40	8.0	24.7	1.29
C7	11 Oct 2021	14	15.10	85.90	7.7	33.40	8.0	24.7	1.24
C7	11 Oct 2021	15	14.92	86.02	7.7	33.40	7.9	24.8	1.28
C7	11 Oct 2021	16	14.76	86.15	7.6	33.40	7.9	24.8	1.22
C7	11 Oct 2021	17	14.57	86.25	7.5	33.41	7.9	24.8	1.07
C7	11 Oct 2021	18	14.49	85.92	7.4	33.41	7.9	24.9	1.11
C7	20 Oct 2021	1	17.94	84.49	7.9	33.55	8.1	24.2	1.49
C7	20 Oct 2021	2	17.93	84.56	7.9	33.56	8.1	24.2	1.53
C7	20 Oct 2021	3	17.72	84.28	7.9	33.56	8.1	24.2	1.53
C7	20 Oct 2021	4	17.64	83.99	7.8	33.55	8.1	24.2	1.76
C7	20 Oct 2021	5	17.42	83.89	7.7	33.56	8.1	24.3	1.86

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
C7	20 Oct 2021	6	16.95	83.78	7.6	33.57	8.1	24.4	2.09
C7	20 Oct 2021	7	16.41	83.83	7.4	33.56	8.1	24.5	2.02
C7	20 Oct 2021	8	15.74	84.25	7.3	33.54	8.0	24.7	2.02
C7	20 Oct 2021	9	14.99	84.82	7.3	33.52	8.0	24.8	1.71
C7	20 Oct 2021	10	14.52	85.11	7.3	33.46	8.0	24.9	1.58
C7	20 Oct 2021	11	14.34	85.44	7.3	33.42	8.0	24.9	1.38
C7	20 Oct 2021	12	14.23	85.51	7.2	33.41	8.0	24.9	1.30
C7	20 Oct 2021	13	14.05	85.70	7.2	33.43	8.0	25.0	1.29
C7	20 Oct 2021	14	13.77	85.80	7.1	33.45	8.0	25.0	1.28
C7	20 Oct 2021	15	13.44	86.42	7.0	33.42	7.9	25.1	1.24
C7	20 Oct 2021	16	13.42	87.01	7.0	33.40	7.9	25.1	1.18
C7	20 Oct 2021	17	13.42	87.04	6.9	33.40	7.9	25.1	1.03
C7	20 Oct 2021	18	13.42	86.74	6.9	33.40	7.9	25.1	0.99
C7	27 Oct 2021	1	17.33	70.36	7.8	33.51	8.0	24.3	2.24
C7	27 Oct 2021	2	17.30	70.48	7.8	33.52	8.0	24.3	2.32
C7	27 Oct 2021	3	17.22	70.83	7.7	33.52	8.0	24.3	2.35
C7	27 Oct 2021	4	17.10	71.13	7.7	33.53	8.0	24.4	2.56
C7	27 Oct 2021	5	17.01	71.23	7.5	33.52	8.0	24.4	2.59
C7	27 Oct 2021	6	16.66	71.60	7.4	33.57	8.0	24.5	2.53
C7	27 Oct 2021	7	16.16	72.47	7.2	33.55	8.0	24.6	2.12
C7	27 Oct 2021	8	15.96	73.88	7.1	33.52	8.0	24.6	1.94
C7	27 Oct 2021	9	15.54	75.12	6.9	33.55	7.9	24.7	1.71
C7	27 Oct 2021	10	15.10	75.24	6.7	33.55	7.9	24.8	1.45
C7	27 Oct 2021	11	14.73	75.67	6.6	33.52	7.9	24.9	1.35
C7	27 Oct 2021	12	14.29	79.55	6.6	33.51	7.9	25.0	1.31
C7	27 Oct 2021	13	13.96	81.38	6.7	33.49	7.9	25.0	1.48
C7	27 Oct 2021	14	13.83	82.50	6.6	33.47	7.9	25.0	1.19
C7	27 Oct 2021	15	13.75	83.04	6.5	33.46	7.9	25.0	1.23
C7	27 Oct 2021	16	13.57	83.02	6.4	33.49	7.9	25.1	1.20
C7	27 Oct 2021	17	13.19	82.41	6.2	33.52	7.8	25.2	1.16
C7	27 Oct 2021	18	13.11	80.23	6.0	33.49	7.8	25.2	1.09
C8	04 Oct 2021	1	17.16	75.33	8.8	33.43	8.1	24.3	2.90
C8	04 Oct 2021	2	17.30	74.98	8.8	33.43	8.1	24.2	2.97
C8	04 Oct 2021	3	16.92	74.30	8.8	33.46	8.1	24.3	3.36
C8	04 Oct 2021	4	16.66	74.12	8.7	33.44	8.1	24.4	3.71
C8	04 Oct 2021	5	16.41	74.85	8.4	33.45	8.0	24.5	3.81
C8	04 Oct 2021	6	15.78	75.32	7.9	33.45	8.0	24.6	3.91
C8	04 Oct 2021	7	15.51	76.01	7.6	33.43	8.0	24.7	3.99
C8	04 Oct 2021	8	15.40	77.18	7.5	33.42	8.0	24.7	4.06
C8	04 Oct 2021	9	15.14	78.04	7.3	33.43	7.9	24.7	3.88
C8	04 Oct 2021	10	14.95	78.67	7.2	33.42	7.9	24.8	3.74
C8	04 Oct 2021	11	14.86	79.74	7.2	33.41	7.9	24.8	3.50
C8	04 Oct 2021	12	14.68	80.46	7.1	33.42	7.9	24.8	3.14
C8	04 Oct 2021	13	14.56	82.26	7.0	33.41	7.9	24.8	2.67
C8	04 Oct 2021	14	14.48	83.01	6.9	33.41	7.9	24.9	2.07
C8	04 Oct 2021	15	14.44	83.83	6.9	33.41	7.9	24.9	1.79
C8	04 Oct 2021	16	14.39	84.23	6.8	33.41	7.9	24.9	1.54
C8	04 Oct 2021	17	14.33	84.48	6.8	33.41	7.9	24.9	1.29
C8	04 Oct 2021	18	14.22	84.69	6.8	33.42	7.9	24.9	1.20
C8	04 Oct 2021	19	14.13	84.66	6.8	33.42	7.9	24.9	1.09
C8	04 Oct 2021	20	14.11	85.06	6.8	33.42	7.9	24.9	1.07
C8	11 Oct 2021	1	18.52	77.97	8.3	33.41	8.1	23.9	2.67
C8	11 Oct 2021	2	18.51	78.14	8.3	33.41	8.1	23.9	2.72
C8	11 Oct 2021	3	18.41	78.49	8.2	33.42	8.1	24.0	2.88
C8	11 Oct 2021	4	18.34	78.88	8.2	33.42	8.1	24.0	2.97
C8	11 Oct 2021	5	18.10	79.34	8.1	33.45	8.0	24.1	3.16
C8	11 Oct 2021	6	17.45	80.65	8.0	33.45	8.0	24.2	3.08
C8	11 Oct 2021	7	17.25	82.29	7.9	33.42	8.0	24.2	3.07

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
C8	11 Oct 2021	8	17.00	83.09	7.8	33.43	8.0	24.3	2.84
C8	11 Oct 2021	9	16.55	83.58	7.8	33.43	8.0	24.4	2.69
C8	11 Oct 2021	10	16.34	83.89	7.7	33.41	8.0	24.4	2.48
C8	11 Oct 2021	11	16.28	84.01	7.8	33.40	8.0	24.5	2.21
C8	11 Oct 2021	12	16.09	84.45	7.7	33.41	8.0	24.5	2.10
C8	11 Oct 2021	13	15.93	84.67	7.7	33.40	8.0	24.5	1.93
C8	11 Oct 2021	14	15.79	84.99	7.6	33.42	8.0	24.6	1.66
C8	11 Oct 2021	15	15.29	85.29	7.6	33.42	8.0	24.7	1.44
C8	11 Oct 2021	16	15.14	85.51	7.5	33.42	7.9	24.7	1.26
C8	11 Oct 2021	17	14.37	84.81	7.4	33.43	7.9	24.9	1.17
C8	11 Oct 2021	18	14.38	84.68	7.3	33.39	7.9	24.9	0.94
C8	11 Oct 2021	19	14.21	84.00	7.2	33.41	7.9	24.9	0.83
C8	20 Oct 2021	1	17.66	81.35	8.1	33.55	8.1	24.2	1.96
C8	20 Oct 2021	2	17.66	81.44	8.1	33.55	8.1	24.2	2.01
C8	20 Oct 2021	3	17.66	81.35	8.1	33.55	8.1	24.2	2.04
C8	20 Oct 2021	4	17.66	81.42	8.1	33.55	8.1	24.2	2.13
C8	20 Oct 2021	5	17.65	81.20	8.1	33.55	8.1	24.2	2.31
C8	20 Oct 2021	6	17.61	80.73	8.1	33.55	8.1	24.3	2.55
C8	20 Oct 2021	7	17.58	80.46	8.1	33.54	8.1	24.3	2.88
C8	20 Oct 2021	8	17.55	80.35	8.0	33.54	8.1	24.3	3.16
C8	20 Oct 2021	9	17.30	79.98	7.8	33.57	8.1	24.3	3.42
C8	20 Oct 2021	10	16.50	80.22	7.8	33.54	8.1	24.5	3.33
C8	20 Oct 2021	11	16.30	81.56	7.6	33.51	8.1	24.5	2.83
C8	20 Oct 2021	12	15.77	83.69	7.5	33.52	8.1	24.7	2.34
C8	20 Oct 2021	13	15.25	84.45	7.4	33.50	8.0	24.8	2.01
C8	20 Oct 2021	14	14.96	84.75	7.3	33.47	8.0	24.8	1.62
C8	20 Oct 2021	15	14.76	85.12	7.3	33.45	8.0	24.8	1.24
C8	20 Oct 2021	16	14.24	85.36	7.3	33.45	8.0	24.9	1.16
C8	20 Oct 2021	17	13.92	85.68	7.2	33.43	8.0	25.0	1.24
C8	20 Oct 2021	18	13.84	86.03	7.1	33.41	8.0	25.0	1.29
C8	20 Oct 2021	19	13.63	86.08	7.0	33.43	8.0	25.0	1.20
C8	20 Oct 2021	20	13.48	86.09	6.9	33.42	7.9	25.1	1.19
C8	27 Oct 2021	1	17.18	66.21	7.7	33.52	8.0	24.3	1.98
C8	27 Oct 2021	2	17.18	65.73	7.7	33.52	8.0	24.3	2.07
C8	27 Oct 2021	3	17.14	65.72	7.7	33.52	8.0	24.3	2.14
C8	27 Oct 2021	4	17.08	65.44	7.6	33.53	8.0	24.4	2.26
C8	27 Oct 2021	5	16.97	64.17	7.4	33.52	8.0	24.4	2.23
C8	27 Oct 2021	6	16.40	63.70	7.3	33.57	8.0	24.6	2.14
C8	27 Oct 2021	7	15.95	68.32	7.3	33.52	8.0	24.6	1.91
C8	27 Oct 2021	8	15.82	75.87	7.2	33.49	8.0	24.6	1.77
C8	27 Oct 2021	9	15.71	78.39	7.1	33.48	8.0	24.6	1.63
C8	27 Oct 2021	10	15.48	75.48	7.0	33.50	7.9	24.7	1.55
C8	27 Oct 2021	11	15.11	72.29	6.8	33.50	7.9	24.8	1.49
C8	27 Oct 2021	12	14.83	70.22	6.7	33.48	7.9	24.8	1.45
C8	27 Oct 2021	13	14.51	71.40	6.7	33.49	7.9	24.9	1.35
C8	27 Oct 2021	14	14.04	73.03	6.6	33.50	7.9	25.0	1.32
C8	27 Oct 2021	15	13.68	74.19	6.5	33.48	7.9	25.1	1.45
C8	27 Oct 2021	16	13.59	75.50	6.4	33.45	7.9	25.1	1.34
C8	27 Oct 2021	17	13.42	77.05	6.3	33.49	7.8	25.1	1.30
C8	27 Oct 2021	18	12.98	66.16	6.1	33.53	7.8	25.3	1.24
C8	27 Oct 2021	19	12.82	50.86	5.9	33.52	7.8	25.3	1.22
C8	27 Oct 2021	20	12.78	49.93	5.8	33.50	7.8	25.3	1.18

NA = not available

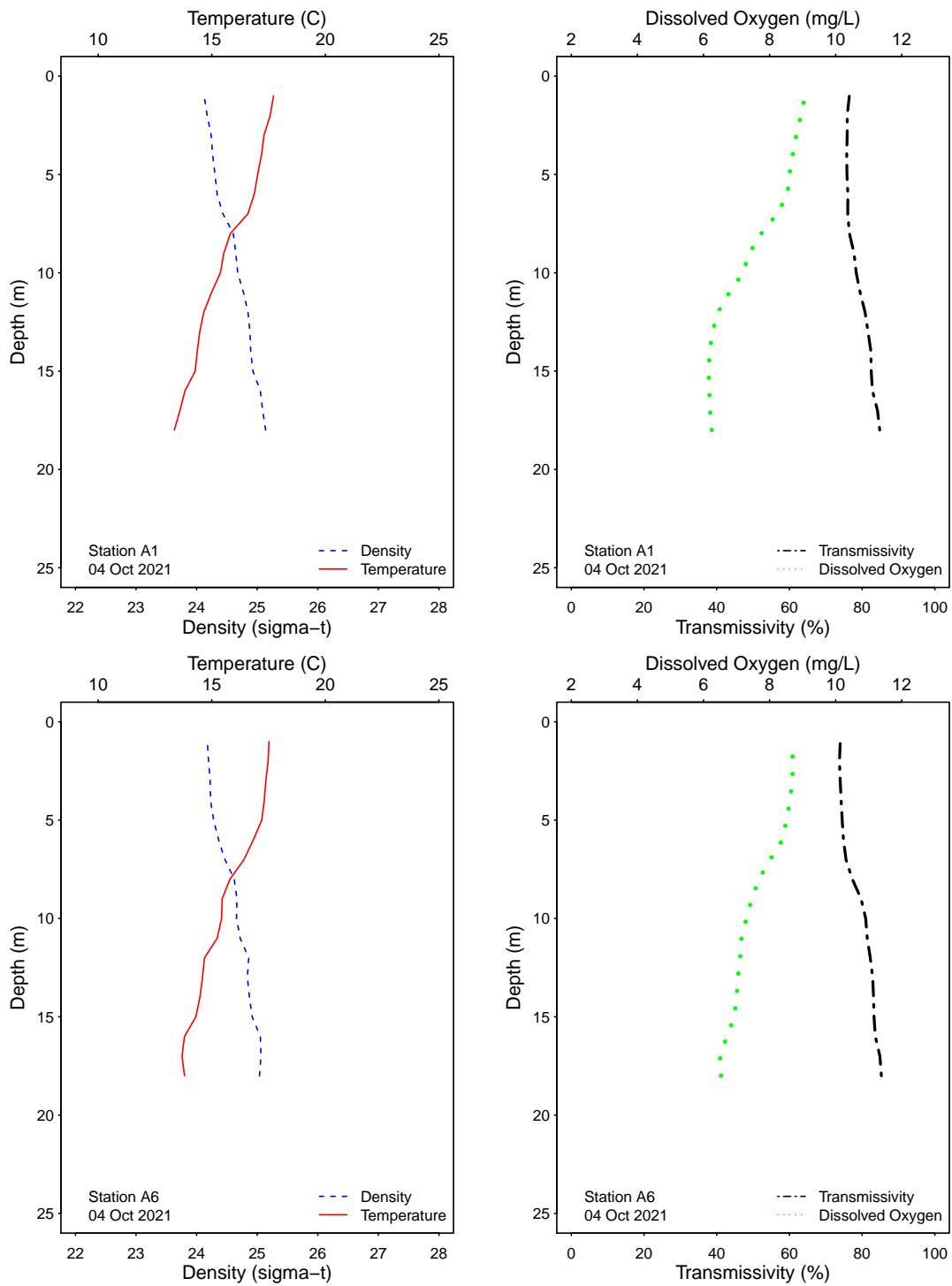


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

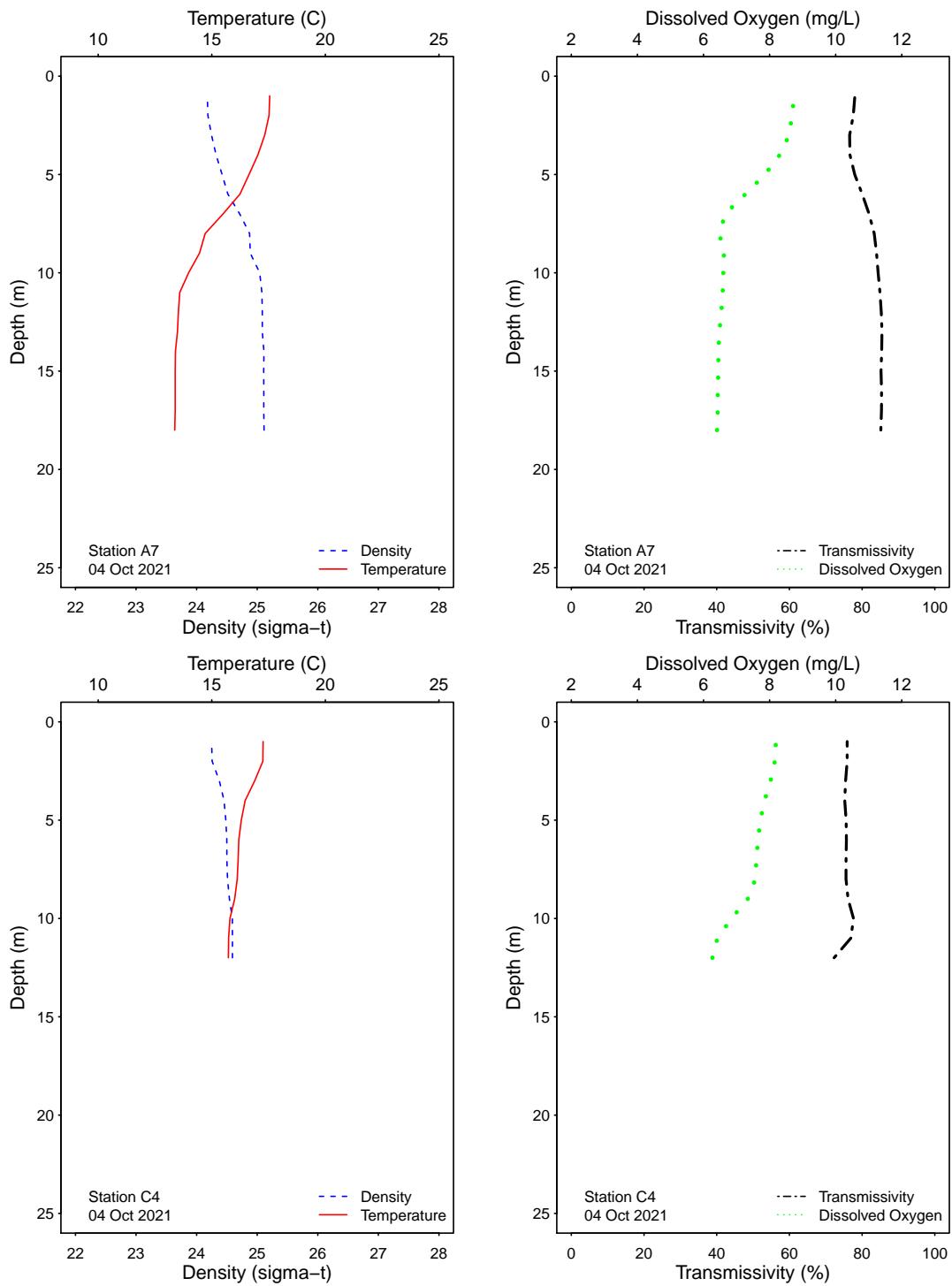


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

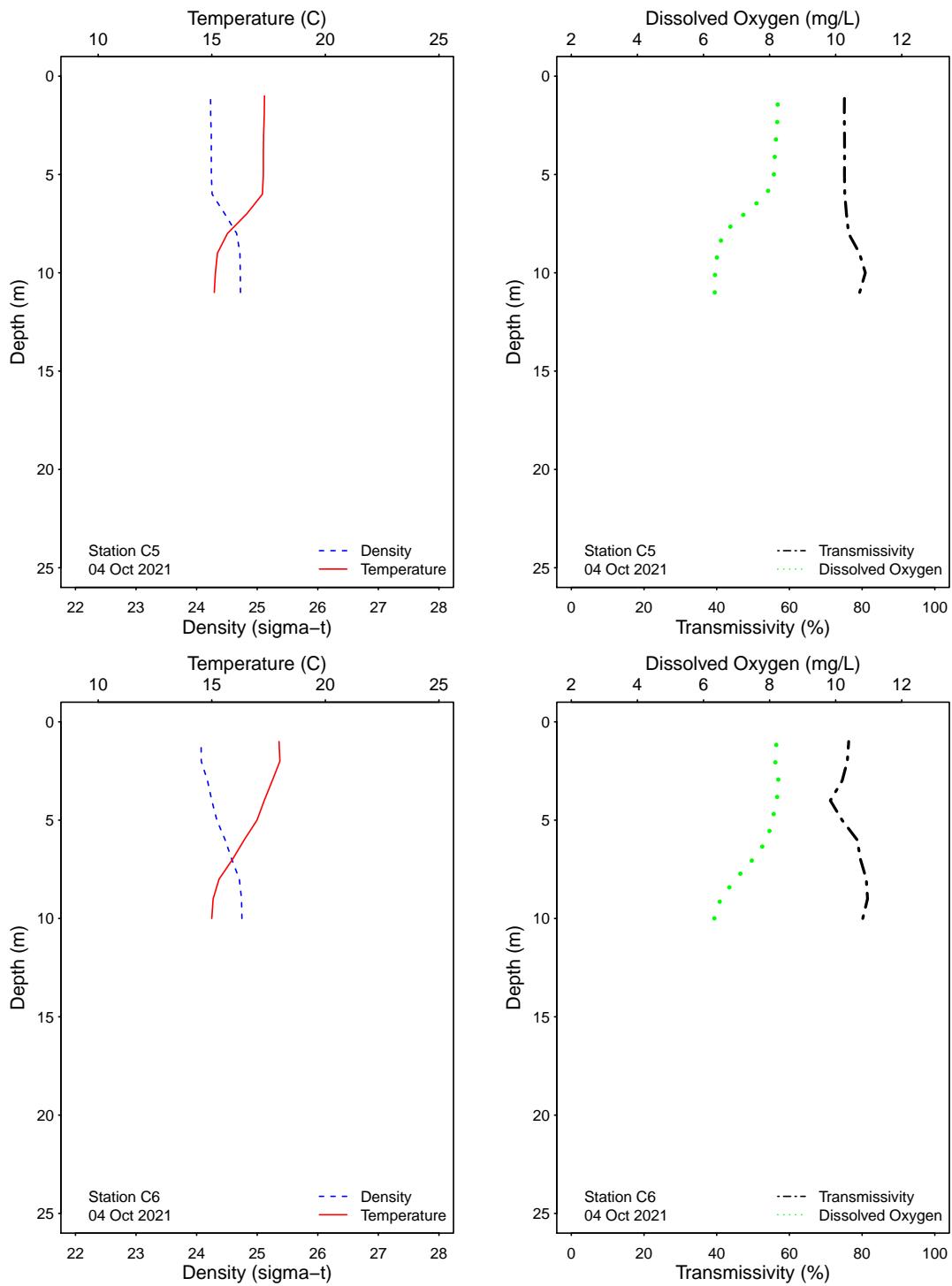


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

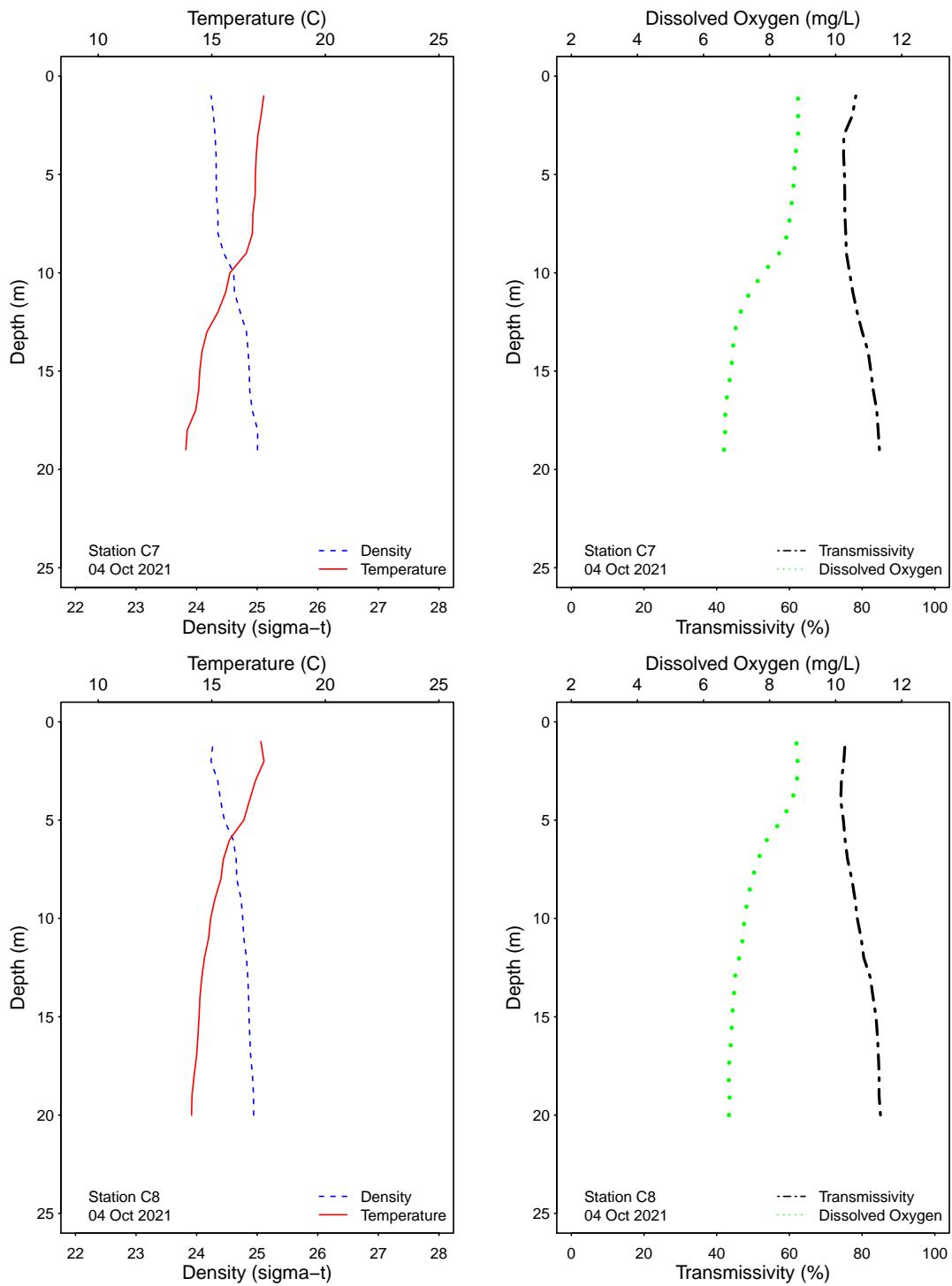


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

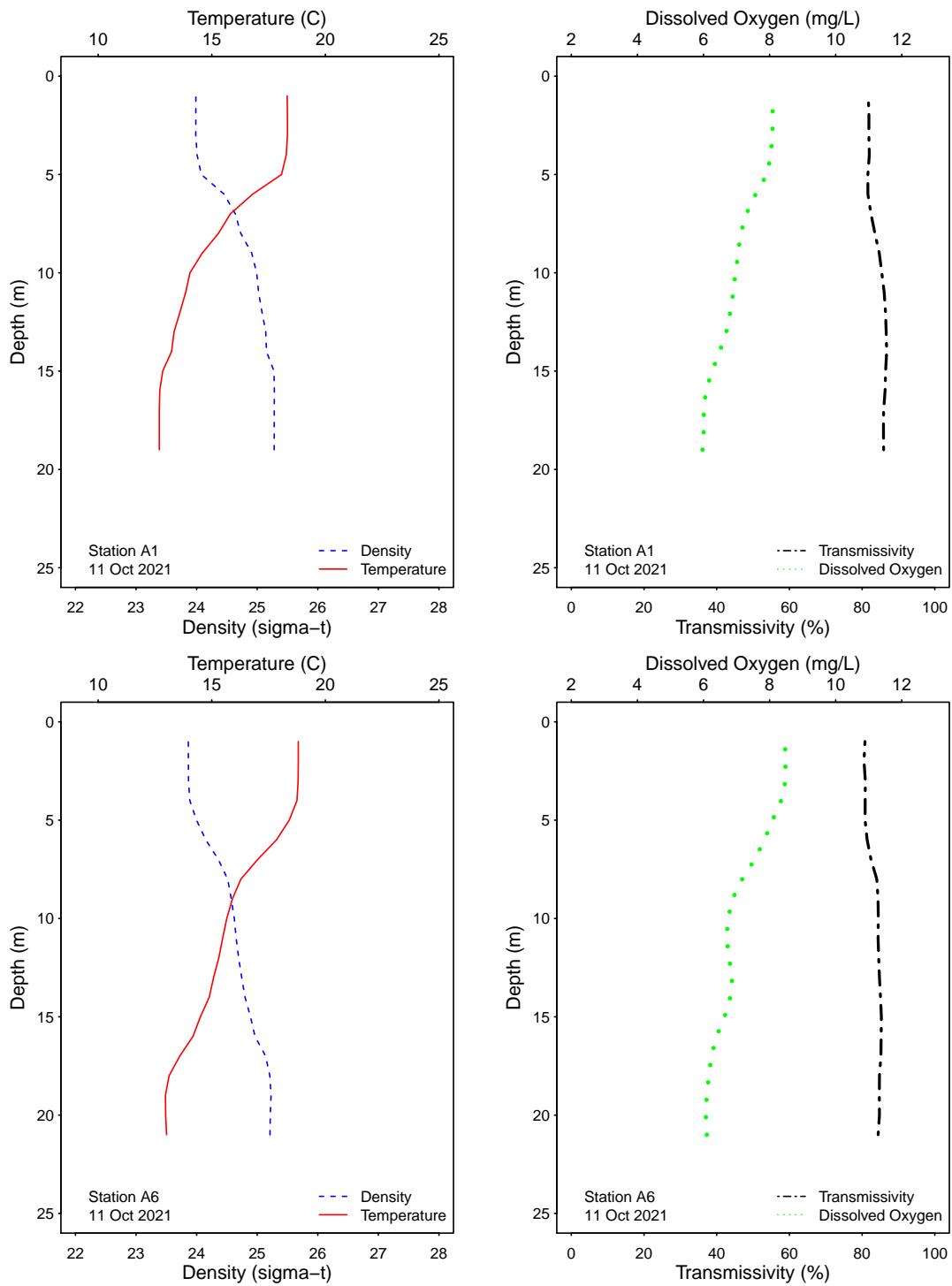


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

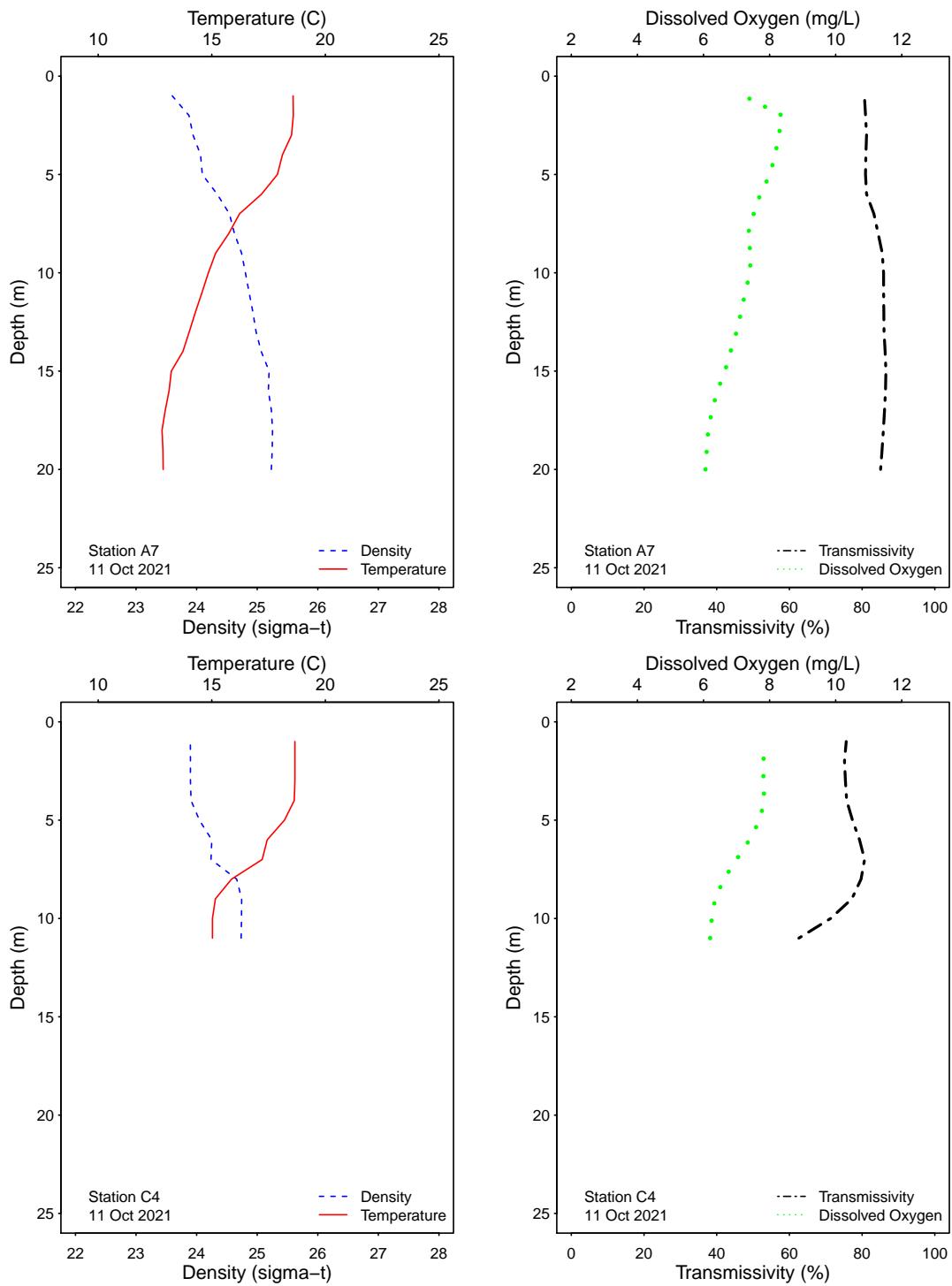


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

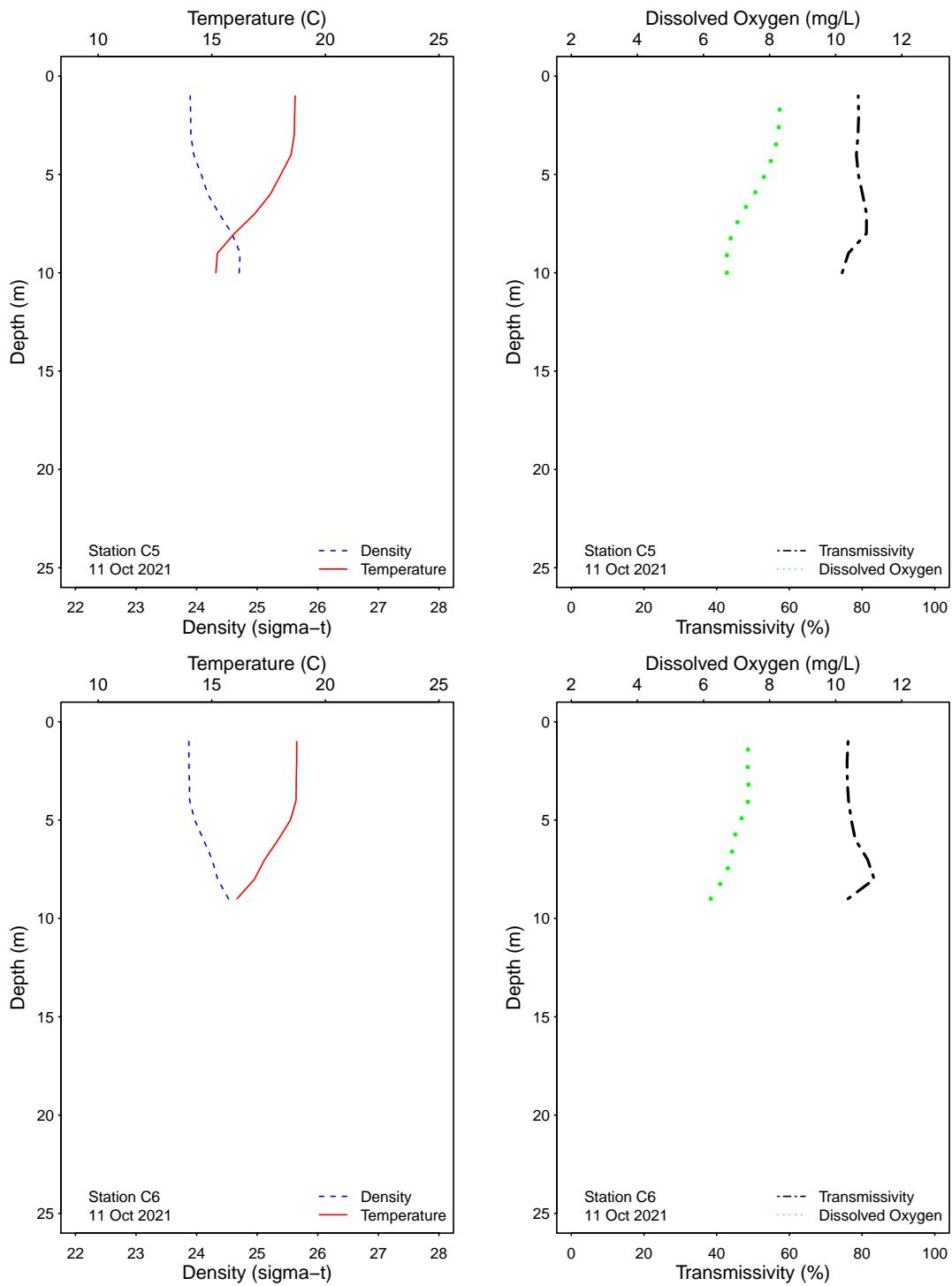


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

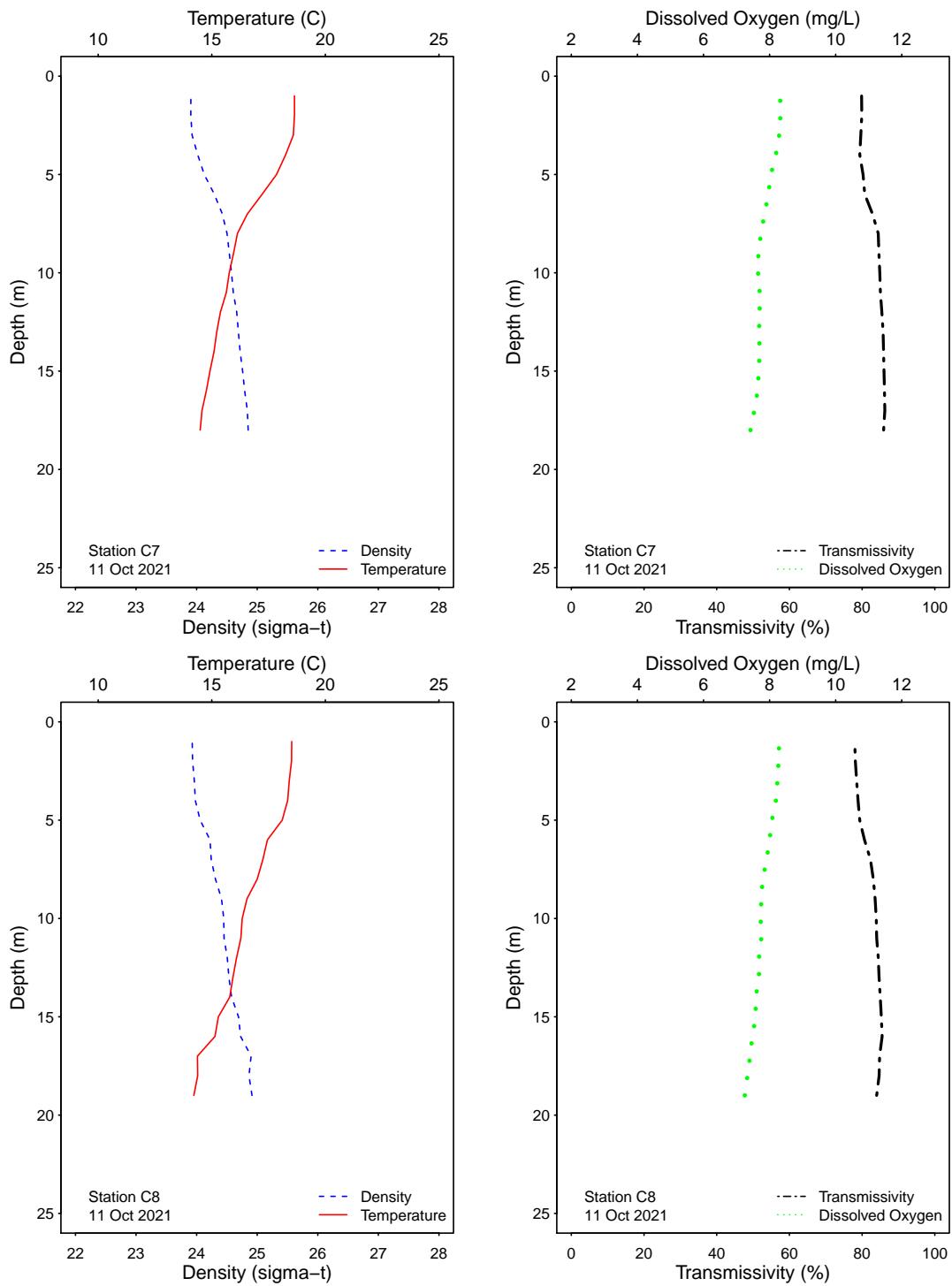


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

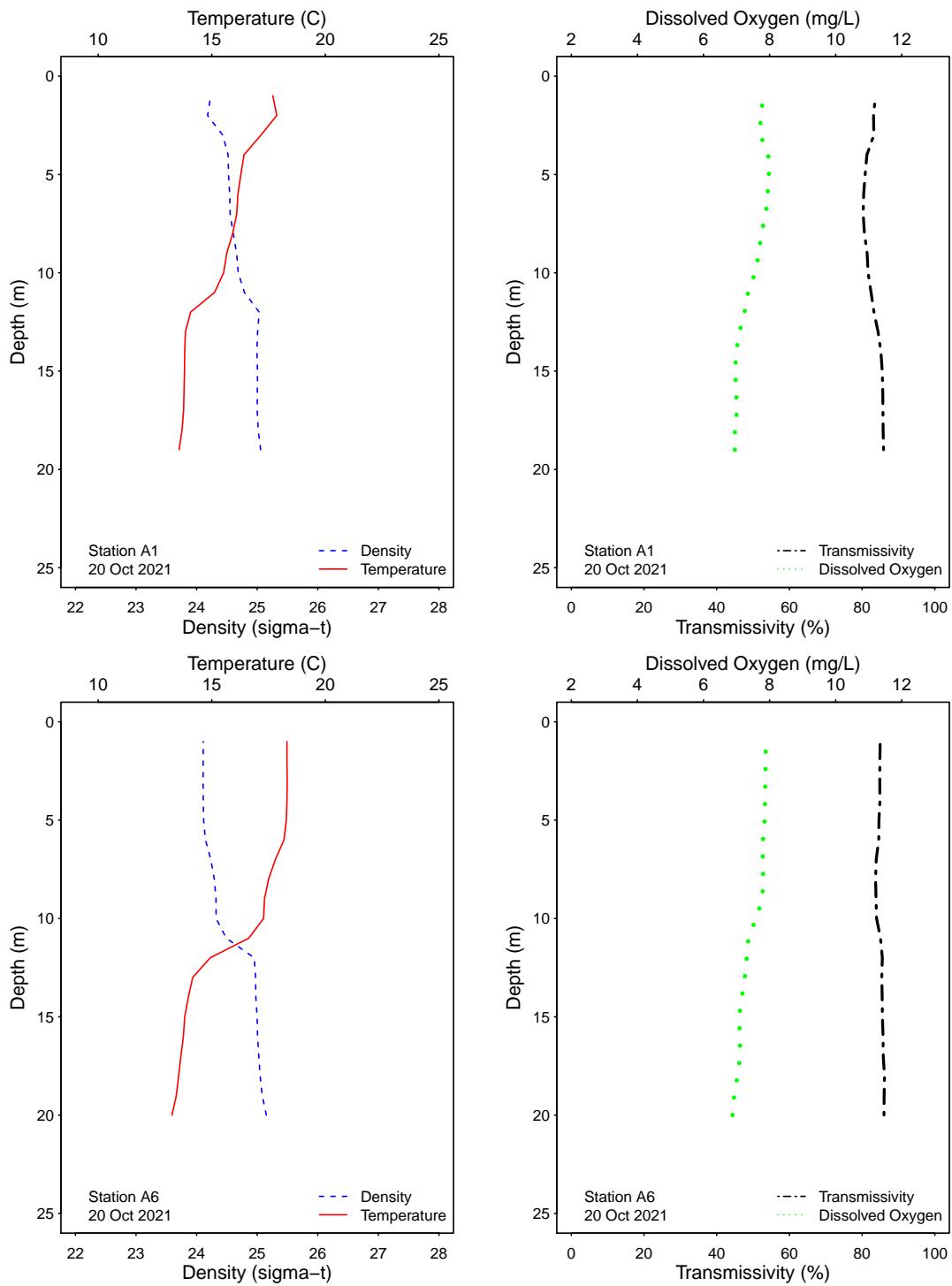


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

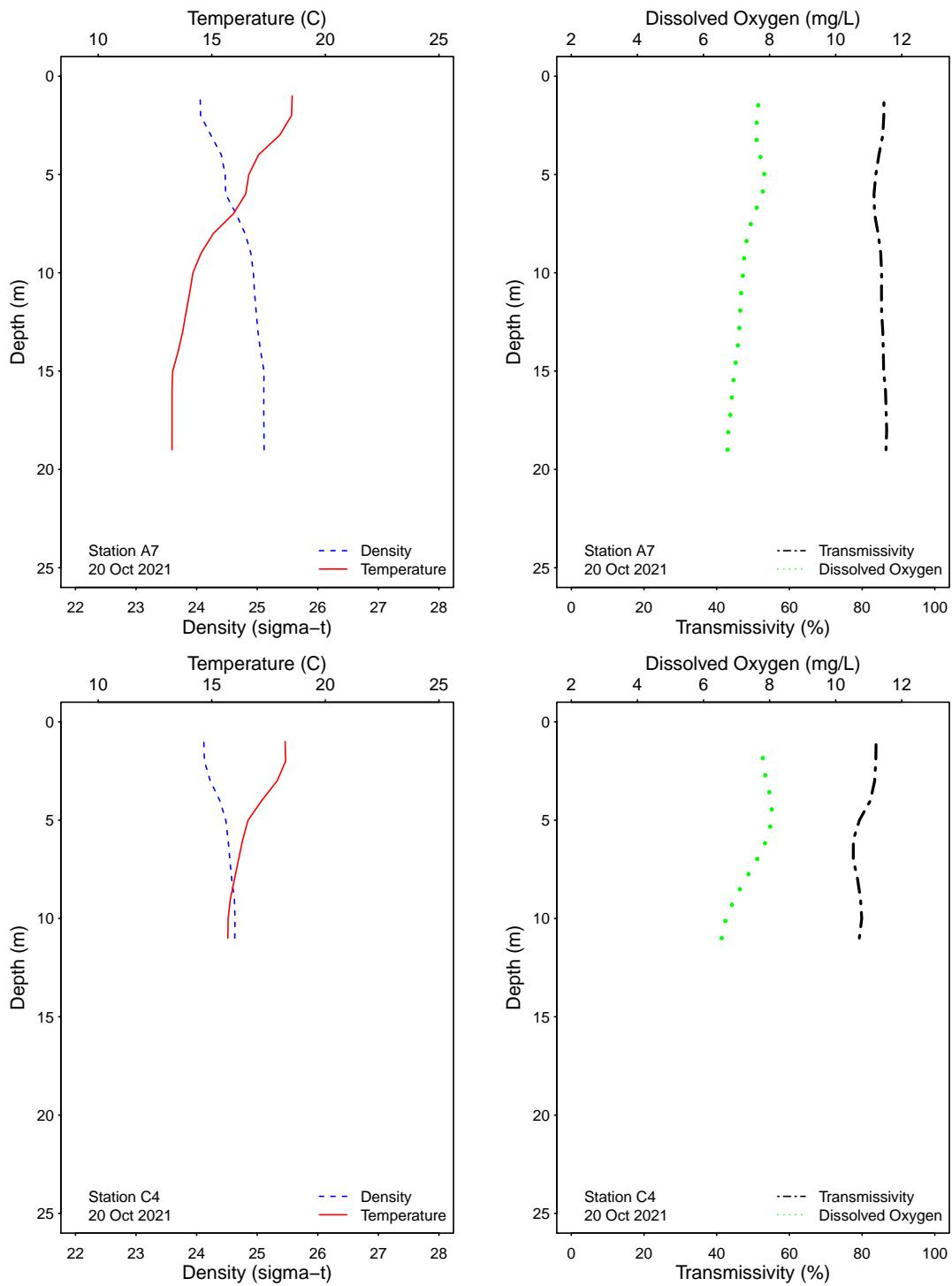


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

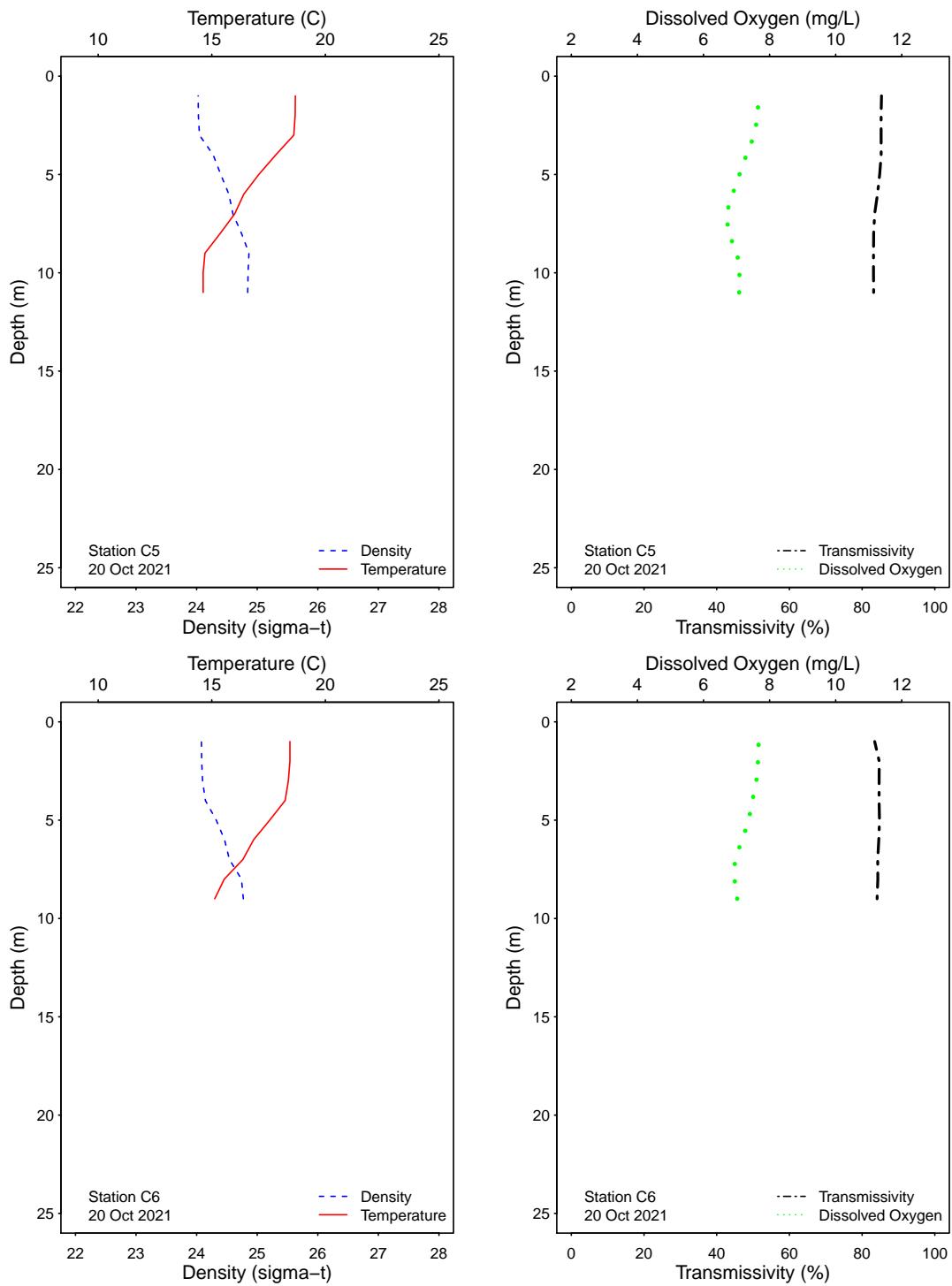


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

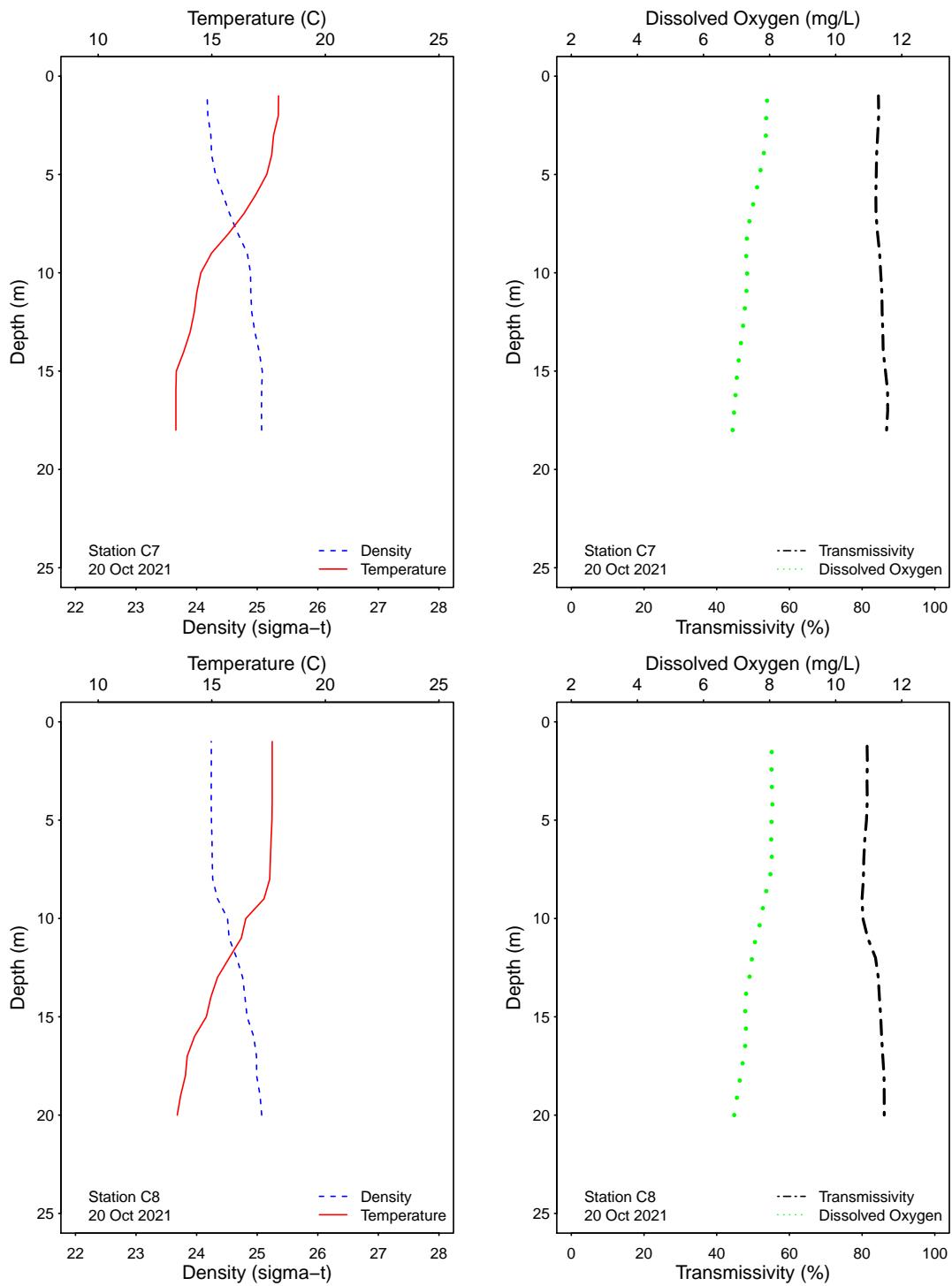


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

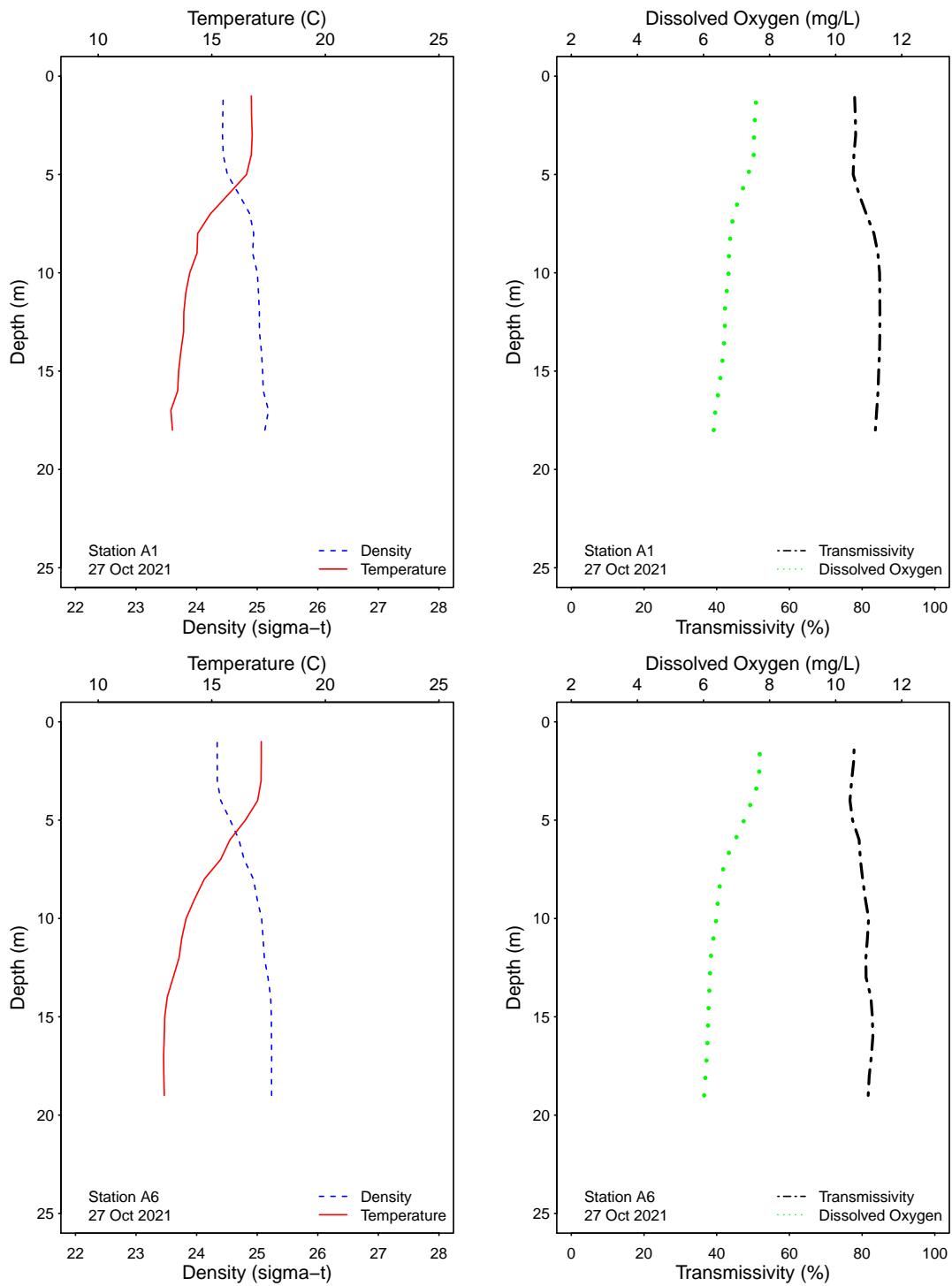


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

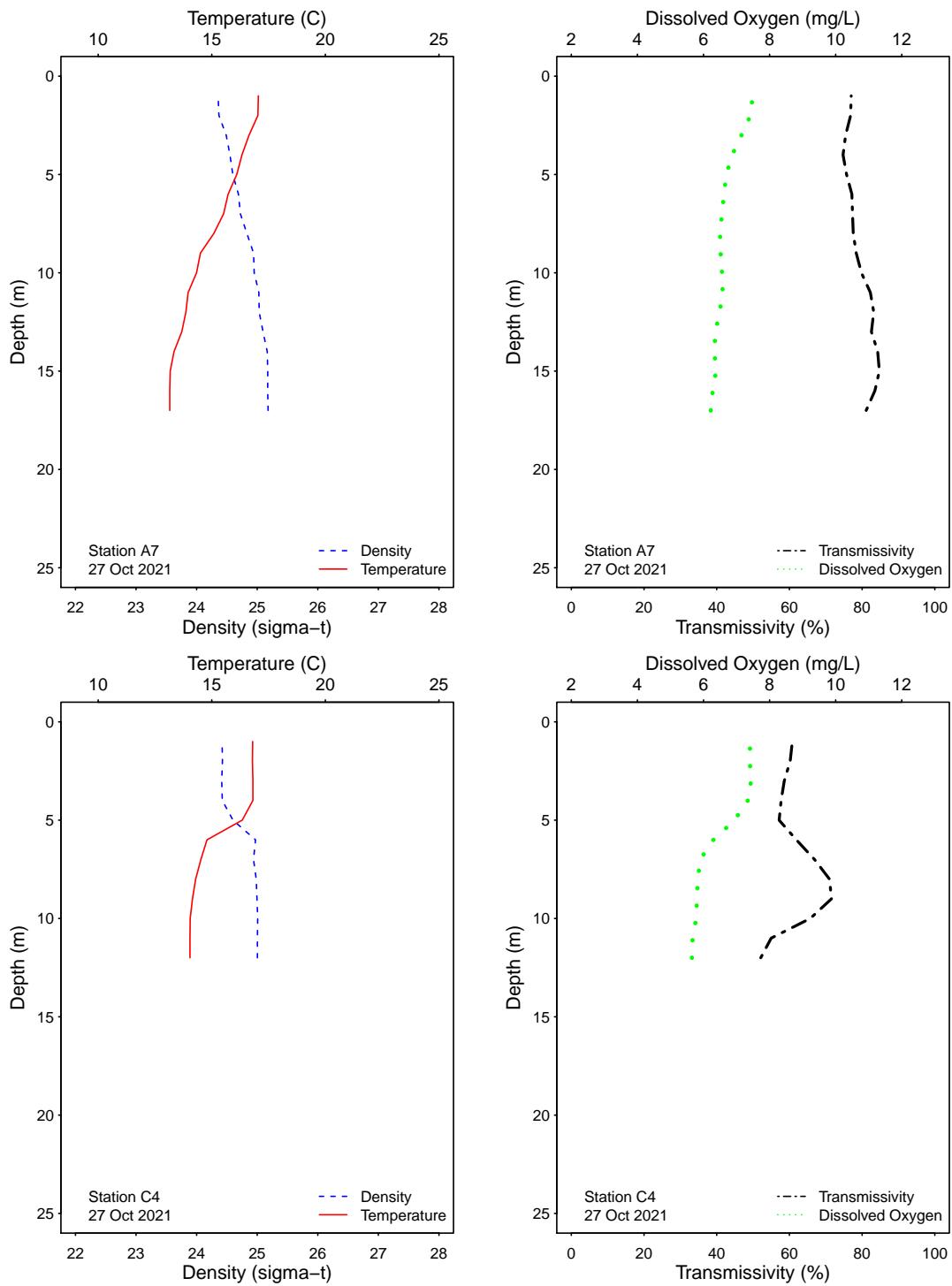


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

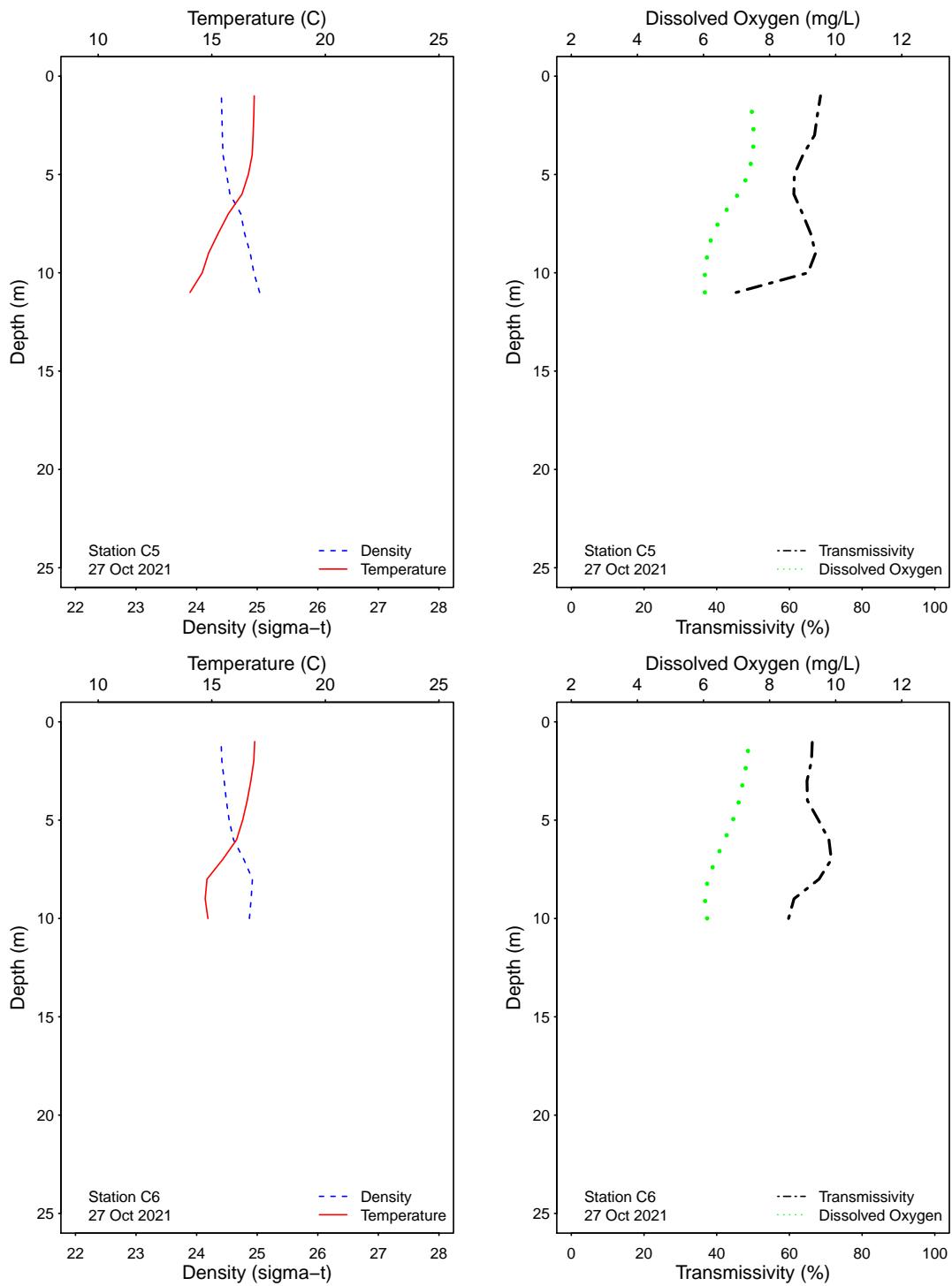


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

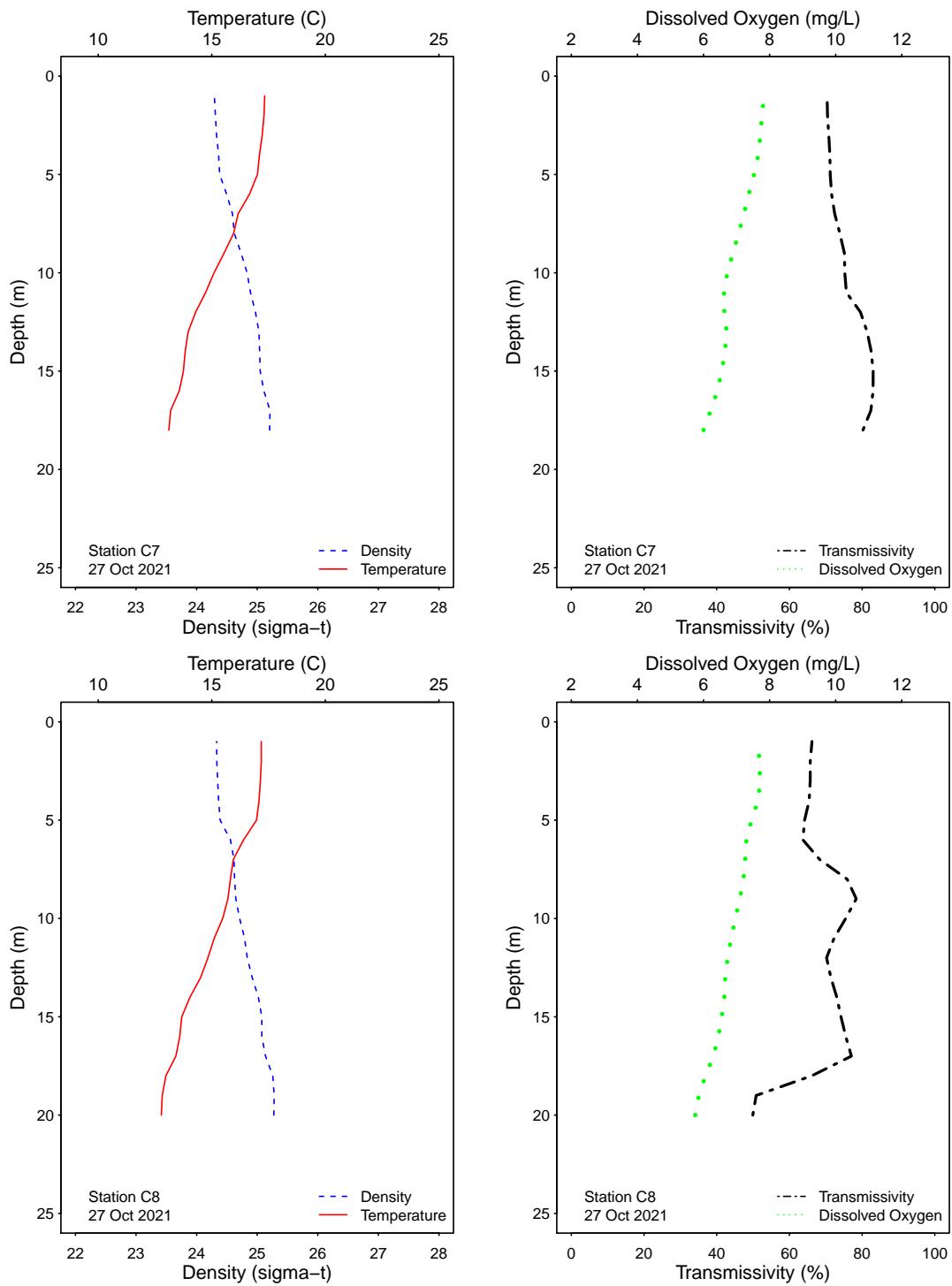


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

APPENDIX A

Quality Assurance

Table A.1

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

Station	Date	Depth	Analyst	Procedure	Total	Fecal	Entero
A7	04 Oct 2021	18	BS	LAB DUPLICATE	2e	<2	<2
A7	11 Oct 2021	18	JF	LAB DUPLICATE	40e	4e	2e
A7	20 Oct 2021	18	HF	LAB DUPLICATE	2e	<2	<2
A7	27 Oct 2021	18	AR	LAB DUPLICATE	4e	<2	<2
C7	04 Oct 2021	18	BS	LAB DUPLICATE	18e	2e	<2
C7	11 Oct 2021	18	JF	LAB DUPLICATE	8e	4e	<2
C7	20 Oct 2021	18	HF	LAB DUPLICATE	4e	<2	<2
C7	27 Oct 2021	18	AR	LAB DUPLICATE	14e	2e	4e
C8	04 Oct 2021	12	BS	LAB DUPLICATE	2e	<2	<2
C8	11 Oct 2021	12	JF	LAB DUPLICATE	<2	<2	<2
C8	20 Oct 2021	12	HF	LAB DUPLICATE	2e	<2	<2
C8	27 Oct 2021	12	AR	LAB DUPLICATE	4e	<2	<2
D12	06 Oct 2021		CRE	FIELD DUPLICATE	200e	60e	44
D12	06 Oct 2021		CRE	LAB DUPLICATE	100e	46	38e
D12	13 Oct 2021		BS	FIELD DUPLICATE	<200	<2	<2
D12	13 Oct 2021		BS	LAB DUPLICATE	<20	<2	<2
D12	20 Oct 2021		HF	FIELD DUPLICATE	<20	<2	32e
D12	20 Oct 2021		HF	LAB DUPLICATE	<200	4e	44
D12	27 Oct 2021		JF	FIELD DUPLICATE	<20	4e	2e
D12	27 Oct 2021		JF	LAB DUPLICATE	<20	<2	<2

ns = not sampled

ND = no data

APPENDIX B

New 2019 Ocean Plan Water Quality Objectives

Shore Stations

Table B.1

Summary of compliance with the Ocean Plan's 6-week 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 6 weeks unless otherwise noted (*). Values >30 CFU/100 mL exceed the standard.

Date	D4	D5	D7	D8-B	D9	D10	D11	D12
01 Oct 2021	2	2	4	3	3	2	3	2
02 Oct 2021	2	2	4	3	3	2	3	2
03 Oct 2021	2	2	4	3	3	2	3	2
04 Oct 2021	2	2	4	3	3	2	3	2
05 Oct 2021	2	2	4	3	3	2	3	2
06 Oct 2021	3	2	5	4	3	3	3	4
07 Oct 2021	3	2	5	4	3	3	3	4
08 Oct 2021	3	2	5	4	3	3	3	4
09 Oct 2021	3	2	5	4	3	3	3	4
10 Oct 2021	3	2	5	4	3	3	3	4
11 Oct 2021	3	2	5	4	3	3	3	4
12 Oct 2021	3	2	5	4	3	3	3	4
13 Oct 2021	3	2	4	4	3	3	3	4
14 Oct 2021	3	2	4	4	3	3	3	4
15 Oct 2021	3	2	4	4	3	3	3	4
16 Oct 2021	3	2	4	4	3	3	3	4
17 Oct 2021	3	2	4	4	3	3	3	4
18 Oct 2021	3	2	4	4	3	3	3	4
19 Oct 2021	3	2	4	4	3	3	3	4
20 Oct 2021	3	2	3	4	2	2	4	5
21 Oct 2021	3	2	3	4	2	2	4	5
22 Oct 2021	3	2	3	4	2	2	4	5
23 Oct 2021	3	2	3	4	2	2	4	5
24 Oct 2021	3	2	3	4	2	2	4	5
25 Oct 2021	3	2	3	4	2	2	4	5
26 Oct 2021	3	2	3	4	2	2	4	5
27 Oct 2021	3	2	3	4	2	3	5	5
28 Oct 2021	3	2	3	4	2	3	5	5
29 Oct 2021	3	2	3	4	2	3	5	5
30 Oct 2021	3	2	3	4	2	3	5	5
31 Oct 2021	3	2	3	4	2	3	5	5

* Geometric mean calculated using n<5

ns = not sampled

Table B.2

Summary of compliance at the PLOO shore stations with the Ocean Plan's Statistical Threshold Value standard for *Enterococcus* bacteria, which states that *Enterococcus* density shall not exceed 110 CFU/100 mL in more than 10% of samples per month.

Date	D4	D5	D7	D8-B	D9	D10	D11	D12
October	IC	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Kelp Stations

Table B.3

Summary of compliance with the Ocean Plan's 6-week 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 6 weeks unless otherwise noted (*). Values >30 CFU/100 mL exceed the standard.

Date	A1	A6	A7	C4	C5	C6	C7	C8
01 Oct 2021	2	2	2	2	2	2	2	2
02 Oct 2021	2	2	2	2	2	2	2	2
03 Oct 2021	2	2	2	2	2	2	2	2
04 Oct 2021	2	2	2	2	2	2	2	2
05 Oct 2021	2	2	2	2	2	2	2	2
06 Oct 2021	2	2	2	2	2	2	2	2
07 Oct 2021	2	2	2	2	2	2	2	2
08 Oct 2021	2	2	2	2	2	2	2	2
09 Oct 2021	2	2	2	2	2	2	2	2
10 Oct 2021	2	2	2	2	2	2	2	2
11 Oct 2021	2	2	2	2	2	2	2	2
12 Oct 2021	2	2	2	2	2	2	2	2
13 Oct 2021	2	2	2	2	2	2	2	2
14 Oct 2021	2	2	2	2	2	2	2	2
15 Oct 2021	2	2	2	2	2	2	2	2
16 Oct 2021	2	2	2	2	2	2	2	2
17 Oct 2021	2	2	2	2	2	2	2	2
18 Oct 2021	2	2	2	2	2	2	2	2
19 Oct 2021	2	2	2	2	2	2	2	2
20 Oct 2021	2	2	2	2	2	2	2	2
21 Oct 2021	2	2	2	2	2	2	2	2
22 Oct 2021	2	2	2	2	2	2	2	2
23 Oct 2021	2	2	2	2	2	2	2	2
24 Oct 2021	2	2	2	2	2	2	2	2
25 Oct 2021	2	2	2	2	2	2	2	2
26 Oct 2021	2	2	2	2	2	2	2	2
27 Oct 2021	3	2	2	2	2	2	2	2
28 Oct 2021	3	2	2	2	2	2	2	2
29 Oct 2021	3	2	2	2	2	2	2	2
30 Oct 2021	3	2	2	2	2	2	2	2
31 Oct 2021	3	2	2	2	2	2	2	2

* Geometric mean calculated using n<5

Table B.4

Summary of compliance at the PLOO kelp stations with the Ocean Plan's Statistical Threshold Value standard for *Enterococcus* bacteria, which states that *Enterococcus* density shall not exceed 110 CFU/100 mL in more than 10% of samples per month.

Date	A1	A6	A7	C4	C5	C6	C7	C8
October	IC							

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data