



POINT LOMA OCEAN OUTFALL MONTHLY RECEIVING WATERS MONITORING REPORT

POINT LOMA WASTEWATER TREATMENT PLANT

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

APRIL 2022

Environmental Monitoring and Technical Services
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Public Utilities Department

Environmental Monitoring & Technical Services Division

May 31, 2022

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

Attention: POTW Compliance Unit

Dear Mr. Gibson:

Enclosed is the April 2022 Monthly Receiving Waters Monitoring Report for the Point Loma Ocean Outfall, Point Loma Wastewater Treatment Plant as required per Order No. R9-2017-0007, NPDES Permit No. CA0107409.

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

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

Sincerely,

Peter S. Vroom, Ph.D.
Deputy 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 2022 Quality Assurance Report, which will be completed in March 2023.

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 April 6, 13, 20, and 27.
- Following the calibration of thermometers on April 26, 2022, it was discovered that samples collected on April 27 were incubated at temperatures slightly above the acceptable temperature range for the given method. Because the temperature difference was so slight, results were deemed reportable and are included herein.
- During April, one of the eight shore stations was out of compliance with the various 2015 California Ocean Plan (Ocean Plan) water contact standards on one or more days as follows:
 - o The 30-day Geometric Mean standard for *Enterococcus* was exceeded at station D11.
 - o The Single Sample Maximum standard for *Enterococcus* was exceeded at station D11.
- A sewage-like odor was observed at station D11 on one or more days in April.
- 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*

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

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 April 5, 13, 19, and 26.
- During April, each of the kelp stations was in compliance with the various 2015 California Ocean Plan (Ocean Plan) water contact standards.
- Water column temperatures ranged from 10.39 to 16.27°C. The difference between surface and bottom waters ranged from 1.93 to 5.11°C.
- Chlorophyll *a* concentrations ranged from 0.9 to 21.2 µg/L.
- Nothing of sewage origin was observed at PLOO kelp stations in April.

Offshore Stations

- Quarterly water quality sampling was not conducted during April at the offshore stations. The next quarterly sampling is scheduled for May 2022.



TABLES AND FIGURES



Figure 1.1 Station Map

Shore Stations

Table 2.1

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

Date	D4	D5	D7	D8-B	D9	D10	D11	D12
01 Apr 2022	6	13	4	16	8	14	11	6
02 Apr 2022	6	13	4	16	8	14	11	6
03 Apr 2022	6	13	4	16	8	14	11	6
04 Apr 2022	6	13	4	16	8	14	11	6
05 Apr 2022	6	13	4	16	8	14	11	6
06 Apr 2022	5	14	6	11	9	24	15	5
07 Apr 2022	5	14	6	11	9	24	15	5
08 Apr 2022	5	20	8	13	13	46	25	6
09 Apr 2022	5	20	8	13	13	46	25	6
10 Apr 2022	5	20	8	13	13	46	25	6
11 Apr 2022	5	20	8	13	13	46	25	6
12 Apr 2022	5	20	8	13	13	46	25	6
13 Apr 2022	7	20	6	14	14	37	24	5
14 Apr 2022	7	20	6	14	14	37	24	5
15 Apr 2022	5	11	4	6	7	29	21	4
16 Apr 2022	5	11	4	6	7	29	21	4
17 Apr 2022	5	11	4	6	7	29	21	4
18 Apr 2022	5	11	4	6	7	29	21	4
19 Apr 2022	5	11	4	6	7	29	21	4
20 Apr 2022	5	10	3	8	8	22	18	3
21 Apr 2022	5	10	3	8	8	22	18	3
22 Apr 2022	5	15	4	11	9	27	22	4
23 Apr 2022	5	15	4	11	9	27	22	4
24 Apr 2022	5	15	4	11	9	27	22	4
25 Apr 2022	5	15	4	11	9	27	22	4
26 Apr 2022	5	15	4	11	9	27	22	4
27 Apr 2022	5	15	4	20	12	27	19	4
28 Apr 2022	5	15	4	20	12	27	19	4
29 Apr 2022	5	15	4	20	12	27	19	4
30 Apr 2022	5	15	4	20	12	27	19	4

* Geometric mean calculated using n<5

ns = not sampled

Table 2.2

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

Date	D4	D5	D7	D8-B	D9	D10	D11	D12
01 Apr 2022	2	6	2	13	3	6	3	2
02 Apr 2022	2	6	2	13	3	6	3	2
03 Apr 2022	2	6	2	13	3	6	3	2
04 Apr 2022	2	6	2	13	3	6	3	2
05 Apr 2022	2	6	2	13	3	6	3	2
06 Apr 2022	2	5	3	9	3	7	4	2
07 Apr 2022	2	5	3	9	3	7	4	2
08 Apr 2022	2	5	3	13	3	10	5	2
09 Apr 2022	2	5	3	13	3	10	5	2
10 Apr 2022	2	5	3	13	3	10	5	2
11 Apr 2022	2	5	3	13	3	10	5	2
12 Apr 2022	2	5	3	13	3	10	5	2
13 Apr 2022	2	4	3	9	3	7	4	2
14 Apr 2022	2	4	3	9	3	7	4	2
15 Apr 2022	2	3	3	4	2	6	3	2
16 Apr 2022	2	3	3	4	2	6	3	2
17 Apr 2022	2	3	3	4	2	6	3	2
18 Apr 2022	2	3	3	4	2	6	3	2
19 Apr 2022	2	3	3	4	2	6	3	2
20 Apr 2022	2	3	3	3	2	6	3	2
21 Apr 2022	2	3	3	3	2	6	3	2
22 Apr 2022	2	3	3	4	2	8	3	2
23 Apr 2022	2	3	3	4	2	8	3	2
24 Apr 2022	2	3	3	4	2	8	3	2
25 Apr 2022	2	3	3	4	2	8	3	2
26 Apr 2022	2	3	3	4	2	8	3	2
27 Apr 2022	2	2	3	4	2	5	3	2
28 Apr 2022	2	2	3	4	2	5	3	2
29 Apr 2022	2	2	3	4	2	5	3	2
30 Apr 2022	2	2	3	4	2	5	3	2

* Geometric mean calculated using n<5

ns = not sampled

Table 2.3

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

Date	D4	D5	D7	D8-B	D9	D10	D11	D12
01 Apr 2022	2	3	4	9	4	7	8	2
02 Apr 2022	2	3	4	9	4	7	8	2
03 Apr 2022	2	3	4	9	4	7	8	2
04 Apr 2022	2	3	4	9	4	7	8	2
05 Apr 2022	2	3	4	9	4	7	8	2
06 Apr 2022	2	2	4	7	3	6	8	2
07 Apr 2022	2	2	4	7	3	6	8	2
08 Apr 2022	2	3	4	9	4	9	12	2
09 Apr 2022	2	3	4	9	4	9	12	2
10 Apr 2022	2	3	4	9	4	9	12	2
11 Apr 2022	2	3	4	9	4	9	12	2
12 Apr 2022	2	3	4	9	4	9	12	2
13 Apr 2022	2	2	4	11	3	6	8	2
14 Apr 2022	2	2	4	11	3	6	8	2
15 Apr 2022	2	2	2	6	2	4	6	2
16 Apr 2022	2	2	2	4	2	4	6	2
17 Apr 2022	2	2	2	4	2	4	6	2
18 Apr 2022	2	2	2	4	2	4	6	2
19 Apr 2022	2	2	2	4	2	4	6	2
20 Apr 2022	2	2	2	7	2	4	20	2
21 Apr 2022	2	2	2	7	2	4	20	2
22 Apr 2022	2	2	2	9	2	5	39	2
23 Apr 2022	2	2	2	9	2	5	39	2
24 Apr 2022	2	2	2	9	2	5	39	2
25 Apr 2022	2	2	2	9	2	5	39	2
26 Apr 2022	2	2	2	9	2	5	39	2
27 Apr 2022	2	2	2	11	2	4	23	2
28 Apr 2022	2	2	2	11	2	4	23	2
29 Apr 2022	2	2	2	11	2	4	23	2
30 Apr 2022	2	2	2	11	2	4	23	2

* Geometric mean calculated using n<5

ns = not sampled

Table 2.4

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

Date	D4	D5	D7	D8-B	D9	D10	D11	D12
06 Apr 2022	IC	IC	IC	IC	IC	IC	IC	IC
13 Apr 2022	IC	IC	IC	IC	IC	IC	IC	IC
20 Apr 2022	IC	IC	IC	IC	IC	IC	IC	IC
27 Apr 2022	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 Apr 2022	IC	IC	IC	IC	IC	IC	IC	IC
13 Apr 2022	IC	IC	IC	IC	IC	IC	IC	IC
20 Apr 2022	IC	IC	IC	IC	IC	IC	IC	IC
27 Apr 2022	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 Apr 2022	IC	IC	IC	IC	IC	IC	IC	IC
13 Apr 2022	IC	IC	IC	IC	IC	IC	IC	IC
20 Apr 2022	IC	IC	IC	IC	IC	IC	E	IC
22 Apr 2022	ns	ns	ns	ns	ns	ns	IC	ns
27 Apr 2022	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 Apr 2022	IC	IC	IC	IC	IC	IC	IC	IC
13 Apr 2022	IC	IC	IC	IC	IC	IC	IC	IC
20 Apr 2022	IC	IC	IC	IC	IC	IC	IC	IC
27 Apr 2022	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 Apr 2022	753	4e	<2	<2	0.5
D4	13 Apr 2022	814	<20	<2	<2	0.1
D4	20 Apr 2022	813	4e	<2	<2	0.5
D4	27 Apr 2022	852	<2	<2	<2	1.0
D5	06 Apr 2022	819	<20	<2	<2	0.1
D5	13 Apr 2022	759	<20	<2	<2	0.1
D5	20 Apr 2022	835	6e	<2	2e	0.3
D5	27 Apr 2022	834	<20	<2	<2	0.1
D7	06 Apr 2022	847	<20	8e	<2	0.4
D7	13 Apr 2022	836	2e	2e	2e	1.0
D7	20 Apr 2022	903	2e	2e	<2	1.0
D7	27 Apr 2022	936	<2	<2	<2	1.0
D8-B	06 Apr 2022	907	2e	2e	<2	1.0
D8-B	13 Apr 2022	850	20e	2e	40e	0.1
D8-B	20 Apr 2022	928	20e	2e	40e	0.1
D8-B	27 Apr 2022	1003	<200	<20	4e	0.1
D9	06 Apr 2022	928	<20	<2	<2	0.1
D9	13 Apr 2022	902	16e	<2	<2	0.1
D9	20 Apr 2022	944	12e	<2	2e	0.2
D9	27 Apr 2022	1013	6e	<2	<2	0.3
D10	06 Apr 2022	945	200e	20e	6e	0.1
D10	13 Apr 2022	937	16e	2e	<2	0.1
D10	20 Apr 2022	956	8e	6e	8e	0.8
D10	27 Apr 2022	1026	<20	2e	<2	0.1
D11	06 Apr 2022	1023	60e	12e	10e	0.2
D11	13 Apr 2022	951	20e	<2	<2	0.1
D11	20 Apr 2022	1011	10e	2e	2600e	0.2
D11	22 Apr 2022	951	ns	ns	56	ns
D11	27 Apr 2022	1042	12e	<2	<2	0.2
D12	06 Apr 2022	1059	<2	<2	<2	1.0
D12	13 Apr 2022	1015	<2	2e	<2	1.0
D12	20 Apr 2022	1039	<2	<2	<2	1.0
D12	27 Apr 2022	1117	<20	<2	<2	0.1

ns = not sampled

ND = no data

Comments

Station	Date	Depth	Parameter	Comments
D11	22 Apr 2022			Resample

Table 2.9

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

Station	Date	Parameter	Value
D4	06 Apr 2022	Arrive Time	753
D4	06 Apr 2022	Weather	Hazy
D4	06 Apr 2022	Wind Speed (kts)	0
D4	06 Apr 2022	Wind Dir	
D4	06 Apr 2022	Animal Life	Bird-18
D4	06 Apr 2022	Floatables	None
D4	06 Apr 2022	Water Color	Green
D4	06 Apr 2022	Current Direction	
D4	06 Apr 2022	Water Temp (C)	17.9
D4	06 Apr 2022	Wave Height Low (ft)	2
D4	06 Apr 2022	High Tide (ft)	2.54
D4	06 Apr 2022	High Tide Time	1416
D4	06 Apr 2022	Low Tide (ft)	0.57
D4	06 Apr 2022	Low Tide Time	735
D4	06 Apr 2022	Comments	Algae; Seagrass; Kelp
D4	13 Apr 2022	Arrive Time	814
D4	13 Apr 2022	Weather	Sunny
D4	13 Apr 2022	Wind Speed (kts)	4.8
D4	13 Apr 2022	Wind Dir	SE
D4	13 Apr 2022	Animal Life	
D4	13 Apr 2022	Floatables	None
D4	13 Apr 2022	Water Color	Green
D4	13 Apr 2022	Current Direction	N
D4	13 Apr 2022	Water Temp (C)	15.3
D4	13 Apr 2022	Wave Height Low (ft)	1
D4	13 Apr 2022	High Tide (ft)	4.78
D4	13 Apr 2022	High Tide Time	733
D4	13 Apr 2022	Low Tide (ft)	1.27
D4	13 Apr 2022	Low Tide Time	147
D4	13 Apr 2022	Comments	Kelp; Algae; Seagrass
D4	20 Apr 2022	Arrive Time	813
D4	20 Apr 2022	Weather	Partly cloudy
D4	20 Apr 2022	Wind Speed (kts)	1.3
D4	20 Apr 2022	Wind Dir	W
D4	20 Apr 2022	Animal Life	Pelican-1; Seagull-4
D4	20 Apr 2022	Floatables	Foam
D4	20 Apr 2022	Water Color	Green
D4	20 Apr 2022	Current Direction	N
D4	20 Apr 2022	Water Temp (C)	16.9
D4	20 Apr 2022	Wave Height Low (ft)	1
D4	20 Apr 2022	High Tide (ft)	3.05
D4	20 Apr 2022	High Tide Time	1323
D4	20 Apr 2022	Low Tide (ft)	-0.66
D4	20 Apr 2022	Low Tide Time	655
D4	20 Apr 2022	Comments	Seagrass; Kelp; Algae
D4	27 Apr 2022	Arrive Time	852
D4	27 Apr 2022	Weather	Overcast
D4	27 Apr 2022	Wind Speed (kts)	3.7
D4	27 Apr 2022	Wind Dir	S
D4	27 Apr 2022	Animal Life	
D4	27 Apr 2022	Floatables	Foam
D4	27 Apr 2022	Water Color	Green
D4	27 Apr 2022	Current Direction	N

Station	Date	Parameter	Value
D4	27 Apr 2022	Water Temp (C)	15.4
D4	27 Apr 2022	Wave Height Low (ft)	3
D4	27 Apr 2022	High Tide (ft)	4.66
D4	27 Apr 2022	High Tide Time	743
D4	27 Apr 2022	Low Tide (ft)	0.73
D4	27 Apr 2022	Low Tide Time	156
D4	27 Apr 2022	Comments	Algae; Seagrass; Kelp
D5	06 Apr 2022	Arrive Time	819
D5	06 Apr 2022	Weather	Hazy
D5	06 Apr 2022	Wind Speed (kts)	0
D5	06 Apr 2022	Wind Dir	
D5	06 Apr 2022	Animal Life	Bird-1; Seagull-2
D5	06 Apr 2022	Floatables	Foam
D5	06 Apr 2022	Water Color	Green
D5	06 Apr 2022	Current Direction	N
D5	06 Apr 2022	Water Temp (C)	18.1
D5	06 Apr 2022	Wave Height Low (ft)	2
D5	06 Apr 2022	High Tide (ft)	2.54
D5	06 Apr 2022	High Tide Time	1416
D5	06 Apr 2022	Low Tide (ft)	0.57
D5	06 Apr 2022	Low Tide Time	735
D5	06 Apr 2022	Comments	Algae; Seagrass; Kelp
D5	13 Apr 2022	Arrive Time	759
D5	13 Apr 2022	Weather	Sunny
D5	13 Apr 2022	Wind Speed (kts)	0.5
D5	13 Apr 2022	Wind Dir	N
D5	13 Apr 2022	Animal Life	
D5	13 Apr 2022	Floatables	Foam; Film
D5	13 Apr 2022	Water Color	Green
D5	13 Apr 2022	Current Direction	N
D5	13 Apr 2022	Water Temp (C)	16.9
D5	13 Apr 2022	Wave Height Low (ft)	4
D5	13 Apr 2022	High Tide (ft)	4.78
D5	13 Apr 2022	High Tide Time	733
D5	13 Apr 2022	Low Tide (ft)	1.27
D5	13 Apr 2022	Low Tide Time	147
D5	13 Apr 2022	Comments	Kelp; Algae
D5	20 Apr 2022	Arrive Time	835
D5	20 Apr 2022	Weather	Partly cloudy
D5	20 Apr 2022	Wind Speed (kts)	0.6
D5	20 Apr 2022	Wind Dir	S
D5	20 Apr 2022	Animal Life	
D5	20 Apr 2022	Floatables	Foam
D5	20 Apr 2022	Water Color	Green
D5	20 Apr 2022	Current Direction	N
D5	20 Apr 2022	Water Temp (C)	16.9
D5	20 Apr 2022	Wave Height Low (ft)	1
D5	20 Apr 2022	High Tide (ft)	3.05
D5	20 Apr 2022	High Tide Time	1323
D5	20 Apr 2022	Low Tide (ft)	-0.66
D5	20 Apr 2022	Low Tide Time	655
D5	20 Apr 2022	Comments	Seagrass; Algae; Kelp
D5	27 Apr 2022	Arrive Time	834
D5	27 Apr 2022	Weather	Overcast
D5	27 Apr 2022	Wind Speed (kts)	3.8
D5	27 Apr 2022	Wind Dir	S
D5	27 Apr 2022	Animal Life	

Station	Date	Parameter	Value
D5	27 Apr 2022	Floatables	Foam; Film
D5	27 Apr 2022	Water Color	Green
D5	27 Apr 2022	Current Direction	N
D5	27 Apr 2022	Water Temp (C)	16.4
D5	27 Apr 2022	Wave Height Low (ft)	3
D5	27 Apr 2022	High Tide (ft)	4.66
D5	27 Apr 2022	High Tide Time	743
D5	27 Apr 2022	Low Tide (ft)	0.73
D5	27 Apr 2022	Low Tide Time	156
D5	27 Apr 2022	Comments	Kelp;Algae
D7	06 Apr 2022	Arrive Time	847
D7	06 Apr 2022	Weather	Hazy
D7	06 Apr 2022	Wind Speed (kts)	0.4
D7	06 Apr 2022	Wind Dir	W
D7	06 Apr 2022	Animal Life	
D7	06 Apr 2022	Floatables	Foam
D7	06 Apr 2022	Water Color	Green
D7	06 Apr 2022	Current Direction	S
D7	06 Apr 2022	Water Temp (C)	17.4
D7	06 Apr 2022	Wave Height Low (ft)	2
D7	06 Apr 2022	High Tide (ft)	2.54
D7	06 Apr 2022	High Tide Time	1416
D7	06 Apr 2022	Low Tide (ft)	0.57
D7	06 Apr 2022	Low Tide Time	735
D7	06 Apr 2022	Comments	Water clear; Surfer/Paddle boarder-23; Trash-1; Algae; Seagrass; Kelp
D7	13 Apr 2022	Arrive Time	836
D7	13 Apr 2022	Weather	Sunny
D7	13 Apr 2022	Wind Speed (kts)	2.2
D7	13 Apr 2022	Wind Dir	S
D7	13 Apr 2022	Animal Life	
D7	13 Apr 2022	Floatables	Foam; Film
D7	13 Apr 2022	Water Color	Green
D7	13 Apr 2022	Current Direction	N
D7	13 Apr 2022	Water Temp (C)	15.6
D7	13 Apr 2022	Wave Height Low (ft)	3
D7	13 Apr 2022	High Tide (ft)	4.78
D7	13 Apr 2022	High Tide Time	733
D7	13 Apr 2022	Low Tide (ft)	1.27
D7	13 Apr 2022	Low Tide Time	147
D7	13 Apr 2022	Comments	Water turbid; Trash-1; Kelp; Seagrass; Algae; Person/Walker/Jogger-1
D7	20 Apr 2022	Arrive Time	903
D7	20 Apr 2022	Weather	Partly cloudy
D7	20 Apr 2022	Wind Speed (kts)	2
D7	20 Apr 2022	Wind Dir	W
D7	20 Apr 2022	Animal Life	
D7	20 Apr 2022	Floatables	Foam
D7	20 Apr 2022	Water Color	Blue
D7	20 Apr 2022	Current Direction	N
D7	20 Apr 2022	Water Temp (C)	17.6
D7	20 Apr 2022	Wave Height Low (ft)	3
D7	20 Apr 2022	High Tide (ft)	3.05
D7	20 Apr 2022	High Tide Time	1323
D7	20 Apr 2022	Low Tide (ft)	-0.66
D7	20 Apr 2022	Low Tide Time	655
D7	20 Apr 2022	Comments	Water clear; Surfer/Paddle boarder-6; Trash-1; Algae; Seagrass; Kelp; Person/Walker/Jogger-1

Station	Date	Parameter	Value
D7	27 Apr 2022	Arrive Time	936
D7	27 Apr 2022	Weather	Overcast
D7	27 Apr 2022	Wind Speed (kts)	5.8
D7	27 Apr 2022	Wind Dir	S
D7	27 Apr 2022	Animal Life	
D7	27 Apr 2022	Floatables	Foam
D7	27 Apr 2022	Water Color	Green
D7	27 Apr 2022	Current Direction	S
D7	27 Apr 2022	Water Temp (C)	15.2
D7	27 Apr 2022	Wave Height Low (ft)	4
D7	27 Apr 2022	High Tide (ft)	4.66
D7	27 Apr 2022	High Tide Time	743
D7	27 Apr 2022	Low Tide (ft)	0.73
D7	27 Apr 2022	Low Tide Time	156
D7	27 Apr 2022	Comments	Kelp; Seagrass; Algae
D8-B	06 Apr 2022	Arrive Time	907
D8-B	06 Apr 2022	Weather	Hazy
D8-B	06 Apr 2022	Wind Speed (kts)	2.7
D8-B	06 Apr 2022	Wind Dir	SW
D8-B	06 Apr 2022	Animal Life	Bird-3
D8-B	06 Apr 2022	Floatables	Foam
D8-B	06 Apr 2022	Water Color	Green
D8-B	06 Apr 2022	Current Direction	S
D8-B	06 Apr 2022	Water Temp (C)	17.9
D8-B	06 Apr 2022	Wave Height Low (ft)	3
D8-B	06 Apr 2022	High Tide (ft)	2.54
D8-B	06 Apr 2022	High Tide Time	1416
D8-B	06 Apr 2022	Low Tide (ft)	0.57
D8-B	06 Apr 2022	Low Tide Time	735
D8-B	06 Apr 2022	Comments	Water turbid; Surfer/Paddle boarder-1; Trash-1; Algae; Seagrass; Kelp
D8-B	13 Apr 2022	Arrive Time	850
D8-B	13 Apr 2022	Weather	Sunny
D8-B	13 Apr 2022	Wind Speed (kts)	3.4
D8-B	13 Apr 2022	Wind Dir	W
D8-B	13 Apr 2022	Animal Life	
D8-B	13 Apr 2022	Floatables	Foam; Film
D8-B	13 Apr 2022	Water Color	Brown
D8-B	13 Apr 2022	Current Direction	N
D8-B	13 Apr 2022	Water Temp (C)	15.9
D8-B	13 Apr 2022	Wave Height Low (ft)	2
D8-B	13 Apr 2022	High Tide (ft)	4.78
D8-B	13 Apr 2022	High Tide Time	733
D8-B	13 Apr 2022	Low Tide (ft)	1.27
D8-B	13 Apr 2022	Low Tide Time	147
D8-B	13 Apr 2022	Comments	Water turbid; Trash-1; Kelp; Algae; Person/Walker/Jogger-2
D8-B	20 Apr 2022	Arrive Time	928
D8-B	20 Apr 2022	Weather	Sunny
D8-B	20 Apr 2022	Wind Speed (kts)	2.8
D8-B	20 Apr 2022	Wind Dir	SW
D8-B	20 Apr 2022	Animal Life	
D8-B	20 Apr 2022	Floatables	Foam
D8-B	20 Apr 2022	Water Color	Brown
D8-B	20 Apr 2022	Current Direction	S
D8-B	20 Apr 2022	Water Temp (C)	17.2
D8-B	20 Apr 2022	Wave Height Low (ft)	2
D8-B	20 Apr 2022	High Tide (ft)	3.05

Station	Date	Parameter	Value
D8-B	20 Apr 2022	High Tide Time	1323
D8-B	20 Apr 2022	Low Tide (ft)	-0.66
D8-B	20 Apr 2022	Low Tide Time	655
D8-B	20 Apr 2022	Comments	Water turbid; Surfer/Paddle boarder-1; Trash-1; Algae; Seagrass; Kelp
D8-B	27 Apr 2022	Arrive Time	1003
D8-B	27 Apr 2022	Weather	Overcast
D8-B	27 Apr 2022	Wind Speed (kts)	5
D8-B	27 Apr 2022	Wind Dir	W
D8-B	27 Apr 2022	Animal Life	
D8-B	27 Apr 2022	Floatables	Foam; Film
D8-B	27 Apr 2022	Water Color	Brown
D8-B	27 Apr 2022	Current Direction	N
D8-B	27 Apr 2022	Water Temp (C)	15.7
D8-B	27 Apr 2022	Wave Height Low (ft)	3
D8-B	27 Apr 2022	High Tide (ft)	4.66
D8-B	27 Apr 2022	High Tide Time	743
D8-B	27 Apr 2022	Low Tide (ft)	0.73
D8-B	27 Apr 2022	Low Tide Time	156
D8-B	27 Apr 2022	Comments	Water turbid; Trash-1; Algae; Debris; Person/Walker/Jogger-2
D9	06 Apr 2022	Arrive Time	928
D9	06 Apr 2022	Weather	Hazy
D9	06 Apr 2022	Wind Speed (kts)	4.5
D9	06 Apr 2022	Wind Dir	W
D9	06 Apr 2022	Animal Life	
D9	06 Apr 2022	Floatables	Foam
D9	06 Apr 2022	Water Color	Green
D9	06 Apr 2022	Current Direction	S
D9	06 Apr 2022	Water Temp (C)	18.6
D9	06 Apr 2022	Wave Height Low (ft)	3
D9	06 Apr 2022	High Tide (ft)	2.54
D9	06 Apr 2022	High Tide Time	1416
D9	06 Apr 2022	Low Tide (ft)	0.57
D9	06 Apr 2022	Low Tide Time	735
D9	06 Apr 2022	Comments	Algae; Seagrass; Kelp
D9	13 Apr 2022	Arrive Time	902
D9	13 Apr 2022	Weather	Sunny
D9	13 Apr 2022	Wind Speed (kts)	3.3
D9	13 Apr 2022	Wind Dir	SW
D9	13 Apr 2022	Animal Life	
D9	13 Apr 2022	Floatables	Foam
D9	13 Apr 2022	Water Color	Green
D9	13 Apr 2022	Current Direction	N
D9	13 Apr 2022	Water Temp (C)	16.4
D9	13 Apr 2022	Wave Height Low (ft)	3
D9	13 Apr 2022	High Tide (ft)	4.78
D9	13 Apr 2022	High Tide Time	733
D9	13 Apr 2022	Low Tide (ft)	1.27
D9	13 Apr 2022	Low Tide Time	147
D9	13 Apr 2022	Comments	Algae
D9	20 Apr 2022	Arrive Time	944
D9	20 Apr 2022	Weather	Sunny
D9	20 Apr 2022	Wind Speed (kts)	1.3
D9	20 Apr 2022	Wind Dir	SW
D9	20 Apr 2022	Animal Life	Pelican-2
D9	20 Apr 2022	Floatables	Foam

Station	Date	Parameter	Value
D9	20 Apr 2022	Water Color	Green
D9	20 Apr 2022	Current Direction	N
D9	20 Apr 2022	Water Temp (C)	18.7
D9	20 Apr 2022	Wave Height Low (ft)	1
D9	20 Apr 2022	High Tide (ft)	3.05
D9	20 Apr 2022	High Tide Time	1323
D9	20 Apr 2022	Low Tide (ft)	-0.66
D9	20 Apr 2022	Low Tide Time	655
D9	20 Apr 2022	Comments	Algae; Seagrass; Kelp
D9	27 Apr 2022	Arrive Time	1013
D9	27 Apr 2022	Weather	Overcast
D9	27 Apr 2022	Wind Speed (kts)	5.6
D9	27 Apr 2022	Wind Dir	S
D9	27 Apr 2022	Animal Life	
D9	27 Apr 2022	Floatables	Foam; Film
D9	27 Apr 2022	Water Color	Brown
D9	27 Apr 2022	Current Direction	N
D9	27 Apr 2022	Water Temp (C)	16.6
D9	27 Apr 2022	Wave Height Low (ft)	4
D9	27 Apr 2022	High Tide (ft)	4.66
D9	27 Apr 2022	High Tide Time	743
D9	27 Apr 2022	Low Tide (ft)	0.73
D9	27 Apr 2022	Low Tide Time	156
D9	27 Apr 2022	Comments	Water turbid; Trash-1; Algae; Person/Walker/Jogger-2
D10	06 Apr 2022	Arrive Time	945
D10	06 Apr 2022	Weather	Sunny
D10	06 Apr 2022	Wind Speed (kts)	4.5
D10	06 Apr 2022	Wind Dir	W
D10	06 Apr 2022	Animal Life	Seagull-1
D10	06 Apr 2022	Floatables	Foam
D10	06 Apr 2022	Water Color	Green
D10	06 Apr 2022	Current Direction	S
D10	06 Apr 2022	Water Temp (C)	18.3
D10	06 Apr 2022	Wave Height Low (ft)	3
D10	06 Apr 2022	High Tide (ft)	2.54
D10	06 Apr 2022	High Tide Time	1416
D10	06 Apr 2022	Low Tide (ft)	0.57
D10	06 Apr 2022	Low Tide Time	735
D10	06 Apr 2022	Comments	Water turbid; Surfer/Paddle boarder-6; Trash-1; Seagrass; Kelp; Person/Walker/Jogger-4
D10	13 Apr 2022	Arrive Time	937
D10	13 Apr 2022	Weather	Sunny
D10	13 Apr 2022	Wind Speed (kts)	4
D10	13 Apr 2022	Wind Dir	W
D10	13 Apr 2022	Animal Life	Bird-1
D10	13 Apr 2022	Floatables	Foam; Film
D10	13 Apr 2022	Water Color	Green
D10	13 Apr 2022	Current Direction	N
D10	13 Apr 2022	Water Temp (C)	17.2
D10	13 Apr 2022	Wave Height Low (ft)	3
D10	13 Apr 2022	High Tide (ft)	4.78
D10	13 Apr 2022	High Tide Time	733
D10	13 Apr 2022	Low Tide (ft)	1.27
D10	13 Apr 2022	Low Tide Time	147
D10	13 Apr 2022	Comments	Water turbid; Surfer/Paddle boarder-3; Trash-1; Kelp; Seagrass; Person/Walker/Jogger-11
D10	20 Apr 2022	Arrive Time	956

Station	Date	Parameter	Value
D10	20 Apr 2022	Weather	Sunny
D10	20 Apr 2022	Wind Speed (kts)	3.22
D10	20 Apr 2022	Wind Dir	SW
D10	20 Apr 2022	Animal Life	Bird-118
D10	20 Apr 2022	Floatables	Foam
D10	20 Apr 2022	Water Color	Green
D10	20 Apr 2022	Current Direction	N
D10	20 Apr 2022	Water Temp (C)	18.7
D10	20 Apr 2022	Wave Height Low (ft)	2
D10	20 Apr 2022	High Tide (ft)	3.05
D10	20 Apr 2022	High Tide Time	1323
D10	20 Apr 2022	Low Tide (ft)	-0.66
D10	20 Apr 2022	Low Tide Time	655
D10	20 Apr 2022	Comments	Water clear; Surfer/Paddle boarder-8; Trash-1; Seagrass; Kelp; Person/Walker/Jogger-18
D10	27 Apr 2022	Arrive Time	1026
D10	27 Apr 2022	Weather	Overcast
D10	27 Apr 2022	Wind Speed (kts)	6.5
D10	27 Apr 2022	Wind Dir	SW
D10	27 Apr 2022	Animal Life	Bird-1
D10	27 Apr 2022	Floatables	Foam; Film
D10	27 Apr 2022	Water Color	Green
D10	27 Apr 2022	Current Direction	N
D10	27 Apr 2022	Water Temp (C)	17
D10	27 Apr 2022	Wave Height Low (ft)	4
D10	27 Apr 2022	High Tide (ft)	4.66
D10	27 Apr 2022	High Tide Time	743
D10	27 Apr 2022	Low Tide (ft)	0.73
D10	27 Apr 2022	Low Tide Time	156
D10	27 Apr 2022	Comments	Water turbid; Surfer/Paddle boarder-7; Trash-1; Kelp; Seagrass; Algae; Person/Walker/Jogger-2
D11	06 Apr 2022	Arrive Time	1023
D11	06 Apr 2022	Weather	Foggy
D11	06 Apr 2022	Wind Speed (kts)	3.4
D11	06 Apr 2022	Wind Dir	W
D11	06 Apr 2022	Animal Life	
D11	06 Apr 2022	Floatables	Foam
D11	06 Apr 2022	Water Color	Green
D11	06 Apr 2022	Current Direction	S
D11	06 Apr 2022	Water Temp (C)	18.2
D11	06 Apr 2022	Wave Height Low (ft)	2
D11	06 Apr 2022	High Tide (ft)	2.54
D11	06 Apr 2022	High Tide Time	1416
D11	06 Apr 2022	Low Tide (ft)	0.57
D11	06 Apr 2022	Low Tide Time	735
D11	06 Apr 2022	Comments	Water clear; Trash-1; Algae; Seagrass; Kelp; Person/Walker/Jogger-11
D11	13 Apr 2022	Arrive Time	951
D11	13 Apr 2022	Weather	Sunny
D11	13 Apr 2022	Wind Speed (kts)	3.4
D11	13 Apr 2022	Wind Dir	W
D11	13 Apr 2022	Animal Life	Bird-1
D11	13 Apr 2022	Floatables	Foam; Film
D11	13 Apr 2022	Water Color	Green
D11	13 Apr 2022	Current Direction	S
D11	13 Apr 2022	Water Temp (C)	17.8
D11	13 Apr 2022	Wave Height Low (ft)	3
D11	13 Apr 2022	High Tide (ft)	4.78

Station	Date	Parameter	Value
D11	13 Apr 2022	High Tide Time	733
D11	13 Apr 2022	Low Tide (ft)	1.27
D11	13 Apr 2022	Low Tide Time	147
D11	13 Apr 2022	Comments	Water turbid; Surfer/Paddle boarder-10; Trash-1; Kelp; Seagrass; Algae; Person/Walker/Jogger-12
D11	20 Apr 2022	Arrive Time	1011
D11	20 Apr 2022	Weather	Sunny
D11	20 Apr 2022	Wind Speed (kts)	4.9
D11	20 Apr 2022	Wind Dir	SW
D11	20 Apr 2022	Animal Life	Bird-1; Pelican-16
D11	20 Apr 2022	Floatables	Foam
D11	20 Apr 2022	Water Color	Green
D11	20 Apr 2022	Current Direction	N
D11	20 Apr 2022	Water Temp (C)	19.4
D11	20 Apr 2022	Wave Height Low (ft)	1
D11	20 Apr 2022	High Tide (ft)	3.05
D11	20 Apr 2022	High Tide Time	1323
D11	20 Apr 2022	Low Tide (ft)	-0.66
D11	20 Apr 2022	Low Tide Time	655
D11	20 Apr 2022	Comments	Water clear; Surfer/Paddle boarder-7; Trash-1; Seagrass; Algae; Kelp; Person/Walker/Jogger-5
D11	22 Apr 2022	Arrive Time	951
D11	22 Apr 2022	Weather	Sunny
D11	22 Apr 2022	Wind Speed (kts)	10.5
D11	22 Apr 2022	Wind Dir	NW
D11	22 Apr 2022	Animal Life	Dog-3
D11	22 Apr 2022	Floatables	Foam; Film
D11	22 Apr 2022	Water Color	Green
D11	22 Apr 2022	Current Direction	S
D11	22 Apr 2022	Water Temp (C)	18.6
D11	22 Apr 2022	Wave Height Low (ft)	3
D11	22 Apr 2022	High Tide (ft)	4.99
D11	22 Apr 2022	High Tide Time	117
D11	22 Apr 2022	Low Tide (ft)	-0.28
D11	22 Apr 2022	Low Tide Time	933
D11	22 Apr 2022	Comments	Resample; Water clear; Boogie boarder/Swimmer-1; Trash-1; Kelp; Seagrass; Person/Walker/Jogger-9; Sewage-like odor
D11	27 Apr 2022	Arrive Time	1042
D11	27 Apr 2022	Weather	Overcast
D11	27 Apr 2022	Wind Speed (kts)	6.4
D11	27 Apr 2022	Wind Dir	SW
D11	27 Apr 2022	Animal Life	Bird-2; Dog-1
D11	27 Apr 2022	Floatables	Foam
D11	27 Apr 2022	Water Color	Green
D11	27 Apr 2022	Current Direction	N
D11	27 Apr 2022	Water Temp (C)	17
D11	27 Apr 2022	Wave Height Low (ft)	3
D11	27 Apr 2022	High Tide (ft)	4.66
D11	27 Apr 2022	High Tide Time	743
D11	27 Apr 2022	Low Tide (ft)	0.73
D11	27 Apr 2022	Low Tide Time	156
D11	27 Apr 2022	Comments	Water turbid; Trash-1; Person/Walker/Jogger-8
D12	06 Apr 2022	Arrive Time	1059
D12	06 Apr 2022	Weather	Foggy
D12	06 Apr 2022	Wind Speed (kts)	5
D12	06 Apr 2022	Wind Dir	W
D12	06 Apr 2022	Animal Life	

Station	Date	Parameter	Value
D12	06 Apr 2022	Floatables	Foam
D12	06 Apr 2022	Water Color	Green
D12	06 Apr 2022	Current Direction	S
D12	06 Apr 2022	Water Temp (C)	21.1
D12	06 Apr 2022	Wave Height Low (ft)	2
D12	06 Apr 2022	High Tide (ft)	2.54
D12	06 Apr 2022	High Tide Time	1416
D12	06 Apr 2022	Low Tide (ft)	0.57
D12	06 Apr 2022	Low Tide Time	735
D12	06 Apr 2022	Comments	Water clear; Boogie boarder/Swimmer-21; Trash-1; Seagrass; Kelp; Person/Walker/Jogger-29
D12	13 Apr 2022	Arrive Time	1015
D12	13 Apr 2022	Weather	Sunny
D12	13 Apr 2022	Wind Speed (kts)	2.8
D12	13 Apr 2022	Wind Dir	W
D12	13 Apr 2022	Animal Life	Bird-1
D12	13 Apr 2022	Floatables	Foam; Film
D12	13 Apr 2022	Water Color	Green
D12	13 Apr 2022	Current Direction	S
D12	13 Apr 2022	Water Temp (C)	18.5
D12	13 Apr 2022	Wave Height Low (ft)	3
D12	13 Apr 2022	High Tide (ft)	4.78
D12	13 Apr 2022	High Tide Time	733
D12	13 Apr 2022	Low Tide (ft)	1.27
D12	13 Apr 2022	Low Tide Time	147
D12	13 Apr 2022	Comments	Water clear; Boogie boarder/Swimmer-3; Trash-1; Seagrass; Kelp; Person/Walker/Jogger-25
D12	20 Apr 2022	Arrive Time	1039
D12	20 Apr 2022	Weather	Sunny
D12	20 Apr 2022	Wind Speed (kts)	4.6
D12	20 Apr 2022	Wind Dir	SW
D12	20 Apr 2022	Animal Life	
D12	20 Apr 2022	Floatables	Foam
D12	20 Apr 2022	Water Color	Green
D12	20 Apr 2022	Current Direction	N
D12	20 Apr 2022	Water Temp (C)	19.9
D12	20 Apr 2022	Wave Height Low (ft)	2
D12	20 Apr 2022	High Tide (ft)	3.05
D12	20 Apr 2022	High Tide Time	1323
D12	20 Apr 2022	Low Tide (ft)	-0.66
D12	20 Apr 2022	Low Tide Time	655
D12	20 Apr 2022	Comments	Water clear; Boogie boarder/Swimmer-18; Trash-1; Seagrass; Kelp; Person/Walker/Jogger-21
D12	27 Apr 2022	Arrive Time	1117
D12	27 Apr 2022	Weather	Overcast
D12	27 Apr 2022	Wind Speed (kts)	8.23
D12	27 Apr 2022	Wind Dir	SW
D12	27 Apr 2022	Animal Life	Bird-1; Seagull-2
D12	27 Apr 2022	Floatables	Foam
D12	27 Apr 2022	Water Color	Green
D12	27 Apr 2022	Current Direction	S
D12	27 Apr 2022	Water Temp (C)	18.9
D12	27 Apr 2022	Wave Height Low (ft)	3
D12	27 Apr 2022	High Tide (ft)	4.66
D12	27 Apr 2022	High Tide Time	743
D12	27 Apr 2022	Low Tide (ft)	0.73
D12	27 Apr 2022	Low Tide Time	156

Station	Date	Parameter	Value
D12	27 Apr 2022	Comments	Water turbid; Surfer/Paddle boarder-1; Trash-1; Kelp; Sea-grass; Person/Walker/Jogger-21

Kelp Stations

Table 3.1

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

Date	A1	A6	A7	C4	C5	C6	C7	C8
01 Apr 2022	11	9	7	7	3	2	3	9
02 Apr 2022	11	9	7	7	3	2	3	9
03 Apr 2022	11	9	7	7	3	2	3	9
04 Apr 2022	11	9	7	7	3	2	3	9
05 Apr 2022	15	8	9	6	2	2	4	7
06 Apr 2022	15	8	9	6	2	2	4	7
07 Apr 2022	10	6	6	5	2	2	3	6
08 Apr 2022	10	6	6	5	2	2	3	6
09 Apr 2022	10	6	6	5	2	2	3	6
10 Apr 2022	10	6	6	5	2	2	3	6
11 Apr 2022	10	6	6	5	2	2	3	6
12 Apr 2022	10	6	6	5	2	2	3	6
13 Apr 2022	7	7	5	4	3	2	3	6
14 Apr 2022	7	7	5	4	3	2	3	6
15 Apr 2022	6	6	4	3	3	2	3	7
16 Apr 2022	6	6	4	3	3	2	3	7
17 Apr 2022	6	6	4	3	3	2	3	7
18 Apr 2022	6	6	4	3	3	2	3	7
19 Apr 2022	8	9	5	3	3	2	3	6
20 Apr 2022	8	9	5	3	3	2	3	6
21 Apr 2022	11	9	6	3	3	2	3	6
22 Apr 2022	11	9	6	3	3	2	3	6
23 Apr 2022	11	9	6	3	3	2	3	6
24 Apr 2022	11	9	6	3	3	2	3	6
25 Apr 2022	11	9	6	3	3	2	3	6
26 Apr 2022	10	9	5	3	3	2	4	7
27 Apr 2022	10	9	5	3	3	2	4	7
28 Apr 2022	10	9	5	3	3	2	4	7
29 Apr 2022	14	11	5	2	3	2	4	4
30 Apr 2022	14	11	5	2	3	2	4	4

* Geometric mean calculated using n<5

Table 3.2

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

Date	A1	A6	A7	C4	C5	C6	C7	C8
01 Apr 2022	3	2	3	2	2	2	2	3
02 Apr 2022	3	2	3	2	2	2	2	3
03 Apr 2022	3	2	3	2	2	2	2	3
04 Apr 2022	3	2	3	2	2	2	2	3
05 Apr 2022	3	2	3	2	2	2	2	2
06 Apr 2022	3	2	3	2	2	2	2	2
07 Apr 2022	2	2	2	2	2	2	2	3
08 Apr 2022	2	2	2	2	2	2	2	3
09 Apr 2022	2	2	2	2	2	2	2	3
10 Apr 2022	2	2	2	2	2	2	2	3
11 Apr 2022	2	2	2	2	2	2	2	3
12 Apr 2022	2	2	2	2	2	2	2	3
13 Apr 2022	2	2	2	2	2	2	2	2
14 Apr 2022	2	2	2	2	2	2	2	2
15 Apr 2022	2	2	2	2	2	2	2	2
16 Apr 2022	2	2	2	2	2	2	2	2
17 Apr 2022	2	2	2	2	2	2	2	2
18 Apr 2022	2	2	2	2	2	2	2	2
19 Apr 2022	3	2	3	2	2	2	2	2
20 Apr 2022	3	2	3	2	2	2	2	2
21 Apr 2022	3	2	3	2	2	2	2	2
22 Apr 2022	3	2	3	2	2	2	2	2
23 Apr 2022	3	2	3	2	2	2	2	2
24 Apr 2022	3	2	3	2	2	2	2	2
25 Apr 2022	3	2	3	2	2	2	2	2
26 Apr 2022	3	2	3	2	2	2	2	2
27 Apr 2022	3	2	3	2	2	2	2	2
28 Apr 2022	3	2	3	2	2	2	2	2
29 Apr 2022	3	2	3	2	2	2	2	2
30 Apr 2022	3	2	3	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 Apr 2022	2	2	2	2	2	2	2	2
02 Apr 2022	2	2	2	2	2	2	2	2
03 Apr 2022	2	2	2	2	2	2	2	2
04 Apr 2022	2	2	2	2	2	2	2	2
05 Apr 2022	2	2	2	2	2	2	2	2
06 Apr 2022	2	2	2	2	2	2	2	2
07 Apr 2022	2	2	2	2	2	2	2	2
08 Apr 2022	2	2	2	2	2	2	2	2
09 Apr 2022	2	2	2	2	2	2	2	2
10 Apr 2022	2	2	2	2	2	2	2	2
11 Apr 2022	2	2	2	2	2	2	2	2
12 Apr 2022	2	2	2	2	2	2	2	2
13 Apr 2022	2	2	2	2	2	2	2	2
14 Apr 2022	2	2	2	2	2	2	2	2
15 Apr 2022	2	2	2	2	2	2	2	2
16 Apr 2022	2	2	2	2	2	2	2	2
17 Apr 2022	2	2	2	2	2	2	2	2
18 Apr 2022	2	2	2	2	2	2	2	2
19 Apr 2022	2	2	2	2	2	2	2	2
20 Apr 2022	2	2	2	2	2	2	2	2
21 Apr 2022	2	2	2	2	2	2	2	2
22 Apr 2022	2	2	2	2	2	2	2	2
23 Apr 2022	2	2	2	2	2	2	2	2
24 Apr 2022	2	2	2	2	2	2	2	2
25 Apr 2022	2	2	2	2	2	2	2	2
26 Apr 2022	2	2	2	2	2	2	2	2
27 Apr 2022	2	2	2	2	2	2	2	2
28 Apr 2022	2	2	2	2	2	2	2	2
29 Apr 2022	2	2	2	2	2	2	2	2
30 Apr 2022	2	2	2	2	2	2	2	2

* Geometric mean calculated using n<5

Table 3.4

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

Date	A1	A6	A7	C4	C5	C6	C7	C8
05 Apr 2022	IC							
13 Apr 2022	IC							
19 Apr 2022	IC							
26 Apr 2022	IC							

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 3.5

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

Date	A1	A6	A7	C4	C5	C6	C7	C8
05 Apr 2022	IC							
13 Apr 2022	IC							
19 Apr 2022	IC							
26 Apr 2022	IC							

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 3.6

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

Date	A1	A6	A7	C4	C5	C6	C7	C8
05 Apr 2022	IC							
13 Apr 2022	IC							
19 Apr 2022	IC							
26 Apr 2022	IC							

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 3.7

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

Date	A1	A6	A7	C4	C5	C6	C7	C8
05 Apr 2022	IC							
13 Apr 2022	IC							
19 Apr 2022	IC							
26 Apr 2022	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	05 Apr 2022	747	1	<2	<2	<2	1.00	15.9	77.26	8.1	33.48	8.1
A1	05 Apr 2022	747	12	34e	6e	2e	0.18	11.4	81.06	4.3	33.66	7.8
A1	05 Apr 2022	747	18	160e	6e	2e	0.04	10.8	75.86	4.0	33.74	7.7
A1	13 Apr 2022	829	1	2e	2e	<2	1.00	16.2	68.23	7.3	33.55	7.9
A1	13 Apr 2022	829	12	2e	<2	<2	1.00	15.2	74.40	7.2	33.53	7.9
A1	13 Apr 2022	829	18	<2	<2	<2	1.00	12.8	78.52	5.4	33.54	7.8
A1	19 Apr 2022	759	1	<20	<2	6e	0.10	14.0	74.93	6.6	33.47	7.8
A1	19 Apr 2022	759	12	40e	4e	<2	0.10	10.6	81.29	3.8	33.79	7.6
A1	19 Apr 2022	759	18	40e	4e	<2	0.10	10.6	80.66	3.6	33.81	7.6
A1	26 Apr 2022	802	1	<20	<2	<2	0.10	14.7	68.88	10.7	33.63	8.2
A1	26 Apr 2022	802	12	2e	<2	<2	1.00	11.7	73.59	5.5	33.74	7.8
A1	26 Apr 2022	802	18	<2	<2	<2	1.00	11.0	73.22	4.2	33.80	7.7
A6	05 Apr 2022	822	1	<2	<2	<2	1.00	16.1	79.49	8.0	33.48	8.1
A6	05 Apr 2022	822	12	<2	<2	<2	1.00	15.3	78.04	7.3	33.50	8.0
A6	05 Apr 2022	822	18	10e	2e	<2	0.20	13.6	78.74	5.8	33.57	7.9
A6	13 Apr 2022	854	1	<2	<2	<2	1.00	15.9	67.68	7.1	33.56	8.0
A6	13 Apr 2022	854	12	6e	<2	<2	0.33	12.5	78.58	5.3	33.56	7.8
A6	13 Apr 2022	854	18	12e	<2	<2	0.17	12.0	77.66	4.9	33.58	7.7
A6	19 Apr 2022	833	1	<2	<2	<2	1.00	14.8	71.96	7.1	33.58	7.9
A6	19 Apr 2022	833	12	100e	<2	4e	0.02	10.8	81.56	4.0	33.74	7.6
A6	19 Apr 2022	833	18	40e	2e	2e	0.05	10.7	81.38	4.0	33.77	7.6
A6	26 Apr 2022	828	1	<2	<2	<2	1.00	14.0	66.47	9.5	33.64	8.1
A6	26 Apr 2022	828	12	4e	<2	<2	0.50	10.9	75.99	4.5	33.79	7.7
A6	26 Apr 2022	828	18	<20	2e	<2	0.10	10.8	75.76	4.4	33.81	7.7
A7	05 Apr 2022	813	1	<2	<2	<2	1.00	16.1	79.88	8.1	33.48	8.1
A7	05 Apr 2022	813	12	<2	<2	<2	1.00	15.8	78.49	7.8	33.49	8.1
A7	05 Apr 2022	813	18	54	6e	<2	0.11	11.4	78.39	4.3	33.67	7.8
A7	13 Apr 2022	840	1	<2	<2	4e	1.00	15.9	73.17	6.9	33.51	7.9
A7	13 Apr 2022	840	12	2e	<2	<2	1.00	12.9	77.53	5.7	33.56	7.8
A7	13 Apr 2022	840	18	<2	2e	<2	1.00	11.9	77.77	4.8	33.59	7.7
A7	19 Apr 2022	818	1	<2	<2	<2	1.00	14.2	72.29	6.9	33.53	7.9
A7	19 Apr 2022	818	12	2e	<2	<2	1.00	11.0	81.78	4.3	33.70	7.6
A7	19 Apr 2022	818	18	20e	10e	<2	0.50	10.7	80.76	3.9	33.78	7.6
A7	26 Apr 2022	815	1	<2	<2	<2	1.00	14.1	67.29	9.7	33.65	8.1
A7	26 Apr 2022	815	12	2e	<2	<2	1.00	11.1	75.49	4.4	33.79	7.7
A7	26 Apr 2022	815	18	2e	<2	<2	1.00	11.1	75.88	4.3	33.81	7.7
C4	05 Apr 2022	937	1	4e	<2	<2	0.50	16.2	60.56	7.2	33.48	8.0
C4	05 Apr 2022	937	3	<2	<2	<2	1.00	16.1	64.09	7.5	33.48	8.1
C4	05 Apr 2022	937	9	4e	<2	<2	0.50	14.2	74.12	5.4	33.55	7.9

Station	Date	Time	Depth	Total	Fecal	Enteric	F:T	Temp	XMS	DO	Sal	pH
C4	13 Apr 2022	1009	1	<2	4e	<2	2.00	15.9	69.99	7.0	33.57	7.9
C4	13 Apr 2022	1009	3	<2	2e	<2	1.00	15.6	69.07	7.0	33.56	7.9
C4	13 Apr 2022	1009	9	2e	<2	<2	1.00	14.3	73.04	5.9	33.56	7.9
C4	19 Apr 2022	953	1	<2	<2	<2	1.00	14.6	72.06	7.2	33.60	8.0
C4	19 Apr 2022	953	3	<2	<2	<2	1.00	14.3	70.69	6.7	33.61	7.9
C4	19 Apr 2022	953	9	<2	<2	<2	1.00	11.2	77.05	3.8	33.73	7.6
C4	26 Apr 2022	1015	1	<2	<2	<2	1.00	14.3	64.42	10.2	33.65	8.2
C4	26 Apr 2022	1015	3	<2	<2	<2	1.00	13.4	60.47	9.4	33.69	8.1
C4	26 Apr 2022	1015	9	<2	<2	<2	1.00	11.7	65.15	5.3	33.76	7.9
C5	05 Apr 2022	927	1	<2	<2	<2	1.00	16.1	70.72	7.7	33.48	8.1
C5	05 Apr 2022	927	3	<2	<2	<2	1.00	15.9	69.14	7.6	33.48	8.1
C5	05 Apr 2022	927	9	<2	2e	<2	1.00	14.2	69.95	5.6	33.53	7.9
C5	13 Apr 2022	957	1	<2	<2	<2	1.00	15.9	69.18	7.1	33.56	7.9
C5	13 Apr 2022	957	3	4e	<2	<2	0.50	15.7	66.69	6.9	33.57	7.9
C5	13 Apr 2022	957	9	4e	<2	<2	0.50	12.9	67.42	5.2	33.55	7.8
C5	19 Apr 2022	940	1	2e	<2	<2	1.00	14.3	72.58	6.8	33.61	7.9
C5	19 Apr 2022	940	3	<20	<2	<2	0.10	13.8	73.15	6.1	33.63	7.9
C5	19 Apr 2022	940	9	<2	<2	<2	1.00	11.6	70.77	4.7	33.68	7.7
C5	26 Apr 2022	1000	1	<2	<2	<2	1.00	14.1	51.41	7.6	33.75	7.9
C5	26 Apr 2022	1000	3	<2	2e	<2	1.00	13.6	50.14	6.9	33.78	7.9
C5	26 Apr 2022	1000	9	2e	2e	<2	1.00	12.5	52.23	5.4	33.80	7.8
C6	05 Apr 2022	918	1	<2	<2	<2	1.00	15.9	73.71	7.5	33.47	8.1
C6	05 Apr 2022	918	3	<2	<2	<2	1.00	15.8	70.58	7.1	33.48	8.1
C6	05 Apr 2022	918	9	<2	<2	<2	1.00	14.1	70.23	5.7	33.53	7.9
C6	13 Apr 2022	946	1	<2	<2	<2	1.00	16.0	64.61	7.1	33.56	8.0
C6	13 Apr 2022	946	3	<2	<2	2e	1.00	14.8	63.46	6.4	33.58	7.9
C6	13 Apr 2022	946	9	<2	<2	<2	1.00	12.8	74.89	5.2	33.57	7.8
C6	19 Apr 2022	929	1	2e	<2	<2	1.00	14.6	68.65	7.0	33.59	7.9
C6	19 Apr 2022	929	3	<2	<2	<2	1.00	13.3	72.85	5.6	33.68	7.9
C6	19 Apr 2022	929	9	<2	<2	<2	1.00	11.6	77.78	4.6	33.68	7.7
C6	26 Apr 2022	941	1	<2	<2	<2	1.00	13.9	59.45	8.1	33.74	8.0
C6	26 Apr 2022	941	3	<2	2e	<2	1.00	13.6	58.90	8.2	33.74	8.0
C6	26 Apr 2022	941	9	2e	<2	2e	1.00	11.1	69.31	4.3	33.81	7.7
C7	05 Apr 2022	836	1	<2	<2	<2	1.00	16.2	78.21	8.2	33.49	8.1
C7	05 Apr 2022	836	12	<2	<2	<2	1.00	15.5	78.90	8.2	33.50	8.1
C7	05 Apr 2022	836	18	10e	<2	<2	0.20	11.8	77.57	4.4	33.65	7.8
C7	13 Apr 2022	911	1	<2	<2	<2	1.00	15.7	70.66	7.2	33.55	7.9
C7	13 Apr 2022	911	12	2e	<2	<2	1.00	12.6	79.84	5.4	33.55	7.8
C7	13 Apr 2022	911	18	4e	<2	<2	0.50	11.8	78.90	4.8	33.60	7.7
C7	19 Apr 2022	849	1	<2	<2	<2	1.00	15.2	71.21	7.7	33.59	8.0
C7	19 Apr 2022	849	12	2e	<2	2e	1.00	11.0	82.23	4.3	33.68	7.7
C7	19 Apr 2022	849	18	2e	<2	2e	1.00	10.9	81.61	4.2	33.74	7.6
C7	26 Apr 2022	845	1	<2	<2	<2	1.00	13.4	67.16	7.9	33.74	7.9
C7	26 Apr 2022	845	12	2e	<2	<2	1.00	11.2	76.54	4.8	33.81	7.7
C7	26 Apr 2022	845	18	24e	2e	4e	0.08	10.5	73.09	3.5	33.86	7.6

Station	Date	Time	Depth	Total	Fecal	Enteric	F:T	Temp	XMS	DO	Sal	pH
C8	05 Apr 2022	854	1	<2	<2	<2	1.00	16.3	79.68	8.6	33.47	8.1
C8	05 Apr 2022	854	12	<2	<2	<2	1.00	15.8	80.00	8.4	33.50	8.1
C8	05 Apr 2022	854	18	<2	<2	<2	1.00	12.2	73.30	5.1	33.58	7.8
C8	13 Apr 2022	925	1	2e	<2	<2	1.00	15.7	67.18	7.4	33.52	8.0
C8	13 Apr 2022	925	12	<2	<2	<2	1.00	12.2	77.37	5.0	33.59	7.7
C8	13 Apr 2022	925	18	12e	<2	<2	0.17	11.7	75.40	4.7	33.61	7.7
C8	19 Apr 2022	903	1	<2	<2	<2	1.00	15.3	71.10	7.9	33.58	8.0
C8	19 Apr 2022	903	12	<2	<2	<2	1.00	10.9	81.75	4.2	33.71	7.7
C8	19 Apr 2022	903	18	6e	<2	<2	0.33	10.8	81.49	4.2	33.74	7.6
C8	26 Apr 2022	901	1	<2	<2	<2	1.00	13.2	48.59	9.6	33.70	8.1
C8	26 Apr 2022	901	12	8e	<2	<2	0.25	10.5	79.54	4.0	33.84	7.7
C8	26 Apr 2022	901	18	22e	2e	<2	0.09	10.4	75.38	3.7	33.87	7.6

ns = not sampled

ND = no data

Table 3.9

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

Station	Date	Parameter	Value
A1	05 Apr 2022	Depth (m)	18
A1	05 Apr 2022	Arrive Time	747
A1	05 Apr 2022	Depart Time	757
A1	05 Apr 2022	Air Temp (C)	14
A1	05 Apr 2022	Weather	Continuous Layer of Clouds
A1	05 Apr 2022	Visibility (mi)	5
A1	05 Apr 2022	Wind Speed (kts)	1.1
A1	05 Apr 2022	Wind Dir	S
A1	05 Apr 2022	Water Color	Blue
A1	05 Apr 2022	Wave Ht Low (ft)	6
A1	05 Apr 2022	Wave Period (sec)	13
A1	05 Apr 2022	Sea State	Regular Swell
A1	05 Apr 2022	High Tide (ft)	4.79
A1	05 Apr 2022	High Tide Time	706
A1	05 Apr 2022	Low Tide (ft)	0.22
A1	05 Apr 2022	Low Tide Time	1336
A1	05 Apr 2022	Comments	none
A1	13 Apr 2022	Depth (m)	19
A1	13 Apr 2022	Arrive Time	829
A1	13 Apr 2022	Depart Time	834
A1	13 Apr 2022	Air Temp (C)	12.8
A1	13 Apr 2022	Weather	Haze
A1	13 Apr 2022	Visibility (mi)	10
A1	13 Apr 2022	Wind Speed (kts)	5.5
A1	13 Apr 2022	Wind Dir	SE
A1	13 Apr 2022	Water Color	Blueish-Green
A1	13 Apr 2022	Wave Ht Low (ft)	6.2
A1	13 Apr 2022	Wave Period (sec)	15
A1	13 Apr 2022	Sea State	Regular Swell
A1	13 Apr 2022	High Tide (ft)	4.67
A1	13 Apr 2022	High Tide Time	1436
A1	13 Apr 2022	Low Tide (ft)	-0.19
A1	13 Apr 2022	Low Tide Time	2106
A1	13 Apr 2022	Comments	none
A1	19 Apr 2022	Depth (m)	18
A1	19 Apr 2022	Arrive Time	759
A1	19 Apr 2022	Depart Time	807
A1	19 Apr 2022	Air Temp (C)	15.1
A1	19 Apr 2022	Weather	Partly Cloudy
A1	19 Apr 2022	Visibility (mi)	9
A1	19 Apr 2022	Wind Speed (kts)	1.9
A1	19 Apr 2022	Wind Dir	S
A1	19 Apr 2022	Water Color	Blueish-Green
A1	19 Apr 2022	Wave Ht Low (ft)	5
A1	19 Apr 2022	Wave Period (sec)	7
A1	19 Apr 2022	Sea State	Light Chop
A1	19 Apr 2022	High Tide (ft)	5.72
A1	19 Apr 2022	High Tide Time	624
A1	19 Apr 2022	Low Tide (ft)	-0.91
A1	19 Apr 2022	Low Tide Time	1254
A1	19 Apr 2022	Comments	Kelp
A1	26 Apr 2022	Depth (m)	19
A1	26 Apr 2022	Arrive Time	802

Station	Date	Parameter	Value
A1	26 Apr 2022	Depart Time	807
A1	26 Apr 2022	Air Temp (C)	13.8
A1	26 Apr 2022	Weather	Haze
A1	26 Apr 2022	Visibility (mi)	9
A1	26 Apr 2022	Wind Speed (kts)	1.9
A1	26 Apr 2022	Wind Dir	NW
A1	26 Apr 2022	Water Color	Greenish-Blue
A1	26 Apr 2022	Wave Ht Low (ft)	5
A1	26 Apr 2022	Wave Period (sec)	17
A1	26 Apr 2022	Sea State	Regular Swell
A1	26 Apr 2022	High Tide (ft)	4.77
A1	26 Apr 2022	High Tide Time	254
A1	26 Apr 2022	Low Tide (ft)	-0.31
A1	26 Apr 2022	Low Tide Time	2024
A1	26 Apr 2022	Comments	Kelp
A6	05 Apr 2022	Depth (m)	18
A6	05 Apr 2022	Arrive Time	822
A6	05 Apr 2022	Depart Time	827
A6	05 Apr 2022	Air Temp (C)	14.2
A6	05 Apr 2022	Weather	Continuous Layer of Clouds
A6	05 Apr 2022	Visibility (mi)	5
A6	05 Apr 2022	Wind Speed (kts)	5.8
A6	05 Apr 2022	Wind Dir	E
A6	05 Apr 2022	Water Color	Blue
A6	05 Apr 2022	Wave Ht Low (ft)	6
A6	05 Apr 2022	Wave Period (sec)	13
A6	05 Apr 2022	Sea State	Regular Swell
A6	05 Apr 2022	High Tide (ft)	4.79
A6	05 Apr 2022	High Tide Time	706
A6	05 Apr 2022	Low Tide (ft)	0.22
A6	05 Apr 2022	Low Tide Time	1336
A6	05 Apr 2022	Comments	none
A6	13 Apr 2022	Depth (m)	19
A6	13 Apr 2022	Arrive Time	854
A6	13 Apr 2022	Depart Time	901
A6	13 Apr 2022	Air Temp (C)	14.3
A6	13 Apr 2022	Weather	Haze
A6	13 Apr 2022	Visibility (mi)	10
A6	13 Apr 2022	Wind Speed (kts)	1.1
A6	13 Apr 2022	Wind Dir	S
A6	13 Apr 2022	Water Color	Blueish-Green
A6	13 Apr 2022	Wave Ht Low (ft)	6.2
A6	13 Apr 2022	Wave Period (sec)	15
A6	13 Apr 2022	Sea State	Regular Swell
A6	13 Apr 2022	High Tide (ft)	4.67
A6	13 Apr 2022	High Tide Time	1436
A6	13 Apr 2022	Low Tide (ft)	-0.19
A6	13 Apr 2022	Low Tide Time	2106
A6	13 Apr 2022	Comments	none
A6	19 Apr 2022	Depth (m)	19
A6	19 Apr 2022	Arrive Time	833
A6	19 Apr 2022	Depart Time	838
A6	19 Apr 2022	Air Temp (C)	14.8
A6	19 Apr 2022	Weather	Partly Cloudy
A6	19 Apr 2022	Visibility (mi)	9
A6	19 Apr 2022	Wind Speed (kts)	2.7
A6	19 Apr 2022	Wind Dir	W
A6	19 Apr 2022	Water Color	Blueish-Green

Station	Date	Parameter	Value
A6	19 Apr 2022	Wave Ht Low (ft)	5
A6	19 Apr 2022	Wave Period (sec)	7
A6	19 Apr 2022	Sea State	Light Chop
A6	19 Apr 2022	High Tide (ft)	5.72
A6	19 Apr 2022	High Tide Time	624
A6	19 Apr 2022	Low Tide (ft)	-0.91
A6	19 Apr 2022	Low Tide Time	1254
A6	19 Apr 2022	Comments	Kelp
A6	26 Apr 2022	Depth (m)	20
A6	26 Apr 2022	Arrive Time	828
A6	26 Apr 2022	Depart Time	834
A6	26 Apr 2022	Air Temp (C)	13.6
A6	26 Apr 2022	Weather	Haze
A6	26 Apr 2022	Visibility (mi)	9
A6	26 Apr 2022	Wind Speed (kts)	0
A6	26 Apr 2022	Wind Dir	SW
A6	26 Apr 2022	Water Color	Greenish-Brown
A6	26 Apr 2022	Wave Ht Low (ft)	5
A6	26 Apr 2022	Wave Period (sec)	17
A6	26 Apr 2022	Sea State	Regular Swell
A6	26 Apr 2022	High Tide (ft)	4.77
A6	26 Apr 2022	High Tide Time	254
A6	26 Apr 2022	Low Tide (ft)	-0.31
A6	26 Apr 2022	Low Tide Time	2024
A6	26 Apr 2022	Comments	none
A7	05 Apr 2022	Depth (m)	19
A7	05 Apr 2022	Arrive Time	813
A7	05 Apr 2022	Depart Time	813
A7	05 Apr 2022	Air Temp (C)	14
A7	05 Apr 2022	Weather	Continuous Layer of Clouds
A7	05 Apr 2022	Visibility (mi)	5
A7	05 Apr 2022	Wind Speed (kts)	6
A7	05 Apr 2022	Wind Dir	SW
A7	05 Apr 2022	Water Color	Blue
A7	05 Apr 2022	Wave Ht Low (ft)	6
A7	05 Apr 2022	Wave Period (sec)	13
A7	05 Apr 2022	Sea State	Regular Swell
A7	05 Apr 2022	High Tide (ft)	4.79
A7	05 Apr 2022	High Tide Time	706
A7	05 Apr 2022	Low Tide (ft)	0.22
A7	05 Apr 2022	Low Tide Time	1336
A7	05 Apr 2022	Comments	Navops crashed after taking arrival here; Had to redo
A7	13 Apr 2022	Depth (m)	18
A7	13 Apr 2022	Arrive Time	840
A7	13 Apr 2022	Depart Time	846
A7	13 Apr 2022	Air Temp (C)	13.4
A7	13 Apr 2022	Weather	Haze
A7	13 Apr 2022	Visibility (mi)	10
A7	13 Apr 2022	Wind Speed (kts)	7.2
A7	13 Apr 2022	Wind Dir	SE
A7	13 Apr 2022	Water Color	Blueish-Green
A7	13 Apr 2022	Wave Ht Low (ft)	6.2
A7	13 Apr 2022	Wave Period (sec)	15
A7	13 Apr 2022	Sea State	Regular Swell
A7	13 Apr 2022	High Tide (ft)	4.67
A7	13 Apr 2022	High Tide Time	1436
A7	13 Apr 2022	Low Tide (ft)	-0.19
A7	13 Apr 2022	Low Tide Time	2106

Station	Date	Parameter	Value
A7	13 Apr 2022	Comments	none
A7	19 Apr 2022	Depth (m)	19
A7	19 Apr 2022	Arrive Time	818
A7	19 Apr 2022	Depart Time	822
A7	19 Apr 2022	Air Temp (C)	14.7
A7	19 Apr 2022	Weather	Partly Cloudy
A7	19 Apr 2022	Visibility (mi)	9
A7	19 Apr 2022	Wind Speed (kts)	0
A7	19 Apr 2022	Wind Dir	SW
A7	19 Apr 2022	Water Color	Blueish-Green
A7	19 Apr 2022	Wave Ht Low (ft)	5
A7	19 Apr 2022	Wave Period (sec)	7
A7	19 Apr 2022	Sea State	Light Chop
A7	19 Apr 2022	High Tide (ft)	5.72
A7	19 Apr 2022	High Tide Time	624
A7	19 Apr 2022	Low Tide (ft)	-0.91
A7	19 Apr 2022	Low Tide Time	1254
A7	19 Apr 2022	Comments	Kelp
A7	26 Apr 2022	Depth (m)	19
A7	26 Apr 2022	Arrive Time	815
A7	26 Apr 2022	Depart Time	819
A7	26 Apr 2022	Air Temp (C)	13.8
A7	26 Apr 2022	Weather	Haze
A7	26 Apr 2022	Visibility (mi)	9
A7	26 Apr 2022	Wind Speed (kts)	1.3
A7	26 Apr 2022	Wind Dir	W
A7	26 Apr 2022	Water Color	Greenish-Blue
A7	26 Apr 2022	Wave Ht Low (ft)	5
A7	26 Apr 2022	Wave Period (sec)	17
A7	26 Apr 2022	Sea State	Regular Swell
A7	26 Apr 2022	High Tide (ft)	4.77
A7	26 Apr 2022	High Tide Time	254
A7	26 Apr 2022	Low Tide (ft)	-0.31
A7	26 Apr 2022	Low Tide Time	2024
A7	26 Apr 2022	Comments	Kelp; Lobster floats
C4	05 Apr 2022	Depth (m)	11
C4	05 Apr 2022	Arrive Time	937
C4	05 Apr 2022	Depart Time	940
C4	05 Apr 2022	Air Temp (C)	14
C4	05 Apr 2022	Weather	Continuous Layer of Clouds
C4	05 Apr 2022	Visibility (mi)	5
C4	05 Apr 2022	Wind Speed (kts)	6.9
C4	05 Apr 2022	Wind Dir	SW
C4	05 Apr 2022	Water Color	Blue
C4	05 Apr 2022	Wave Ht Low (ft)	6
C4	05 Apr 2022	Wave Period (sec)	13
C4	05 Apr 2022	Sea State	Regular Swell
C4	05 Apr 2022	High Tide (ft)	4.79
C4	05 Apr 2022	High Tide Time	706
C4	05 Apr 2022	Low Tide (ft)	0.22
C4	05 Apr 2022	Low Tide Time	1336
C4	05 Apr 2022	Comments	none
C4	13 Apr 2022	Depth (m)	12
C4	13 Apr 2022	Arrive Time	1009
C4	13 Apr 2022	Depart Time	1017
C4	13 Apr 2022	Air Temp (C)	14.4
C4	13 Apr 2022	Weather	Haze

Station	Date	Parameter	Value
C4	13 Apr 2022	Visibility (mi)	10
C4	13 Apr 2022	Wind Speed (kts)	0.3
C4	13 Apr 2022	Wind Dir	W
C4	13 Apr 2022	Water Color	Blueish-Green
C4	13 Apr 2022	Wave Ht Low (ft)	6.2
C4	13 Apr 2022	Wave Period (sec)	15
C4	13 Apr 2022	Sea State	Regular Swell
C4	13 Apr 2022	High Tide (ft)	4.67
C4	13 Apr 2022	High Tide Time	1436
C4	13 Apr 2022	Low Tide (ft)	-0.19
C4	13 Apr 2022	Low Tide Time	2106
C4	13 Apr 2022	Comments	Recast due to kelp in transmissometer; Kelp; Kelp debris
C4	19 Apr 2022	Depth (m)	10
C4	19 Apr 2022	Arrive Time	953
C4	19 Apr 2022	Depart Time	958
C4	19 Apr 2022	Air Temp (C)	15.8
C4	19 Apr 2022	Weather	Partly Cloudy
C4	19 Apr 2022	Visibility (mi)	9
C4	19 Apr 2022	Wind Speed (kts)	3.7
C4	19 Apr 2022	Wind Dir	NW
C4	19 Apr 2022	Water Color	Blueish-Green
C4	19 Apr 2022	Wave Ht Low (ft)	5
C4	19 Apr 2022	Wave Period (sec)	7
C4	19 Apr 2022	Sea State	Light Chop
C4	19 Apr 2022	High Tide (ft)	5.72
C4	19 Apr 2022	High Tide Time	624
C4	19 Apr 2022	Low Tide (ft)	-0.91
C4	19 Apr 2022	Low Tide Time	1254
C4	19 Apr 2022	Comments	Kelp debris
C4	26 Apr 2022	Depth (m)	10
C4	26 Apr 2022	Arrive Time	1015
C4	26 Apr 2022	Depart Time	1019
C4	26 Apr 2022	Air Temp (C)	13.2
C4	26 Apr 2022	Weather	Fog
C4	26 Apr 2022	Visibility (mi)	0
C4	26 Apr 2022	Wind Speed (kts)	1.6
C4	26 Apr 2022	Wind Dir	W
C4	26 Apr 2022	Water Color	Green
C4	26 Apr 2022	Wave Ht Low (ft)	5
C4	26 Apr 2022	Wave Period (sec)	17
C4	26 Apr 2022	Sea State	Regular Swell
C4	26 Apr 2022	High Tide (ft)	4.77
C4	26 Apr 2022	High Tide Time	254
C4	26 Apr 2022	Low Tide (ft)	-0.31
C4	26 Apr 2022	Low Tide Time	2024
C4	26 Apr 2022	Comments	Sea lion on station; Chl-a sample taken at 9m - 18.6um; Kelp; Lobster Floats
C5	05 Apr 2022	Depth (m)	11
C5	05 Apr 2022	Arrive Time	927
C5	05 Apr 2022	Depart Time	930
C5	05 Apr 2022	Air Temp (C)	14
C5	05 Apr 2022	Weather	Continuous Layer of Clouds
C5	05 Apr 2022	Visibility (mi)	5
C5	05 Apr 2022	Wind Speed (kts)	1.9
C5	05 Apr 2022	Wind Dir	S
C5	05 Apr 2022	Water Color	Blue
C5	05 Apr 2022	Wave Ht Low (ft)	6
C5	05 Apr 2022	Wave Period (sec)	13

Station	Date	Parameter	Value
C5	05 Apr 2022	Sea State	Regular Swell
C5	05 Apr 2022	High Tide (ft)	4.79
C5	05 Apr 2022	High Tide Time	706
C5	05 Apr 2022	Low Tide (ft)	0.22
C5	05 Apr 2022	Low Tide Time	1336
C5	05 Apr 2022	Comments	May have to reprocess the data
C5	13 Apr 2022	Depth (m)	12
C5	13 Apr 2022	Arrive Time	957
C5	13 Apr 2022	Depart Time	1003
C5	13 Apr 2022	Air Temp (C)	14.3
C5	13 Apr 2022	Weather	Haze
C5	13 Apr 2022	Visibility (mi)	10
C5	13 Apr 2022	Wind Speed (kts)	1.6
C5	13 Apr 2022	Wind Dir	SW
C5	13 Apr 2022	Water Color	Blueish-Green
C5	13 Apr 2022	Wave Ht Low (ft)	6.2
C5	13 Apr 2022	Wave Period (sec)	15
C5	13 Apr 2022	Sea State	Regular Swell
C5	13 Apr 2022	High Tide (ft)	4.67
C5	13 Apr 2022	High Tide Time	1436
C5	13 Apr 2022	Low Tide (ft)	-0.19
C5	13 Apr 2022	Low Tide Time	2106
C5	13 Apr 2022	Comments	none
C5	19 Apr 2022	Depth (m)	9
C5	19 Apr 2022	Arrive Time	940
C5	19 Apr 2022	Depart Time	945
C5	19 Apr 2022	Air Temp (C)	15.2
C5	19 Apr 2022	Weather	Partly Cloudy
C5	19 Apr 2022	Visibility (mi)	9
C5	19 Apr 2022	Wind Speed (kts)	3.8
C5	19 Apr 2022	Wind Dir	NW
C5	19 Apr 2022	Water Color	Blueish-Green
C5	19 Apr 2022	Wave Ht Low (ft)	5
C5	19 Apr 2022	Wave Period (sec)	7
C5	19 Apr 2022	Sea State	Light Chop
C5	19 Apr 2022	High Tide (ft)	5.72
C5	19 Apr 2022	High Tide Time	624
C5	19 Apr 2022	Low Tide (ft)	-0.91
C5	19 Apr 2022	Low Tide Time	1254
C5	19 Apr 2022	Comments	Kelp debris
C5	26 Apr 2022	Depth (m)	10
C5	26 Apr 2022	Arrive Time	1000
C5	26 Apr 2022	Depart Time	1007
C5	26 Apr 2022	Air Temp (C)	13.1
C5	26 Apr 2022	Weather	Fog
C5	26 Apr 2022	Visibility (mi)	0
C5	26 Apr 2022	Wind Speed (kts)	0.5
C5	26 Apr 2022	Wind Dir	SW
C5	26 Apr 2022	Water Color	Green
C5	26 Apr 2022	Wave Ht Low (ft)	5
C5	26 Apr 2022	Wave Period (sec)	17
C5	26 Apr 2022	Sea State	Regular Swell
C5	26 Apr 2022	High Tide (ft)	4.77
C5	26 Apr 2022	High Tide Time	254
C5	26 Apr 2022	Low Tide (ft)	-0.31
C5	26 Apr 2022	Low Tide Time	2024
C5	26 Apr 2022	Comments	Harbor seal on station; Kelp debris

Station	Date	Parameter	Value
C6	05 Apr 2022	Depth (m)	9
C6	05 Apr 2022	Arrive Time	918
C6	05 Apr 2022	Depart Time	920
C6	05 Apr 2022	Air Temp (C)	14.1
C6	05 Apr 2022	Weather	Continuous Layer of Clouds
C6	05 Apr 2022	Visibility (mi)	5
C6	05 Apr 2022	Wind Speed (kts)	1.1
C6	05 Apr 2022	Wind Dir	S
C6	05 Apr 2022	Water Color	Blue
C6	05 Apr 2022	Wave Ht Low (ft)	6
C6	05 Apr 2022	Wave Period (sec)	13
C6	05 Apr 2022	Sea State	Regular Swell
C6	05 Apr 2022	High Tide (ft)	4.79
C6	05 Apr 2022	High Tide Time	706
C6	05 Apr 2022	Low Tide (ft)	0.22
C6	05 Apr 2022	Low Tide Time	1336
C6	05 Apr 2022	Comments	none
C6	13 Apr 2022	Depth (m)	10
C6	13 Apr 2022	Arrive Time	946
C6	13 Apr 2022	Depart Time	952
C6	13 Apr 2022	Air Temp (C)	14.2
C6	13 Apr 2022	Weather	Haze
C6	13 Apr 2022	Visibility (mi)	10
C6	13 Apr 2022	Wind Speed (kts)	1.9
C6	13 Apr 2022	Wind Dir	SW
C6	13 Apr 2022	Water Color	Blueish-Green
C6	13 Apr 2022	Wave Ht Low (ft)	6.2
C6	13 Apr 2022	Wave Period (sec)	15
C6	13 Apr 2022	Sea State	Regular Swell
C6	13 Apr 2022	High Tide (ft)	4.67
C6	13 Apr 2022	High Tide Time	1436
C6	13 Apr 2022	Low Tide (ft)	-0.19
C6	13 Apr 2022	Low Tide Time	2106
C6	13 Apr 2022	Comments	none
C6	19 Apr 2022	Depth (m)	9
C6	19 Apr 2022	Arrive Time	929
C6	19 Apr 2022	Depart Time	934
C6	19 Apr 2022	Air Temp (C)	15.2
C6	19 Apr 2022	Weather	Partly Cloudy
C6	19 Apr 2022	Visibility (mi)	9
C6	19 Apr 2022	Wind Speed (kts)	3.3
C6	19 Apr 2022	Wind Dir	NW
C6	19 Apr 2022	Water Color	Blueish-Green
C6	19 Apr 2022	Wave Ht Low (ft)	5
C6	19 Apr 2022	Wave Period (sec)	7
C6	19 Apr 2022	Sea State	Light Chop
C6	19 Apr 2022	High Tide (ft)	5.72
C6	19 Apr 2022	High Tide Time	624
C6	19 Apr 2022	Low Tide (ft)	-0.91
C6	19 Apr 2022	Low Tide Time	1254
C6	19 Apr 2022	Comments	none
C6	26 Apr 2022	Depth (m)	9
C6	26 Apr 2022	Arrive Time	941
C6	26 Apr 2022	Depart Time	951
C6	26 Apr 2022	Air Temp (C)	13
C6	26 Apr 2022	Weather	Fog
C6	26 Apr 2022	Visibility (mi)	0
C6	26 Apr 2022	Wind Speed (kts)	2.3

Station	Date	Parameter	Value
C6	26 Apr 2022	Wind Dir	W
C6	26 Apr 2022	Water Color	Green
C6	26 Apr 2022	Wave Ht Low (ft)	5
C6	26 Apr 2022	Wave Period (sec)	17
C6	26 Apr 2022	Sea State	Regular Swell
C6	26 Apr 2022	High Tide (ft)	4.77
C6	26 Apr 2022	High Tide Time	254
C6	26 Apr 2022	Low Tide (ft)	-0.31
C6	26 Apr 2022	Low Tide Time	2024
C6	26 Apr 2022	Comments	Kelp Debris
C7	05 Apr 2022	Depth (m)	18
C7	05 Apr 2022	Arrive Time	836
C7	05 Apr 2022	Depart Time	846
C7	05 Apr 2022	Air Temp (C)	14.3
C7	05 Apr 2022	Weather	Continuous Layer of Clouds
C7	05 Apr 2022	Visibility (mi)	5
C7	05 Apr 2022	Wind Speed (kts)	5.8
C7	05 Apr 2022	Wind Dir	SW
C7	05 Apr 2022	Water Color	Blue
C7	05 Apr 2022	Wave Ht Low (ft)	6
C7	05 Apr 2022	Wave Period (sec)	13
C7	05 Apr 2022	Sea State	Regular Swell
C7	05 Apr 2022	High Tide (ft)	4.79
C7	05 Apr 2022	High Tide Time	706
C7	05 Apr 2022	Low Tide (ft)	0.22
C7	05 Apr 2022	Low Tide Time	1336
C7	05 Apr 2022	Comments	none
C7	13 Apr 2022	Depth (m)	19
C7	13 Apr 2022	Arrive Time	911
C7	13 Apr 2022	Depart Time	915
C7	13 Apr 2022	Air Temp (C)	14.5
C7	13 Apr 2022	Weather	Haze
C7	13 Apr 2022	Visibility (mi)	10
C7	13 Apr 2022	Wind Speed (kts)	0.7
C7	13 Apr 2022	Wind Dir	W
C7	13 Apr 2022	Water Color	Blueish-Green
C7	13 Apr 2022	Wave Ht Low (ft)	6.2
C7	13 Apr 2022	Wave Period (sec)	15
C7	13 Apr 2022	Sea State	Regular Swell
C7	13 Apr 2022	High Tide (ft)	4.67
C7	13 Apr 2022	High Tide Time	1436
C7	13 Apr 2022	Low Tide (ft)	-0.19
C7	13 Apr 2022	Low Tide Time	2106
C7	13 Apr 2022	Comments	none
C7	19 Apr 2022	Depth (m)	17
C7	19 Apr 2022	Arrive Time	849
C7	19 Apr 2022	Depart Time	857
C7	19 Apr 2022	Air Temp (C)	14.9
C7	19 Apr 2022	Weather	Partly Cloudy
C7	19 Apr 2022	Visibility (mi)	9
C7	19 Apr 2022	Wind Speed (kts)	2.4
C7	19 Apr 2022	Wind Dir	NW
C7	19 Apr 2022	Water Color	Blueish-Green
C7	19 Apr 2022	Wave Ht Low (ft)	5
C7	19 Apr 2022	Wave Period (sec)	7
C7	19 Apr 2022	Sea State	Light Chop
C7	19 Apr 2022	High Tide (ft)	5.72
C7	19 Apr 2022	High Tide Time	624

Station	Date	Parameter	Value
C7	19 Apr 2022	Low Tide (ft)	-0.91
C7	19 Apr 2022	Low Tide Time	1254
C7	19 Apr 2022	Comments	Kelp
C7	26 Apr 2022	Depth (m)	17
C7	26 Apr 2022	Arrive Time	845
C7	26 Apr 2022	Depart Time	850
C7	26 Apr 2022	Air Temp (C)	12.9
C7	26 Apr 2022	Weather	Haze
C7	26 Apr 2022	Visibility (mi)	5
C7	26 Apr 2022	Wind Speed (kts)	2.4
C7	26 Apr 2022	Wind Dir	W
C7	26 Apr 2022	Water Color	Greenish-Brown
C7	26 Apr 2022	Wave Ht Low (ft)	5
C7	26 Apr 2022	Wave Period (sec)	17
C7	26 Apr 2022	Sea State	Regular Swell
C7	26 Apr 2022	High Tide (ft)	4.77
C7	26 Apr 2022	High Tide Time	254
C7	26 Apr 2022	Low Tide (ft)	-0.31
C7	26 Apr 2022	Low Tide Time	2024
C7	26 Apr 2022	Comments	Kelp
C8	05 Apr 2022	Depth (m)	19
C8	05 Apr 2022	Arrive Time	854
C8	05 Apr 2022	Depart Time	858
C8	05 Apr 2022	Air Temp (C)	14.3
C8	05 Apr 2022	Weather	Continuous Layer of Clouds
C8	05 Apr 2022	Visibility (mi)	5
C8	05 Apr 2022	Wind Speed (kts)	1.7
C8	05 Apr 2022	Wind Dir	S
C8	05 Apr 2022	Water Color	Blue
C8	05 Apr 2022	Wave Ht Low (ft)	6
C8	05 Apr 2022	Wave Period (sec)	13
C8	05 Apr 2022	Sea State	Regular Swell
C8	05 Apr 2022	High Tide (ft)	4.79
C8	05 Apr 2022	High Tide Time	706
C8	05 Apr 2022	Low Tide (ft)	0.22
C8	05 Apr 2022	Low Tide Time	1336
C8	05 Apr 2022	Comments	none
C8	13 Apr 2022	Depth (m)	20
C8	13 Apr 2022	Arrive Time	925
C8	13 Apr 2022	Depart Time	936
C8	13 Apr 2022	Air Temp (C)	14.5
C8	13 Apr 2022	Weather	Haze
C8	13 Apr 2022	Visibility (mi)	10
C8	13 Apr 2022	Wind Speed (kts)	1.5
C8	13 Apr 2022	Wind Dir	SW
C8	13 Apr 2022	Water Color	Blueish-Green
C8	13 Apr 2022	Wave Ht Low (ft)	6.2
C8	13 Apr 2022	Wave Period (sec)	15
C8	13 Apr 2022	Sea State	Regular Swell
C8	13 Apr 2022	High Tide (ft)	4.67
C8	13 Apr 2022	High Tide Time	1436
C8	13 Apr 2022	Low Tide (ft)	-0.19
C8	13 Apr 2022	Low Tide Time	2106
C8	13 Apr 2022	Comments	Bubbles on downcast at 1m in salinity and transmissometer; Outliers removed in IGODS file
C8	19 Apr 2022	Depth (m)	19
C8	19 Apr 2022	Arrive Time	903

Station	Date	Parameter	Value
C8	19 Apr 2022	Depart Time	910
C8	19 Apr 2022	Air Temp (C)	14.8
C8	19 Apr 2022	Weather	Partly Cloudy
C8	19 Apr 2022	Visibility (mi)	9
C8	19 Apr 2022	Wind Speed (kts)	2.8
C8	19 Apr 2022	Wind Dir	NW
C8	19 Apr 2022	Water Color	Blueish-Green
C8	19 Apr 2022	Wave Ht Low (ft)	5
C8	19 Apr 2022	Wave Period (sec)	7
C8	19 Apr 2022	Sea State	Light Chop
C8	19 Apr 2022	High Tide (ft)	5.72
C8	19 Apr 2022	High Tide Time	624
C8	19 Apr 2022	Low Tide (ft)	-0.91
C8	19 Apr 2022	Low Tide Time	1254
C8	19 Apr 2022	Comments	none
C8	26 Apr 2022	Depth (m)	18
C8	26 Apr 2022	Arrive Time	901
C8	26 Apr 2022	Depart Time	908
C8	26 Apr 2022	Air Temp (C)	12.9
C8	26 Apr 2022	Weather	Fog
C8	26 Apr 2022	Visibility (mi)	1
C8	26 Apr 2022	Wind Speed (kts)	7.1
C8	26 Apr 2022	Wind Dir	SW
C8	26 Apr 2022	Water Color	Greenish-Brown
C8	26 Apr 2022	Wave Ht Low (ft)	5
C8	26 Apr 2022	Wave Period (sec)	17
C8	26 Apr 2022	Sea State	Regular Swell
C8	26 Apr 2022	High Tide (ft)	4.77
C8	26 Apr 2022	High Tide Time	254
C8	26 Apr 2022	Low Tide (ft)	-0.31
C8	26 Apr 2022	Low Tide Time	2024
C8	26 Apr 2022	Comments	none

Table 3.10

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

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ($\sigma\text{-t}$)	Chlor ($\mu\text{g/L}$)
A1	05 Apr 2022	1	15.94	77.26	8.1	33.48	8.1	24.6	3.05
A1	05 Apr 2022	2	15.93	77.15	8.1	33.48	8.1	24.6	3.10
A1	05 Apr 2022	3	15.92	77.09	8.1	33.48	8.1	24.6	3.11
A1	05 Apr 2022	4	15.87	77.24	8.1	33.49	8.1	24.6	3.31
A1	05 Apr 2022	5	15.80	77.42	8.0	33.49	8.1	24.6	3.40
A1	05 Apr 2022	6	15.66	77.46	7.8	33.50	8.1	24.7	4.37
A1	05 Apr 2022	7	15.28	76.37	7.5	33.51	8.1	24.8	5.14
A1	05 Apr 2022	8	15.03	76.51	7.1	33.51	8.0	24.8	5.14
A1	05 Apr 2022	9	14.18	78.40	6.0	33.55	8.0	25.0	3.94
A1	05 Apr 2022	10	12.38	80.25	4.9	33.63	7.9	25.4	2.33
A1	05 Apr 2022	11	11.73	80.77	4.4	33.65	7.8	25.6	1.48
A1	05 Apr 2022	12	11.42	81.06	4.3	33.66	7.8	25.7	1.14
A1	05 Apr 2022	13	11.30	81.37	4.3	33.66	7.7	25.7	1.00
A1	05 Apr 2022	14	11.13	81.47	4.2	33.68	7.7	25.7	0.96
A1	05 Apr 2022	15	11.06	80.95	4.1	33.69	7.7	25.7	0.92
A1	05 Apr 2022	16	11.03	78.83	4.1	33.70	7.7	25.8	0.92
A1	05 Apr 2022	17	10.95	77.65	4.0	33.72	7.7	25.8	0.90
A1	05 Apr 2022	18	10.85	75.86	4.0	33.74	7.7	25.8	0.98
A1	05 Apr 2022	19	10.83	74.52	4.0	33.74	7.7	25.8	0.94
A1	13 Apr 2022	1	16.17	68.23	7.3	33.55	7.9	24.6	2.21
A1	13 Apr 2022	2	16.15	69.86	7.4	33.55	7.9	24.6	2.59
A1	13 Apr 2022	3	16.13	70.49	7.4	33.55	7.9	24.6	2.93
A1	13 Apr 2022	4	16.10	70.41	7.3	33.55	7.9	24.6	3.26
A1	13 Apr 2022	5	16.08	70.56	7.3	33.55	7.9	24.6	3.37
A1	13 Apr 2022	6	16.05	70.56	7.3	33.55	7.9	24.6	3.38
A1	13 Apr 2022	7	15.93	70.80	7.2	33.55	7.9	24.6	3.34
A1	13 Apr 2022	8	15.75	71.36	7.3	33.54	7.9	24.7	3.35
A1	13 Apr 2022	9	15.45	72.84	7.4	33.54	7.9	24.7	3.49
A1	13 Apr 2022	10	15.31	74.24	7.3	33.53	7.9	24.8	3.57
A1	13 Apr 2022	11	15.25	74.32	7.2	33.53	7.9	24.8	3.60
A1	13 Apr 2022	12	15.23	74.40	7.2	33.53	7.9	24.8	3.86
A1	13 Apr 2022	13	15.19	74.21	7.0	33.52	7.9	24.8	3.54
A1	13 Apr 2022	14	14.69	74.45	6.7	33.53	7.9	24.9	3.41
A1	13 Apr 2022	15	14.09	75.17	6.5	33.54	7.9	25.0	3.22
A1	13 Apr 2022	16	13.69	76.96	6.3	33.54	7.8	25.1	2.93
A1	13 Apr 2022	17	13.55	78.04	6.0	33.53	7.8	25.1	2.65
A1	13 Apr 2022	18	12.76	78.52	5.4	33.54	7.8	25.3	2.17
A1	13 Apr 2022	19	12.17	77.45	5.2	33.58	7.8	25.5	1.87
A1	19 Apr 2022	1	13.97	74.93	6.6	33.47	7.8	25.0	1.88
A1	19 Apr 2022	2	13.94	74.84	6.3	33.63	7.9	25.1	2.06
A1	19 Apr 2022	3	12.36	75.54	5.6	33.84	7.8	25.6	2.10
A1	19 Apr 2022	4	11.82	77.59	4.8	33.72	7.7	25.6	2.00
A1	19 Apr 2022	5	11.29	79.84	4.4	33.72	7.7	25.7	1.68
A1	19 Apr 2022	6	11.04	81.81	4.3	33.70	7.6	25.8	1.42
A1	19 Apr 2022	7	11.27	81.80	4.4	33.65	7.6	25.7	1.29
A1	19 Apr 2022	8	10.95	82.26	4.3	33.72	7.6	25.8	1.29
A1	19 Apr 2022	9	10.85	82.11	4.2	33.73	7.6	25.8	1.23
A1	19 Apr 2022	10	10.76	81.93	4.0	33.76	7.6	25.9	1.20
A1	19 Apr 2022	11	10.68	81.70	3.9	33.78	7.6	25.9	1.12
A1	19 Apr 2022	12	10.64	81.29	3.8	33.79	7.6	25.9	1.11
A1	19 Apr 2022	13	10.64	81.02	3.8	33.79	7.6	25.9	1.06
A1	19 Apr 2022	14	10.62	81.04	3.7	33.80	7.6	25.9	1.03
A1	19 Apr 2022	15	10.56	80.92	3.7	33.81	7.6	25.9	1.04

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
A1	19 Apr 2022	16	10.56	80.81	3.7	33.81	7.6	25.9	0.98
A1	19 Apr 2022	17	10.57	80.79	3.7	33.81	7.6	25.9	1.08
A1	19 Apr 2022	18	10.57	80.66	3.6	33.81	7.6	25.9	1.01
A1	19 Apr 2022	19	10.57	80.12	3.6	33.81	7.6	25.9	1.00
A1	26 Apr 2022	1	14.74	68.88	10.7	33.63	8.2	25.0	3.25
A1	26 Apr 2022	2	14.51	67.99	10.1	33.64	8.2	25.0	4.39
A1	26 Apr 2022	3	14.14	67.32	9.6	33.66	8.1	25.1	6.64
A1	26 Apr 2022	4	13.93	65.80	9.3	33.66	8.1	25.2	9.29
A1	26 Apr 2022	5	13.57	65.41	8.7	33.67	8.1	25.2	11.04
A1	26 Apr 2022	6	13.14	64.91	8.1	33.68	8.0	25.3	11.40
A1	26 Apr 2022	7	12.83	65.28	7.5	33.70	8.0	25.4	11.06
A1	26 Apr 2022	8	12.41	66.65	6.7	33.71	7.9	25.5	10.03
A1	26 Apr 2022	9	12.09	69.61	6.1	33.73	7.9	25.6	8.87
A1	26 Apr 2022	10	11.90	71.56	5.9	33.74	7.8	25.6	8.30
A1	26 Apr 2022	11	11.81	72.89	5.7	33.74	7.8	25.6	7.96
A1	26 Apr 2022	12	11.71	73.59	5.5	33.74	7.8	25.7	7.46
A1	26 Apr 2022	13	11.43	74.65	5.0	33.77	7.8	25.7	6.36
A1	26 Apr 2022	14	11.19	74.81	4.5	33.79	7.8	25.8	5.27
A1	26 Apr 2022	15	11.04	74.69	4.2	33.81	7.7	25.8	4.95
A1	26 Apr 2022	16	10.97	74.38	4.1	33.81	7.7	25.9	4.60
A1	26 Apr 2022	17	11.01	73.86	4.2	33.80	7.7	25.8	3.42
A1	26 Apr 2022	18	10.99	73.22	4.2	33.80	7.7	25.8	2.86
A1	26 Apr 2022	19	10.94	73.16	4.2	33.81	7.7	25.9	2.63
A6	05 Apr 2022	1	16.05	79.49	8.0	33.48	8.1	24.6	1.91
A6	05 Apr 2022	2	16.05	79.71	8.0	33.48	8.1	24.6	2.00
A6	05 Apr 2022	3	16.04	79.71	8.0	33.48	8.1	24.6	2.11
A6	05 Apr 2022	4	16.04	79.55	8.0	33.48	8.1	24.6	2.13
A6	05 Apr 2022	5	16.03	79.37	8.0	33.48	8.1	24.6	2.19
A6	05 Apr 2022	6	16.03	79.46	8.0	33.48	8.1	24.6	2.23
A6	05 Apr 2022	7	16.03	79.47	7.9	33.48	8.1	24.6	2.19
A6	05 Apr 2022	8	15.99	79.40	7.9	33.48	8.1	24.6	2.36
A6	05 Apr 2022	9	15.92	79.01	7.9	33.48	8.1	24.6	2.82
A6	05 Apr 2022	10	15.78	78.85	7.7	33.48	8.1	24.6	3.36
A6	05 Apr 2022	11	15.49	78.24	7.4	33.49	8.1	24.7	3.69
A6	05 Apr 2022	12	15.30	78.04	7.3	33.50	8.0	24.8	3.42
A6	05 Apr 2022	13	15.17	78.22	7.1	33.51	8.0	24.8	3.17
A6	05 Apr 2022	14	15.03	78.62	7.0	33.51	8.0	24.8	2.93
A6	05 Apr 2022	15	14.98	78.77	7.0	33.51	8.0	24.8	2.89
A6	05 Apr 2022	16	14.98	78.83	6.9	33.51	8.0	24.8	2.91
A6	05 Apr 2022	17	14.66	78.72	6.4	33.52	8.0	24.9	2.49
A6	05 Apr 2022	18	13.61	78.74	5.8	33.57	7.9	25.2	1.82
A6	13 Apr 2022	1	15.93	67.68	7.1	33.56	8.0	24.7	1.04
A6	13 Apr 2022	2	15.84	67.75	7.0	33.56	8.0	24.7	1.15
A6	13 Apr 2022	3	15.59	68.58	6.8	33.56	7.9	24.7	1.66
A6	13 Apr 2022	4	14.99	70.60	6.8	33.55	7.9	24.9	3.18
A6	13 Apr 2022	5	14.63	71.64	6.9	33.54	7.9	24.9	4.45
A6	13 Apr 2022	6	14.72	72.63	6.6	33.51	7.9	24.9	4.49
A6	13 Apr 2022	7	13.95	73.96	6.5	33.54	7.9	25.1	4.24
A6	13 Apr 2022	8	13.91	75.08	6.4	33.51	7.8	25.1	3.76
A6	13 Apr 2022	9	13.35	77.21	6.2	33.54	7.8	25.2	3.21
A6	13 Apr 2022	10	13.06	77.96	5.9	33.54	7.8	25.2	2.73
A6	13 Apr 2022	11	12.86	78.30	5.6	33.54	7.8	25.3	2.42
A6	13 Apr 2022	12	12.47	78.58	5.3	33.56	7.8	25.4	2.17
A6	13 Apr 2022	13	12.45	78.42	5.2	33.56	7.7	25.4	1.91
A6	13 Apr 2022	14	12.43	78.37	5.2	33.55	7.7	25.4	2.02
A6	13 Apr 2022	15	12.33	78.37	5.2	33.56	7.7	25.4	2.11
A6	13 Apr 2022	16	12.23	78.50	5.1	33.57	7.7	25.4	1.91
A6	13 Apr 2022	17	12.00	77.66	4.9	33.58	7.7	25.5	1.62

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
A6	19 Apr 2022	1	14.80	71.96	7.1	33.58	7.9	24.9	3.27
A6	19 Apr 2022	2	14.33	71.58	6.3	33.60	7.9	25.0	3.60
A6	19 Apr 2022	3	13.00	72.66	5.2	33.63	7.8	25.3	3.24
A6	19 Apr 2022	4	11.63	77.51	4.3	33.69	7.7	25.6	2.19
A6	19 Apr 2022	5	11.08	79.53	4.1	33.70	7.7	25.7	1.58
A6	19 Apr 2022	6	10.93	81.08	4.1	33.69	7.7	25.8	1.35
A6	19 Apr 2022	7	10.81	81.87	4.0	33.73	7.6	25.8	1.29
A6	19 Apr 2022	8	10.80	81.78	4.0	33.73	7.6	25.8	1.20
A6	19 Apr 2022	9	10.80	81.77	4.1	33.73	7.6	25.8	1.13
A6	19 Apr 2022	10	10.80	81.66	4.1	33.73	7.6	25.8	1.12
A6	19 Apr 2022	11	10.80	81.57	4.1	33.74	7.6	25.8	1.13
A6	19 Apr 2022	12	10.79	81.56	4.0	33.74	7.6	25.8	1.12
A6	19 Apr 2022	13	10.78	81.53	4.0	33.75	7.6	25.8	1.13
A6	19 Apr 2022	14	10.78	81.51	4.0	33.75	7.6	25.8	1.18
A6	19 Apr 2022	15	10.74	81.51	4.0	33.77	7.6	25.9	1.17
A6	19 Apr 2022	16	10.73	81.48	4.0	33.77	7.6	25.9	1.13
A6	19 Apr 2022	17	10.72	81.35	4.0	33.77	7.6	25.9	1.14
A6	19 Apr 2022	18	10.71	81.38	4.0	33.77	7.6	25.9	1.18
A6	19 Apr 2022	19	10.71	81.31	3.9	33.78	7.6	25.9	1.15
A6	26 Apr 2022	1	14.01	66.47	9.5	33.64	8.1	25.1	5.72
A6	26 Apr 2022	2	13.48	66.04	8.9	33.68	8.1	25.3	8.52
A6	26 Apr 2022	3	12.92	64.89	7.5	33.70	8.0	25.4	11.21
A6	26 Apr 2022	4	12.16	64.10	6.2	33.75	7.9	25.6	10.85
A6	26 Apr 2022	5	11.90	66.96	5.7	33.75	7.8	25.6	9.23
A6	26 Apr 2022	6	11.69	69.56	5.4	33.76	7.8	25.7	7.45
A6	26 Apr 2022	7	11.30	71.64	4.9	33.78	7.8	25.8	5.70
A6	26 Apr 2022	8	11.09	73.83	4.6	33.78	7.7	25.8	4.47
A6	26 Apr 2022	9	11.10	74.03	4.6	33.77	7.7	25.8	4.56
A6	26 Apr 2022	10	11.02	74.99	4.6	33.79	7.7	25.8	4.50
A6	26 Apr 2022	11	10.93	75.72	4.5	33.78	7.7	25.8	3.95
A6	26 Apr 2022	12	10.93	75.99	4.5	33.79	7.7	25.8	3.78
A6	26 Apr 2022	13	10.91	75.99	4.5	33.79	7.7	25.8	3.70
A6	26 Apr 2022	14	10.85	75.71	4.4	33.80	7.7	25.9	3.52
A6	26 Apr 2022	15	10.83	75.72	4.4	33.80	7.7	25.9	3.41
A6	26 Apr 2022	16	10.81	75.93	4.4	33.80	7.7	25.9	3.29
A6	26 Apr 2022	17	10.80	75.47	4.4	33.80	7.7	25.9	3.18
A6	26 Apr 2022	18	10.81	75.76	4.4	33.81	7.7	25.9	3.36
A6	26 Apr 2022	19	10.82	75.24	4.4	33.81	7.7	25.9	2.98
A7	05 Apr 2022	1	16.07	79.88	8.1	33.48	8.1	24.6	1.95
A7	05 Apr 2022	2	16.07	79.55	8.1	33.48	8.1	24.6	1.90
A7	05 Apr 2022	3	16.07	79.83	8.1	33.48	8.1	24.6	2.05
A7	05 Apr 2022	4	16.07	79.89	8.1	33.48	8.1	24.6	2.01
A7	05 Apr 2022	5	16.05	79.83	8.0	33.48	8.1	24.6	2.07
A7	05 Apr 2022	6	16.04	79.56	8.0	33.48	8.1	24.6	2.15
A7	05 Apr 2022	7	16.00	79.48	8.0	33.48	8.1	24.6	2.34
A7	05 Apr 2022	8	15.88	79.52	7.9	33.49	8.1	24.6	2.67
A7	05 Apr 2022	9	15.83	78.88	7.9	33.49	8.1	24.6	3.06
A7	05 Apr 2022	10	15.83	78.58	7.9	33.49	8.1	24.6	3.18
A7	05 Apr 2022	11	15.83	78.48	7.9	33.49	8.1	24.6	3.18
A7	05 Apr 2022	12	15.78	78.49	7.8	33.49	8.1	24.6	3.76
A7	05 Apr 2022	13	15.66	77.11	7.4	33.49	8.1	24.7	3.97
A7	05 Apr 2022	14	14.47	77.42	6.2	33.54	8.0	25.0	3.06
A7	05 Apr 2022	15	13.23	78.60	5.4	33.60	7.9	25.3	1.98
A7	05 Apr 2022	16	12.42	80.14	5.0	33.62	7.8	25.4	1.43
A7	05 Apr 2022	17	12.00	79.37	4.7	33.63	7.8	25.5	1.15
A7	05 Apr 2022	18	11.40	78.39	4.3	33.67	7.8	25.7	1.09
A7	05 Apr 2022	19	11.37	78.24	4.3	33.67	7.7	25.7	1.05

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
A7	13 Apr 2022	1	15.93	73.17	6.9	33.51	7.9	24.6	1.12
A7	13 Apr 2022	2	15.75	72.86	6.8	33.56	7.9	24.7	1.32
A7	13 Apr 2022	3	15.53	75.02	6.9	33.56	7.9	24.7	1.66
A7	13 Apr 2022	4	15.63	75.64	6.9	33.55	7.9	24.7	1.83
A7	13 Apr 2022	5	15.30	75.25	6.8	33.55	7.9	24.8	2.04
A7	13 Apr 2022	6	15.02	75.94	6.8	33.55	7.9	24.9	2.45
A7	13 Apr 2022	7	15.02	76.03	6.8	33.55	7.9	24.8	2.48
A7	13 Apr 2022	8	14.72	76.25	6.7	33.55	7.9	24.9	2.56
A7	13 Apr 2022	9	14.72	76.27	6.6	33.54	7.9	24.9	2.69
A7	13 Apr 2022	10	14.65	76.41	6.3	33.54	7.9	24.9	2.64
A7	13 Apr 2022	11	13.92	76.22	6.0	33.51	7.9	25.1	2.53
A7	13 Apr 2022	12	12.90	77.53	5.7	33.56	7.8	25.3	2.39
A7	13 Apr 2022	13	12.77	79.12	5.4	33.53	7.8	25.3	2.29
A7	13 Apr 2022	14	12.39	79.12	5.3	33.56	7.8	25.4	2.25
A7	13 Apr 2022	15	12.43	79.03	5.3	33.55	7.7	25.4	2.03
A7	13 Apr 2022	16	12.41	78.96	5.2	33.56	7.7	25.4	1.94
A7	13 Apr 2022	17	12.30	78.46	5.0	33.56	7.7	25.4	1.85
A7	13 Apr 2022	18	11.89	77.77	4.8	33.59	7.7	25.5	1.65
A7	19 Apr 2022	1	14.21	72.29	6.9	33.53	7.9	25.0	3.19
A7	19 Apr 2022	2	14.17	72.57	6.8	33.60	7.9	25.1	3.52
A7	19 Apr 2022	3	14.14	74.18	6.8	33.61	7.9	25.1	3.75
A7	19 Apr 2022	4	14.08	74.58	6.5	33.61	7.9	25.1	4.10
A7	19 Apr 2022	5	13.37	75.19	5.6	33.62	7.9	25.2	3.62
A7	19 Apr 2022	6	11.98	77.75	4.8	33.69	7.8	25.6	2.77
A7	19 Apr 2022	7	11.72	79.83	4.4	33.67	7.7	25.6	1.99
A7	19 Apr 2022	8	11.28	81.11	4.4	33.69	7.7	25.7	1.64
A7	19 Apr 2022	9	11.22	81.71	4.4	33.67	7.7	25.7	1.47
A7	19 Apr 2022	10	11.10	81.82	4.4	33.68	7.7	25.7	1.51
A7	19 Apr 2022	11	11.02	81.88	4.3	33.70	7.7	25.8	1.39
A7	19 Apr 2022	12	11.02	81.78	4.3	33.70	7.6	25.8	1.34
A7	19 Apr 2022	13	10.95	81.44	4.2	33.72	7.6	25.8	1.26
A7	19 Apr 2022	14	10.92	81.33	4.1	33.73	7.6	25.8	1.30
A7	19 Apr 2022	15	10.90	81.31	4.0	33.74	7.6	25.8	1.23
A7	19 Apr 2022	16	10.89	81.12	4.0	33.74	7.6	25.8	1.24
A7	19 Apr 2022	17	10.79	80.87	4.1	33.77	7.6	25.9	1.22
A7	19 Apr 2022	18	10.73	80.76	3.9	33.78	7.6	25.9	1.18
A7	19 Apr 2022	19	10.72	80.41	3.9	33.78	7.6	25.9	1.12
A7	26 Apr 2022	1	14.05	67.29	9.7	33.65	8.1	25.1	4.90
A7	26 Apr 2022	2	13.92	66.71	9.1	33.67	8.1	25.2	5.30
A7	26 Apr 2022	3	13.24	67.02	7.7	33.72	8.0	25.4	6.71
A7	26 Apr 2022	4	12.52	67.69	6.2	33.76	7.9	25.5	6.46
A7	26 Apr 2022	5	12.13	70.01	5.3	33.78	7.8	25.6	5.21
A7	26 Apr 2022	6	11.82	71.90	4.8	33.79	7.8	25.7	4.31
A7	26 Apr 2022	7	11.54	73.94	4.7	33.80	7.7	25.7	3.50
A7	26 Apr 2022	8	11.68	75.12	4.9	33.77	7.7	25.7	3.46
A7	26 Apr 2022	9	11.34	75.21	4.8	33.80	7.7	25.8	3.53
A7	26 Apr 2022	10	11.18	74.42	4.6	33.79	7.7	25.8	3.20
A7	26 Apr 2022	11	11.15	75.41	4.5	33.79	7.7	25.8	2.79
A7	26 Apr 2022	12	11.13	75.49	4.4	33.79	7.7	25.8	2.65
A7	26 Apr 2022	13	11.11	75.73	4.5	33.80	7.7	25.8	2.40
A7	26 Apr 2022	14	11.12	75.65	4.4	33.80	7.7	25.8	2.39
A7	26 Apr 2022	15	11.08	75.77	4.4	33.80	7.7	25.8	2.50
A7	26 Apr 2022	16	11.08	75.92	4.7	33.80	7.7	25.8	2.35
A7	26 Apr 2022	17	11.06	75.89	4.3	33.81	7.7	25.8	2.22
A7	26 Apr 2022	18	11.06	75.88	4.3	33.81	7.7	25.8	2.44
A7	26 Apr 2022	19	11.07	75.88	4.4	33.81	7.7	25.8	2.37
C4	05 Apr 2022	1	16.19	60.56	7.2	33.48	8.0	24.5	1.63
C4	05 Apr 2022	2	16.18	63.35	7.3	33.48	8.0	24.5	1.75

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
C4	05 Apr 2022	3	16.06	64.09	7.5	33.48	8.1	24.6	2.24
C4	05 Apr 2022	4	16.04	66.45	7.6	33.48	8.1	24.6	2.45
C4	05 Apr 2022	5	16.03	69.32	7.6	33.48	8.1	24.6	2.54
C4	05 Apr 2022	6	15.94	71.46	7.3	33.49	8.1	24.6	2.42
C4	05 Apr 2022	7	15.25	73.74	6.7	33.52	8.0	24.8	1.96
C4	05 Apr 2022	8	14.64	75.23	5.9	33.54	8.0	24.9	1.54
C4	05 Apr 2022	9	14.21	74.12	5.4	33.55	7.9	25.0	1.33
C4	05 Apr 2022	10	13.68	70.86	5.0	33.56	7.9	25.1	1.26
C4	13 Apr 2022	1	15.91	69.99	7.0	33.57	7.9	24.7	1.19
C4	13 Apr 2022	2	15.82	69.76	7.0	33.56	7.9	24.7	1.39
C4	13 Apr 2022	3	15.62	69.07	7.0	33.56	7.9	24.7	1.65
C4	13 Apr 2022	4	15.58	69.62	7.0	33.55	7.9	24.7	1.88
C4	13 Apr 2022	5	15.52	69.96	6.9	33.55	7.9	24.7	2.07
C4	13 Apr 2022	6	15.48	69.78	6.9	33.55	7.9	24.8	2.27
C4	13 Apr 2022	7	15.51	69.69	6.8	33.55	7.9	24.7	2.24
C4	13 Apr 2022	8	14.90	71.78	6.4	33.56	7.9	24.9	2.14
C4	13 Apr 2022	9	14.33	73.04	5.9	33.56	7.9	25.0	1.94
C4	13 Apr 2022	10	13.68	67.28	5.4	33.56	7.8	25.1	1.61
C4	13 Apr 2022	11	13.54	62.38	5.3	33.55	7.8	25.2	1.39
C4	19 Apr 2022	1	14.58	72.06	7.2	33.60	8.0	25.0	2.03
C4	19 Apr 2022	2	14.39	71.25	7.0	33.61	8.0	25.0	2.68
C4	19 Apr 2022	3	14.27	70.69	6.7	33.61	7.9	25.1	3.44
C4	19 Apr 2022	4	13.37	73.10	5.5	33.64	7.9	25.3	3.28
C4	19 Apr 2022	5	12.09	78.44	4.6	33.69	7.8	25.6	2.43
C4	19 Apr 2022	6	11.85	79.76	4.2	33.68	7.7	25.6	1.75
C4	19 Apr 2022	7	11.49	80.12	3.9	33.70	7.7	25.7	1.32
C4	19 Apr 2022	8	11.31	79.14	3.8	33.71	7.7	25.7	1.17
C4	19 Apr 2022	9	11.17	77.05	3.8	33.73	7.6	25.8	1.07
C4	19 Apr 2022	10	11.18	76.94	3.8	33.72	7.6	25.8	1.04
C4	26 Apr 2022	1	14.32	64.42	10.2	33.65	8.2	25.1	4.72
C4	26 Apr 2022	2	14.02	63.08	9.9	33.66	8.2	25.2	6.16
C4	26 Apr 2022	3	13.44	60.47	9.4	33.69	8.1	25.3	10.69
C4	26 Apr 2022	4	13.18	58.54	9.0	33.69	8.1	25.3	15.42
C4	26 Apr 2022	5	12.95	58.03	8.4	33.70	8.1	25.4	18.62
C4	26 Apr 2022	6	12.73	58.98	7.9	33.71	8.0	25.4	18.84
C4	26 Apr 2022	7	12.62	60.79	7.7	33.72	8.0	25.5	17.78
C4	26 Apr 2022	8	12.56	63.46	7.0	33.71	8.0	25.5	15.51
C4	26 Apr 2022	9	11.73	65.15	5.3	33.76	7.9	25.7	9.97
C4	26 Apr 2022	10	11.19	66.98	4.1	33.78	7.8	25.8	6.12
C4	26 Apr 2022	11	11.16	67.43	4.1	33.77	7.7	25.8	4.29
C5	05 Apr 2022	1	16.05	70.72	7.7	33.48	8.1	24.6	3.61
C5	05 Apr 2022	2	16.05	70.48	7.8	33.48	8.1	24.6	4.50
C5	05 Apr 2022	3	15.89	69.14	7.6	33.48	8.1	24.6	6.91
C5	05 Apr 2022	4	15.48	68.67	7.5	33.50	8.1	24.7	5.63
C5	05 Apr 2022	5	15.40	70.35	7.1	33.50	8.0	24.7	4.82
C5	05 Apr 2022	6	14.66	75.23	6.1	33.53	8.0	24.9	2.52
C5	05 Apr 2022	7	14.45	75.79	5.8	33.52	7.9	25.0	1.60
C5	05 Apr 2022	8	14.24	74.79	5.6	33.53	7.9	25.0	1.33
C5	05 Apr 2022	9	14.21	69.95	5.6	33.53	7.9	25.0	1.24
C5	05 Apr 2022	10	13.77	67.78	5.4	33.55	7.9	25.1	1.27
C5	05 Apr 2022	11	13.57	65.24	5.3	33.56	7.9	25.2	1.36
C5	13 Apr 2022	1	15.88	69.18	7.1	33.56	7.9	24.7	1.11
C5	13 Apr 2022	2	15.86	68.58	7.0	33.56	7.9	24.7	1.16
C5	13 Apr 2022	3	15.66	66.69	6.9	33.57	7.9	24.7	1.35
C5	13 Apr 2022	4	15.61	65.52	6.6	33.56	7.9	24.7	1.50
C5	13 Apr 2022	5	14.94	62.11	6.1	33.56	7.9	24.9	1.38

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
C5	13 Apr 2022	6	14.58	66.39	5.7	33.56	7.8	25.0	1.34
C5	13 Apr 2022	7	13.65	65.48	5.3	33.55	7.8	25.1	1.31
C5	13 Apr 2022	8	13.26	64.50	5.2	33.55	7.8	25.2	1.37
C5	13 Apr 2022	9	12.89	67.42	5.2	33.55	7.8	25.3	1.38
C5	13 Apr 2022	10	12.86	68.98	5.2	33.55	7.8	25.3	1.49
C5	13 Apr 2022	11	12.92	68.34	5.3	33.55	7.8	25.3	1.44
C5	19 Apr 2022	1	14.30	72.58	6.8	33.61	7.9	25.0	1.96
C5	19 Apr 2022	2	14.14	72.76	6.6	33.61	7.9	25.1	2.09
C5	19 Apr 2022	3	13.75	73.15	6.1	33.63	7.9	25.2	2.10
C5	19 Apr 2022	4	13.03	75.73	5.5	33.64	7.8	25.3	1.73
C5	19 Apr 2022	5	12.46	77.71	5.2	33.65	7.8	25.5	1.40
C5	19 Apr 2022	6	12.44	77.51	5.0	33.63	7.8	25.4	1.23
C5	19 Apr 2022	7	11.66	77.22	4.6	33.69	7.7	25.6	1.11
C5	19 Apr 2022	8	11.53	74.10	4.6	33.68	7.7	25.7	1.11
C5	19 Apr 2022	9	11.57	70.77	4.7	33.68	7.7	25.6	1.08
C5	26 Apr 2022	1	14.10	51.41	7.6	33.75	7.9	25.2	3.63
C5	26 Apr 2022	2	13.89	51.97	7.2	33.77	7.9	25.3	3.77
C5	26 Apr 2022	3	13.60	50.14	6.9	33.78	7.9	25.3	3.85
C5	26 Apr 2022	4	13.45	49.14	6.9	33.78	7.9	25.4	3.84
C5	26 Apr 2022	5	13.26	46.16	6.6	33.78	7.8	25.4	3.78
C5	26 Apr 2022	6	13.08	46.26	6.2	33.78	7.8	25.4	3.60
C5	26 Apr 2022	7	12.90	48.83	6.1	33.79	7.8	25.5	3.55
C5	26 Apr 2022	8	13.07	48.09	6.1	33.77	7.8	25.4	3.56
C5	26 Apr 2022	9	12.52	52.23	5.4	33.80	7.8	25.6	3.42
C5	26 Apr 2022	10	12.17	51.40	5.0	33.81	7.8	25.6	3.31
C6	05 Apr 2022	1	15.95	73.71	7.5	33.47	8.1	24.6	2.33
C6	05 Apr 2022	2	15.90	72.51	7.3	33.47	8.1	24.6	2.60
C6	05 Apr 2022	3	15.79	70.58	7.1	33.48	8.1	24.6	3.05
C6	05 Apr 2022	4	15.49	71.97	6.6	33.49	8.0	24.7	2.46
C6	05 Apr 2022	5	14.83	72.60	6.6	33.52	8.0	24.9	1.76
C6	05 Apr 2022	6	15.23	75.01	6.6	33.48	8.0	24.8	1.81
C6	05 Apr 2022	7	14.32	77.38	5.9	33.53	8.0	25.0	1.48
C6	05 Apr 2022	8	13.91	72.17	5.4	33.54	7.9	25.1	1.21
C6	05 Apr 2022	9	14.10	70.23	5.7	33.53	7.9	25.0	1.10
C6	13 Apr 2022	1	16.03	64.61	7.1	33.56	8.0	24.6	0.98
C6	13 Apr 2022	2	15.82	58.03	6.8	33.56	8.0	24.7	1.05
C6	13 Apr 2022	3	14.85	63.46	6.4	33.58	7.9	24.9	1.12
C6	13 Apr 2022	4	14.31	70.25	6.3	33.56	7.9	25.0	1.25
C6	13 Apr 2022	5	14.24	74.20	6.0	33.54	7.9	25.0	1.33
C6	13 Apr 2022	6	13.48	74.53	5.7	33.55	7.8	25.2	1.35
C6	13 Apr 2022	7	13.36	74.55	5.6	33.54	7.8	25.2	1.33
C6	13 Apr 2022	8	13.46	75.01	5.6	33.55	7.8	25.2	1.36
C6	13 Apr 2022	9	12.82	74.89	5.2	33.57	7.8	25.3	1.29
C6	13 Apr 2022	10	12.75	74.82	5.2	33.56	7.8	25.3	1.20
C6	19 Apr 2022	1	14.62	68.65	7.0	33.59	7.9	25.0	2.09
C6	19 Apr 2022	2	14.44	70.44	6.6	33.59	7.9	25.0	2.26
C6	19 Apr 2022	3	13.34	72.85	5.6	33.68	7.9	25.3	2.29
C6	19 Apr 2022	4	12.32	78.14	4.9	33.66	7.8	25.5	1.70
C6	19 Apr 2022	5	11.92	80.33	4.7	33.67	7.7	25.6	1.35
C6	19 Apr 2022	6	11.81	80.57	4.7	33.65	7.7	25.6	1.27
C6	19 Apr 2022	7	11.73	80.58	4.6	33.66	7.7	25.6	1.14
C6	19 Apr 2022	8	11.58	79.04	4.6	33.67	7.7	25.6	1.03
C6	19 Apr 2022	9	11.58	77.78	4.6	33.68	7.7	25.6	1.00
C6	26 Apr 2022	1	13.92	59.45	8.1	33.74	8.0	25.2	4.68
C6	26 Apr 2022	2	13.83	59.07	8.1	33.74	8.0	25.2	5.64

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
C6	26 Apr 2022	3	13.57	58.90	8.2	33.74	8.0	25.3	8.22
C6	26 Apr 2022	4	13.41	57.84	7.8	33.74	8.0	25.3	9.38
C6	26 Apr 2022	5	12.98	58.30	7.0	33.74	8.0	25.4	9.85
C6	26 Apr 2022	6	12.14	60.49	5.7	33.78	7.9	25.6	8.72
C6	26 Apr 2022	7	11.62	63.14	5.0	33.79	7.8	25.7	6.74
C6	26 Apr 2022	8	11.56	65.94	4.8	33.80	7.8	25.7	5.90
C6	26 Apr 2022	9	11.13	69.31	4.3	33.81	7.7	25.8	4.93
C7	05 Apr 2022	1	16.21	78.21	8.2	33.49	8.1	24.5	2.27
C7	05 Apr 2022	2	16.20	78.12	8.2	33.49	8.1	24.5	2.34
C7	05 Apr 2022	3	16.19	78.03	8.3	33.48	8.1	24.5	2.28
C7	05 Apr 2022	4	16.19	78.36	8.3	33.48	8.1	24.5	2.29
C7	05 Apr 2022	5	16.18	78.66	8.4	33.48	8.1	24.5	2.26
C7	05 Apr 2022	6	16.13	79.16	8.5	33.49	8.1	24.6	2.14
C7	05 Apr 2022	7	16.10	79.43	8.6	33.49	8.1	24.6	2.24
C7	05 Apr 2022	8	16.08	79.60	8.6	33.49	8.1	24.6	2.22
C7	05 Apr 2022	9	16.10	79.51	8.6	33.49	8.1	24.6	2.22
C7	05 Apr 2022	10	15.80	79.71	8.8	33.51	8.1	24.6	2.53
C7	05 Apr 2022	11	15.63	79.47	8.7	33.51	8.1	24.7	3.09
C7	05 Apr 2022	12	15.53	78.90	8.2	33.50	8.1	24.7	3.91
C7	05 Apr 2022	13	15.03	77.96	7.4	33.49	8.1	24.8	5.10
C7	05 Apr 2022	14	14.40	76.27	7.0	33.50	8.0	24.9	4.82
C7	05 Apr 2022	15	14.07	78.94	7.0	33.49	8.0	25.0	3.84
C7	05 Apr 2022	16	14.25	80.38	6.3	33.48	8.0	25.0	3.59
C7	05 Apr 2022	17	12.44	79.40	4.9	33.61	7.9	25.4	2.10
C7	05 Apr 2022	18	11.83	77.57	4.4	33.65	7.8	25.6	1.69
C7	13 Apr 2022	1	15.67	70.66	7.2	33.55	7.9	24.7	1.50
C7	13 Apr 2022	2	15.53	71.17	7.2	33.55	7.9	24.7	2.08
C7	13 Apr 2022	3	15.50	71.87	7.1	33.54	8.0	24.7	2.52
C7	13 Apr 2022	4	14.92	72.11	6.9	33.55	7.9	24.9	2.69
C7	13 Apr 2022	5	14.72	73.58	6.8	33.53	7.9	24.9	2.89
C7	13 Apr 2022	6	14.33	74.67	6.4	33.53	7.9	25.0	2.82
C7	13 Apr 2022	7	13.65	75.51	6.1	33.54	7.9	25.1	2.63
C7	13 Apr 2022	8	13.26	78.14	6.2	33.54	7.8	25.2	2.39
C7	13 Apr 2022	9	13.74	78.32	6.1	33.51	7.8	25.1	2.48
C7	13 Apr 2022	10	12.83	79.87	5.7	33.55	7.8	25.3	2.19
C7	13 Apr 2022	11	12.72	79.98	5.5	33.55	7.8	25.3	2.09
C7	13 Apr 2022	12	12.58	79.84	5.4	33.55	7.8	25.4	2.04
C7	13 Apr 2022	13	12.52	79.66	5.4	33.56	7.8	25.4	2.05
C7	13 Apr 2022	14	12.47	79.54	5.3	33.57	7.8	25.4	1.81
C7	13 Apr 2022	15	12.12	79.66	4.9	33.58	7.7	25.5	1.71
C7	13 Apr 2022	16	11.87	78.39	4.7	33.60	7.7	25.5	1.59
C7	13 Apr 2022	17	11.79	78.81	4.7	33.60	7.7	25.5	1.47
C7	13 Apr 2022	18	11.79	78.90	4.8	33.60	7.7	25.5	1.34
C7	13 Apr 2022	19	11.68	78.45	4.8	33.61	7.7	25.6	1.26
C7	19 Apr 2022	1	15.24	71.21	7.7	33.59	8.0	24.8	2.49
C7	19 Apr 2022	2	15.24	73.58	7.7	33.59	8.0	24.8	2.43
C7	19 Apr 2022	3	15.15	71.73	7.3	33.58	8.0	24.8	2.90
C7	19 Apr 2022	4	14.35	71.64	6.8	33.61	7.9	25.0	3.74
C7	19 Apr 2022	5	14.06	73.11	6.4	33.60	7.9	25.1	4.12
C7	19 Apr 2022	6	13.46	74.81	5.7	33.61	7.9	25.2	3.71
C7	19 Apr 2022	7	12.34	77.19	5.1	33.63	7.8	25.5	2.86
C7	19 Apr 2022	8	11.95	80.08	4.9	33.62	7.7	25.5	2.28
C7	19 Apr 2022	9	12.03	81.04	4.9	33.63	7.7	25.5	2.03
C7	19 Apr 2022	10	11.39	81.46	4.5	33.65	7.7	25.7	1.72
C7	19 Apr 2022	11	11.13	82.03	4.4	33.67	7.7	25.7	1.50
C7	19 Apr 2022	12	11.01	82.23	4.3	33.68	7.7	25.7	1.43
C7	19 Apr 2022	13	10.90	82.37	4.3	33.70	7.7	25.8	1.40
C7	19 Apr 2022	14	10.86	82.40	4.3	33.72	7.7	25.8	1.37

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
C7	19 Apr 2022	15	10.89	82.08	4.3	33.72	7.7	25.8	1.32
C7	19 Apr 2022	16	10.85	81.89	4.1	33.73	7.7	25.8	1.32
C7	19 Apr 2022	17	10.87	81.48	4.1	33.74	7.6	25.8	1.16
C7	19 Apr 2022	18	10.87	81.61	4.2	33.74	7.6	25.8	1.15
C7	26 Apr 2022	1	13.38	67.16	7.9	33.74	7.9	25.3	4.51
C7	26 Apr 2022	2	12.69	65.76	7.0	33.78	7.9	25.5	4.39
C7	26 Apr 2022	3	12.16	69.60	6.4	33.78	7.8	25.6	4.14
C7	26 Apr 2022	4	12.07	72.63	6.2	33.79	7.8	25.6	4.25
C7	26 Apr 2022	5	11.84	73.35	5.9	33.78	7.8	25.7	4.62
C7	26 Apr 2022	6	11.84	73.24	5.9	33.77	7.8	25.7	4.50
C7	26 Apr 2022	7	11.68	73.58	5.6	33.79	7.8	25.7	4.96
C7	26 Apr 2022	8	11.50	74.33	5.4	33.79	7.8	25.7	4.72
C7	26 Apr 2022	9	11.49	74.63	5.3	33.79	7.7	25.7	4.74
C7	26 Apr 2022	10	11.45	75.36	5.2	33.80	7.7	25.8	4.02
C7	26 Apr 2022	11	11.38	75.93	5.0	33.80	7.7	25.8	3.52
C7	26 Apr 2022	12	11.23	76.54	4.8	33.81	7.7	25.8	2.95
C7	26 Apr 2022	13	11.04	76.90	4.4	33.82	7.7	25.8	2.51
C7	26 Apr 2022	14	10.79	77.77	4.1	33.83	7.7	25.9	2.04
C7	26 Apr 2022	15	10.72	77.86	3.9	33.84	7.6	25.9	1.82
C7	26 Apr 2022	16	10.60	76.89	3.7	33.85	7.6	26.0	1.44
C7	26 Apr 2022	17	10.51	74.22	3.5	33.86	7.6	26.0	1.32
C7	26 Apr 2022	18	10.50	73.09	3.5	33.86	7.6	26.0	1.23
C8	05 Apr 2022	1	16.27	79.68	8.6	33.47	8.1	24.5	1.79
C8	05 Apr 2022	2	16.25	79.76	8.6	33.48	8.1	24.5	1.78
C8	05 Apr 2022	3	16.23	79.78	8.6	33.48	8.1	24.5	1.92
C8	05 Apr 2022	4	16.22	79.75	8.5	33.48	8.1	24.5	1.99
C8	05 Apr 2022	5	16.20	79.72	8.5	33.48	8.1	24.5	2.05
C8	05 Apr 2022	6	16.19	79.73	8.5	33.48	8.1	24.5	2.08
C8	05 Apr 2022	7	16.17	79.68	8.5	33.48	8.1	24.5	2.07
C8	05 Apr 2022	8	16.13	79.69	8.6	33.48	8.1	24.6	2.15
C8	05 Apr 2022	9	16.11	79.72	8.6	33.48	8.1	24.6	2.14
C8	05 Apr 2022	10	15.89	79.86	8.6	33.50	8.1	24.6	2.13
C8	05 Apr 2022	11	15.82	79.83	8.5	33.50	8.1	24.6	2.27
C8	05 Apr 2022	12	15.76	80.00	8.4	33.50	8.1	24.6	2.16
C8	05 Apr 2022	13	15.60	80.08	8.4	33.51	8.1	24.7	2.19
C8	05 Apr 2022	14	15.55	79.18	7.9	33.50	8.1	24.7	2.53
C8	05 Apr 2022	15	13.94	78.81	6.4	33.52	8.0	25.1	2.95
C8	05 Apr 2022	16	12.93	80.08	5.5	33.55	7.9	25.3	2.29
C8	05 Apr 2022	17	12.48	78.84	5.1	33.57	7.9	25.4	1.80
C8	05 Apr 2022	18	12.23	73.30	5.1	33.58	7.8	25.4	1.47
C8	05 Apr 2022	19	12.42	71.26	5.4	33.57	7.8	25.4	1.43
C8	13 Apr 2022	1	15.70	67.18	7.4	33.52	8.0	24.4	2.30
C8	13 Apr 2022	2	15.45	69.58	7.2	33.54	8.0	24.7	2.80
C8	13 Apr 2022	3	15.04	69.84	6.9	33.55	7.9	24.8	3.07
C8	13 Apr 2022	4	14.41	71.00	6.3	33.56	7.9	25.0	2.91
C8	13 Apr 2022	5	13.58	74.27	6.2	33.56	7.8	25.2	2.32
C8	13 Apr 2022	6	13.42	77.76	5.8	33.57	7.8	25.2	2.14
C8	13 Apr 2022	7	12.90	77.40	5.6	33.56	7.8	25.3	1.86
C8	13 Apr 2022	8	12.94	78.22	5.6	33.55	7.8	25.3	1.87
C8	13 Apr 2022	9	12.60	78.54	5.3	33.57	7.8	25.4	1.75
C8	13 Apr 2022	10	12.30	77.35	5.1	33.58	7.7	25.4	1.66
C8	13 Apr 2022	11	12.29	76.77	5.0	33.58	7.7	25.4	1.69
C8	13 Apr 2022	12	12.15	77.37	5.0	33.59	7.7	25.5	1.72
C8	13 Apr 2022	13	12.09	78.00	5.0	33.59	7.7	25.5	1.65
C8	13 Apr 2022	14	11.99	78.42	4.9	33.59	7.7	25.5	1.59
C8	13 Apr 2022	15	11.83	78.10	4.9	33.60	7.7	25.5	1.61
C8	13 Apr 2022	16	11.84	78.39	4.8	33.60	7.7	25.5	1.56
C8	13 Apr 2022	17	11.69	77.84	4.7	33.62	7.7	25.6	1.52

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
C8	13 Apr 2022	18	11.68	75.40	4.7	33.61	7.7	25.6	1.52
C8	13 Apr 2022	19	11.64	74.95	4.6	33.62	7.7	25.6	1.46
C8	13 Apr 2022	20	11.64	74.65	4.6	33.62	7.7	25.6	1.50
C8	19 Apr 2022	1	15.28	71.10	7.9	33.58	8.0	24.8	2.87
C8	19 Apr 2022	2	15.23	71.24	7.7	33.59	8.0	24.8	3.73
C8	19 Apr 2022	3	14.78	71.41	6.9	33.59	8.0	24.9	4.25
C8	19 Apr 2022	4	13.81	72.04	6.2	33.59	7.9	25.1	4.07
C8	19 Apr 2022	5	13.07	74.81	5.7	33.61	7.8	25.3	3.75
C8	19 Apr 2022	6	12.74	76.55	5.5	33.60	7.8	25.4	3.26
C8	19 Apr 2022	7	12.51	77.50	5.3	33.60	7.8	25.4	2.71
C8	19 Apr 2022	8	12.04	79.79	4.9	33.61	7.8	25.5	2.31
C8	19 Apr 2022	9	11.45	81.23	4.5	33.66	7.7	25.7	1.95
C8	19 Apr 2022	10	11.05	81.76	4.3	33.70	7.7	25.8	1.68
C8	19 Apr 2022	11	11.07	81.17	4.2	33.69	7.7	25.7	1.49
C8	19 Apr 2022	12	10.90	81.75	4.2	33.71	7.7	25.8	1.44
C8	19 Apr 2022	13	10.95	81.64	4.2	33.70	7.7	25.8	1.33
C8	19 Apr 2022	14	10.89	81.60	4.2	33.72	7.7	25.8	1.32
C8	19 Apr 2022	15	10.85	81.56	4.2	33.73	7.6	25.8	1.36
C8	19 Apr 2022	16	10.83	81.60	4.2	33.73	7.6	25.8	1.27
C8	19 Apr 2022	17	10.82	81.55	4.2	33.74	7.6	25.8	1.29
C8	19 Apr 2022	18	10.82	81.49	4.2	33.74	7.6	25.8	1.27
C8	19 Apr 2022	19	10.82	81.29	4.2	33.74	7.6	25.8	1.27
C8	26 Apr 2022	1	13.17	48.59	9.6	33.70	8.1	25.4	12.87
C8	26 Apr 2022	2	12.96	47.83	8.7	33.71	8.0	25.4	16.59
C8	26 Apr 2022	3	12.59	53.37	7.7	33.71	8.0	25.5	20.41
C8	26 Apr 2022	4	12.45	57.39	7.4	33.71	7.9	25.5	21.20
C8	26 Apr 2022	5	12.26	61.46	7.0	33.73	7.9	25.6	16.80
C8	26 Apr 2022	6	12.09	64.62	6.3	33.74	7.9	25.6	13.22
C8	26 Apr 2022	7	11.50	68.00	5.3	33.81	7.8	25.8	8.76
C8	26 Apr 2022	8	11.16	73.29	4.5	33.81	7.8	25.8	5.07
C8	26 Apr 2022	9	10.84	76.47	4.2	33.83	7.7	25.9	3.46
C8	26 Apr 2022	10	10.60	77.66	4.0	33.84	7.7	25.9	2.44
C8	26 Apr 2022	11	10.55	79.14	4.0	33.83	7.7	25.9	1.98
C8	26 Apr 2022	12	10.51	79.54	4.0	33.84	7.7	26.0	1.72
C8	26 Apr 2022	13	10.47	79.42	4.0	33.84	7.7	26.0	1.47
C8	26 Apr 2022	14	10.45	79.40	4.0	33.84	7.6	26.0	1.46
C8	26 Apr 2022	15	10.50	79.36	4.0	33.84	7.6	26.0	1.49
C8	26 Apr 2022	16	10.43	79.37	3.9	33.85	7.6	26.0	1.39
C8	26 Apr 2022	17	10.40	78.05	3.8	33.86	7.6	26.0	1.43
C8	26 Apr 2022	18	10.39	75.38	3.7	33.87	7.6	26.0	1.29

NA = not available

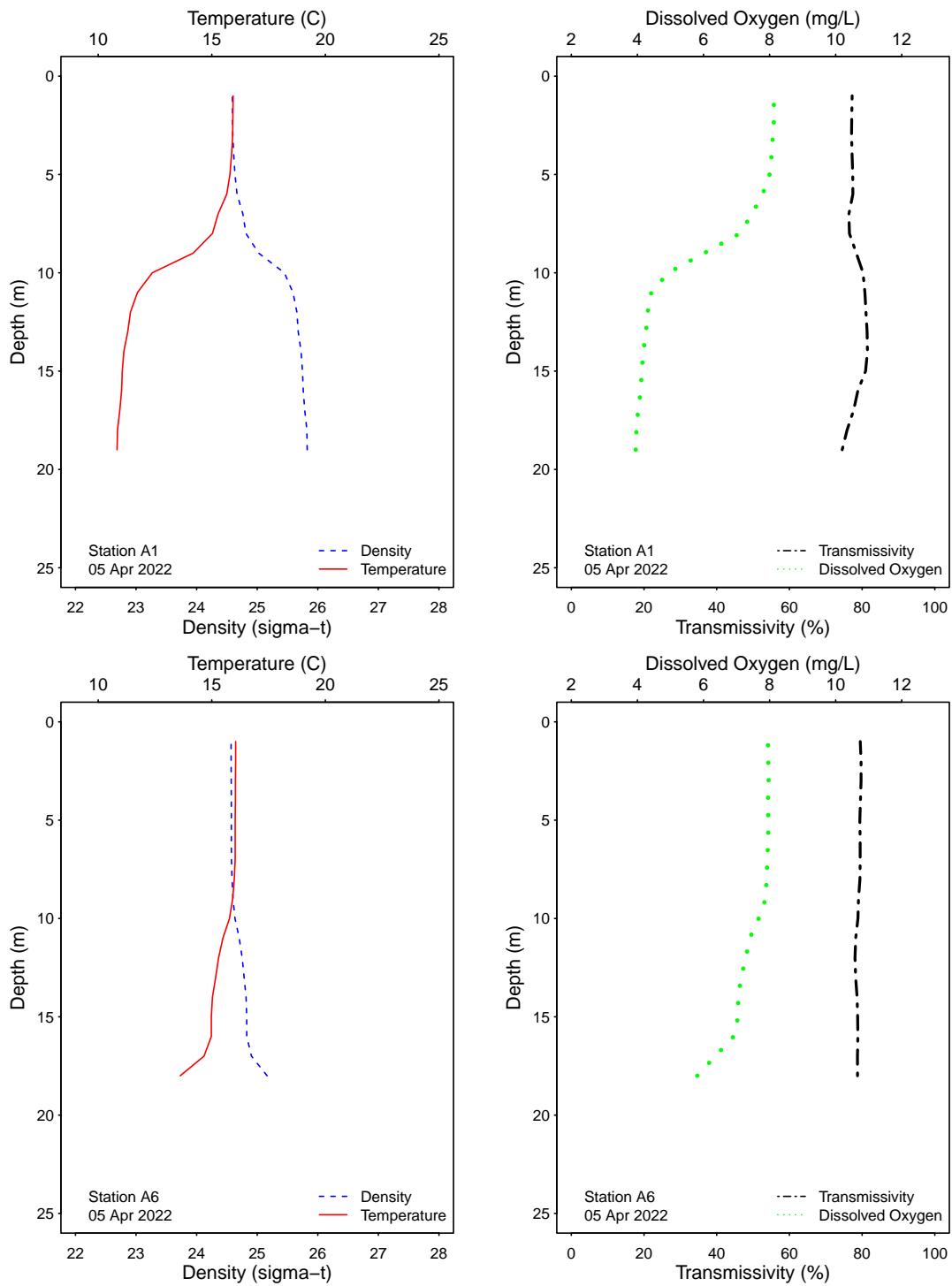


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

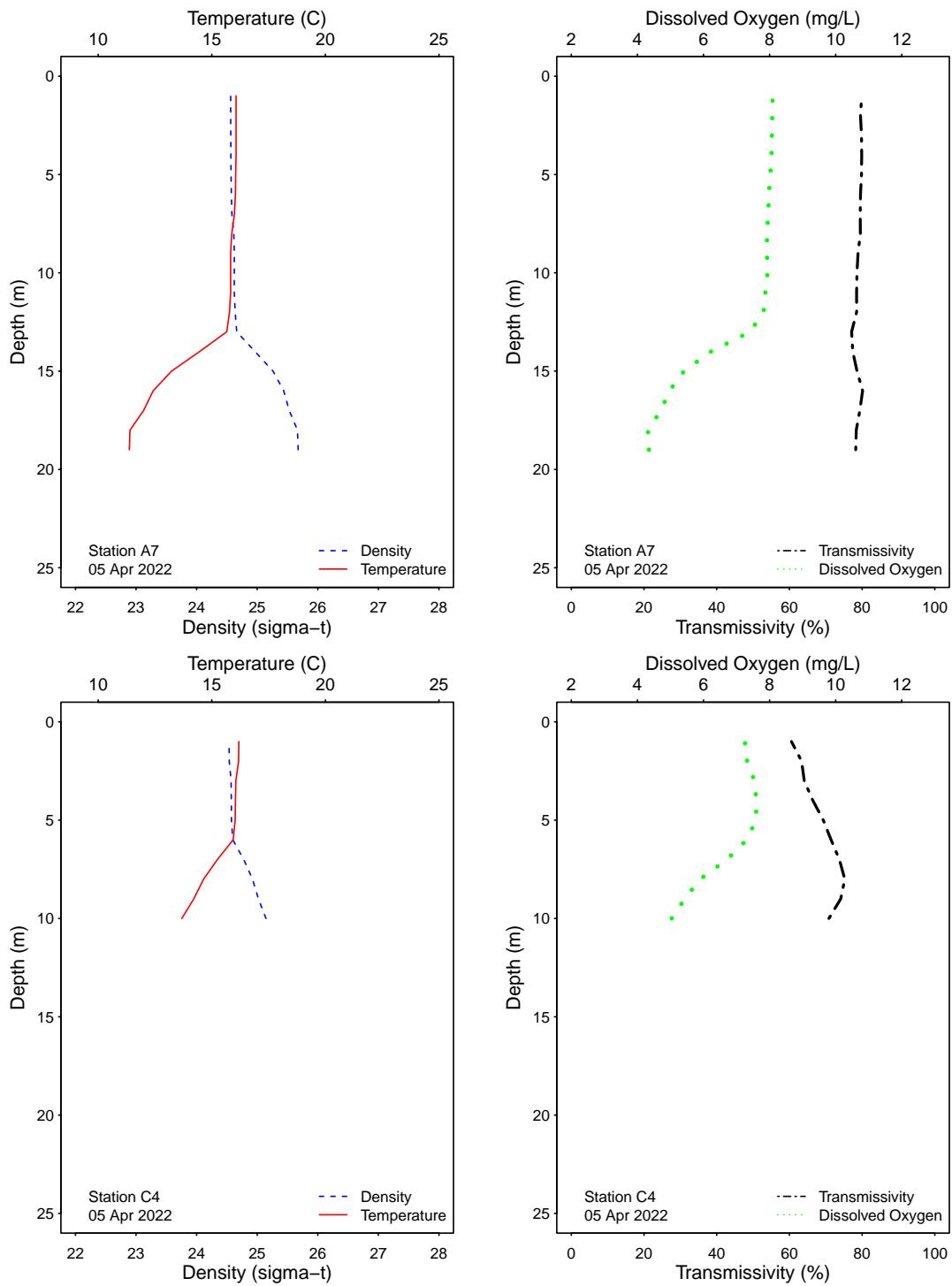


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

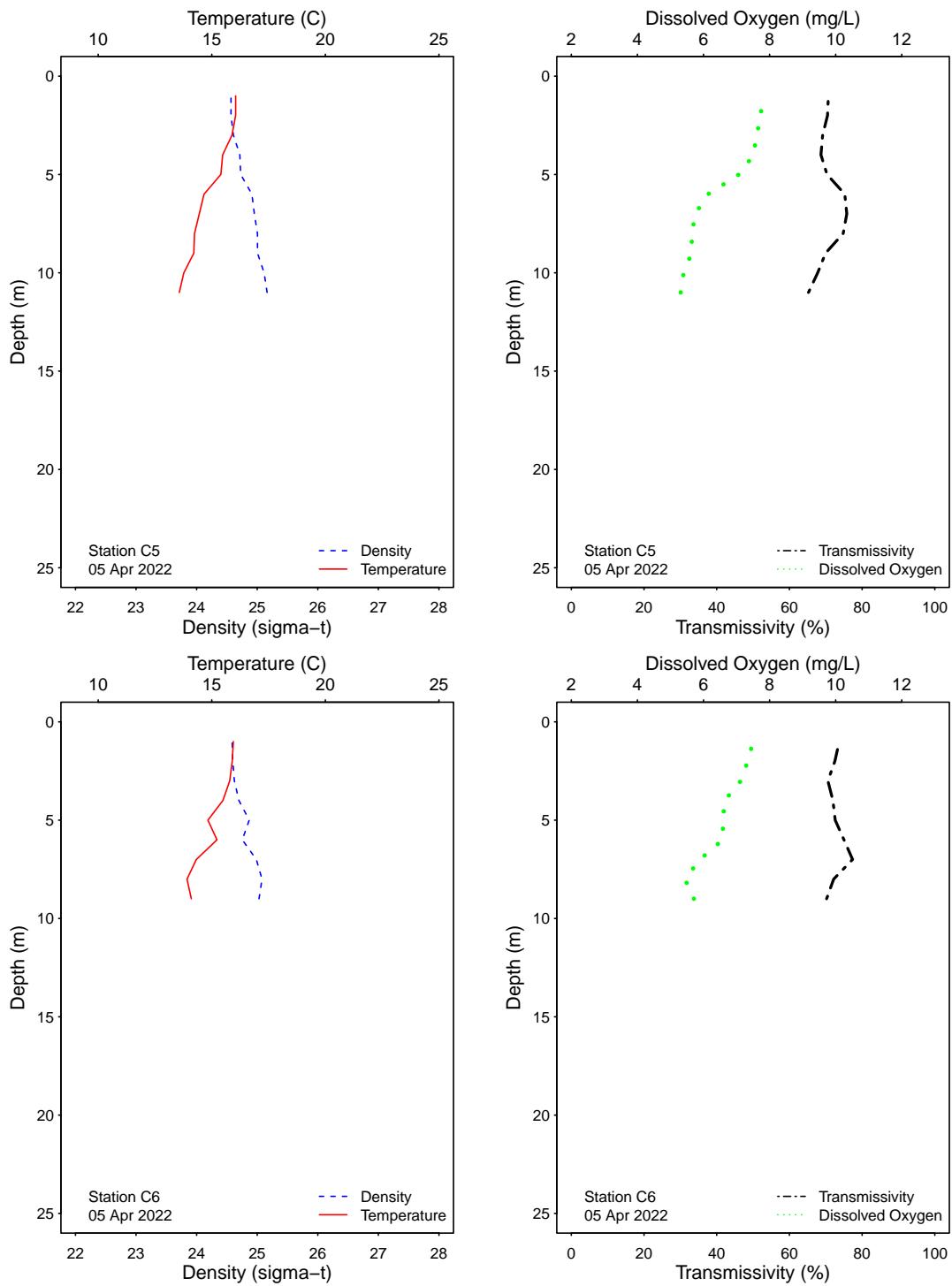


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

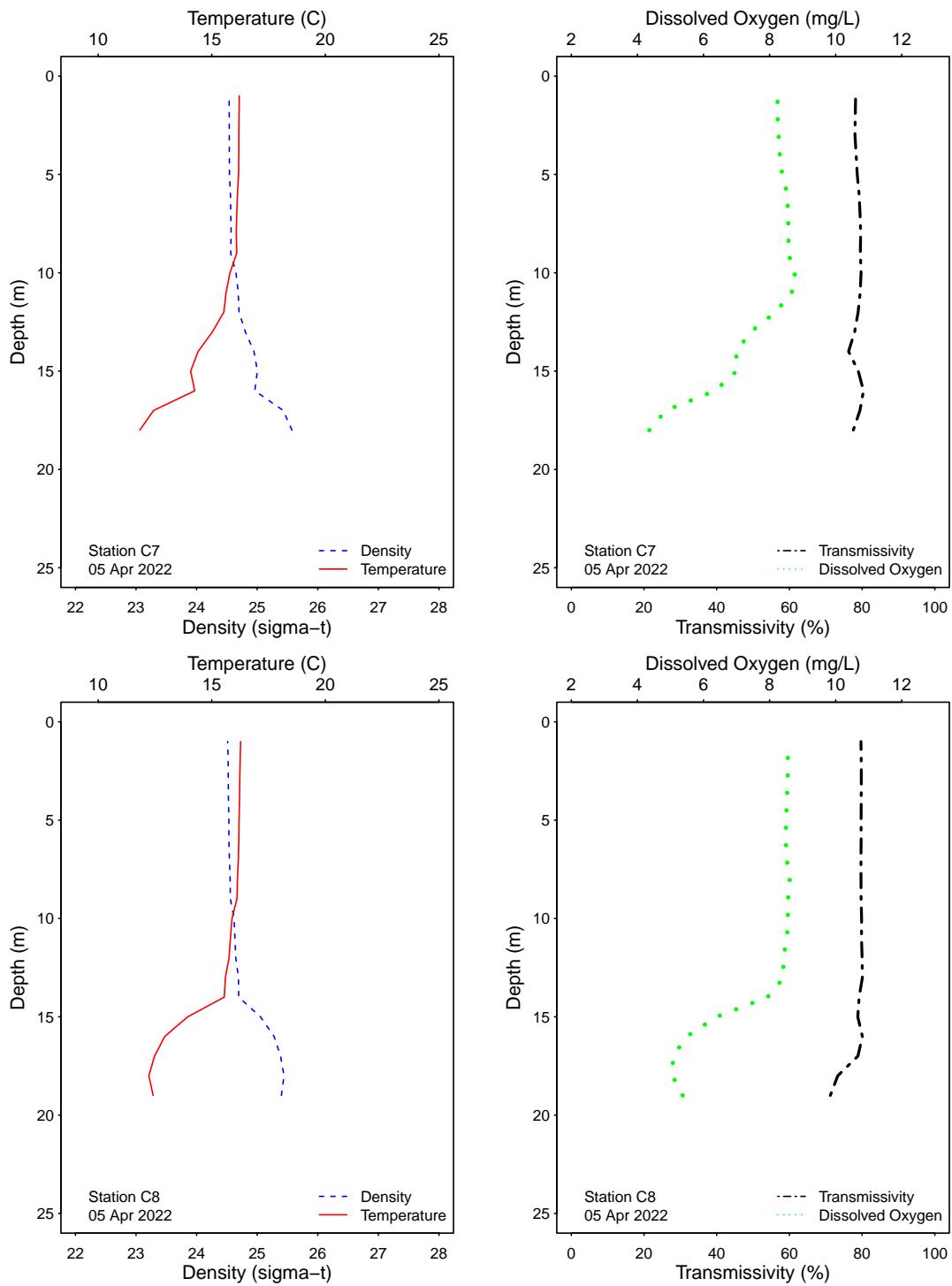


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

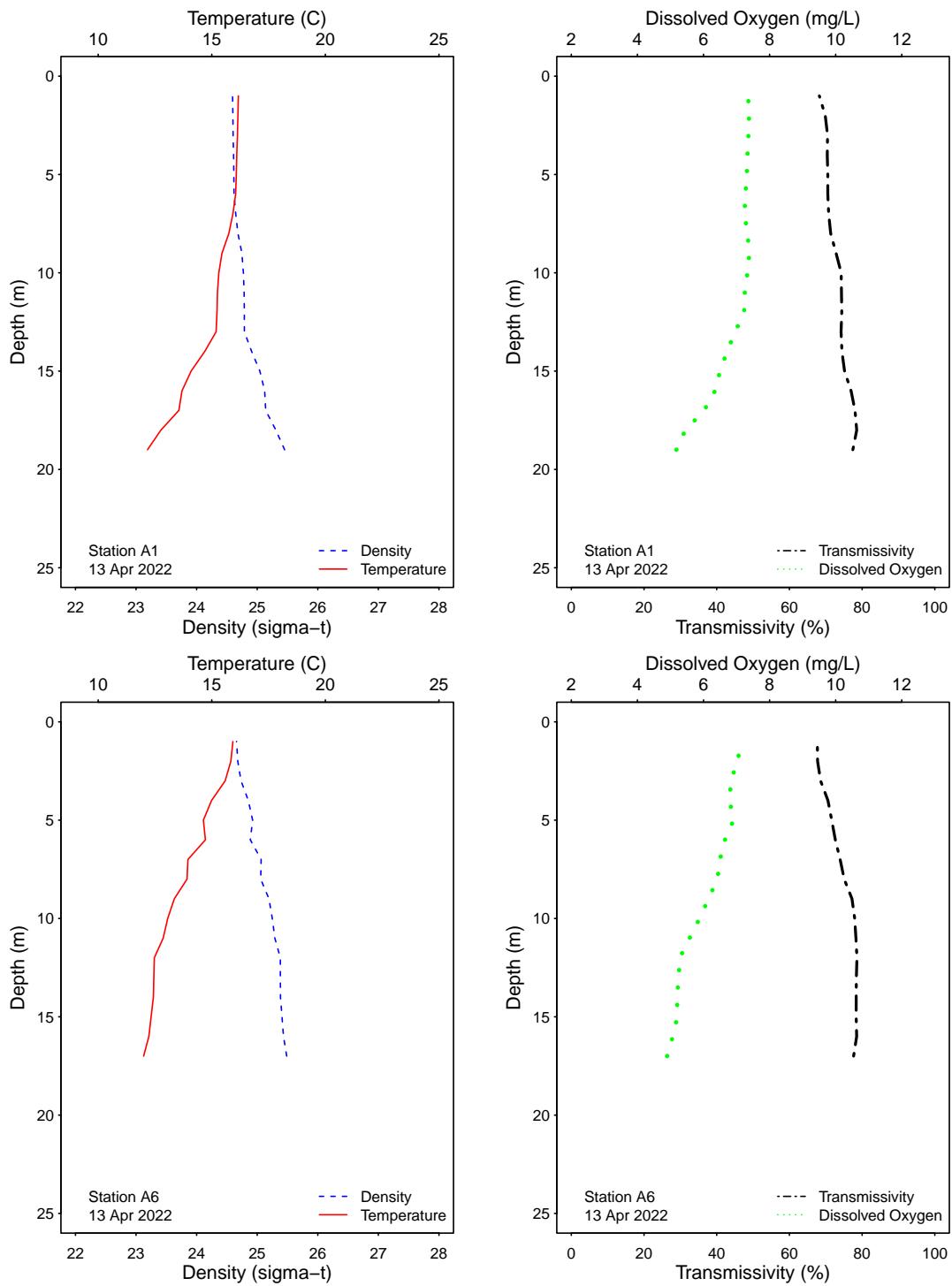


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

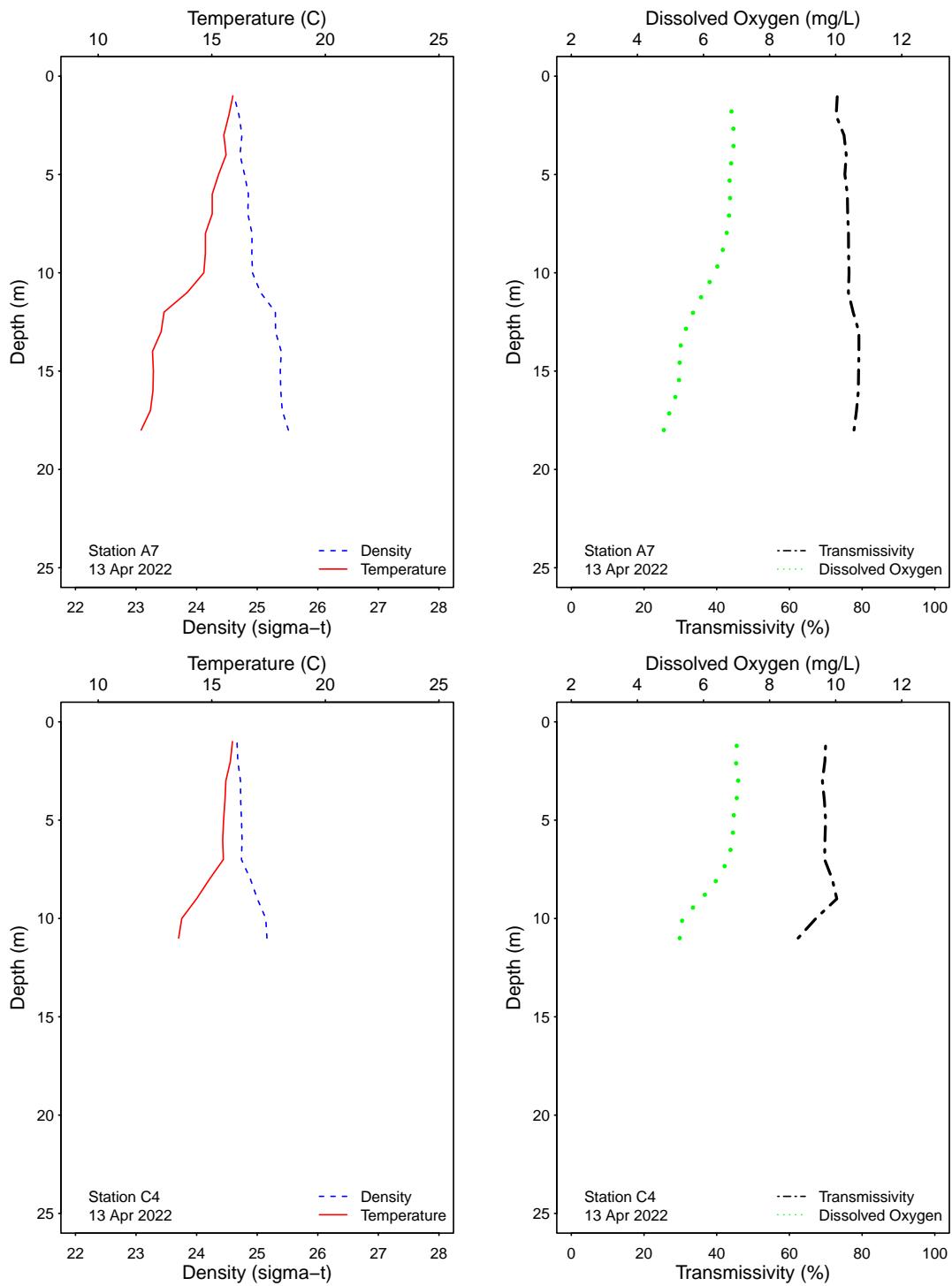


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

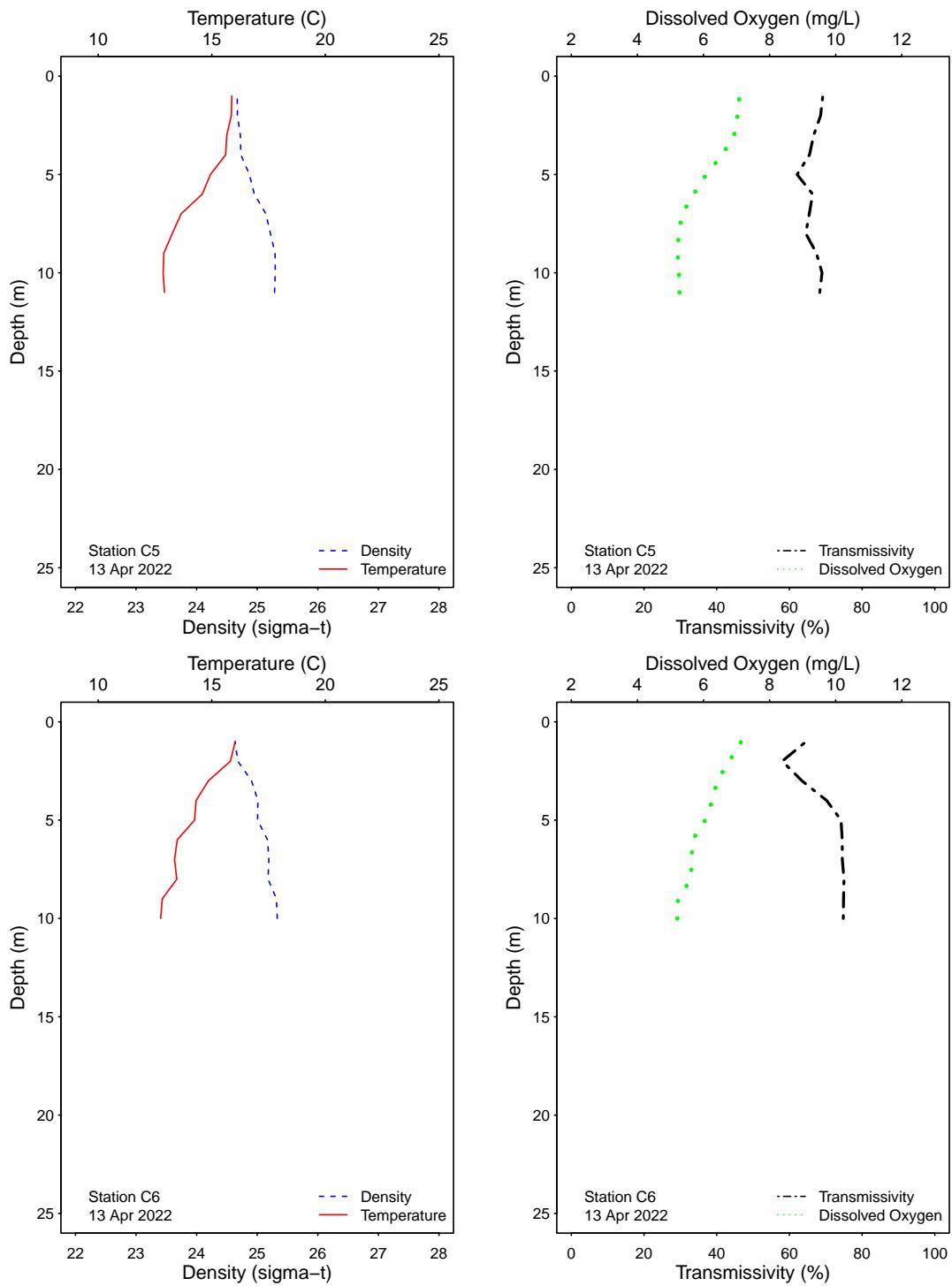


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

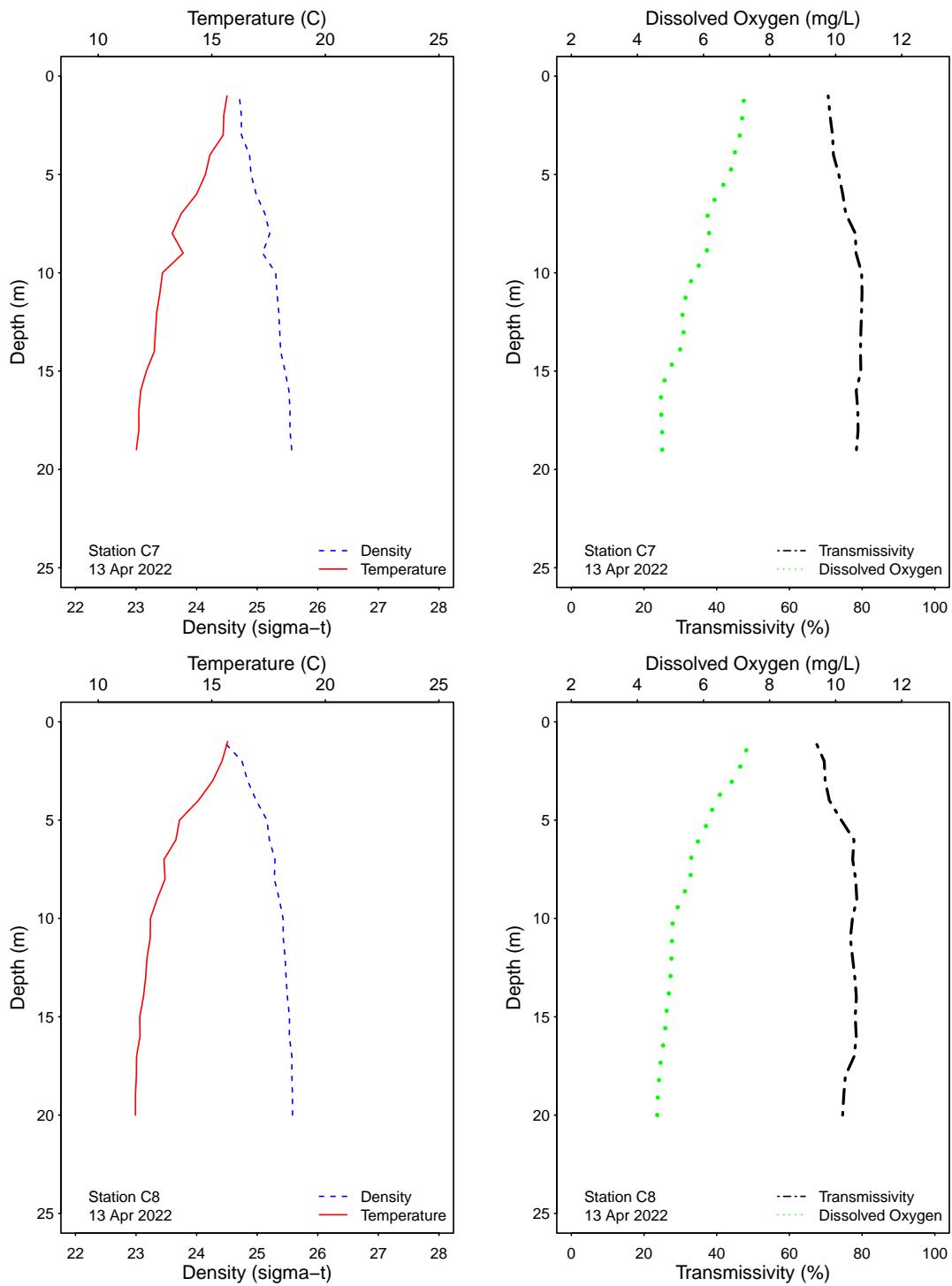


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

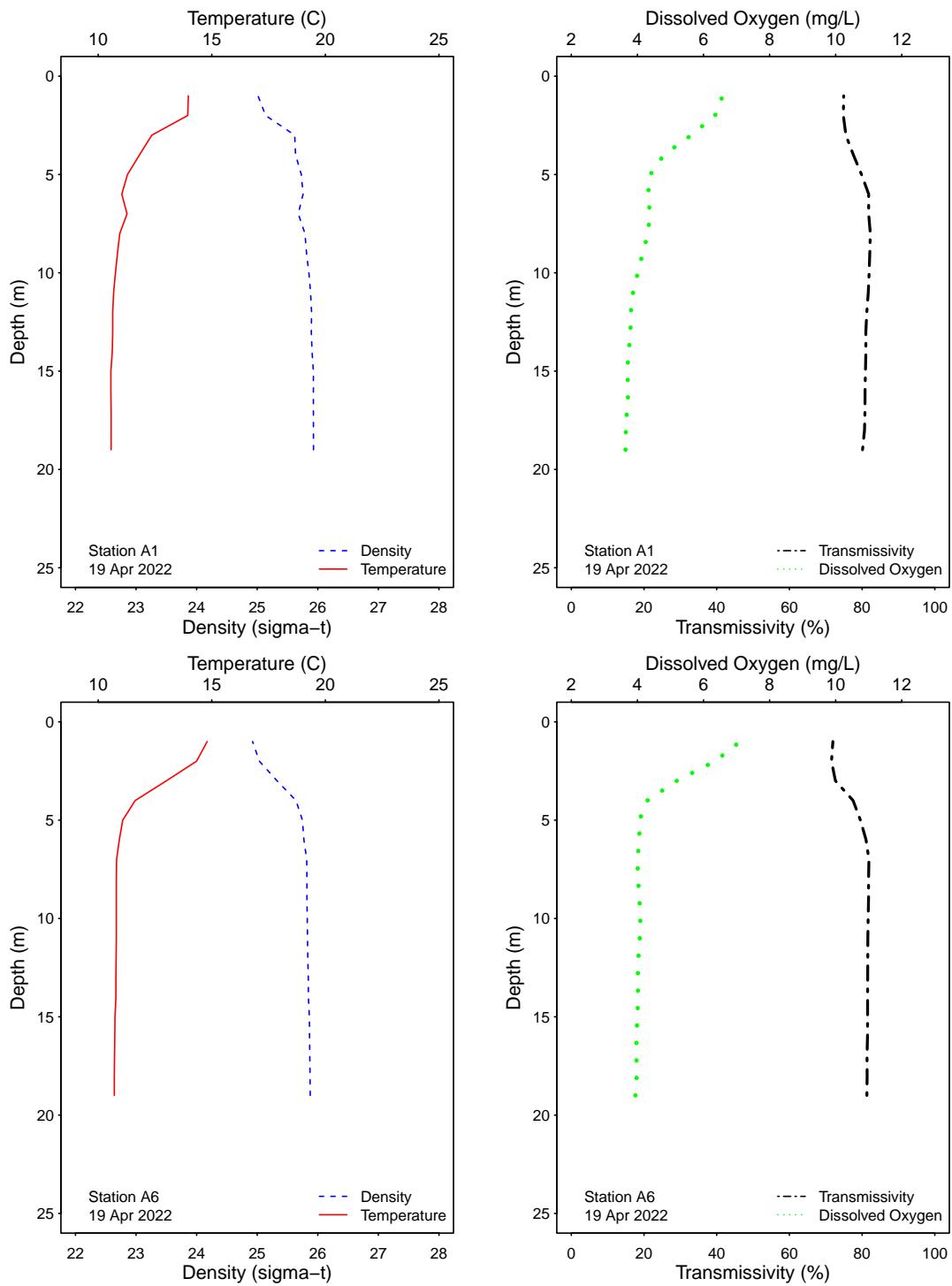


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

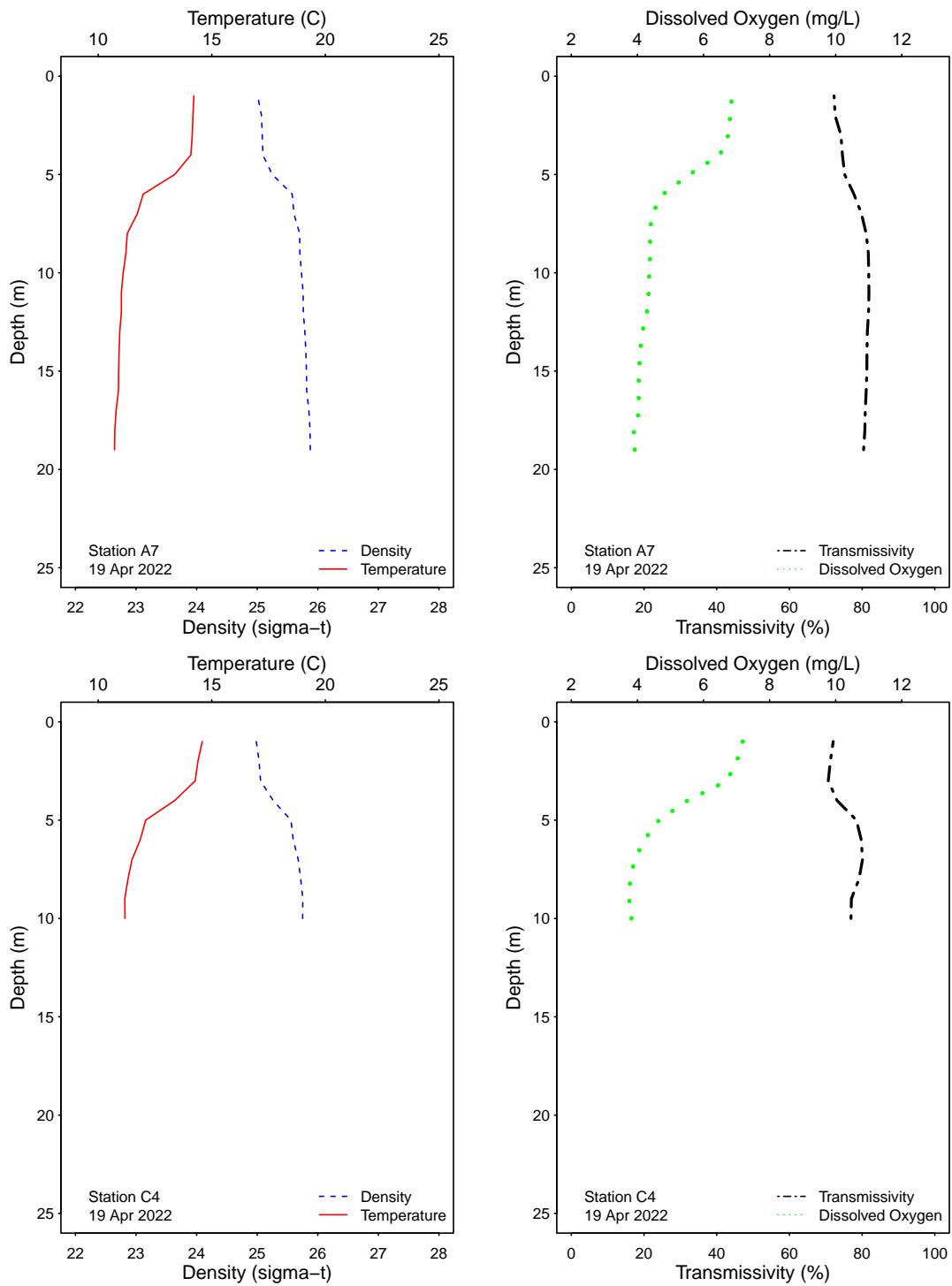


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

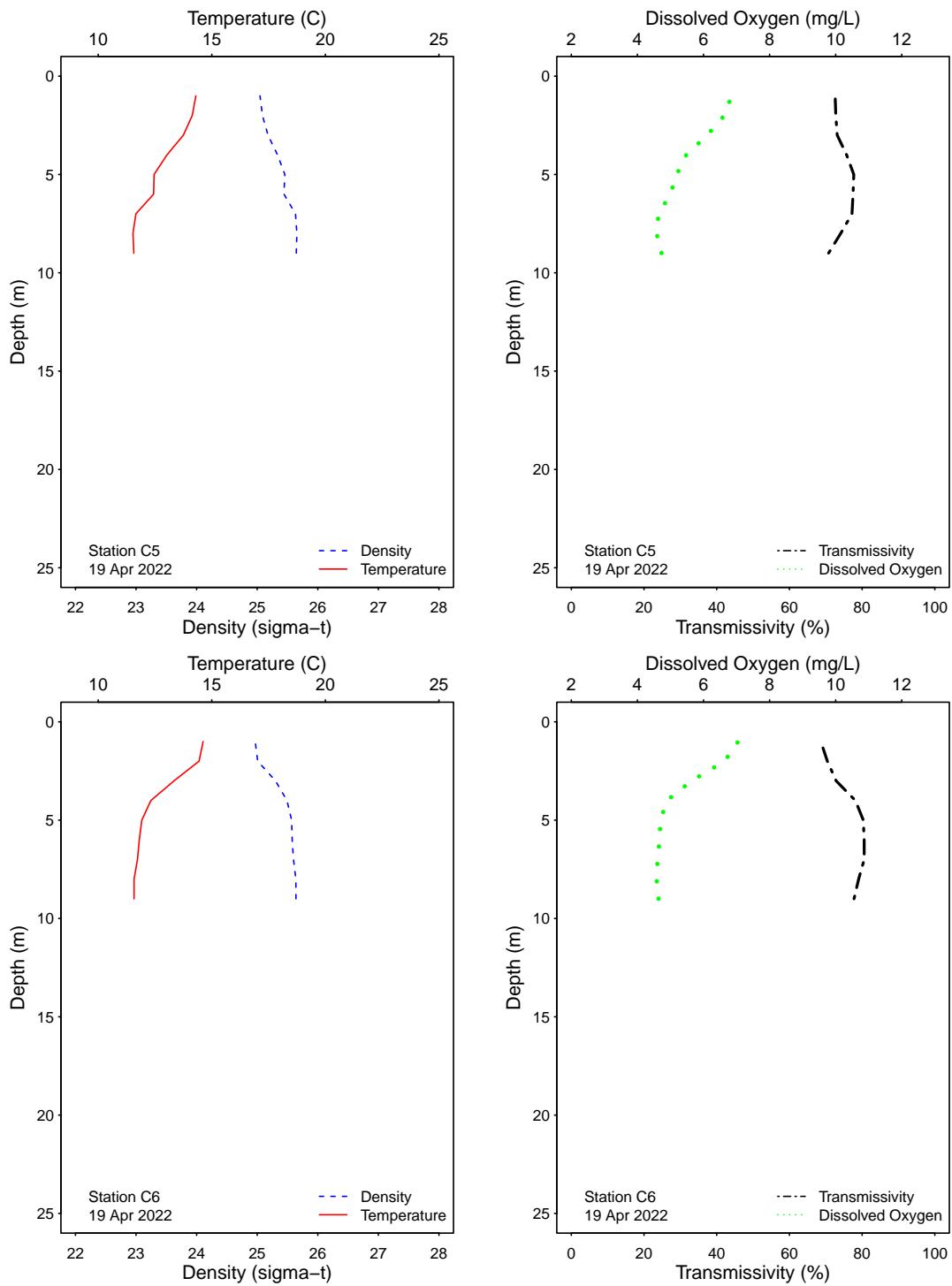


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

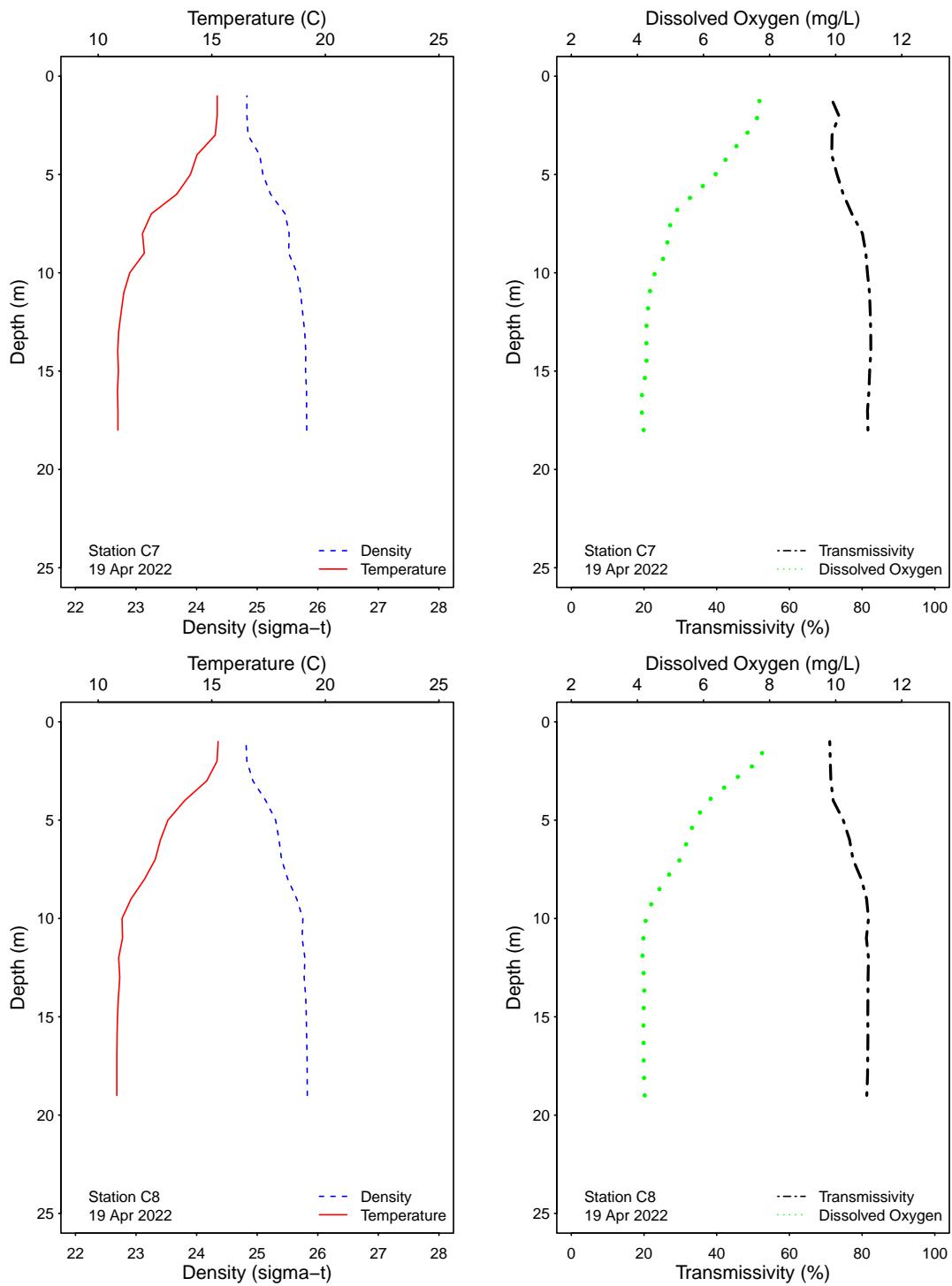


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

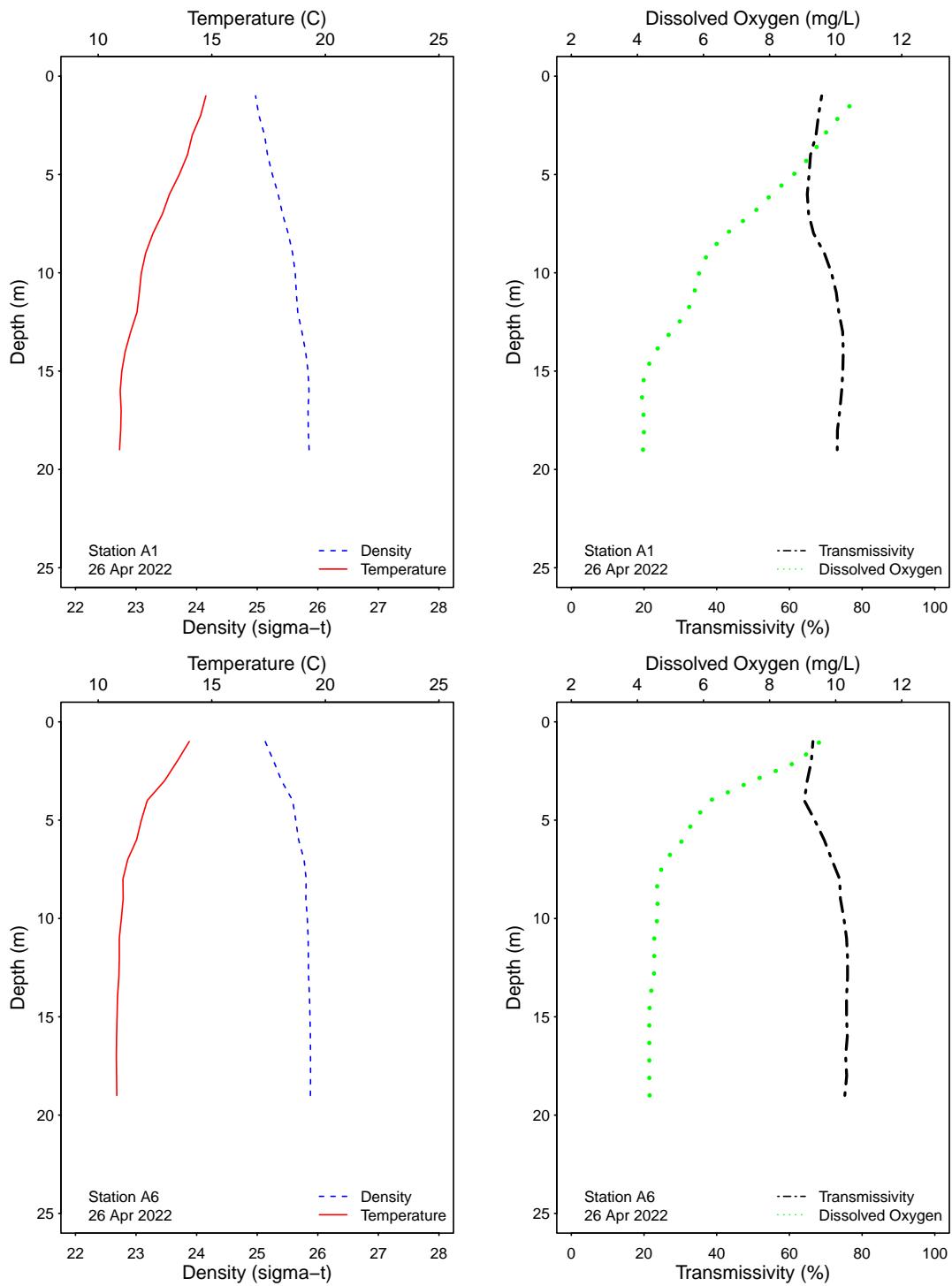


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

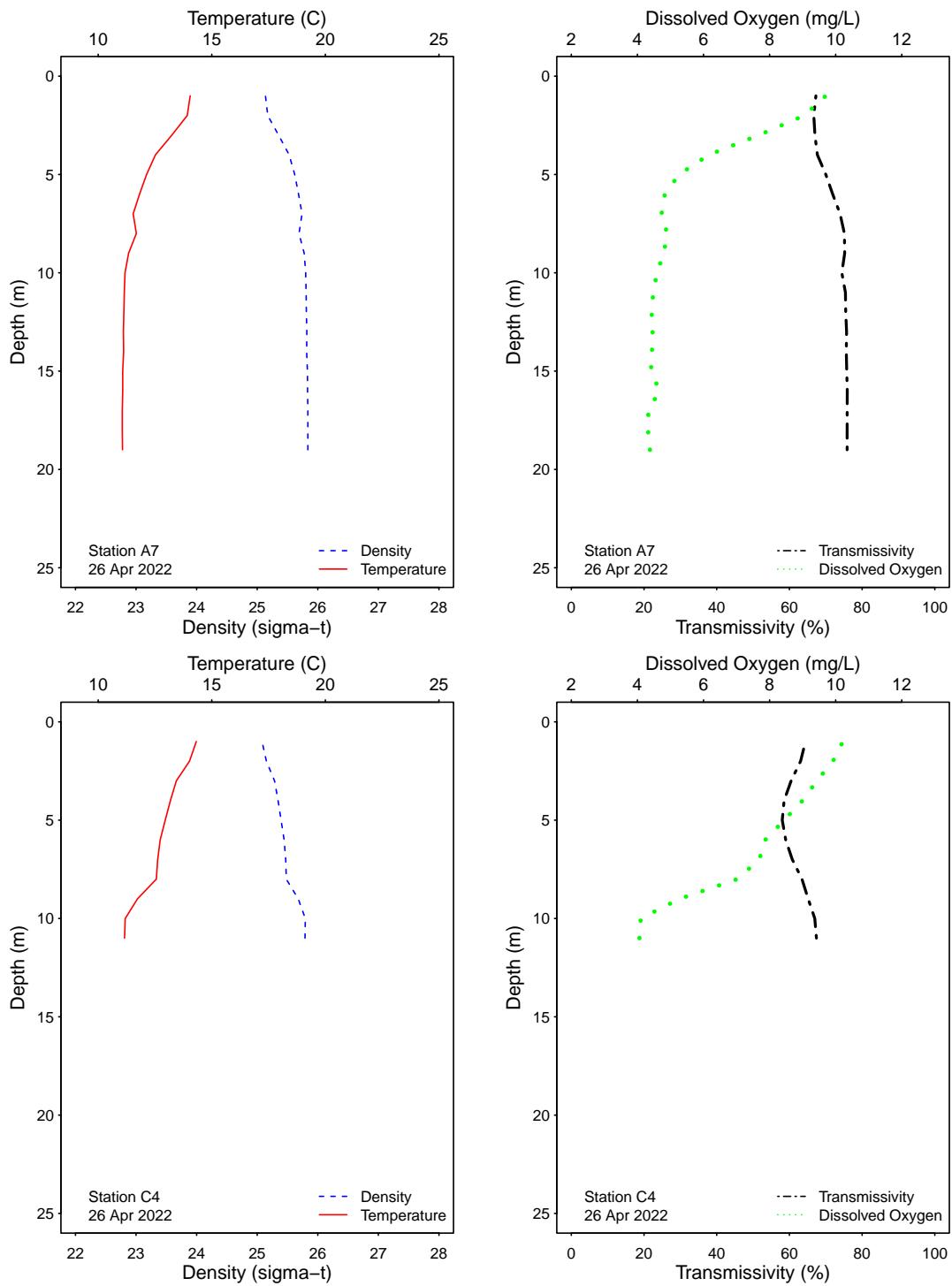


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

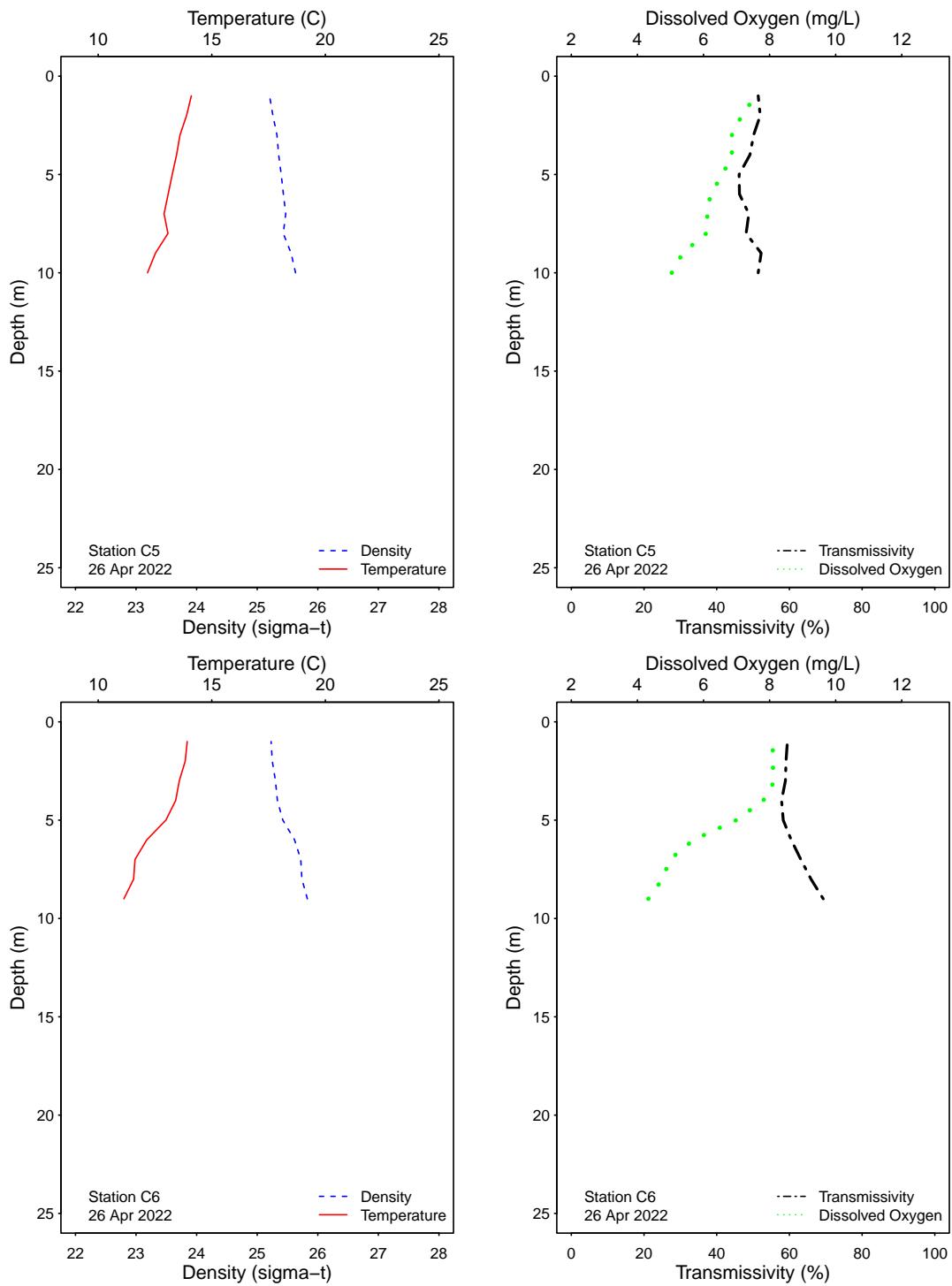


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

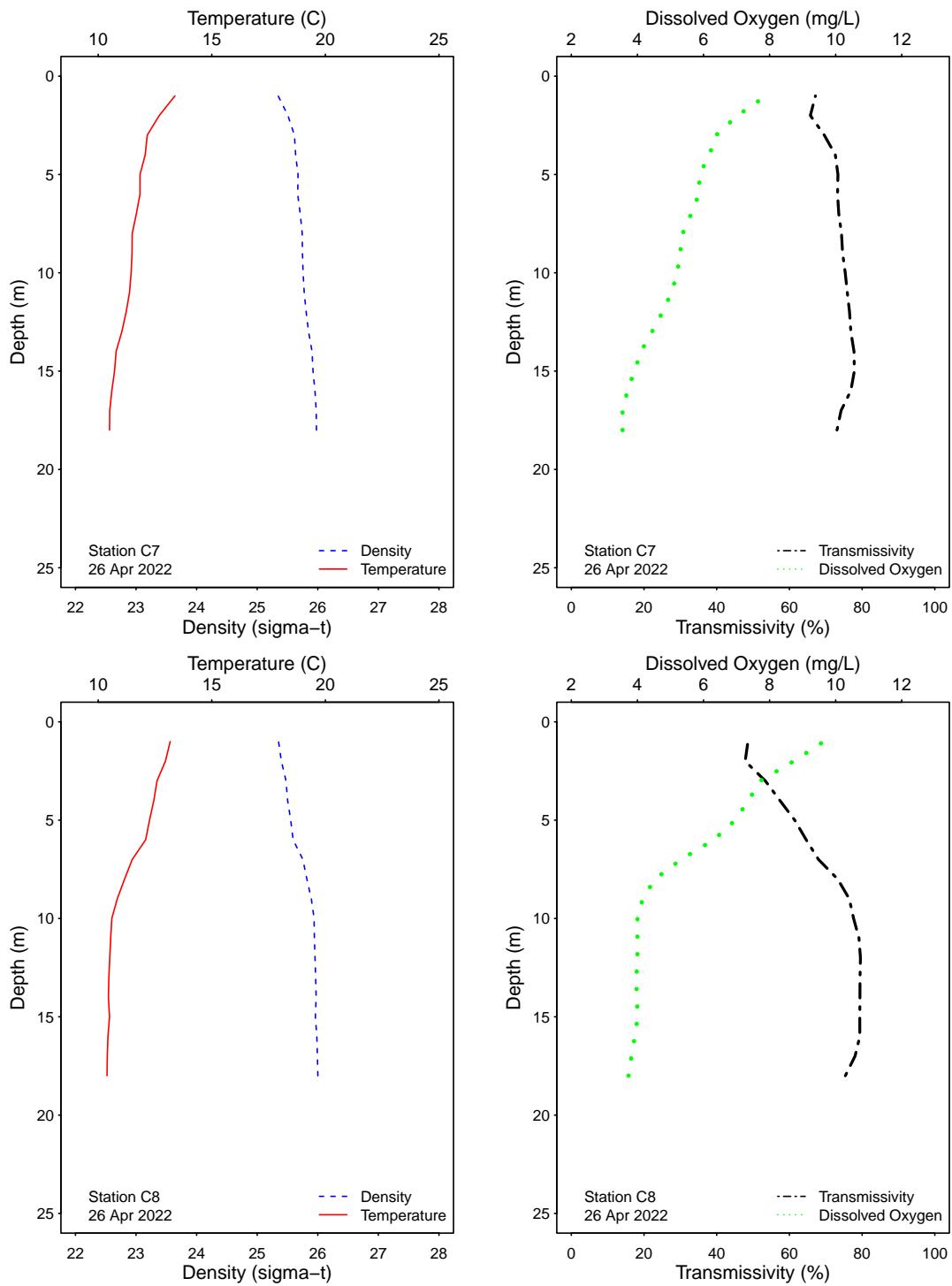


Figure 3.1: Graphics of CTD profile data from the PLOO kelp stations for each sample date.

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	05 Apr 2022	18	BS	LAB DUPLICATE	32e	<2	2e
A7	13 Apr 2022	18	CRE	LAB DUPLICATE	2e	2e	<2
A7	19 Apr 2022	18	CRE	LAB DUPLICATE	<200	6e	2e
A7	26 Apr 2022	18	HF	LAB DUPLICATE	4e	2e	<2
C7	05 Apr 2022	18	BS	LAB DUPLICATE	4e	<2	<2
C7	13 Apr 2022	18	CRE	LAB DUPLICATE	4e	2e	<2
C7	19 Apr 2022	18	CRE	LAB DUPLICATE	8e	<2	<2
C7	26 Apr 2022	18	HF	LAB DUPLICATE	18e	<2	2e
C8	05 Apr 2022	12	BS	LAB DUPLICATE	<2	<2	<2
C8	13 Apr 2022	12	CRE	LAB DUPLICATE	<20	<2	<2
C8	19 Apr 2022	12	CRE	LAB DUPLICATE	<2	<2	<2
C8	26 Apr 2022	12	HF	LAB DUPLICATE	4e	2e	<2
D12	06 Apr 2022		BS	FIELD DUPLICATE	2e	<2	<2
D12	06 Apr 2022		BS	LAB DUPLICATE	<2	<2	<2
D12	13 Apr 2022		CRE	FIELD DUPLICATE	4e	<2	<2
D12	13 Apr 2022		CRE	LAB DUPLICATE	4e	<2	2e
D12	20 Apr 2022		BS	FIELD DUPLICATE	<2	<2	2e
D12	20 Apr 2022		BS	LAB DUPLICATE	<2	<2	<2
D12	27 Apr 2022		KA	FIELD DUPLICATE	<2	<2	2e
D12	27 Apr 2022		KA	LAB DUPLICATE	2e	2e	<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 Apr 2022	2	2	4	8	3	13	11	2
02 Apr 2022	2	2	4	8	3	13	11	2
03 Apr 2022	2	2	4	8	3	13	11	2
04 Apr 2022	2	2	4	8	3	13	11	2
05 Apr 2022	2	2	4	8	3	13	11	2
06 Apr 2022	2	2	3	8	3	8	8	2
07 Apr 2022	2	2	3	8	3	8	8	2
08 Apr 2022	2	2	3	8	3	8	7	2
09 Apr 2022	2	2	3	8	3	8	7	2
10 Apr 2022	2	2	3	8	3	8	7	2
11 Apr 2022	2	2	3	8	3	8	7	2
12 Apr 2022	2	2	3	8	3	8	7	2
13 Apr 2022	2	2	3	9	3	5	7	2
14 Apr 2022	2	2	3	9	3	5	7	2
15 Apr 2022	2	2	3	9	3	5	7	2
16 Apr 2022	2	2	3	9	3	5	7	2
17 Apr 2022	2	2	3	9	3	5	7	2
18 Apr 2022	2	2	3	9	3	5	7	2
19 Apr 2022	2	2	3	9	3	5	7	2
20 Apr 2022	2	2	3	13	3	7	22	2
21 Apr 2022	2	2	3	13	3	7	22	2
22 Apr 2022	2	2	3	13	3	7	25	2
23 Apr 2022	2	2	3	13	3	7	25	2
24 Apr 2022	2	2	3	13	3	7	25	2
25 Apr 2022	2	2	3	13	3	7	25	2
26 Apr 2022	2	2	3	13	3	7	25	2
27 Apr 2022	2	2	2	8	2	4	17	2
28 Apr 2022	2	2	2	6	2	4	17	2
29 Apr 2022	2	2	2	6	2	4	17	2
30 Apr 2022	2	2	2	6	2	4	17	2

* 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
April	IC	IC	IC	IC	IC	IC	E	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 Apr 2022	2	2	2	2	2	2	2	2
02 Apr 2022	2	2	2	2	2	2	2	2
03 Apr 2022	2	2	2	2	2	2	2	2
04 Apr 2022	2	2	2	2	2	2	2	2
05 Apr 2022	2	2	2	2	2	2	2	2
06 Apr 2022	2	2	2	2	2	2	2	2
07 Apr 2022	2	2	2	2	2	2	2	2
08 Apr 2022	2	2	2	2	2	2	2	2
09 Apr 2022	2	2	2	2	2	2	2	2
10 Apr 2022	2	2	2	2	2	2	2	2
11 Apr 2022	2	2	2	2	2	2	2	2
12 Apr 2022	2	2	2	2	2	2	2	2
13 Apr 2022	2	2	2	2	2	2	2	2
14 Apr 2022	2	2	2	2	2	2	2	2
15 Apr 2022	2	2	2	2	2	2	2	2
16 Apr 2022	2	2	2	2	2	2	2	2
17 Apr 2022	2	2	2	2	2	2	2	2
18 Apr 2022	2	2	2	2	2	2	2	2
19 Apr 2022	2	2	2	2	2	2	2	2
20 Apr 2022	2	2	2	2	2	2	2	2
21 Apr 2022	2	2	2	2	2	2	2	2
22 Apr 2022	2	2	2	2	2	2	2	2
23 Apr 2022	2	2	2	2	2	2	2	2
24 Apr 2022	2	2	2	2	2	2	2	2
25 Apr 2022	2	2	2	2	2	2	2	2
26 Apr 2022	2	2	2	2	2	2	2	2
27 Apr 2022	2	2	2	2	2	2	2	2
28 Apr 2022	2	2	2	2	2	2	2	2
29 Apr 2022	2	2	2	2	2	2	2	2
30 Apr 2022	2	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
April	IC							

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data