SOUTH BAY OCEAN OUTFALL MONTHLY RECEIVING WATERS MONITORING REPORT

SOUTH BAY WATER RECLAMATION PLANT

NPDES Permit No. CA0109045
SDRWQCB Order No. R9-2013-0006

JANUARY 2020

REVISED MARCH 2021

Environmental Monitoring and Technical Services
2392 Kincaid Road • Mail Station 45A • San Diego, CA 92101
Tel (619) 758-2300 Fax (619) 758-2309

The City of
SAN DIEGO
Public Utilities Department
Environmental Monitoring & Technical Services Division

April 1, 2021

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

Attention: POTW Compliance Unit

Dear Mr. Gibson:

Enclosed is the revised January 2020 Monthly Receiving Waters Monitoring Report for the South Bay Ocean Outfall, South Bay Water Reclamation Plant as required per Order No. R9-2013-0006 as amended by Order Nos. R9-2014-0071 and R9-2017-0023, NPDES Permit No. CA0109045. This revised report is being submitted to address data integrity issues identified to the Board in the letter dated October 22, 2020, subject: "San Diego NPDES Shoreline Sampling Program Report."

This report includes raw ocean monitoring data and summaries of water quality parameters and ocean conditions measured during the month for the South Bay outfall region. Also included are summaries of compliance with the bacterial water-contact standards specified in the California Ocean Plan. These data are also presented in the monthly report submitted by the International Boundary and Water Commission, U.S. Section for discharge from the South Bay International Wastewater Treatment Plant (Order No. R9-2014-0009 as amended by Order Nos. R9-2014-0094, R9-2017-0024, R9-2019-0012, NPDES Permit No. CA0108928).

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

2392 Kincaid Road, MS 45A
San Diego, CA 92101
www.sandiego.gov/publicutilities

T (619) 758-2300
sandiego.gov

INTRODUCTION

Monthly reports of water quality and ocean conditions from Playa Blanco, Mexico to Coronado, USA are submitted to the San Diego Regional Water Quality Control Board and U.S. EPA Region 9 in accordance with Order No. R9-2013-0006 as amended by Order Nos. R9-2014-0071 and R9-2017-0023, NPDES Permit No. CA0109045, for the South Bay Water Reclamation Plant (SBWRP), South Bay Ocean Outfall (SBOO). 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 SBWRP are presented in separate reports.

MATERIALS AND METHODS

Shore Stations

Water quality monitoring was conducted at 11 stations located along the shore from Playa Blanca, Mexico to Coronado, USA (see station locations map). Three sites are located south of the international border (stations S0, S2, S3), while eight sites are in the United States (stations S4–S6 and S8–S12).

Seawater samples were collected from the surf zone at each station on a weekly basis. These samples were subsequently transported to the City's Marine Microbiology Laboratory and analyzed for the presence of total coliform, fecal coliform, and *Enterococcus* bacteria. Visual observations of water color and clarity, surf height, human or animal activity, and weather conditions were recorded at the time of sample collection. Wind speed and direction were measured using a hand-held anemometer with a compass.

Kelp Bed Stations

Seven kelp bed and other nearshore stations (I19, I24, I25, I26, I32, I39, I40; collectively referred to as "kelp" stations herein) were sampled four times during the month according to NPDES permit specifications. Six stations (I19, I24, I25, I26, I32, I40) are located along the 9- m depth contour, and one (I39) is located along the 18-m depth contour. Three of these stations, I25, I26, and I39, were selected based on their proximity to suitable substrates for the Imperial Beach kelp bed (see station locations map); however, this kelp bed has been historically transient and variable in terms of size and density. Thus, these three stations are only occasionally located within an area where kelp is actually found.

The seven kelp stations are sampled on a weekly basis during the month. Routine monitoring at each kelp site consists of collecting seawater samples at three discrete depths for bacteriological analyses (total coliforms, fecal coliforms, and *Enterococcus* bacteria) and generating water column profiles of various physical/chemical parameters, including water temperature, salinity, density, dissolved oxygen, pH, chlorophyll *a*, and transmissivity. Visual observations of weather and water conditions are also recorded at all stations.

Seawater samples at the kelp bed stations are primarily collected using a CTD-integrated rosette sampler with Niskin bottles. Aliquots for bacteriological analyses were drawn from these bottles into sterile sample bottles for processing at the City's Marine Microbiology Laboratory. Water column profiles of the various physical/chemical parameters were taken using a CTD. The CTD collected these physical/chemical data at a rate ≥ 4 scans per second. The data were then internally averaged using the CTD proprietary software, Seasoft, to create water column profiles equivalent

to one reading per meter. Additionally, CTD profile data for each water sample depth are presented with the bacteriological data.

Offshore Stations

Quarterly offshore water quality sampling is typically conducted over three days during February, May, August, and November for a total of 40 stations during each month (see station locations map). These offshore stations (I1–I40) are arranged in a grid surrounding the discharge site, and are generally located along the 9, 19, 28, 38, and 55-m depth contours. The seven offshore sites designated as kelp bed stations (described above) are included as part of the monthly offshore water quality sampling, however the data from these seven stations are reported within the kelp bed station section of the report with the other four days of kelp bed water quality sampling. Monitoring at all sites included measurements of various physical/chemical parameters, including water temperature, salinity, density, dissolved oxygen, pH, chlorophyll *a*, transmissivity, and chromomorphic dissolved organic matter (CDOM). Visual observations of weather and water conditions were also recorded at all stations. Seawater samples for the analysis of indicator bacteria, suspended solids, and oil and grease concentrations were collected at 28 of the stations.

At these offshore stations, water samples for bacteriological analyses were collected using a rosette sampler with Niskin bottles. Measurements of the physical/chemical parameters listed above were taken using a Sea-Bird CTD. Additionally, CTD profile data for depths closest to those at which bacteriological samples were collected were extracted from the CTD profiles and are 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 (Ocean Plan). The seven standards are defined as follows:

<u>30-day Geometric Mean</u>: 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.

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.

Single Sample Maximums:

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

Compliance with the seven Ocean Plan standards are summarized below for the stations located in USA waters. In contrast, no such compliance summaries are presented for the three shore stations located in Mexican waters south of the International Border (i.e., S0, S2, and S3) since this region is not subject to the Ocean Plan standards.

Quality controls of bacteriological data include laboratory and field duplicate analyses. Laboratory duplicates are performed on approximately 10% of the water quality samples, while field duplicates are performed six times a month (see Appendix A). Laboratory duplicates represent two aliquots of the original sample that are split in the laboratory and analyzed by the same analyst using identical procedures within the same analytical run. The results of these analyses provide a measure of intra-analyst precision. In contrast, field duplicates represent two separate samples collected at the same time from the same site, which are handled under identical circumstances and treated exactly the same throughout field and lab procedures. The results of these analyses provide a measure of precision associated with sample collection, preservation, storage, and lab procedures. The sign test (see Gilbert, 1987[2]) 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 2020 Quality Assurance Report, which will be completed in March 2021.

SUMMARY OF RESULTS

- **Shoreline Water Quality Sampling**
  - Due to site access restrictions in Mexico, the South Bay shoreline sampling is typically carried out on the same day each week (i.e., Tuesday) to coordinate sampling between the Mexican and USA based stations. Seawater samples at the three shore stations located south of the USA/Mexico border (i.e., stations S0, S2 and S3) are presently collected by the Comisión Internacional de Límites y Aguas (CILA) and transported to the USIBWC for subsequent delivery to the City's Marine Microbiology Lab, while samples from the eight stations located in USA waters are sampled by City staff.
  - The 11 shore stations (S0, S2, S3, S4, S5, S6, S8, S9, S10, S11, S12) were sampled on January 7, 14, 21, and 28. Subsequent to initial reporting, samples (or resamples) collected at stations S4 and S5 on January 1, station S6 on January 3, station S11 on January 5, station S5 on January 7, stations S6, S10, and S11 on January 21, stations S4 and S5 on January 25, and stations S4, S5 and S10 on January 28, were determined to be problematic. The results from these samples (or resamples) have been removed from this report.
  - During January, six of the eight shore stations located north of the border were out of compliance with California Ocean Plan (Ocean Plan) water contact standards on one or more days as follows:

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

        - The 30-day geometric mean standards for total coliform and fecal coliform were exceeded at stations S4, S5, S6, S10, and S11.
        - The 30-day geometric mean standard for *Enterococcus* was exceeded at stations S4, S5, S6, S10, S11 and 12.
        - The single sample maximum (SSM) standard for total coliform was exceeded at stations S4, S5, and S10.
        - The SSM standards for fecal coliform and *Enterococcus* were exceeded at stations S4, S5, S6, S10 and S11.
        - The SSM standard that states total coliform densities shall not exceed 1000 CFU/100 mL when the fecal:total ratio exceeds 0.1 was exceeded at stations S4, S5, S6, S10, and S11.
        - Per permit requirements, resamples were collected in response to these SSM exceedances (see Table 2.8 for details).
    - Although the Ocean Plan standards do not apply to these stations, bacteria densities exceeded one or more benchmark levels (i.e., total coliforms >10,000 CFU/100mL; fecal coliforms >400 CFU/100 mL; *Enterococcus* >104 CFU/100 mL; total >1000 CFU/100 mL & F:T ratio >0.1) in the seawater samples collected stations S0, S2, and S3 on one or more days during January.
    - Notable observations included a sewage-like odor at stations S4, S5, and S10 on one or more days during January.
    - Historical analyses of Ocean Plan compliance rates for the South Bay outfall shore and kelp monitoring stations, combined with the results of satellite imagery data, suggest that outflows from the Tijuana River and Los Buenos Creek, as well as surface runoff during or after rain events (storms), are likely to be the cause of impacted water quality along the shore and in near shore recreational waters in the South Bay region. See the City of San Diego's most recent *Biennial Receiving Waters Monitoring and Assessment Report for the Point Loma and South Bay Ocean Outfalls* for details (https://www.sandiego.gov/public-utilities/sustainability/ocean-monitoring/reports).

- **Kelp Bed Water Quality Sampling**
    - The seven kelp bed water quality stations (I19, I24, I25, I26, I32, I39, I40) were sampled on January 2, 7, 13, 21, and 28.
    - Six of seven kelp bed stations were out of compliance with various Ocean Plan water contact standards on one or more days as follows:
        - The 30-day geometric mean standard for total coliform was exceeded at stations I19, I24, and I40.
        - The 30-day geometric mean standard for fecal coliform was exceeded at stations I19 and I40.
        - The 30-day geometric mean standard for *Enterococcus* was exceeded at stations I19, I24, I25, I26, and I40.
        - The SSM standard for total coliform was exceeded at I19, I24, I25, and I40.
        - The SSM standard for fecal coliform was exceeded at stations I19, I24, I25, I26, and I40.
        - The SSM standard for *Enterococcus* was exceeded at stations I19, I24, I25, I26, I32, and I40.

        - The SSM standard that states total coliform density shall not exceed 1,000 per 100 mL when the fecal coliform/total coliform ratio exceeds 0.1 was exceeded at stations I19, I24, I25, I26, and I40.
    - Water column temperatures ranged from 14.54 to 15.82°C. The difference between surface and bottom waters ranged from 0.04 to 0.82°C.
    - Concentrations of chlorophyll *a* ranged from 0.49 to 4.35 µg/L at the kelp bed stations.
    - Nothing of sewage origin was observed at any of the kelp stations.

- **Offshore Water Quality Sampling**
    - Quarterly sampling was not conducted during January at the offshore stations. The next quarterly sampling is scheduled for February 2020.

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TABLES AND FIGURES

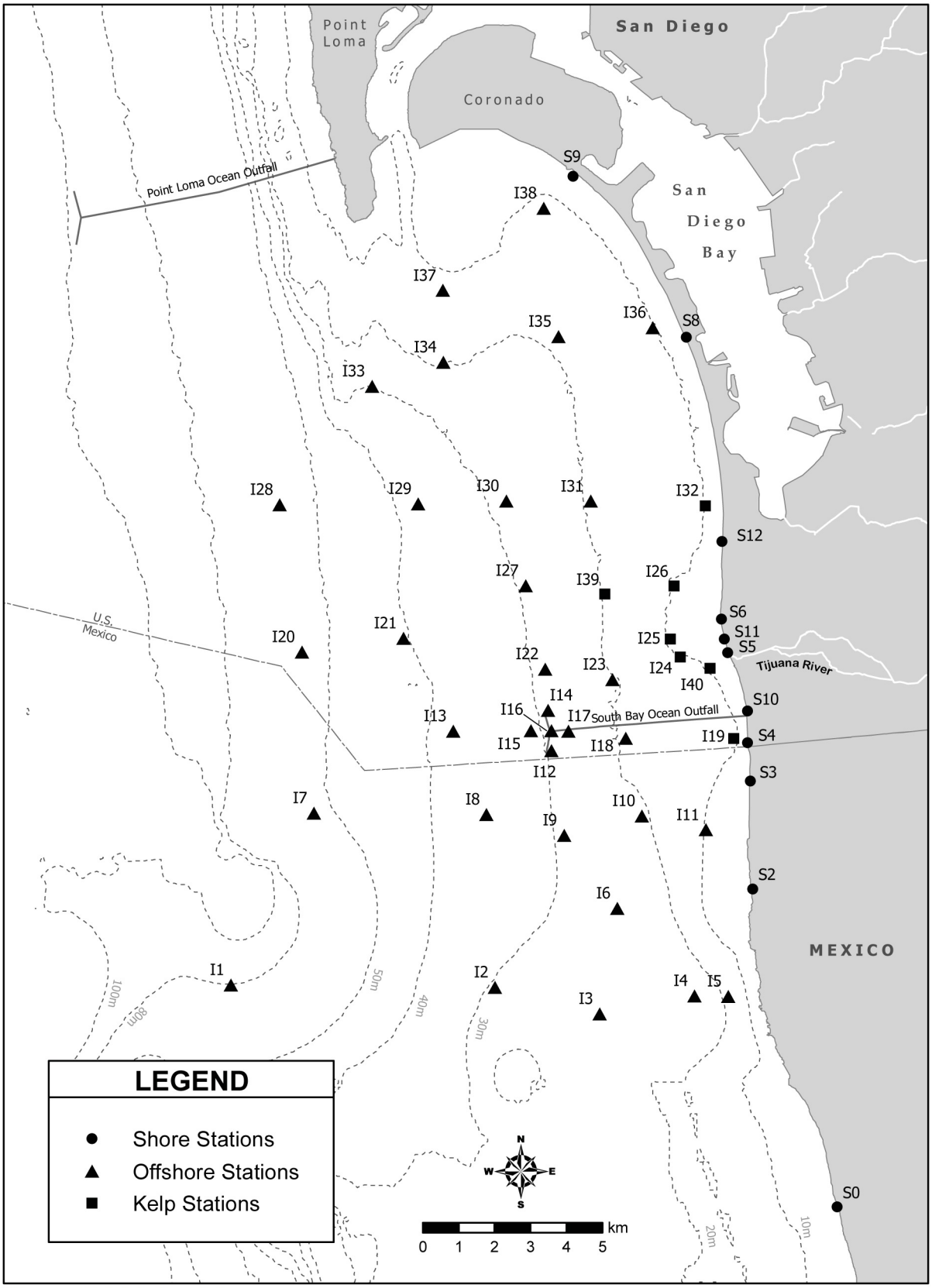

Figure 1.1 Station Map

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Shore Stations

Table 2.1

Summary of compliance with the Ocean Plan's 30-day Geometric Mean standard for total coliform bacteria at the SBOO 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	S4	S5	S6	S8	S9	S10	S11	S12
01 Jan 2020	5649	11326	1525	23	23	5442	2444	450
02 Jan 2020	5091	11084	1772	24	42	4886	3033	600
03 Jan 2020	5091	11326	1772	24	42	4886	3033	600
04 Jan 2020	4898	11084	1772	24	42	4638	3033	600
05 Jan 2020	4898	11326	1772	24	42	4638	3033	600
06 Jan 2020	6143	11084	1772	24	42	4638	3033	600
07 Jan 2020	6272	7644	1076	14	23	4377	1444	266
08 Jan 2020	5579	7299	846	11	11	3790	1209	215
09 Jan 2020	5434	7299	846	11	11	3994	1209	215
10 Jan 2020	7157	6927	846	11	11	4268	1209	215
11 Jan 2020	7428	6927	846	11	11	4336	1209	215
12 Jan 2020	7428	7851	846	11	11	4485	1209	215
13 Jan 2020	7221	7851	846	11	11	4476	1209	215
14 Jan 2020	7717	7679	504	8	8	6148	543	110
15 Jan 2020	7717	7679	504	8	8	6148	543	110
16 Jan 2020	8165	7257	1006	6	6	6148	870	147
17 Jan 2020	8165	7257	1006	6	6	6148	870	147
18 Jan 2020	8165	6794	1006	6	6	6148	870	147
19 Jan 2020	7634	6285	1006	6	6	5528	870	147
20 Jan 2020	6922	6285	1006	6	6	6148	870	147
21 Jan 2020	7722	6285	1136	8	8	7373	1165	79
22 Jan 2020	7722	5725	944	6	6	7373	1114	47
23 Jan 2020	7053	5725	307	6	6	6202	308	15
24 Jan 2020	7053	5107	242	6	6	6202	160	4
25 Jan 2020	6832	4958	242	6	6	6202	160	4
26 Jan 2020	6832	4353	121	6	6	6202	64	4
27 Jan 2020	6832	3757	121	6	6	6202	64	4
28 Jan 2020	4202	4286	56	8	8	3478	52	5
29 Jan 2020	4495	3757	29	6	6	3693	22	4
30 Jan 2020	4495	2580	29	6	6	3693	22	4
31 Jan 2020	4495	2149	29	6	6	3693	22	4

* Geometric mean calculated using n<5

Table 2.2

Summary of compliance with the Ocean Plan's 30-day Geometric Mean standard for fecal coliform bacteria at the SBOO 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	S4	S5	S6	S8	S9	S10	S11	S12
01 Jan 2020	1440	5736	209	3	6	1303	468	83
02 Jan 2020	1314	5477	256	4	8	1142	557	105
03 Jan 2020	1314	5736	256	4	8	1142	557	105
04 Jan 2020	1370	5477	256	4	8	1195	557	105
05 Jan 2020	1370	5736	256	4	8	1195	557	105
06 Jan 2020	1793	6397	256	4	8	1384	557	105
07 Jan 2020	1639	4145	157	3	6	1326	317	60
08 Jan 2020	1393	3879	140	2	4	1029	302	55
09 Jan 2020	1394	3879	140	2	4	1024	302	55
10 Jan 2020	1801	3597	160	2	4	1150	225	55
11 Jan 2020	1920	3597	160	2	4	1066	225	55
12 Jan 2020	1920	4224	160	2	4	1189	287	55
13 Jan 2020	1745	4224	160	2	4	1090	287	55
14 Jan 2020	1844	3604	115	2	3	1403	154	34
15 Jan 2020	1844	3604	115	2	3	1403	154	34
16 Jan 2020	2029	3285	190	2	2	1504	287	55
17 Jan 2020	2029	3285	190	2	2	1504	287	55
18 Jan 2020	1866	2949	190	2	2	1504	287	55
19 Jan 2020	1549	2596	190	2	2	1194	287	55
20 Jan 2020	1370	2596	190	2	2	1257	287	55
21 Jan 2020	1660	2529	237	2	3	1477	350	34
22 Jan 2020	1660	2164	204	2	4	1477	297	20
23 Jan 2020	1391	2164	93	2	4	967	84	7
24 Jan 2020	1391	1807	79	2	4	967	54	3
25 Jan 2020	1298	1734	79	2	4	967	54	3
26 Jan 2020	1298	1448	37	2	4	967	20	3
27 Jan 2020	1298	1188	37	2	4	967	20	3
28 Jan 2020	801	1425	16	2	4	578	14	3
29 Jan 2020	1003	1450	12	2	4	678	7	2
30 Jan 2020	1003	962	12	2	4	678	7	2
31 Jan 2020	1003	748	12	2	4	678	7	2

* Geometric mean calculated using n<5

Table 2.3

Summary of compliance with the Ocean Plan's 30-day Geometric Mean standard for *Enterococcus* at the SBOO 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	S4	S5	S6	S8	S9	S10	S11	S12
01 Jan 2020	588	5289	474	5	3	755	526	113
02 Jan 2020	561	5025	524	5	3	724	562	122
03 Jan 2020	561	5289	509	5	3	724	538	122
04 Jan 2020	524	5025	386	5	3	678	423	122
05 Jan 2020	524	5289	353	5	3	678	358	122
06 Jan 2020	598	5803	330	5	3	732	344	122
07 Jan 2020	577	4303	252	4	3	665	263	81
08 Jan 2020	537	4036	225	3	2	582	241	75
09 Jan 2020	534	4036	225	3	2	575	241	75
10 Jan 2020	712	3753	261	3	2	691	243	103
11 Jan 2020	736	3753	261	3	2	622	243	103
12 Jan 2020	736	4259	261	3	2	634	247	103
13 Jan 2020	648	4259	261	3	2	513	247	103
14 Jan 2020	617	3828	184	3	2	554	206	72
15 Jan 2020	617	3828	184	3	2	554	255	72
16 Jan 2020	747	3617	261	3	2	711	370	112
17 Jan 2020	747	3617	261	3	2	711	370	112
18 Jan 2020	658	3273	261	3	2	711	370	112
19 Jan 2020	551	2909	261	3	2	519	370	112
20 Jan 2020	502	2909	261	3	2	560	370	112
21 Jan 2020	613	2564	273	3	2	709	398	72
22 Jan 2020	613	2197	259	3	2	709	402	53
23 Jan 2020	553	2197	158	3	2	594	188	32
24 Jan 2020	553	2108	158	3	2	594	142	23
25 Jan 2020	471	1756	158	3	2	594	142	23
26 Jan 2020	471	1432	98	3	2	594	81	7
27 Jan 2020	480	1088	98	3	2	594	81	7
28 Jan 2020	333	1193	63	3	2	391	58	3
29 Jan 2020	343	1252	51	2	2	446	43	2
30 Jan 2020	343	880	51	2	2	446	43	2
31 Jan 2020	392	690	42	2	2	446	34	2

* Geometric mean calculated using n<5

Table 2.4

Summary of compliance at the SBOO 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	S4	S5	S6	S8	S9	S10	S11	S12
01 Jan 2020	ns	ns	ns	ns	ns	ns	ns	ns
03 Jan 2020	ns	E	ns	ns	ns	ns	ns	ns
05 Jan 2020	ns	E	ns	ns	ns	ns	ns	ns
07 Jan 2020	IC	ns	IC	IC	IC	IC	IC	IC
09 Jan 2020	IC	ns	ns	ns	ns	IC	ns	ns
11 Jan 2020	IC	ns	ns	ns	ns	IC	ns	ns
13 Jan 2020	IC	ns	ns	ns	ns	IC	ns	ns
14 Jan 2020	E	IC	IC	IC	IC	E	IC	IC
16 Jan 2020	E	ns	ns	ns	ns	E	ns	ns
18 Jan 2020	E	ns	ns	ns	ns	E	ns	ns
20 Jan 2020	IC	ns	ns	ns	ns	E	ns	ns
21 Jan 2020	E	E	ns	IC	IC	ns	ns	IC
23 Jan 2020	IC	E	IC	ns	ns	IC	IC	ns
25 Jan 2020	ns	ns	ns	ns	ns	ns	ns	ns
27 Jan 2020	ns	IC	ns	ns	ns	ns	ns	ns
28 Jan 2020	ns	ns	IC	IC	IC	ns	IC	IC
30 Jan 2020	ns	IC	ns	ns	ns	ns	ns	ns

IC = In Compliance
E = Exceedance
ns = not sampled
ND = no data

Table 2.5

Summary of compliance at the SBOO 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	S4	S5	S6	S8	S9	S10	S11	S12
01 Jan 2020	ns	ns	ns	ns	ns	ns	ns	ns
03 Jan 2020	ns	E	ns	ns	ns	ns	ns	ns
05 Jan 2020	ns	E	ns	ns	ns	ns	ns	ns
07 Jan 2020	E	ns	IC	IC	IC	E	IC	IC
09 Jan 2020	E	ns	ns	ns	ns	E	ns	ns
11 Jan 2020	E	ns	ns	ns	ns	E	ns	ns
13 Jan 2020	E	ns	ns	ns	ns	E	ns	ns
14 Jan 2020	E	IC	IC	IC	IC	E	IC	IC
16 Jan 2020	E	ns	ns	ns	ns	E	ns	ns
18 Jan 2020	E	ns	ns	ns	ns	E	ns	ns
20 Jan 2020	IC	ns	ns	ns	ns	E	ns	ns
21 Jan 2020	E	E	ns	IC	IC	ns	ns	IC
23 Jan 2020	IC	E	IC	ns	ns	IC	IC	ns
25 Jan 2020	ns	ns	ns	ns	ns	ns	ns	ns
27 Jan 2020	ns	IC	ns	ns	ns	ns	ns	ns
28 Jan 2020	ns	ns	IC	IC	IC	ns	IC	IC
30 Jan 2020	ns	IC	ns	ns	ns	ns	ns	ns

IC = In Compliance
E = Exceedance
ns = not sampled
ND = no data

Table 2.6

Summary of compliance at the SBOO 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	S4	S5	S6	S8	S9	S10	S11	S12
01 Jan 2020	ns	ns	E	ns	ns	ns	E	ns
03 Jan 2020	ns	E	ns	ns	ns	ns	E	ns
05 Jan 2020	ns	E	E	ns	ns	ns	ns	ns
07 Jan 2020	E	ns	IC	IC	IC	E	IC	IC
09 Jan 2020	E	ns	ns	ns	ns	E	ns	ns
11 Jan 2020	E	ns	ns	ns	ns	E	ns	ns
13 Jan 2020	E	ns	ns	ns	ns	IC	ns	ns
14 Jan 2020	E	IC	IC	IC	IC	E	IC	IC
16 Jan 2020	E	ns	ns	ns	ns	E	ns	ns
18 Jan 2020	E	ns	ns	ns	ns	E	ns	ns
20 Jan 2020	E	ns	ns	ns	ns	E	ns	ns
21 Jan 2020	E	E	ns	IC	IC	ns	ns	IC
23 Jan 2020	E	E	IC	ns	ns	IC	IC	ns
25 Jan 2020	ns	ns	ns	ns	ns	ns	ns	ns
27 Jan 2020	E	IC	ns	ns	ns	ns	ns	ns
28 Jan 2020	ns	ns	IC	IC	IC	ns	IC	IC
30 Jan 2020	ns	IC	ns	ns	ns	ns	ns	ns

IC = In Compliance
E = Exceedance
ns = not sampled
ND = no data

Table 2.7

Summary of compliance at the SBOO 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	S4	S5	S6	S8	S9	S10	S11	S12
01 Jan 2020	ns	ns	ns	ns	ns	ns	ns	ns
03 Jan 2020	ns	E	ns	ns	ns	ns	ns	ns
05 Jan 2020	ns	E	ns	ns	ns	ns	ns	ns
07 Jan 2020	E	ns	IC	IC	IC	E	IC	IC
09 Jan 2020	E	ns	ns	ns	ns	E	ns	ns
11 Jan 2020	E	ns	ns	ns	ns	E	ns	ns
13 Jan 2020	E	ns	ns	ns	ns	E	ns	ns
14 Jan 2020	E	IC	IC	IC	IC	E	IC	IC
16 Jan 2020	E	ns	ns	ns	ns	E	ns	ns
18 Jan 2020	E	ns	ns	ns	ns	E	ns	ns
20 Jan 2020	E	ns	ns	ns	ns	E	ns	ns
21 Jan 2020	E	E	ns	IC	IC	ns	ns	IC
23 Jan 2020	IC	E	IC	ns	ns	IC	IC	ns
25 Jan 2020	ns	ns	ns	ns	ns	ns	ns	ns
27 Jan 2020	ns	IC	ns	ns	ns	ns	ns	ns
28 Jan 2020	ns	ns	IC	IC	IC	ns	IC	IC
30 Jan 2020	ns	IC	ns	ns	ns	ns	ns	ns

IC = In Compliance
E = Exceedance
ns = not sampled
ND = no data

Table 2.8

Summary of water quality parameters at the SBOO shore stations for each sample date. Densities of total coliform (Total), fecal coliform (Fecal), and *Enterococcus* (Entero) are reported as CFU/100 mL. The fecal:total coliform ratio (F:T) is unitless. Comments follow the data summary.

Station	Date	Time	Total	Fecal	Entero	F:T
S0	07 Jan 2020	1110	5000	1200e	2000e	0.24
S0	14 Jan 2020	1100	3200e	400	180e	0.12
S0	21 Jan 2020	1040	14000	400e	1400e	0.03
S0	28 Jan 2020	1045	7000	600e	1800e	0.09
S2	07 Jan 2020	1230	8000	460	82	0.06
S2	14 Jan 2020	1200	7200	1400e	40e	0.19
S2	21 Jan 2020	1150	1200	240e	120e	0.20
S2	28 Jan 2020	1110	6200	1000	540	0.16
S3	07 Jan 2020	1145	7000	760	110	0.11
S3	14 Jan 2020	1241	>16000	>12000	2200e	0.75
S3	21 Jan 2020	1120	5800	600	360e	0.10
S3	28 Jan 2020	1128	>16000	960	60e	0.06
S4	01 Jan 2020		ns	ns	ns	ns
S4	07 Jan 2020	806	7400	800e	420	0.11
S4	09 Jan 2020	737	4400	1400e	500	0.32
S4	11 Jan 2020	811	10000	3200e	1000	0.32
S4	13 Jan 2020	1024	5600	740	180e	0.13
S4	14 Jan 2020	1000	15000	3200e	360e	0.21
S4	16 Jan 2020	802	>16000	12000	4200	0.75
S4	18 Jan 2020	828	>16000	4800	2600e	0.30
S4	20 Jan 2020	828	2600e	400	180e	0.15
S4	21 Jan 2020	901	>16000	6600	2400e	0.41
S4	23 Jan 2020	818	2600e	200e	160e	0.08
S4	25 Jan 2020		ns	ns	ns	ns
S4	27 Jan 2020	829	ns	ns	620	ns
S4	28 Jan 2020		ns	ns	ns	ns
S5	01 Jan 2020		ns	ns	ns	ns
S5	03 Jan 2020	817	>16000	>12000	>12000	0.75
S5	05 Jan 2020	915	>16000	>12000	>12000	0.75
S5	07 Jan 2020		ns	ns	ns	ns
S5	14 Jan 2020	821	440	26e	54	0.06
S5	21 Jan 2020	801	>16000	9000	3000e	0.56
S5	23 Jan 2020	942	>16000	>12000	>12000	0.75
S5	25 Jan 2020		ns	ns	ns	ns
S5	27 Jan 2020	910	1000e	200e	92	0.20
S5	28 Jan 2020		ns	ns	ns	ns
S5	30 Jan 2020	1026	60e	16e	26e	0.27
S6	01 Jan 2020	931	ns	ns	200e	ns
S6	03 Jan 2020		ns	ns	ns	ns
S6	05 Jan 2020	943	ns	ns	120e	ns
S6	07 Jan 2020	924	<20	<2	10e	0.10
S6	14 Jan 2020	856	8e	8e	4e	1.00
S6	21 Jan 2020		ns	ns	ns	ns
S6	23 Jan 2020	1017	<2	6e	20e	3.00
S6	28 Jan 2020	817	<20	2e	14e	0.10
S8	07 Jan 2020	948	2e	<2	2e	1.00
S8	14 Jan 2020	1115	<2	<2	2e	1.00
S8	21 Jan 2020	949	<20	<2	<2	0.10

Station	Date	Time	Total	Fecal	Entero	F:T
S8	28 Jan 2020	943	<20	2e	<2	0.10
S9	07 Jan 2020	1005	<2	<2	<2	1.00
S9	14 Jan 2020	1142	2e	2e	2e	1.00
S9	21 Jan 2020	1010	20e	<20	4e	1.00
S9	28 Jan 2020	1002	<20	4e	<2	0.20
S10	07 Jan 2020	820	2600e	900	280e	0.35
S10	09 Jan 2020	758	6400	980	520	0.15
S10	11 Jan 2020	821	5000	540	240e	0.11
S10	13 Jan 2020	1044	4400	500	76	0.11
S10	14 Jan 2020	1022	11000	2000e	260e	0.18
S10	16 Jan 2020	807	>16000	>12000	>12000	0.75
S10	18 Jan 2020	846	>16000	>12000	>12000	0.75
S10	20 Jan 2020	849	>16000	2000e	1100	0.12
S10	21 Jan 2020		ns	ns	ns	ns
S10	23 Jan 2020	836	1100	14e	100e	0.01
S10	28 Jan 2020		ns	ns	ns	ns
S11	01 Jan 2020	918	ns	ns	220e	ns
S11	03 Jan 2020	827	ns	ns	300e	ns
S11	05 Jan 2020		ns	ns	ns	ns
S11	07 Jan 2020	912	8e	<2	8e	0.25
S11	14 Jan 2020	846	2e	<2	28e	1.00
S11	21 Jan 2020		ns	ns	ns	ns
S11	23 Jan 2020	956	2e	2e	6e	1.00
S11	28 Jan 2020	810	20e	<2	4e	0.10
S12	07 Jan 2020	930	<2	<2	2e	1.00
S12	14 Jan 2020	912	<2	<2	4e	1.00
S12	21 Jan 2020	829	2e	2e	<2	1.00
S12	28 Jan 2020	829	<20	2e	<2	0.10

ns = not sampled
ND = no data

Comments

Station	Date	Depth	Parameter	Comments
S11	01 Jan 2020			Resample for 12/30/2019
S6	01 Jan 2020			Resample for 12/30/2019
S11	03 Jan 2020			Resample
S5	03 Jan 2020			Resample
S5	05 Jan 2020			Resample
S6	05 Jan 2020			Resample
S4	09 Jan 2020			Resample
S10	09 Jan 2020			Resample
S4	11 Jan 2020			Resample
S10	11 Jan 2020			Resample
S4	13 Jan 2020			Resample
S10	13 Jan 2020			Resample
S4	16 Jan 2020			Resample
S10	16 Jan 2020			Resample
S10	18 Jan 2020			Resample
S4	18 Jan 2020			Resample
S4	20 Jan 2020			Resample
S10	20 Jan 2020			Resample
S4	23 Jan 2020			Resample
S5	23 Jan 2020			Resample
S6	23 Jan 2020			Resample
S10	23 Jan 2020			Resample
S11	23 Jan 2020			Resample
S5	27 Jan 2020			Resample
S4	27 Jan 2020			Resample
S5	30 Jan 2020			Resample

Table 2.9

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

Station	Date	Parameter	Value
S0	07 Jan 2020	Arrive Time	1110
S0	07 Jan 2020	Weather	Sunny
S0	07 Jan 2020	Wind Speed (kts)	2.5
S0	07 Jan 2020	Wind Dir	NW
S0	07 Jan 2020	Animal Life	20 Birds
S0	07 Jan 2020	Floatables	None
S0	07 Jan 2020	Water Color	Green
S0	07 Jan 2020	Current Direction	NW
S0	07 Jan 2020	Water Temp (C)	16
S0	07 Jan 2020	Wave Height Low (ft)	3
S0	07 Jan 2020	High Tide (ft)	5.6
S0	07 Jan 2020	High Tide Time	608
S0	07 Jan 2020	Low Tide (ft)	-0.4
S0	07 Jan 2020	Low Tide Time	1329
S0	07 Jan 2020	Comments	Kelp; 2 Persons; Water clear;0.5 L/sec water flowing from storm drain
S0	14 Jan 2020	Arrive Time	1100
S0	14 Jan 2020	Weather	Sunny
S0	14 Jan 2020	Wind Speed (kts)	2.1
S0	14 Jan 2020	Wind Dir	NE
S0	14 Jan 2020	Animal Life	20 Birds; 5 Dogs
S0	14 Jan 2020	Floatables	None
S0	14 Jan 2020	Water Color	Green
S0	14 Jan 2020	Current Direction	N
S0	14 Jan 2020	Water Temp (C)	15
S0	14 Jan 2020	Wave Height Low (ft)	3
S0	14 Jan 2020	High Tide (ft)	5.4
S0	14 Jan 2020	High Tide Time	1101
S0	14 Jan 2020	Low Tide (ft)	1.8
S0	14 Jan 2020	Low Tide Time	507
S0	14 Jan 2020	Comments	Kelp; 2 Fishermen; Water turbid; 0.5L/sec water flowing from storm drain
S0	21 Jan 2020	Arrive Time	1040
S0	21 Jan 2020	Weather	Cloudy
S0	21 Jan 2020	Wind Speed (kts)	1.8
S0	21 Jan 2020	Wind Dir	NE
S0	21 Jan 2020	Animal Life	15 Birds
S0	21 Jan 2020	Floatables	None
S0	21 Jan 2020	Water Color	Green
S0	21 Jan 2020	Current Direction	N
S0	21 Jan 2020	Water Temp (C)	16
S0	21 Jan 2020	Wave Height Low (ft)	3
S0	21 Jan 2020	High Tide (ft)	5.9
S0	21 Jan 2020	High Tide Time	613
S0	21 Jan 2020	Low Tide (ft)	-0.9
S0	21 Jan 2020	Low Tide Time	1338
S0	21 Jan 2020	Comments	Kelp; Water turbid; 1.0 L/sec water flowing from storm drain
S0	28 Jan 2020	Arrive Time	1045
S0	28 Jan 2020	Weather	Sunny
S0	28 Jan 2020	Wind Speed (kts)	1.9
S0	28 Jan 2020	Wind Dir	NW
S0	28 Jan 2020	Animal Life	5 Seagulls
S0	28 Jan 2020	Floatables	None

Station	Date	Parameter	Value
S0	28 Jan 2020	Water Color	Green
S0	28 Jan 2020	Current Direction	N
S0	28 Jan 2020	Water Temp (C)	15
S0	28 Jan 2020	Wave Height Low (ft)	3
S0	28 Jan 2020	High Tide (ft)	4.8
S0	28 Jan 2020	High Tide Time	1028
S0	28 Jan 2020	Low Tide (ft)	1.8
S0	28 Jan 2020	Low Tide Time	437
S0	28 Jan 2020	Comments	Kelp; Water turbid; 0.5L/sec water flowing from storm drain
S2	07 Jan 2020	Arrive Time	1230
S2	07 Jan 2020	Weather	Sunny
S2	07 Jan 2020	Wind Speed (kts)	2.3
S2	07 Jan 2020	Wind Dir	NW
S2	07 Jan 2020	Animal Life	20 Birds; 2 Dogs
S2	07 Jan 2020	Floatables	None
S2	07 Jan 2020	Water Color	Green
S2	07 Jan 2020	Current Direction	NW
S2	07 Jan 2020	Water Temp (C)	16
S2	07 Jan 2020	Wave Height Low (ft)	3
S2	07 Jan 2020	High Tide (ft)	5.6
S2	07 Jan 2020	High Tide Time	608
S2	07 Jan 2020	Low Tide (ft)	-0.4
S2	07 Jan 2020	Low Tide Time	1329
S2	07 Jan 2020	Comments	Kelp; 2 Persons; Water clear; No flow from storm drain
S2	14 Jan 2020	Arrive Time	1200
S2	14 Jan 2020	Weather	Sunny
S2	14 Jan 2020	Wind Speed (kts)	2.1
S2	14 Jan 2020	Wind Dir	NE
S2	14 Jan 2020	Animal Life	5 Birds
S2	14 Jan 2020	Floatables	None
S2	14 Jan 2020	Water Color	Green
S2	14 Jan 2020	Current Direction	N
S2	14 Jan 2020	Water Temp (C)	15
S2	14 Jan 2020	Wave Height Low (ft)	3
S2	14 Jan 2020	High Tide (ft)	5.4
S2	14 Jan 2020	High Tide Time	1101
S2	14 Jan 2020	Low Tide (ft)	-0.6
S2	14 Jan 2020	Low Tide Time	1810
S2	14 Jan 2020	Comments	Kelp; 5 Persons; Water turbid; No flow from storm drain
S2	21 Jan 2020	Arrive Time	1150
S2	21 Jan 2020	Weather	Cloudy
S2	21 Jan 2020	Wind Speed (kts)	3.2
S2	21 Jan 2020	Wind Dir	NE
S2	21 Jan 2020	Animal Life	15 Seagulls
S2	21 Jan 2020	Floatables	None
S2	21 Jan 2020	Water Color	Green
S2	21 Jan 2020	Current Direction	N
S2	21 Jan 2020	Water Temp (C)	15
S2	21 Jan 2020	Wave Height Low (ft)	3
S2	21 Jan 2020	High Tide (ft)	5.9
S2	21 Jan 2020	High Tide Time	613
S2	21 Jan 2020	Low Tide (ft)	-0.9
S2	21 Jan 2020	Low Tide Time	1338
S2	21 Jan 2020	Comments	Kelp; Water turbid; No flow from stormdrain
S2	28 Jan 2020	Arrive Time	1110
S2	28 Jan 2020	Weather	Sunny
S2	28 Jan 2020	Wind Speed (kts)	2.3

Station	Date	Parameter	Value
S2	28 Jan 2020	Wind Dir	NW
S2	28 Jan 2020	Animal Life	15 Seagulls
S2	28 Jan 2020	Floatables	None
S2	28 Jan 2020	Water Color	Green
S2	28 Jan 2020	Current Direction	N
S2	28 Jan 2020	Water Temp (C)	15
S2	28 Jan 2020	Wave Height Low (ft)	3
S2	28 Jan 2020	High Tide (ft)	4.8
S2	28 Jan 2020	High Tide Time	1028
S2	28 Jan 2020	Low Tide (ft)	0.1
S2	28 Jan 2020	Low Tide Time	1729
S2	28 Jan 2020	Comments	Kelp; Water turbid; No flow from storm drain
S3	07 Jan 2020	Arrive Time	1145
S3	07 Jan 2020	Weather	Sunny
S3	07 Jan 2020	Wind Speed (kts)	2.6
S3	07 Jan 2020	Wind Dir	NW
S3	07 Jan 2020	Animal Life	20 Birds
S3	07 Jan 2020	Floatables	None
S3	07 Jan 2020	Water Color	Green
S3	07 Jan 2020	Current Direction	N
S3	07 Jan 2020	Water Temp (C)	16
S3	07 Jan 2020	Wave Height Low (ft)	3
S3	07 Jan 2020	High Tide (ft)	5.6
S3	07 Jan 2020	High Tide Time	608
S3	07 Jan 2020	Low Tide (ft)	-0.4
S3	07 Jan 2020	Low Tide Time	1329
S3	07 Jan 2020	Comments	Kelp; 4 Persons; Water clear; 0.5 L/sec water flowing from strom drain
S3	14 Jan 2020	Arrive Time	1241
S3	14 Jan 2020	Weather	Sunny
S3	14 Jan 2020	Wind Speed (kts)	2.4
S3	14 Jan 2020	Wind Dir	NE
S3	14 Jan 2020	Animal Life	15 Birds
S3	14 Jan 2020	Floatables	None
S3	14 Jan 2020	Water Color	Green
S3	14 Jan 2020	Current Direction	N
S3	14 Jan 2020	Water Temp (C)	15
S3	14 Jan 2020	Wave Height Low (ft)	3
S3	14 Jan 2020	High Tide (ft)	5.4
S3	14 Jan 2020	High Tide Time	1101
S3	14 Jan 2020	Low Tide (ft)	-0.6
S3	14 Jan 2020	Low Tide Time	1810
S3	14 Jan 2020	Comments	Kelp; 1 Surfer; Water turbid; 0.5L/sec water flowing from storm drain
S3	21 Jan 2020	Arrive Time	1120
S3	21 Jan 2020	Weather	Cloudy
S3	21 Jan 2020	Wind Speed (kts)	4.6
S3	21 Jan 2020	Wind Dir	NE
S3	21 Jan 2020	Animal Life	3 Dogs; 20 Seagulls
S3	21 Jan 2020	Floatables	None
S3	21 Jan 2020	Water Color	Green
S3	21 Jan 2020	Current Direction	N
S3	21 Jan 2020	Water Temp (C)	15
S3	21 Jan 2020	Wave Height Low (ft)	3
S3	21 Jan 2020	High Tide (ft)	5.9
S3	21 Jan 2020	High Tide Time	613
S3	21 Jan 2020	Low Tide (ft)	-0.9
S3	21 Jan 2020	Low Tide Time	1338

Station	Date	Parameter	Value
S3	21 Jan 2020	Comments	Kelp; 3 Persons; Water turbid; 0.5L/sec water flowing from storm drain
S3	28 Jan 2020	Arrive Time	1128
S3	28 Jan 2020	Weather	Sunny
S3	28 Jan 2020	Wind Speed (kts)	1.6
S3	28 Jan 2020	Wind Dir	NW
S3	28 Jan 2020	Animal Life	15 Seagulls
S3	28 Jan 2020	Floatables	None
S3	28 Jan 2020	Water Color	Green
S3	28 Jan 2020	Current Direction	N
S3	28 Jan 2020	Water Temp (C)	15
S3	28 Jan 2020	Wave Height Low (ft)	3
S3	28 Jan 2020	High Tide (ft)	4.8
S3	28 Jan 2020	High Tide Time	1028
S3	28 Jan 2020	Low Tide (ft)	0.1
S3	28 Jan 2020	Low Tide Time	1729
S3	28 Jan 2020	Comments	Kelp; Water turbid; 0.5L/sec water flowing from storm drain
S4	07 Jan 2020	Arrive Time	806
S4	07 Jan 2020	Weather	Sunny
S4	07 Jan 2020	Wind Speed (kts)	7.2
S4	07 Jan 2020	Wind Dir	E
S4	07 Jan 2020	Animal Life	None
S4	07 Jan 2020	Floatables	None
S4	07 Jan 2020	Water Color	Green
S4	07 Jan 2020	Current Direction	E
S4	07 Jan 2020	Water Temp (C)	15.3
S4	07 Jan 2020	Wave Height Low (ft)	4
S4	07 Jan 2020	High Tide (ft)	5.6
S4	07 Jan 2020	High Tide Time	608
S4	07 Jan 2020	Low Tide (ft)	-0.4
S4	07 Jan 2020	Low Tide Time	1329
S4	07 Jan 2020	Comments	Debris; Water clear
S4	09 Jan 2020	Arrive Time	737
S4	09 Jan 2020	Weather	Drizzle
S4	09 Jan 2020	Wind Speed (kts)	11.4
S4	09 Jan 2020	Wind Dir	W
S4	09 Jan 2020	Animal Life	7 Cormorants; 4 Seagulls
S4	09 Jan 2020	Floatables	Foam
S4	09 Jan 2020	Water Color	Green
S4	09 Jan 2020	Current Direction	N
S4	09 Jan 2020	Water Temp (C)	15.1
S4	09 Jan 2020	Wave Height Low (ft)	5
S4	09 Jan 2020	High Tide (ft)	6.2
S4	09 Jan 2020	High Tide Time	722
S4	09 Jan 2020	Low Tide (ft)	1.9
S4	09 Jan 2020	Low Tide Time	112
S4	09 Jan 2020	Comments	Resample; Sewage-like odor; Water clear
S4	11 Jan 2020	Arrive Time	811
S4	11 Jan 2020	Weather	Sunny
S4	11 Jan 2020	Wind Speed (kts)	2.1
S4	11 Jan 2020	Wind Dir	E
S4	11 Jan 2020	Animal Life	50 Cormorants; 40 Seagulls
S4	11 Jan 2020	Floatables	Foam; Film
S4	11 Jan 2020	Water Color	Green
S4	11 Jan 2020	Current Direction	N
S4	11 Jan 2020	Water Temp (C)	13.4
S4	11 Jan 2020	Wave Height Low (ft)	3

Station	Date	Parameter	Value
S4	11 Jan 2020	High Tide (ft)	6.5
S4	11 Jan 2020	High Tide Time	842
S4	11 Jan 2020	Low Tide (ft)	1.8
S4	11 Jan 2020	Low Tide Time	235
S4	11 Jan 2020	Comments	Resample; Kelp; Seagrass; Debris; Water clear
S4	13 Jan 2020	Arrive Time	1024
S4	13 Jan 2020	Weather	Sunny
S4	13 Jan 2020	Wind Speed (kts)	1.7
S4	13 Jan 2020	Wind Dir	E
S4	13 Jan 2020	Animal Life	45 Cormorants
S4	13 Jan 2020	Floatables	Foam; Film
S4	13 Jan 2020	Water Color	Green
S4	13 Jan 2020	Current Direction	N
S4	13 Jan 2020	Water Temp (C)	15.8
S4	13 Jan 2020	Wave Height Low (ft)	3
S4	13 Jan 2020	High Tide (ft)	6
S4	13 Jan 2020	High Tide Time	1011
S4	13 Jan 2020	Low Tide (ft)	1.8
S4	13 Jan 2020	Low Tide Time	409
S4	13 Jan 2020	Comments	Resample; Kelp; Seagrass; Debris; 1 Boat; Water clear
S4	14 Jan 2020	Arrive Time	1000
S4	14 Jan 2020	Weather	Sunny
S4	14 Jan 2020	Wind Speed (kts)	3.6
S4	14 Jan 2020	Wind Dir	E
S4	14 Jan 2020	Animal Life	2 Grebes; 2 Seagulls; 13 Terns
S4	14 Jan 2020	Floatables	Foam
S4	14 Jan 2020	Water Color	Green
S4	14 Jan 2020	Current Direction	S
S4	14 Jan 2020	Water Temp (C)	15.7
S4	14 Jan 2020	Wave Height Low (ft)	3
S4	14 Jan 2020	High Tide (ft)	5.4
S4	14 Jan 2020	High Tide Time	1101
S4	14 Jan 2020	Low Tide (ft)	1.8
S4	14 Jan 2020	Low Tide Time	507
S4	14 Jan 2020	Comments	Kelp; Seagrass; 1 Jogger; Water clear
S4	16 Jan 2020	Arrive Time	802
S4	16 Jan 2020	Weather	Overcast
S4	16 Jan 2020	Wind Speed (kts)	2.7
S4	16 Jan 2020	Wind Dir	E
S4	16 Jan 2020	Animal Life	8 Cormorants
S4	16 Jan 2020	Floatables	None
S4	16 Jan 2020	Water Color	Green
S4	16 Jan 2020	Current Direction	N
S4	16 Jan 2020	Water Temp (C)	14.4
S4	16 Jan 2020	Wave Height Low (ft)	4
S4	16 Jan 2020	High Tide (ft)	3.9
S4	16 Jan 2020	High Tide Time	1312
S4	16 Jan 2020	Low Tide (ft)	1.8
S4	16 Jan 2020	Low Tide Time	743
S4	16 Jan 2020	Comments	Resample; Debris; Water clear
S4	18 Jan 2020	Arrive Time	828
S4	18 Jan 2020	Weather	Sunny
S4	18 Jan 2020	Wind Speed (kts)	1.3
S4	18 Jan 2020	Wind Dir	SE
S4	18 Jan 2020	Animal Life	25 Shorebirds; 60 Godwits; 30 Grebes; 10 Seagulls
S4	18 Jan 2020	Floatables	Foam; Film
S4	18 Jan 2020	Water Color	Green

Station	Date	Parameter	Value
S4	18 Jan 2020	Current Direction	S
S4	18 Jan 2020	Water Temp (C)	14
S4	18 Jan 2020	Wave Height Low (ft)	3
S4	18 Jan 2020	High Tide (ft)	5
S4	18 Jan 2020	High Tide Time	338
S4	18 Jan 2020	Low Tide (ft)	0.8
S4	18 Jan 2020	Low Tide Time	1050
S4	18 Jan 2020	Comments	Resample; Kelp; Seagrass; Debris; Sewage-like odor; Water clear
S4	20 Jan 2020	Arrive Time	828
S4	20 Jan 2020	Weather	Overcast
S4	20 Jan 2020	Wind Speed (kts)	5.6
S4	20 Jan 2020	Wind Dir	E
S4	20 Jan 2020	Animal Life	25 Godwits; 12 Grebes; 30 Seagulls
S4	20 Jan 2020	Floatables	Foam; Film
S4	20 Jan 2020	Water Color	Green
S4	20 Jan 2020	Current Direction	S
S4	20 Jan 2020	Water Temp (C)	15.9
S4	20 Jan 2020	Wave Height Low (ft)	5
S4	20 Jan 2020	High Tide (ft)	5.6
S4	20 Jan 2020	High Tide Time	526
S4	20 Jan 2020	Low Tide (ft)	-0.4
S4	20 Jan 2020	Low Tide Time	1253
S4	20 Jan 2020	Comments	Resample; Kelp; Seagrass; Debris; Sewage-like odor; Water clear
S4	21 Jan 2020	Arrive Time	901
S4	21 Jan 2020	Weather	Drizzle
S4	21 Jan 2020	Wind Speed (kts)	1.5
S4	21 Jan 2020	Wind Dir	SE
S4	21 Jan 2020	Animal Life	9 Shorebirds; 8 Cormorants
S4	21 Jan 2020	Floatables	None
S4	21 Jan 2020	Water Color	Green
S4	21 Jan 2020	Current Direction	N
S4	21 Jan 2020	Water Temp (C)	15.8
S4	21 Jan 2020	Wave Height Low (ft)	4
S4	21 Jan 2020	High Tide (ft)	5.9
S4	21 Jan 2020	High Tide Time	613
S4	21 Jan 2020	Low Tide (ft)	-0.9
S4	21 Jan 2020	Low Tide Time	1338
S4	21 Jan 2020	Comments	Kelp; Seagrass; Water clear
S4	23 Jan 2020	Arrive Time	818
S4	23 Jan 2020	Weather	Sunny
S4	23 Jan 2020	Wind Speed (kts)	3.6
S4	23 Jan 2020	Wind Dir	NE
S4	23 Jan 2020	Animal Life	9 Godwits; 6 Grebes; 10 Plovers; 14 Terns
S4	23 Jan 2020	Floatables	Foam
S4	23 Jan 2020	Water Color	Green
S4	23 Jan 2020	Current Direction	S
S4	23 Jan 2020	Water Temp (C)	15.6
S4	23 Jan 2020	Wave Height Low (ft)	4
S4	23 Jan 2020	High Tide (ft)	6.1
S4	23 Jan 2020	High Tide Time	736
S4	23 Jan 2020	Low Tide (ft)	-1.2
S4	23 Jan 2020	Low Tide Time	1453
S4	23 Jan 2020	Comments	Resample; Kelp; Seagrass; Debris; Water clear
S4	27 Jan 2020	Arrive Time	829
S4	27 Jan 2020	Weather	Sunny

Station	Date	Parameter	Value
S4	27 Jan 2020	Wind Speed (kts)	3.6
S4	27 Jan 2020	Wind Dir	N
S4	27 Jan 2020	Animal Life	4 Terns
S4	27 Jan 2020	Floatables	Foam
S4	27 Jan 2020	Water Color	Green
S4	27 Jan 2020	Current Direction	S
S4	27 Jan 2020	Water Temp (C)	15.8
S4	27 Jan 2020	Wave Height Low (ft)	4
S4	27 Jan 2020	High Tide (ft)	5.3
S4	27 Jan 2020	High Tide Time	955
S4	27 Jan 2020	Low Tide (ft)	1.7
S4	27 Jan 2020	Low Tide Time	359
S4	27 Jan 2020	Comments	Resample; Kelp; Seagrass; Sewage-like odor; Water clear
S5	03 Jan 2020	Arrive Time	817
S5	03 Jan 2020	Weather	Sunny
S5	03 Jan 2020	Wind Speed (kts)	0.7
S5	03 Jan 2020	Wind Dir	SE
S5	03 Jan 2020	Animal Life	None
S5	03 Jan 2020	Floatables	None
S5	03 Jan 2020	Water Color	Brown
S5	03 Jan 2020	Current Direction	N
S5	03 Jan 2020	Water Temp (C)	15.7
S5	03 Jan 2020	Wave Height Low (ft)	2
S5	03 Jan 2020	High Tide (ft)	4.1
S5	03 Jan 2020	High Tide Time	338
S5	03 Jan 2020	Low Tide (ft)	2.1
S5	03 Jan 2020	Low Tide Time	1025
S5	03 Jan 2020	Comments	Resample; Kelp; Seagrass; Debris; Water clear
S5	05 Jan 2020	Arrive Time	915
S5	05 Jan 2020	Weather	Sunny
S5	05 Jan 2020	Wind Speed (kts)	3.8
S5	05 Jan 2020	Wind Dir	SE
S5	05 Jan 2020	Animal Life	None
S5	05 Jan 2020	Floatables	None
S5	05 Jan 2020	Water Color	Brown
S5	05 Jan 2020	Current Direction	SE
S5	05 Jan 2020	Water Temp (C)	14.5
S5	05 Jan 2020	Wave Height Low (ft)	2
S5	05 Jan 2020	High Tide (ft)	4.8
S5	05 Jan 2020	High Tide Time	457
S5	05 Jan 2020	Low Tide (ft)	0.8
S5	05 Jan 2020	Low Tide Time	1215
S5	05 Jan 2020	Comments	Resample; Debris; Water clear
S5	14 Jan 2020	Arrive Time	821
S5	14 Jan 2020	Weather	Sunny
S5	14 Jan 2020	Wind Speed (kts)	7.3
S5	14 Jan 2020	Wind Dir	E
S5	14 Jan 2020	Animal Life	1 Seagull; 1 Tern
S5	14 Jan 2020	Floatables	Foam
S5	14 Jan 2020	Water Color	Green
S5	14 Jan 2020	Current Direction	S
S5	14 Jan 2020	Water Temp (C)	14
S5	14 Jan 2020	Wave Height Low (ft)	3
S5	14 Jan 2020	High Tide (ft)	5.4
S5	14 Jan 2020	High Tide Time	1101
S5	14 Jan 2020	Low Tide (ft)	1.8
S5	14 Jan 2020	Low Tide Time	507
S5	14 Jan 2020	Comments	Kelp; Seagrass; Water clear

Station	Date	Parameter	Value
S5	21 Jan 2020	Arrive Time	801
S5	21 Jan 2020	Weather	Drizzle
S5	21 Jan 2020	Wind Speed (kts)	3.4
S5	21 Jan 2020	Wind Dir	SE
S5	21 Jan 2020	Animal Life	None
S5	21 Jan 2020	Floatables	None
S5	21 Jan 2020	Water Color	Green
S5	21 Jan 2020	Current Direction	N
S5	21 Jan 2020	Water Temp (C)	16.2
S5	21 Jan 2020	Wave Height Low (ft)	4
S5	21 Jan 2020	High Tide (ft)	5.9
S5	21 Jan 2020	High Tide Time	613
S5	21 Jan 2020	Low Tide (ft)	-0.9
S5	21 Jan 2020	Low Tide Time	1338
S5	21 Jan 2020	Comments	Kelp; Seagrass; Debris; Sewage-like odor; Water clear
S5	23 Jan 2020	Arrive Time	942
S5	23 Jan 2020	Weather	Sunny
S5	23 Jan 2020	Wind Speed (kts)	1.1
S5	23 Jan 2020	Wind Dir	N
S5	23 Jan 2020	Animal Life	1 Seagull
S5	23 Jan 2020	Floatables	Foam
S5	23 Jan 2020	Water Color	Green
S5	23 Jan 2020	Current Direction	S
S5	23 Jan 2020	Water Temp (C)	16.3
S5	23 Jan 2020	Wave Height Low (ft)	3
S5	23 Jan 2020	High Tide (ft)	6.1
S5	23 Jan 2020	High Tide Time	736
S5	23 Jan 2020	Low Tide (ft)	-1.2
S5	23 Jan 2020	Low Tide Time	1453
S5	23 Jan 2020	Comments	Resample; Kelp; Seagrass; Water clear
S5	27 Jan 2020	Arrive Time	910
S5	27 Jan 2020	Weather	Sunny
S5	27 Jan 2020	Wind Speed (kts)	2.7
S5	27 Jan 2020	Wind Dir	E
S5	27 Jan 2020	Animal Life	None
S5	27 Jan 2020	Floatables	Foam
S5	27 Jan 2020	Water Color	Green
S5	27 Jan 2020	Current Direction	S
S5	27 Jan 2020	Water Temp (C)	16.7
S5	27 Jan 2020	Wave Height Low (ft)	3
S5	27 Jan 2020	High Tide (ft)	5.3
S5	27 Jan 2020	High Tide Time	955
S5	27 Jan 2020	Low Tide (ft)	1.7
S5	27 Jan 2020	Low Tide Time	359
S5	27 Jan 2020	Comments	Resample; Kelp; Seagrass; 1 Person; Water clear
S5	30 Jan 2020	Arrive Time	1026
S5	30 Jan 2020	Weather	Sunny
S5	30 Jan 2020	Wind Speed (kts)	3.1
S5	30 Jan 2020	Wind Dir	NW
S5	30 Jan 2020	Animal Life	1 Seagull; 6 Terns
S5	30 Jan 2020	Floatables	Foam
S5	30 Jan 2020	Water Color	Green
S5	30 Jan 2020	Current Direction	S
S5	30 Jan 2020	Water Temp (C)	17.3
S5	30 Jan 2020	Wave Height Low (ft)	2
S5	30 Jan 2020	High Tide (ft)	3.7
S5	30 Jan 2020	High Tide Time	1142

Station	Date	Parameter	Value
S5	30 Jan 2020	Low Tide (ft)	2
S5	30 Jan 2020	Low Tide Time	614
S5	30 Jan 2020	Comments	Resample; Kelp; Seagrass; Sewage-like odor; Water clear
S6	01 Jan 2020	Arrive Time	931
S6	01 Jan 2020	Weather	Partly Cloudy
S6	01 Jan 2020	Wind Speed (kts)	6.2
S6	01 Jan 2020	Wind Dir	SE
S6	01 Jan 2020	Animal Life	2 Dogs
S6	01 Jan 2020	Floatables	None
S6	01 Jan 2020	Water Color	Green
S6	01 Jan 2020	Current Direction	N
S6	01 Jan 2020	Water Temp (C)	15.5
S6	01 Jan 2020	Wave Height Low (ft)	4
S6	01 Jan 2020	High Tide (ft)	4.3
S6	01 Jan 2020	High Tide Time	1133
S6	01 Jan 2020	Low Tide (ft)	0.5
S6	01 Jan 2020	Low Tide Time	1903
S6	01 Jan 2020	Comments	Resample; Kelp; Seagrass; 2 Persons; Water clear
S6	05 Jan 2020	Arrive Time	943
S6	05 Jan 2020	Weather	Sunny
S6	05 Jan 2020	Wind Speed (kts)	5.5
S6	05 Jan 2020	Wind Dir	E
S6	05 Jan 2020	Animal Life	None
S6	05 Jan 2020	Floatables	None
S6	05 Jan 2020	Water Color	Green
S6	05 Jan 2020	Current Direction	E
S6	05 Jan 2020	Water Temp (C)	14.8
S6	05 Jan 2020	Wave Height Low (ft)	4
S6	05 Jan 2020	High Tide (ft)	4.8
S6	05 Jan 2020	High Tide Time	457
S6	05 Jan 2020	Low Tide (ft)	0.8
S6	05 Jan 2020	Low Tide Time	1215
S6	05 Jan 2020	Comments	Resample; 2 Persons; 2 Surfers; Water clear
S6	07 Jan 2020	Arrive Time	924
S6	07 Jan 2020	Weather	Sunny
S6	07 Jan 2020	Wind Speed (kts)	6.8
S6	07 Jan 2020	Wind Dir	W
S6	07 Jan 2020	Animal Life	None
S6	07 Jan 2020	Floatables	None
S6	07 Jan 2020	Water Color	Green
S6	07 Jan 2020	Current Direction	W
S6	07 Jan 2020	Water Temp (C)	16.2
S6	07 Jan 2020	Wave Height Low (ft)	5
S6	07 Jan 2020	High Tide (ft)	5.6
S6	07 Jan 2020	High Tide Time	608
S6	07 Jan 2020	Low Tide (ft)	-0.4
S6	07 Jan 2020	Low Tide Time	1329
S6	07 Jan 2020	Comments	Kelp; Seagrass; Water clear
S6	14 Jan 2020	Arrive Time	856
S6	14 Jan 2020	Weather	Sunny
S6	14 Jan 2020	Wind Speed (kts)	5.6
S6	14 Jan 2020	Wind Dir	E
S6	14 Jan 2020	Animal Life	1 Dog; 1 Pelican
S6	14 Jan 2020	Floatables	Foam
S6	14 Jan 2020	Water Color	Green
S6	14 Jan 2020	Current Direction	S
S6	14 Jan 2020	Water Temp (C)	15.2

Station	Date	Parameter	Value
S6	14 Jan 2020	Wave Height Low (ft)	3
S6	14 Jan 2020	High Tide (ft)	5.4
S6	14 Jan 2020	High Tide Time	1101
S6	14 Jan 2020	Low Tide (ft)	1.8
S6	14 Jan 2020	Low Tide Time	507
S6	14 Jan 2020	Comments	Kelp; Seagrass; 2 Persons; Water clear
S6	23 Jan 2020	Arrive Time	1017
S6	23 Jan 2020	Weather	Sunny
S6	23 Jan 2020	Wind Speed (kts)	3.6
S6	23 Jan 2020	Wind Dir	N
S6	23 Jan 2020	Animal Life	1 Dog
S6	23 Jan 2020	Floatables	Foam
S6	23 Jan 2020	Water Color	Green
S6	23 Jan 2020	Current Direction	S
S6	23 Jan 2020	Water Temp (C)	16.5
S6	23 Jan 2020	Wave Height Low (ft)	4
S6	23 Jan 2020	High Tide (ft)	6.1
S6	23 Jan 2020	High Tide Time	736
S6	23 Jan 2020	Low Tide (ft)	-1.2
S6	23 Jan 2020	Low Tide Time	1453
S6	23 Jan 2020	Comments	Resample; Kelp; Seagrass; Algae; Debris; 3 Persons; Water clear
S6	28 Jan 2020	Arrive Time	817
S6	28 Jan 2020	Weather	Sunny
S6	28 Jan 2020	Wind Speed (kts)	3.9
S6	28 Jan 2020	Wind Dir	E
S6	28 Jan 2020	Animal Life	2 Dogs
S6	28 Jan 2020	Floatables	None
S6	28 Jan 2020	Water Color	Green
S6	28 Jan 2020	Current Direction	N
S6	28 Jan 2020	Water Temp (C)	15
S6	28 Jan 2020	Wave Height Low (ft)	6
S6	28 Jan 2020	High Tide (ft)	4.8
S6	28 Jan 2020	High Tide Time	1028
S6	28 Jan 2020	Low Tide (ft)	1.8
S6	28 Jan 2020	Low Tide Time	437
S6	28 Jan 2020	Comments	Kelp; Seagrass; 3 Persons; Water clear
S8	07 Jan 2020	Arrive Time	948
S8	07 Jan 2020	Weather	Sunny
S8	07 Jan 2020	Wind Speed (kts)	3.1
S8	07 Jan 2020	Wind Dir	NW
S8	07 Jan 2020	Animal Life	35 Seagulls
S8	07 Jan 2020	Floatables	None
S8	07 Jan 2020	Water Color	Green
S8	07 Jan 2020	Current Direction	NW
S8	07 Jan 2020	Water Temp (C)	16.8
S8	07 Jan 2020	Wave Height Low (ft)	3
S8	07 Jan 2020	High Tide (ft)	5.6
S8	07 Jan 2020	High Tide Time	608
S8	07 Jan 2020	Low Tide (ft)	-0.4
S8	07 Jan 2020	Low Tide Time	1329
S8	07 Jan 2020	Comments	Kelp; Seagrass; Water clear
S8	14 Jan 2020	Arrive Time	1115
S8	14 Jan 2020	Weather	Sunny
S8	14 Jan 2020	Wind Speed (kts)	3.3
S8	14 Jan 2020	Wind Dir	W
S8	14 Jan 2020	Animal Life	8 Terns

Station	Date	Parameter	Value
S8	14 Jan 2020	Floatables	Foam
S8	14 Jan 2020	Water Color	Green
S8	14 Jan 2020	Current Direction	S
S8	14 Jan 2020	Water Temp (C)	16.4
S8	14 Jan 2020	Wave Height Low (ft)	2
S8	14 Jan 2020	High Tide (ft)	5.4
S8	14 Jan 2020	High Tide Time	1101
S8	14 Jan 2020	Low Tide (ft)	1.8
S8	14 Jan 2020	Low Tide Time	507
S8	14 Jan 2020	Comments	Kelp; Seagrass; 3 Persons; Water clear
S8	21 Jan 2020	Arrive Time	949
S8	21 Jan 2020	Weather	Cloudy
S8	21 Jan 2020	Wind Speed (kts)	2.7
S8	21 Jan 2020	Wind Dir	SW
S8	21 Jan 2020	Animal Life	None
S8	21 Jan 2020	Floatables	None
S8	21 Jan 2020	Water Color	Green
S8	21 Jan 2020	Current Direction	N
S8	21 Jan 2020	Water Temp (C)	16
S8	21 Jan 2020	Wave Height Low (ft)	3
S8	21 Jan 2020	High Tide (ft)	5.9
S8	21 Jan 2020	High Tide Time	613
S8	21 Jan 2020	Low Tide (ft)	-0.9
S8	21 Jan 2020	Low Tide Time	1338
S8	21 Jan 2020	Comments	Kelp; Seagrass; 2 Persons; Water clear
S8	28 Jan 2020	Arrive Time	943
S8	28 Jan 2020	Weather	Sunny
S8	28 Jan 2020	Wind Speed (kts)	2.8
S8	28 Jan 2020	Wind Dir	NE
S8	28 Jan 2020	Animal Life	None
S8	28 Jan 2020	Floatables	None
S8	28 Jan 2020	Water Color	Green
S8	28 Jan 2020	Current Direction	N
S8	28 Jan 2020	Water Temp (C)	14
S8	28 Jan 2020	Wave Height Low (ft)	4
S8	28 Jan 2020	High Tide (ft)	4.8
S8	28 Jan 2020	High Tide Time	1028
S8	28 Jan 2020	Low Tide (ft)	1.8
S8	28 Jan 2020	Low Tide Time	437
S8	28 Jan 2020	Comments	Kelp; Seagrass; 2 Persons; Water clear
S9	07 Jan 2020	Arrive Time	1005
S9	07 Jan 2020	Weather	Sunny
S9	07 Jan 2020	Wind Speed (kts)	2
S9	07 Jan 2020	Wind Dir	W
S9	07 Jan 2020	Animal Life	None
S9	07 Jan 2020	Floatables	None
S9	07 Jan 2020	Water Color	Green
S9	07 Jan 2020	Current Direction	W
S9	07 Jan 2020	Water Temp (C)	16.3
S9	07 Jan 2020	Wave Height Low (ft)	3
S9	07 Jan 2020	High Tide (ft)	5.6
S9	07 Jan 2020	High Tide Time	608
S9	07 Jan 2020	Low Tide (ft)	-0.4
S9	07 Jan 2020	Low Tide Time	1329
S9	07 Jan 2020	Comments	4 Joggers; Water clear
S9	14 Jan 2020	Arrive Time	1142
S9	14 Jan 2020	Weather	Sunny

Station	Date	Parameter	Value
S9	14 Jan 2020	Wind Speed (kts)	2.9
S9	14 Jan 2020	Wind Dir	W
S9	14 Jan 2020	Animal Life	1 Cormorant; 2 Seagulls; 2 Terns
S9	14 Jan 2020	Floatables	Foam
S9	14 Jan 2020	Water Color	Green
S9	14 Jan 2020	Current Direction	S
S9	14 Jan 2020	Water Temp (C)	17.4
S9	14 Jan 2020	Wave Height Low (ft)	2
S9	14 Jan 2020	High Tide (ft)	5.4
S9	14 Jan 2020	High Tide Time	1101
S9	14 Jan 2020	Low Tide (ft)	-0.6
S9	14 Jan 2020	Low Tide Time	1810
S9	14 Jan 2020	Comments	Kelp; Seagrass; 2 Persons; Water clear
S9	21 Jan 2020	Arrive Time	1010
S9	21 Jan 2020	Weather	Drizzle
S9	21 Jan 2020	Wind Speed (kts)	2.9
S9	21 Jan 2020	Wind Dir	W
S9	21 Jan 2020	Animal Life	None
S9	21 Jan 2020	Floatables	None
S9	21 Jan 2020	Water Color	Green
S9	21 Jan 2020	Current Direction	N
S9	21 Jan 2020	Water Temp (C)	15.8
S9	21 Jan 2020	Wave Height Low (ft)	4
S9	21 Jan 2020	High Tide (ft)	5.9
S9	21 Jan 2020	High Tide Time	613
S9	21 Jan 2020	Low Tide (ft)	-0.9
S9	21 Jan 2020	Low Tide Time	1338
S9	21 Jan 2020	Comments	2 Persons; Water clear
S9	28 Jan 2020	Arrive Time	1002
S9	28 Jan 2020	Weather	Sunny
S9	28 Jan 2020	Wind Speed (kts)	2.5
S9	28 Jan 2020	Wind Dir	W
S9	28 Jan 2020	Animal Life	None
S9	28 Jan 2020	Floatables	None
S9	28 Jan 2020	Water Color	Green
S9	28 Jan 2020	Current Direction	N
S9	28 Jan 2020	Water Temp (C)	14
S9	28 Jan 2020	Wave Height Low (ft)	4
S9	28 Jan 2020	High Tide (ft)	4.8
S9	28 Jan 2020	High Tide Time	1028
S9	28 Jan 2020	Low Tide (ft)	1.8
S9	28 Jan 2020	Low Tide Time	437
S9	28 Jan 2020	Comments	2 Joggers; 2 Persons; Water clear
S10	07 Jan 2020	Arrive Time	820
S10	07 Jan 2020	Weather	Sunny
S10	07 Jan 2020	Wind Speed (kts)	6.7
S10	07 Jan 2020	Wind Dir	E
S10	07 Jan 2020	Animal Life	None
S10	07 Jan 2020	Floatables	None
S10	07 Jan 2020	Water Color	Green
S10	07 Jan 2020	Current Direction	N
S10	07 Jan 2020	Water Temp (C)	14.7
S10	07 Jan 2020	Wave Height Low (ft)	4
S10	07 Jan 2020	High Tide (ft)	5.6
S10	07 Jan 2020	High Tide Time	608
S10	07 Jan 2020	Low Tide (ft)	-0.4
S10	07 Jan 2020	Low Tide Time	1329
S10	07 Jan 2020	Comments	Debris; Water clear

Station	Date	Parameter	Value
S10	09 Jan 2020	Arrive Time	758
S10	09 Jan 2020	Weather	Cloudy
S10	09 Jan 2020	Wind Speed (kts)	10.6
S10	09 Jan 2020	Wind Dir	W
S10	09 Jan 2020	Animal Life	8 Cormorants; 3 Sand Pipers
S10	09 Jan 2020	Floatables	Foam
S10	09 Jan 2020	Water Color	Green
S10	09 Jan 2020	Current Direction	N
S10	09 Jan 2020	Water Temp (C)	14.6
S10	09 Jan 2020	Wave Height Low (ft)	5
S10	09 Jan 2020	High Tide (ft)	6.2
S10	09 Jan 2020	High Tide Time	722
S10	09 Jan 2020	Low Tide (ft)	1.9
S10	09 Jan 2020	Low Tide Time	112
S10	09 Jan 2020	Comments	Resample; Water clear
S10	11 Jan 2020	Arrive Time	821
S10	11 Jan 2020	Weather	Sunny
S10	11 Jan 2020	Wind Speed (kts)	3.1
S10	11 Jan 2020	Wind Dir	E
S10	11 Jan 2020	Animal Life	20 Cormorants; 1 Dolphin; 15 Seagulls
S10	11 Jan 2020	Floatables	Foam; Film
S10	11 Jan 2020	Water Color	Green
S10	11 Jan 2020	Current Direction	N
S10	11 Jan 2020	Water Temp (C)	14.3
S10	11 Jan 2020	Wave Height Low (ft)	3
S10	11 Jan 2020	High Tide (ft)	6.5
S10	11 Jan 2020	High Tide Time	842
S10	11 Jan 2020	Low Tide (ft)	1.8
S10	11 Jan 2020	Low Tide Time	235
S10	11 Jan 2020	Comments	Resample; Kelp; Seagrass; Debris; Sewage-like odor; Water clear
S10	13 Jan 2020	Arrive Time	1044
S10	13 Jan 2020	Weather	Sunny
S10	13 Jan 2020	Wind Speed (kts)	5.2
S10	13 Jan 2020	Wind Dir	SE
S10	13 Jan 2020	Animal Life	18 Cormorants; 2 Godwits; 1 Pelican
S10	13 Jan 2020	Floatables	Foam; Film
S10	13 Jan 2020	Water Color	Green
S10	13 Jan 2020	Current Direction	N
S10	13 Jan 2020	Water Temp (C)	17
S10	13 Jan 2020	Wave Height Low (ft)	5
S10	13 Jan 2020	High Tide (ft)	6
S10	13 Jan 2020	High Tide Time	1011
S10	13 Jan 2020	Low Tide (ft)	1.8
S10	13 Jan 2020	Low Tide Time	409
S10	13 Jan 2020	Comments	Resample; Kelp; Seagrass; Debris; Sewage-like odor; Water clear
S10	14 Jan 2020	Arrive Time	1022
S10	14 Jan 2020	Weather	Sunny
S10	14 Jan 2020	Wind Speed (kts)	3.6
S10	14 Jan 2020	Wind Dir	N
S10	14 Jan 2020	Animal Life	1 Grebe; 10 Terns
S10	14 Jan 2020	Floatables	Foam
S10	14 Jan 2020	Water Color	Green
S10	14 Jan 2020	Current Direction	S
S10	14 Jan 2020	Water Temp (C)	16.2
S10	14 Jan 2020	Wave Height Low (ft)	3

Station	Date	Parameter	Value
S10	14 Jan 2020	High Tide (ft)	5.4
S10	14 Jan 2020	High Tide Time	1101
S10	14 Jan 2020	Low Tide (ft)	1.8
S10	14 Jan 2020	Low Tide Time	507
S10	14 Jan 2020	Comments	Kelp; Seagrass; Sewage-like odor; Water clear
S10	16 Jan 2020	Arrive Time	807
S10	16 Jan 2020	Weather	Overcast
S10	16 Jan 2020	Wind Speed (kts)	5.2
S10	16 Jan 2020	Wind Dir	E
S10	16 Jan 2020	Animal Life	None
S10	16 Jan 2020	Floatables	None
S10	16 Jan 2020	Water Color	Green
S10	16 Jan 2020	Current Direction	N
S10	16 Jan 2020	Water Temp (C)	14.2
S10	16 Jan 2020	Wave Height Low (ft)	5
S10	16 Jan 2020	High Tide (ft)	3.9
S10	16 Jan 2020	High Tide Time	1312
S10	16 Jan 2020	Low Tide (ft)	1.8
S10	16 Jan 2020	Low Tide Time	743
S10	16 Jan 2020	Comments	Resample; Water clear
S10	18 Jan 2020	Arrive Time	846
S10	18 Jan 2020	Weather	Sunny
S10	18 Jan 2020	Wind Speed (kts)	2.9
S10	18 Jan 2020	Wind Dir	E
S10	18 Jan 2020	Animal Life	2 Cormorants; 6 Godwits
S10	18 Jan 2020	Floatables	Foam; Film
S10	18 Jan 2020	Water Color	Green
S10	18 Jan 2020	Current Direction	S
S10	18 Jan 2020	Water Temp (C)	14.1
S10	18 Jan 2020	Wave Height Low (ft)	3
S10	18 Jan 2020	High Tide (ft)	5
S10	18 Jan 2020	High Tide Time	338
S10	18 Jan 2020	Low Tide (ft)	0.8
S10	18 Jan 2020	Low Tide Time	1050
S10	18 Jan 2020	Comments	Resample; Kelp; Seagrass; Debris; Sewage-like odor; Water clear
S10	20 Jan 2020	Arrive Time	849
S10	20 Jan 2020	Weather	Overcast
S10	20 Jan 2020	Wind Speed (kts)	1.3
S10	20 Jan 2020	Wind Dir	E
S10	20 Jan 2020	Animal Life	3 Godwits
S10	20 Jan 2020	Floatables	Foam; Film
S10	20 Jan 2020	Water Color	Green
S10	20 Jan 2020	Current Direction	S
S10	20 Jan 2020	Water Temp (C)	16.1
S10	20 Jan 2020	Wave Height Low (ft)	4
S10	20 Jan 2020	High Tide (ft)	5.6
S10	20 Jan 2020	High Tide Time	526
S10	20 Jan 2020	Low Tide (ft)	-0.4
S10	20 Jan 2020	Low Tide Time	1253
S10	20 Jan 2020	Comments	Resample; Kelp; Seagrass; Debris; Sewage-like odor; Water clear
S10	23 Jan 2020	Arrive Time	836
S10	23 Jan 2020	Weather	Sunny
S10	23 Jan 2020	Wind Speed (kts)	2.9
S10	23 Jan 2020	Wind Dir	NE
S10	23 Jan 2020	Animal Life	6 Godwits

Station	Date	Parameter	Value
S10	23 Jan 2020	Floatables	Foam
S10	23 Jan 2020	Water Color	Green
S10	23 Jan 2020	Current Direction	S
S10	23 Jan 2020	Water Temp (C)	14.9
S10	23 Jan 2020	Wave Height Low (ft)	6
S10	23 Jan 2020	High Tide (ft)	6.1
S10	23 Jan 2020	High Tide Time	736
S10	23 Jan 2020	Low Tide (ft)	-1.2
S10	23 Jan 2020	Low Tide Time	1453
S10	23 Jan 2020	Comments	Resample; Kelp; Water clear
S11	01 Jan 2020	Arrive Time	918
S11	01 Jan 2020	Weather	Partly Cloudy
S11	01 Jan 2020	Wind Speed (kts)	3.4
S11	01 Jan 2020	Wind Dir	SE
S11	01 Jan 2020	Animal Life	None
S11	01 Jan 2020	Floatables	None
S11	01 Jan 2020	Water Color	Green
S11	01 Jan 2020	Current Direction	N
S11	01 Jan 2020	Water Temp (C)	15.8
S11	01 Jan 2020	Wave Height Low (ft)	3
S11	01 Jan 2020	High Tide (ft)	4.3
S11	01 Jan 2020	High Tide Time	1133
S11	01 Jan 2020	Low Tide (ft)	0.5
S11	01 Jan 2020	Low Tide Time	1903
S11	01 Jan 2020	Comments	Resample; Kelp; Seagrass; Debris; Water clear
S11	03 Jan 2020	Arrive Time	827
S11	03 Jan 2020	Weather	Sunny
S11	03 Jan 2020	Wind Speed (kts)	2.1
S11	03 Jan 2020	Wind Dir	SE
S11	03 Jan 2020	Animal Life	None
S11	03 Jan 2020	Floatables	None
S11	03 Jan 2020	Water Color	Green
S11	03 Jan 2020	Current Direction	SE
S11	03 Jan 2020	Water Temp (C)	15.6
S11	03 Jan 2020	Wave Height Low (ft)	3
S11	03 Jan 2020	High Tide (ft)	4.1
S11	03 Jan 2020	High Tide Time	338
S11	03 Jan 2020	Low Tide (ft)	2.1
S11	03 Jan 2020	Low Tide Time	1025
S11	03 Jan 2020	Comments	Resample; Water clear
S11	07 Jan 2020	Arrive Time	912
S11	07 Jan 2020	Weather	Sunny
S11	07 Jan 2020	Wind Speed (kts)	6.9
S11	07 Jan 2020	Wind Dir	W
S11	07 Jan 2020	Animal Life	1 Dog
S11	07 Jan 2020	Floatables	None
S11	07 Jan 2020	Water Color	Green
S11	07 Jan 2020	Current Direction	W
S11	07 Jan 2020	Water Temp (C)	15.8
S11	07 Jan 2020	Wave Height Low (ft)	5
S11	07 Jan 2020	High Tide (ft)	5.6
S11	07 Jan 2020	High Tide Time	608
S11	07 Jan 2020	Low Tide (ft)	-0.4
S11	07 Jan 2020	Low Tide Time	1329
S11	07 Jan 2020	Comments	4 Persons; Water clear
S11	14 Jan 2020	Arrive Time	846
S11	14 Jan 2020	Weather	Sunny

Station	Date	Parameter	Value
S11	14 Jan 2020	Wind Speed (kts)	5.2
S11	14 Jan 2020	Wind Dir	E
S11	14 Jan 2020	Animal Life	4 Terns
S11	14 Jan 2020	Floatables	Foam
S11	14 Jan 2020	Water Color	Green
S11	14 Jan 2020	Current Direction	S
S11	14 Jan 2020	Water Temp (C)	14.3
S11	14 Jan 2020	Wave Height Low (ft)	4
S11	14 Jan 2020	High Tide (ft)	5.4
S11	14 Jan 2020	High Tide Time	1101
S11	14 Jan 2020	Low Tide (ft)	1.8
S11	14 Jan 2020	Low Tide Time	507
S11	14 Jan 2020	Comments	Kelp; Seagrass; Water clear
S11	23 Jan 2020	Arrive Time	956
S11	23 Jan 2020	Weather	Sunny
S11	23 Jan 2020	Wind Speed (kts)	5.3
S11	23 Jan 2020	Wind Dir	N
S11	23 Jan 2020	Animal Life	1 Seagull
S11	23 Jan 2020	Floatables	Foam
S11	23 Jan 2020	Water Color	Green
S11	23 Jan 2020	Current Direction	S
S11	23 Jan 2020	Water Temp (C)	16.7
S11	23 Jan 2020	Wave Height Low (ft)	4
S11	23 Jan 2020	High Tide (ft)	6.1
S11	23 Jan 2020	High Tide Time	736
S11	23 Jan 2020	Low Tide (ft)	-1.2
S11	23 Jan 2020	Low Tide Time	1453
S11	23 Jan 2020	Comments	Resample; Kelp; Seagrass; Algae; Water clear
S11	28 Jan 2020	Arrive Time	810
S11	28 Jan 2020	Weather	Sunny
S11	28 Jan 2020	Wind Speed (kts)	4.2
S11	28 Jan 2020	Wind Dir	NE
S11	28 Jan 2020	Animal Life	None
S11	28 Jan 2020	Floatables	None
S11	28 Jan 2020	Water Color	Green
S11	28 Jan 2020	Current Direction	N
S11	28 Jan 2020	Water Temp (C)	15
S11	28 Jan 2020	Wave Height Low (ft)	6
S11	28 Jan 2020	High Tide (ft)	4.8
S11	28 Jan 2020	High Tide Time	1028
S11	28 Jan 2020	Low Tide (ft)	1.8
S11	28 Jan 2020	Low Tide Time	437
S11	28 Jan 2020	Comments	Kelp; Seagrass; Debris; Water clear
S12	07 Jan 2020	Arrive Time	930
S12	07 Jan 2020	Weather	Sunny
S12	07 Jan 2020	Wind Speed (kts)	1.1
S12	07 Jan 2020	Wind Dir	W
S12	07 Jan 2020	Animal Life	None
S12	07 Jan 2020	Floatables	None
S12	07 Jan 2020	Water Color	Green
S12	07 Jan 2020	Current Direction	W
S12	07 Jan 2020	Water Temp (C)	16.7
S12	07 Jan 2020	Wave Height Low (ft)	4
S12	07 Jan 2020	High Tide (ft)	5.6
S12	07 Jan 2020	High Tide Time	608
S12	07 Jan 2020	Low Tide (ft)	-0.4
S12	07 Jan 2020	Low Tide Time	1329
S12	07 Jan 2020	Comments	Water clear

Station	Date	Parameter	Value
S12	14 Jan 2020	Arrive Time	912
S12	14 Jan 2020	Weather	Sunny
S12	14 Jan 2020	Wind Speed (kts)	1.7
S12	14 Jan 2020	Wind Dir	N
S12	14 Jan 2020	Animal Life	1 Dog; 1 Seagull; 2 Terns
S12	14 Jan 2020	Floatables	Foam
S12	14 Jan 2020	Water Color	Green
S12	14 Jan 2020	Current Direction	S
S12	14 Jan 2020	Water Temp (C)	14.7
S12	14 Jan 2020	Wave Height Low (ft)	4
S12	14 Jan 2020	High Tide (ft)	5.4
S12	14 Jan 2020	High Tide Time	1101
S12	14 Jan 2020	Low Tide (ft)	1.8
S12	14 Jan 2020	Low Tide Time	507
S12	14 Jan 2020	Comments	Kelp; Seagrass; 4 Persons; Water clear
S12	21 Jan 2020	Arrive Time	829
S12	21 Jan 2020	Weather	Drizzle
S12	21 Jan 2020	Wind Speed (kts)	0
S12	21 Jan 2020	Wind Dir	
S12	21 Jan 2020	Animal Life	None
S12	21 Jan 2020	Floatables	None
S12	21 Jan 2020	Water Color	Green
S12	21 Jan 2020	Current Direction	N
S12	21 Jan 2020	Water Temp (C)	15.5
S12	21 Jan 2020	Wave Height Low (ft)	4
S12	21 Jan 2020	High Tide (ft)	5.9
S12	21 Jan 2020	High Tide Time	613
S12	21 Jan 2020	Low Tide (ft)	-0.9
S12	21 Jan 2020	Low Tide Time	1338
S12	21 Jan 2020	Comments	Kelp; Seagrass; Water clear
S12	28 Jan 2020	Arrive Time	829
S12	28 Jan 2020	Weather	Sunny
S12	28 Jan 2020	Wind Speed (kts)	2.1
S12	28 Jan 2020	Wind Dir	E
S12	28 Jan 2020	Animal Life	None
S12	28 Jan 2020	Floatables	None
S12	28 Jan 2020	Water Color	Green
S12	28 Jan 2020	Current Direction	N
S12	28 Jan 2020	Water Temp (C)	14
S12	28 Jan 2020	Wave Height Low (ft)	4
S12	28 Jan 2020	High Tide (ft)	4.8
S12	28 Jan 2020	High Tide Time	1028
S12	28 Jan 2020	Low Tide (ft)	1.8
S12	28 Jan 2020	Low Tide Time	437
S12	28 Jan 2020	Comments	Kelp; Seagrass; 1 Person; 1 Fisherman; Water clear

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Kelp Stations

Table 3.1

Summary of compliance with the Ocean Plan's 30-day Geometric Mean standard for total coliform bacteria at the SBOO 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	I19	I24	I25	I26	I32	I39	I40
01 Jan 2020	2182*	231*	36*	12*	59*	5*	1931*
02 Jan 2020	2906	528	92	50	88	10	2025
03 Jan 2020	2906	528	92	50	88	10	2025
04 Jan 2020	2906	528	92	50	88	10	2025
05 Jan 2020	2906	528	92	50	88	10	2025
06 Jan 2020	2906	528	92	50	88	10	2025
07 Jan 2020	3696	278	62	55	41	7	1659
08 Jan 2020	4896	129	39	51	17	6	1073
09 Jan 2020	4896	129	39	51	17	6	1073
10 Jan 2020	4896	129	39	51	17	6	1073
11 Jan 2020	4896	129	39	51	17	6	1073
12 Jan 2020	4896	129	39	51	17	6	1073
13 Jan 2020	5197	314	116	49	12	10	1573
14 Jan 2020	5197	314	116	49	12	10	1573
15 Jan 2020	5572	625	222	70	11	15	3083
16 Jan 2020	5572	625	222	70	11	15	3083
17 Jan 2020	5572	625	222	70	11	15	3083
18 Jan 2020	5572	625	222	70	11	15	3083
19 Jan 2020	5572	625	222	70	11	15	3083
20 Jan 2020	5572	625	222	70	11	15	3083
21 Jan 2020	5584	1710	147	114	11	20	3315
22 Jan 2020	5584	1710	147	114	11	20	3315
23 Jan 2020	5584	1710	147	114	11	20	3315
24 Jan 2020	5584	1710	147	114	11	20	3315
25 Jan 2020	5584	1710	147	114	11	20	3315
26 Jan 2020	5584	1710	147	114	11	20	3315
27 Jan 2020	5584	1710	147	114	11	20	3315
28 Jan 2020	4367	585	92	67	10	13	1077
29 Jan 2020	4367	585	92	67	10	13	1077
30 Jan 2020	4367	585	92	67	10	13	1077
31 Jan 2020	4367	585	92	67	10	13	1077

* 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 SBOO 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	I19	I24	I25	I26	I32	I39	I40
01 Jan 2020	391*	58*	5*	4*	7*	2*	437*
02 Jan 2020	541	118	14	13	12	3	400
03 Jan 2020	541	118	14	13	12	3	400
04 Jan 2020	541	118	14	13	12	3	400
05 Jan 2020	541	118	14	13	12	3	400
06 Jan 2020	541	118	14	13	12	3	400
07 Jan 2020	651	60	10	13	8	3	331
08 Jan 2020	898	21	7	12	5	3	172
09 Jan 2020	898	21	7	12	5	3	172
10 Jan 2020	898	21	7	12	5	3	172
11 Jan 2020	898	21	7	12	5	3	172
12 Jan 2020	898	21	7	12	5	3	172
13 Jan 2020	948	48	19	10	4	4	223
14 Jan 2020	948	48	19	10	4	4	223
15 Jan 2020	971	106	33	16	5	5	609
16 Jan 2020	971	106	33	16	5	5	609
17 Jan 2020	971	106	33	16	5	5	609
18 Jan 2020	971	106	33	16	5	5	609
19 Jan 2020	971	106	33	16	5	5	609
20 Jan 2020	971	106	33	16	5	5	609
21 Jan 2020	895	200	33	16	5	5	503
22 Jan 2020	895	200	33	16	5	5	503
23 Jan 2020	895	200	33	16	5	5	503
24 Jan 2020	895	200	33	16	5	5	503
25 Jan 2020	895	200	33	16	5	5	503
26 Jan 2020	895	200	33	16	5	5	503
27 Jan 2020	895	200	33	16	5	5	503
28 Jan 2020	697	80	19	10	4	5	167
29 Jan 2020	697	80	19	10	4	5	167
30 Jan 2020	697	80	19	10	4	5	167
31 Jan 2020	697	80	19	10	4	5	167

* 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 SBOO 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	I19	I24	I25	I26	I32	I39	I40
01 Jan 2020	176*	43*	5*	3*	12*	3*	1074*
02 Jan 2020	212	69	12	12	29	3	693
03 Jan 2020	212	69	12	12	29	3	693
04 Jan 2020	212	69	12	12	29	3	693
05 Jan 2020	212	69	12	12	29	3	693
06 Jan 2020	212	69	12	12	29	3	693
07 Jan 2020	243	65	16	20	17	3	367
08 Jan 2020	272	26	13	25	11	3	195
09 Jan 2020	272	26	13	25	11	3	195
10 Jan 2020	272	26	13	25	11	3	195
11 Jan 2020	272	26	13	25	11	3	195
12 Jan 2020	272	26	13	25	11	3	195
13 Jan 2020	260	43	20	24	8	3	166
14 Jan 2020	260	43	20	24	8	3	166
15 Jan 2020	262	93	35	44	10	4	214
16 Jan 2020	262	93	35	44	10	4	214
17 Jan 2020	262	93	35	44	10	4	214
18 Jan 2020	262	93	35	44	10	4	214
19 Jan 2020	262	93	35	44	10	4	214
20 Jan 2020	262	93	35	44	10	4	214
21 Jan 2020	244	251	40	116	8	4	133
22 Jan 2020	244	251	40	116	8	4	133
23 Jan 2020	244	251	40	116	8	4	133
24 Jan 2020	244	251	40	116	8	4	133
25 Jan 2020	244	251	40	116	8	4	133
26 Jan 2020	244	251	40	116	8	4	133
27 Jan 2020	244	251	40	116	8	4	133
28 Jan 2020	198	116	28	73	6	3	68
29 Jan 2020	198	116	28	73	6	3	68
30 Jan 2020	198	116	28	73	6	3	68
31 Jan 2020	198	116	28	73	6	3	68

* Geometric mean calculated using n<5

Table 3.4

Summary of compliance at the SBOO 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	I19	I24	I25	I26	I32	I39	I40
02 Jan 2020	E	IC	IC	IC	IC	IC	IC
07 Jan 2020	E	IC	IC	IC	IC	IC	IC
13 Jan 2020	E	E	E	IC	IC	IC	E
21 Jan 2020	IC	E	IC	IC	IC	IC	E
28 Jan 2020	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance
E = Exceedance
ns = not sampled
ND = no data

Table 3.5

Summary of compliance at the SBOO 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	I19	I24	I25	I26	I32	I39	I40
02 Jan 2020	E	E	E	E	IC	IC	IC
07 Jan 2020	E	IC	IC	IC	IC	IC	IC
13 Jan 2020	E	E	E	IC	IC	IC	E
21 Jan 2020	E	E	IC	IC	IC	IC	E
28 Jan 2020	E	IC	IC	IC	IC	IC	IC

IC = In Compliance
E = Exceedance
ns = not sampled
ND = no data

Table 3.6

Summary of compliance at the SBOO 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	I19	I24	I25	I26	I32	I39	I40
02 Jan 2020	E	E	E	E	E	IC	E
07 Jan 2020	E	IC	IC	E	IC	IC	IC
13 Jan 2020	E	E	E	IC	IC	IC	E
21 Jan 2020	E	E	IC	E	IC	IC	E
28 Jan 2020	E	IC	IC	IC	IC	IC	IC

IC = In Compliance
E = Exceedance
ns = not sampled
ND = no data

Table 3.7

Summary of compliance at the SBOO 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	I19	I24	I25	I26	I32	I39	I40
02 Jan 2020	E	E	E	E	IC	IC	E
07 Jan 2020	E	IC	IC	IC	IC	IC	E
13 Jan 2020	E	E	E	IC	IC	IC	E
21 Jan 2020	E	IC	IC	IC	IC	IC	E
28 Jan 2020	E	IC	IC	IC	IC	IC	IC

IC = In Compliance
E = Exceedance
ns = not sampled
ND = no data

Table 3.8

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

Station	Date	Time	Depth	Total	Fecal	Entero	F:T	Temp	XMS	DO	Sal	pH
I19	02 Jan 2020	1038	2	>16000	3200e	720	0.20	15.1	41.50	7.9	33.19	8.2
I19	02 Jan 2020	1038	6	2200e	760	200e	0.35	15.1	54.95	7.8	33.28	8.2
I19	02 Jan 2020	1038	11	2400e	320e	180e	0.13	15.1	44.23	7.4	33.35	8.1
I19	07 Jan 2020	1103	2	11000	900	240e	0.08	15.3	48.41	7.7	33.40	8.1
I19	07 Jan 2020	1103	6	9200	1800e	580	0.20	15.1	42.68	7.6	33.40	8.1
I19	07 Jan 2020	1103	11	8800	1400e	440	0.16	15.0	31.39	7.6	33.42	8.1
I19	13 Jan 2020	1027	2	11000	2000e	280e	0.18	15.0	45.36	7.7	33.43	8.1
I19	13 Jan 2020	1027	6	7400	1200e	280e	0.16	15.0	56.19	7.7	33.43	8.1
I19	13 Jan 2020	1027	11	1400e	340e	94	0.24	15.0	72.38	7.5	33.47	8.1
I19	21 Jan 2020	1254	2	5400	720	160e	0.13	15.3	65.92	8.3	33.28	8.1
I19	21 Jan 2020	1254	6	900	60e	100	0.07	15.1	68.10	8.1	33.46	8.1
I19	21 Jan 2020	1254	11	360e	58	56	0.16	14.9	24.43	7.0	33.52	8.0
I19	28 Jan 2020	1127	2	100e	30e	8e	0.30	15.4	45.87	7.9	33.52	8.1
I19	28 Jan 2020	1127	6	3200e	540	160e	0.17	15.2	45.08	7.7	33.50	8.1
I19	28 Jan 2020	1127	11	1600e	200e	88	0.12	14.9	65.88	7.3	33.52	8.1
I24	02 Jan 2020	1108	2	7000	1000	340e	0.14	15.3	69.79	7.9	33.32	8.2
I24	02 Jan 2020	1108	6	9600	1400e	320e	0.15	15.3	71.22	7.7	33.39	8.2
I24	02 Jan 2020	1108	11	2400e	520	180e	0.22	15.3	26.71	7.5	33.40	8.2
I24	07 Jan 2020	1123	2	4e	2e	2e	0.50	15.3	59.40	7.6	33.45	8.1
I24	07 Jan 2020	1123	6	20e	4e	66	0.20	14.9	47.79	7.4	33.45	8.1
I24	07 Jan 2020	1123	11	40e	6e	90	0.15	14.9	30.93	7.4	33.45	8.1
I24	13 Jan 2020	1046	2	>16000	1800e	660	0.11	15.0	68.32	7.9	33.39	8.1
I24	13 Jan 2020	1046	6	16000	2000e	300e	0.12	15.0	71.71	7.8	33.42	8.1
I24	13 Jan 2020	1046	11	1500	200e	58	0.13	14.9	29.51	7.0	33.47	8.1
I24	21 Jan 2020	1324	2	>16000	600e	2200e	0.04	15.3	66.77	8.1	33.13	8.1
I24	21 Jan 2020	1324	6	600e	240e	100	0.40	15.2	73.66	7.8	33.51	8.1
I24	21 Jan 2020	1324	11	400	90	72	0.22	15.2	70.66	7.7	33.51	8.1
I24	28 Jan 2020	1151	2	<2	<2	<2	1.00	15.6	54.26	8.0	33.53	8.1
I24	28 Jan 2020	1151	6	2e	<2	<2	1.00	15.4	51.45	8.2	33.51	8.1
I24	28 Jan 2020	1151	11	20e	2e	12e	0.10	15.3	32.87	7.8	33.51	8.1
I25	02 Jan 2020	1117	2	540	280e	72	0.52	15.4	80.19	7.9	33.38	8.2
I25	02 Jan 2020	1117	6	3200e	620	180e	0.19	15.5	73.70	7.8	33.43	8.2
I25	02 Jan 2020	1117	9	800e	68	220e	0.08	15.4	19.37	7.3	33.43	8.2
I25	07 Jan 2020	1131	2	4e	<2	2e	0.50	15.2	68.05	8.0	33.45	8.2
I25	07 Jan 2020	1131	6	14e	2e	80	0.14	15.0	59.95	7.9	33.43	8.1
I25	07 Jan 2020	1131	9	20e	2e	54	0.10	15.0	56.02	7.8	33.43	8.1
I25	13 Jan 2020	1054	2	14000	1200	140e	0.09	15.0	68.51	7.9	33.40	8.1
I25	13 Jan 2020	1054	6	10000	1100	120e	0.11	14.9	69.17	7.8	33.43	8.1
I25	13 Jan 2020	1054	9	3200e	420	74	0.13	14.9	53.24	7.2	33.46	8.1

Station	Date	Time	Depth	Total	Fecal	Entero	F:T	Temp	XMS	DO	Sal	pH
I25	21 Jan 2020	1335	2	4e	<2	4e	0.50	15.2	78.17	7.9	33.51	8.1
I25	21 Jan 2020	1335	6	2e	<2	2e	1.00	15.2	70.53	7.7	33.52	8.1
I25	21 Jan 2020	1335	9	<2	<2	4e	1.00	15.2	69.69	7.7	33.52	8.1
I25	28 Jan 2020	1159	2	<2	<2	<2	1.00	15.8	31.03	8.2	33.45	8.1
I25	28 Jan 2020	1159	6	20e	<2	8e	0.10	15.4	37.95	8.1	33.52	8.1
I25	28 Jan 2020	1159	9	<20	<2	10e	0.10	15.3	41.30	7.8	33.52	8.1
I26	02 Jan 2020	1129	2	2600e	360e	860	0.14	15.4	14.15	8.0	33.36	8.2
I26	02 Jan 2020	1129	6	3400e	680	460	0.20	15.2	34.47	7.8	33.38	8.2
I26	02 Jan 2020	1129	9	3400e	480	600	0.14	15.3	39.77	7.5	33.41	8.2
I26	07 Jan 2020	1145	2	2e	<2	<2	1.00	15.2	71.83	8.1	33.46	8.2
I26	07 Jan 2020	1145	6	<200	8e	40e	0.04	15.1	51.39	7.5	33.46	8.1
I26	07 Jan 2020	1145	9	60e	20e	400	0.33	15.0	26.85	7.0	33.48	8.1
I26	13 Jan 2020	1103	2	10e	2e	<2	0.20	15.1	58.88	7.9	33.48	8.1
I26	13 Jan 2020	1103	6	20e	2e	16e	0.10	15.0	59.44	7.9	33.47	8.1
I26	13 Jan 2020	1103	9	100e	14e	42	0.14	14.9	59.12	7.5	33.48	8.1
I26	21 Jan 2020	1347	2	<2	<2	<2	1.00	15.2	84.40	8.1	33.48	8.1
I26	21 Jan 2020	1347	6	<20	<2	84	0.10	15.1	61.64	7.5	33.54	8.1
I26	21 Jan 2020	1347	9	<20	2e	200e	0.10	15.1	24.15	7.2	33.53	8.1
I26	28 Jan 2020	1212	2	<2	<2	<2	1.00	15.7	73.45	8.2	33.53	8.1
I26	28 Jan 2020	1212	6	2e	<2	6e	1.00	15.4	60.13	8.0	33.52	8.1
I26	28 Jan 2020	1212	9	<20	2e	26e	0.10	15.3	55.33	7.9	33.52	8.1
I32	02 Jan 2020	1140	2	340e	58	300e	0.17	15.3	24.40	8.0	33.39	8.2
I32	02 Jan 2020	1140	6	200e	48	480	0.24	15.2	24.32	8.0	33.39	8.2
I32	02 Jan 2020	1140	9	320e	64	620	0.20	15.2	18.63	8.0	33.38	8.2
I32	07 Jan 2020	1202	2	<2	<2	<2	1.00	15.2	63.35	7.9	33.44	8.1
I32	07 Jan 2020	1202	6	<2	2e	2e	1.00	15.0	55.09	7.6	33.43	8.1
I32	07 Jan 2020	1202	9	2e	<2	2e	1.00	14.8	48.68	7.5	33.44	8.1
I32	13 Jan 2020	1115	2	<2	<2	2e	1.00	15.1	61.83	8.0	33.49	8.1
I32	13 Jan 2020	1115	6	<2	<2	<2	1.00	15.0	60.08	7.8	33.48	8.1
I32	13 Jan 2020	1115	9	4e	2e	4e	0.50	14.9	56.88	7.8	33.48	8.1
I32	21 Jan 2020	1359	2	2e	<2	<2	1.00	15.2	77.75	8.1	33.43	8.1
I32	21 Jan 2020	1359	6	<2	<2	<2	1.00	15.1	71.24	8.1	33.46	8.1
I32	21 Jan 2020	1359	9	<20	<2	2e	0.10	15.2	69.22	8.0	33.52	8.1
I32	28 Jan 2020	1228	2	<2	<2	2e	1.00	15.6	55.57	8.2	33.52	8.1
I32	28 Jan 2020	1228	6	<2	<2	<2	1.00	15.3	52.20	8.1	33.52	8.1
I32	28 Jan 2020	1228	9	<20	<2	<2	0.10	15.2	43.79	7.6	33.52	8.1
I39	02 Jan 2020	1014	2	340e	40	24e	0.12	15.6	87.16	7.8	33.48	8.2
I39	02 Jan 2020	1014	12	4e	<2	<2	0.50	15.1	87.02	7.3	33.50	8.2
I39	02 Jan 2020	1014	18	<20	2e	2e	0.10	15.1	67.70	7.2	33.49	8.1
I39	07 Jan 2020	1043	2	<2	<2	<2	1.00	15.5	86.24	7.8	33.49	8.1
I39	07 Jan 2020	1043	12	<2	<2	<2	1.00	15.4	85.29	7.8	33.49	8.1
I39	07 Jan 2020	1043	18	<2	<2	<2	1.00	15.0	83.62	7.2	33.51	8.1
I39	13 Jan 2020	1008	2	60e	8e	4e	0.13	14.9	75.19	7.8	33.47	8.1
I39	13 Jan 2020	1008	12	160e	20e	12e	0.12	14.9	78.49	7.7	33.47	8.1
I39	13 Jan 2020	1008	18	20e	6e	<2	0.30	14.5	74.41	6.8	33.50	8.0
I39	21 Jan 2020	1226	2	<2	<2	<2	1.00	15.6	89.52	7.8	33.51	8.1

Station	Date	Time	Depth	Total	Fecal	Entero	F:T	Temp	XMS	DO	Sal	pH
I39	21 Jan 2020	1226	12	<20	<2	<2	0.10	15.2	84.89	7.9	33.51	8.1
I39	21 Jan 2020	1226	18	<2	<2	<2	1.00	15.0	79.97	7.6	33.52	8.1
I39	28 Jan 2020	1104	2	<2	<2	<2	1.00	15.5	75.88	8.2	33.54	8.1
I39	28 Jan 2020	1104	12	<2	<2	<2	1.00	15.3	79.55	7.9	33.53	8.1
I39	28 Jan 2020	1104	18	2e	6e	<2	3.00	14.9	68.04	7.1	33.52	8.1
I40	02 Jan 2020	1053	2	1800e	140e	100	0.08	15.0	41.47	7.8	33.24	8.2
I40	02 Jan 2020	1053	6	2800e	380e	200e	0.14	14.9	48.83	7.7	33.25	8.2
I40	02 Jan 2020	1053	9	2400e	400	260e	0.17	14.9	47.72	7.5	33.26	8.2
I40	07 Jan 2020	1115	2	1400e	380e	50	0.27	15.2	42.54	7.8	33.39	8.1
I40	07 Jan 2020	1115	6	560	44	20e	0.08	14.9	36.05	7.8	33.45	8.1
I40	07 Jan 2020	1115	9	280e	42	16e	0.15	14.7	30.76	7.7	33.44	8.1
I40	13 Jan 2020	1038	2	14000	1000e	160e	0.07	15.0	60.07	7.8	33.40	8.1
I40	13 Jan 2020	1038	6	5800	780	60e	0.13	15.0	60.15	7.7	33.43	8.1
I40	13 Jan 2020	1038	9	2000e	110	44	0.06	14.9	33.70	7.8	33.47	8.1
I40	21 Jan 2020	1307	2	12000	5000	960	0.42	15.1	55.50	7.9	33.20	8.1
I40	21 Jan 2020	1307	6	11000	1200e	800	0.11	15.1	68.48	8.0	33.35	8.1
I40	21 Jan 2020	1307	9	5600	200e	220e	0.04	15.1	65.61	7.8	33.40	8.1
I40	28 Jan 2020	1140	2	2e	<2	<2	1.00	15.6	64.20	8.2	33.53	8.1
I40	28 Jan 2020	1140	6	14e	<2	<2	0.14	15.2	65.82	7.9	33.51	8.1
I40	28 Jan 2020	1140	9	20e	<2	10e	0.10	15.1	50.35	7.2	33.51	8.1

ns = not sampled
ND = no data

Table 3.9

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

Station	Date	Parameter	Value
I19	02 Jan 2020	Depth (m)	10
I19	02 Jan 2020	Arrive Time	1038
I19	02 Jan 2020	Depart Time	1047
I19	02 Jan 2020	Air Temp (C)	16
I19	02 Jan 2020	Weather	Haze
I19	02 Jan 2020	Visibility (mi)	10
I19	02 Jan 2020	Wind Speed (kts)	10
I19	02 Jan 2020	Wind Dir	NE
I19	02 Jan 2020	Water Color	Brownish-Green
I19	02 Jan 2020	Wave Ht Low (ft)	4
I19	02 Jan 2020	Wave Period (sec)	16
I19	02 Jan 2020	Sea State	Calm
I19	02 Jan 2020	High Tide (ft)	3.23
I19	02 Jan 2020	High Tide Time	1348
I19	02 Jan 2020	Low Tide (ft)	2.5
I19	02 Jan 2020	Low Tide Time	853
I19	02 Jan 2020	Comments	none
I19	07 Jan 2020	Depth (m)	9
I19	07 Jan 2020	Arrive Time	1103
I19	07 Jan 2020	Depart Time	1108
I19	07 Jan 2020	Air Temp (C)	15
I19	07 Jan 2020	Weather	Partly Cloudy
I19	07 Jan 2020	Visibility (mi)	10
I19	07 Jan 2020	Wind Speed (kts)	7
I19	07 Jan 2020	Wind Dir	S
I19	07 Jan 2020	Water Color	Greenish-Brown
I19	07 Jan 2020	Wave Ht Low (ft)	3
I19	07 Jan 2020	Wave Period (sec)	13
I19	07 Jan 2020	Sea State	Calm
I19	07 Jan 2020	High Tide (ft)	5.56
I19	07 Jan 2020	High Tide Time	608
I19	07 Jan 2020	Low Tide (ft)	-0.35
I19	07 Jan 2020	Low Tide Time	1329
I19	07 Jan 2020	Comments	none
I19	13 Jan 2020	Depth (m)	10
I19	13 Jan 2020	Arrive Time	1027
I19	13 Jan 2020	Depart Time	1031
I19	13 Jan 2020	Air Temp (C)	14
I19	13 Jan 2020	Weather	Haze
I19	13 Jan 2020	Visibility (mi)	8
I19	13 Jan 2020	Wind Speed (kts)	4
I19	13 Jan 2020	Wind Dir	SE
I19	13 Jan 2020	Water Color	Brownish-Green
I19	13 Jan 2020	Wave Ht Low (ft)	3
I19	13 Jan 2020	Wave Period (sec)	9
I19	13 Jan 2020	Sea State	Calm
I19	13 Jan 2020	High Tide (ft)	6.02
I19	13 Jan 2020	High Tide Time	1011
I19	13 Jan 2020	Low Tide (ft)	1.75
I19	13 Jan 2020	Low Tide Time	409
I19	13 Jan 2020	Comments	none
I19	21 Jan 2020	Depth (m)	10
I19	21 Jan 2020	Arrive Time	1254

Station	Date	Parameter	Value
I19	21 Jan 2020	Depart Time	1300
I19	21 Jan 2020	Air Temp (C)	14
I19	21 Jan 2020	Weather	Overcast
I19	21 Jan 2020	Visibility (mi)	10
I19	21 Jan 2020	Wind Speed (kts)	7
I19	21 Jan 2020	Wind Dir	SW
I19	21 Jan 2020	Water Color	Green
I19	21 Jan 2020	Wave Ht Low (ft)	4
I19	21 Jan 2020	Wave Period (sec)	13
I19	21 Jan 2020	Sea State	Calm
I19	21 Jan 2020	High Tide (ft)	5.85
I19	21 Jan 2020	High Tide Time	613
I19	21 Jan 2020	Low Tide (ft)	-0.86
I19	21 Jan 2020	Low Tide Time	1338
I19	21 Jan 2020	Comments	none
I19	28 Jan 2020	Depth (m)	10
I19	28 Jan 2020	Arrive Time	1127
I19	28 Jan 2020	Depart Time	1131
I19	28 Jan 2020	Air Temp (C)	17
I19	28 Jan 2020	Weather	Clear
I19	28 Jan 2020	Visibility (mi)	12
I19	28 Jan 2020	Wind Speed (kts)	10
I19	28 Jan 2020	Wind Dir	NW
I19	28 Jan 2020	Water Color	Green
I19	28 Jan 2020	Wave Ht Low (ft)	4
I19	28 Jan 2020	Wave Period (sec)	13
I19	28 Jan 2020	Sea State	Calm
I19	28 Jan 2020	High Tide (ft)	4.8
I19	28 Jan 2020	High Tide Time	1028
I19	28 Jan 2020	Low Tide (ft)	1.81
I19	28 Jan 2020	Low Tide Time	437
I19	28 Jan 2020	Comments	none
I24	02 Jan 2020	Depth (m)	9
I24	02 Jan 2020	Arrive Time	1108
I24	02 Jan 2020	Depart Time	1114
I24	02 Jan 2020	Air Temp (C)	16
I24	02 Jan 2020	Weather	Haze
I24	02 Jan 2020	Visibility (mi)	10
I24	02 Jan 2020	Wind Speed (kts)	4
I24	02 Jan 2020	Wind Dir	NW
I24	02 Jan 2020	Water Color	Brownish-Green
I24	02 Jan 2020	Wave Ht Low (ft)	4
I24	02 Jan 2020	Wave Period (sec)	16
I24	02 Jan 2020	Sea State	Calm
I24	02 Jan 2020	High Tide (ft)	3.23
I24	02 Jan 2020	High Tide Time	1348
I24	02 Jan 2020	Low Tide (ft)	2.5
I24	02 Jan 2020	Low Tide Time	853
I24	02 Jan 2020	Comments	none
I24	07 Jan 2020	Depth (m)	10
I24	07 Jan 2020	Arrive Time	1123
I24	07 Jan 2020	Depart Time	1129
I24	07 Jan 2020	Air Temp (C)	15
I24	07 Jan 2020	Weather	Partly Cloudy
I24	07 Jan 2020	Visibility (mi)	10
I24	07 Jan 2020	Wind Speed (kts)	1
I24	07 Jan 2020	Wind Dir	E
I24	07 Jan 2020	Water Color	Greenish-Brown

Station	Date	Parameter	Value
I24	07 Jan 2020	Wave Ht Low (ft)	3
I24	07 Jan 2020	Wave Period (sec)	13
I24	07 Jan 2020	Sea State	Calm
I24	07 Jan 2020	High Tide (ft)	5.56
I24	07 Jan 2020	High Tide Time	608
I24	07 Jan 2020	Low Tide (ft)	-0.35
I24	07 Jan 2020	Low Tide Time	1329
I24	07 Jan 2020	Comments	none
I24	13 Jan 2020	Depth (m)	10
I24	13 Jan 2020	Arrive Time	1046
I24	13 Jan 2020	Depart Time	1050
I24	13 Jan 2020	Air Temp (C)	15
I24	13 Jan 2020	Weather	Haze
I24	13 Jan 2020	Visibility (mi)	8
I24	13 Jan 2020	Wind Speed (kts)	3
I24	13 Jan 2020	Wind Dir	N
I24	13 Jan 2020	Water Color	Green
I24	13 Jan 2020	Wave Ht Low (ft)	3
I24	13 Jan 2020	Wave Period (sec)	9
I24	13 Jan 2020	Sea State	Calm
I24	13 Jan 2020	High Tide (ft)	6.02
I24	13 Jan 2020	High Tide Time	1011
I24	13 Jan 2020	Low Tide (ft)	1.75
I24	13 Jan 2020	Low Tide Time	409
I24	13 Jan 2020	Comments	none
I24	21 Jan 2020	Depth (m)	10
I24	21 Jan 2020	Arrive Time	1324
I24	21 Jan 2020	Depart Time	1330
I24	21 Jan 2020	Air Temp (C)	14
I24	21 Jan 2020	Weather	Overcast
I24	21 Jan 2020	Visibility (mi)	10
I24	21 Jan 2020	Wind Speed (kts)	4
I24	21 Jan 2020	Wind Dir	SW
I24	21 Jan 2020	Water Color	Brownish-Green
I24	21 Jan 2020	Wave Ht Low (ft)	4
I24	21 Jan 2020	Wave Period (sec)	13
I24	21 Jan 2020	Sea State	Calm
I24	21 Jan 2020	High Tide (ft)	5.85
I24	21 Jan 2020	High Tide Time	613
I24	21 Jan 2020	Low Tide (ft)	-0.86
I24	21 Jan 2020	Low Tide Time	1338
I24	21 Jan 2020	Comments	Freshwater lens
I24	28 Jan 2020	Depth (m)	10
I24	28 Jan 2020	Arrive Time	1151
I24	28 Jan 2020	Depart Time	1154
I24	28 Jan 2020	Air Temp (C)	16
I24	28 Jan 2020	Weather	Clear
I24	28 Jan 2020	Visibility (mi)	12
I24	28 Jan 2020	Wind Speed (kts)	9
I24	28 Jan 2020	Wind Dir	NW
I24	28 Jan 2020	Water Color	Green
I24	28 Jan 2020	Wave Ht Low (ft)	4
I24	28 Jan 2020	Wave Period (sec)	13
I24	28 Jan 2020	Sea State	Calm
I24	28 Jan 2020	High Tide (ft)	4.8
I24	28 Jan 2020	High Tide Time	1028
I24	28 Jan 2020	Low Tide (ft)	1.81
I24	28 Jan 2020	Low Tide Time	437

Station	Date	Parameter	Value
I24	28 Jan 2020	Comments	none
I25	02 Jan 2020	Depth (m)	10
I25	02 Jan 2020	Arrive Time	1117
I25	02 Jan 2020	Depart Time	1124
I25	02 Jan 2020	Air Temp (C)	17
I25	02 Jan 2020	Weather	Haze
I25	02 Jan 2020	Visibility (mi)	10
I25	02 Jan 2020	Wind Speed (kts)	6
I25	02 Jan 2020	Wind Dir	NE
I25	02 Jan 2020	Water Color	Brownish-Green
I25	02 Jan 2020	Wave Ht Low (ft)	4
I25	02 Jan 2020	Wave Period (sec)	16
I25	02 Jan 2020	Sea State	Calm
I25	02 Jan 2020	High Tide (ft)	3.23
I25	02 Jan 2020	High Tide Time	1348
I25	02 Jan 2020	Low Tide (ft)	2.5
I25	02 Jan 2020	Low Tide Time	853
I25	02 Jan 2020	Comments	none
I25	07 Jan 2020	Depth (m)	10
I25	07 Jan 2020	Arrive Time	1131
I25	07 Jan 2020	Depart Time	1140
I25	07 Jan 2020	Air Temp (C)	16
I25	07 Jan 2020	Weather	Partly Cloudy
I25	07 Jan 2020	Visibility (mi)	10
I25	07 Jan 2020	Wind Speed (kts)	6
I25	07 Jan 2020	Wind Dir	SE
I25	07 Jan 2020	Water Color	Greenish-Brown
I25	07 Jan 2020	Wave Ht Low (ft)	3
I25	07 Jan 2020	Wave Period (sec)	13
I25	07 Jan 2020	Sea State	Calm
I25	07 Jan 2020	High Tide (ft)	5.56
I25	07 Jan 2020	High Tide Time	608
I25	07 Jan 2020	Low Tide (ft)	-0.35
I25	07 Jan 2020	Low Tide Time	1329
I25	07 Jan 2020	Comments	none
I25	13 Jan 2020	Depth (m)	10
I25	13 Jan 2020	Arrive Time	1054
I25	13 Jan 2020	Depart Time	1057
I25	13 Jan 2020	Air Temp (C)	15
I25	13 Jan 2020	Weather	Haze
I25	13 Jan 2020	Visibility (mi)	8
I25	13 Jan 2020	Wind Speed (kts)	0
I25	13 Jan 2020	Wind Dir	
I25	13 Jan 2020	Water Color	Green
I25	13 Jan 2020	Wave Ht Low (ft)	3
I25	13 Jan 2020	Wave Period (sec)	9
I25	13 Jan 2020	Sea State	Calm
I25	13 Jan 2020	High Tide (ft)	6.02
I25	13 Jan 2020	High Tide Time	1011
I25	13 Jan 2020	Low Tide (ft)	1.75
I25	13 Jan 2020	Low Tide Time	409
I25	13 Jan 2020	Comments	none
I25	21 Jan 2020	Depth (m)	9
I25	21 Jan 2020	Arrive Time	1335
I25	21 Jan 2020	Depart Time	1336
I25	21 Jan 2020	Air Temp (C)	14
I25	21 Jan 2020	Weather	Overcast

Station	Date	Parameter	Value
I25	21 Jan 2020	Visibility (mi)	10
I25	21 Jan 2020	Wind Speed (kts)	6
I25	21 Jan 2020	Wind Dir	SW
I25	21 Jan 2020	Water Color	Brownish-Green
I25	21 Jan 2020	Wave Ht Low (ft)	4
I25	21 Jan 2020	Wave Period (sec)	13
I25	21 Jan 2020	Sea State	Calm
I25	21 Jan 2020	High Tide (ft)	5.85
I25	21 Jan 2020	High Tide Time	613
I25	21 Jan 2020	Low Tide (ft)	-0.86
I25	21 Jan 2020	Low Tide Time	1338
I25	21 Jan 2020	Comments	none
I25	28 Jan 2020	Depth (m)	10
I25	28 Jan 2020	Arrive Time	1159
I25	28 Jan 2020	Depart Time	1203
I25	28 Jan 2020	Air Temp (C)	16
I25	28 Jan 2020	Weather	Clear
I25	28 Jan 2020	Visibility (mi)	12
I25	28 Jan 2020	Wind Speed (kts)	9
I25	28 Jan 2020	Wind Dir	NW
I25	28 Jan 2020	Water Color	Green
I25	28 Jan 2020	Wave Ht Low (ft)	6
I25	28 Jan 2020	Wave Period (sec)	13
I25	28 Jan 2020	Sea State	Calm
I25	28 Jan 2020	High Tide (ft)	4.8
I25	28 Jan 2020	High Tide Time	1028
I25	28 Jan 2020	Low Tide (ft)	1.81
I25	28 Jan 2020	Low Tide Time	437
I25	28 Jan 2020	Comments	none
I26	02 Jan 2020	Depth (m)	10
I26	02 Jan 2020	Arrive Time	1129
I26	02 Jan 2020	Depart Time	1135
I26	02 Jan 2020	Air Temp (C)	16
I26	02 Jan 2020	Weather	Haze
I26	02 Jan 2020	Visibility (mi)	10
I26	02 Jan 2020	Wind Speed (kts)	9
I26	02 Jan 2020	Wind Dir	NW
I26	02 Jan 2020	Water Color	Brownish-Green
I26	02 Jan 2020	Wave Ht Low (ft)	4
I26	02 Jan 2020	Wave Period (sec)	16
I26	02 Jan 2020	Sea State	Calm
I26	02 Jan 2020	High Tide (ft)	3.23
I26	02 Jan 2020	High Tide Time	1348
I26	02 Jan 2020	Low Tide (ft)	2.5
I26	02 Jan 2020	Low Tide Time	853
I26	02 Jan 2020	Comments	none
I26	07 Jan 2020	Depth (m)	10
I26	07 Jan 2020	Arrive Time	1145
I26	07 Jan 2020	Depart Time	1154
I26	07 Jan 2020	Air Temp (C)	16
I26	07 Jan 2020	Weather	Partly Cloudy
I26	07 Jan 2020	Visibility (mi)	10
I26	07 Jan 2020	Wind Speed (kts)	7
I26	07 Jan 2020	Wind Dir	SE
I26	07 Jan 2020	Water Color	Greenish-Brown
I26	07 Jan 2020	Wave Ht Low (ft)	3
I26	07 Jan 2020	Wave Period (sec)	13
I26	07 Jan 2020	Sea State	Calm

Station	Date	Parameter	Value
I26	07 Jan 2020	High Tide (ft)	5.56
I26	07 Jan 2020	High Tide Time	608
I26	07 Jan 2020	Low Tide (ft)	-0.35
I26	07 Jan 2020	Low Tide Time	1329
I26	07 Jan 2020	Comments	none
I26	13 Jan 2020	Depth (m)	10
I26	13 Jan 2020	Arrive Time	1103
I26	13 Jan 2020	Depart Time	1115
I26	13 Jan 2020	Air Temp (C)	15
I26	13 Jan 2020	Weather	Haze
I26	13 Jan 2020	Visibility (mi)	8
I26	13 Jan 2020	Wind Speed (kts)	2
I26	13 Jan 2020	Wind Dir	E
I26	13 Jan 2020	Water Color	Green
I26	13 Jan 2020	Wave Ht Low (ft)	3
I26	13 Jan 2020	Wave Period (sec)	9
I26	13 Jan 2020	Sea State	Calm
I26	13 Jan 2020	High Tide (ft)	6.02
I26	13 Jan 2020	High Tide Time	1011
I26	13 Jan 2020	Low Tide (ft)	1.75
I26	13 Jan 2020	Low Tide Time	409
I26	13 Jan 2020	Comments	none
I26	21 Jan 2020	Depth (m)	9
I26	21 Jan 2020	Arrive Time	1347
I26	21 Jan 2020	Depart Time	1350
I26	21 Jan 2020	Air Temp (C)	14
I26	21 Jan 2020	Weather	Overcast
I26	21 Jan 2020	Visibility (mi)	10
I26	21 Jan 2020	Wind Speed (kts)	5
I26	21 Jan 2020	Wind Dir	W
I26	21 Jan 2020	Water Color	Green
I26	21 Jan 2020	Wave Ht Low (ft)	4
I26	21 Jan 2020	Wave Period (sec)	13
I26	21 Jan 2020	Sea State	Calm
I26	21 Jan 2020	High Tide (ft)	5.85
I26	21 Jan 2020	High Tide Time	613
I26	21 Jan 2020	Low Tide (ft)	-0.86
I26	21 Jan 2020	Low Tide Time	1338
I26	21 Jan 2020	Comments	none
I26	28 Jan 2020	Depth (m)	10
I26	28 Jan 2020	Arrive Time	1212
I26	28 Jan 2020	Depart Time	1216
I26	28 Jan 2020	Air Temp (C)	16
I26	28 Jan 2020	Weather	Clear
I26	28 Jan 2020	Visibility (mi)	12
I26	28 Jan 2020	Wind Speed (kts)	10
I26	28 Jan 2020	Wind Dir	W
I26	28 Jan 2020	Water Color	Green
I26	28 Jan 2020	Wave Ht Low (ft)	6
I26	28 Jan 2020	Wave Period (sec)	13
I26	28 Jan 2020	Sea State	Calm
I26	28 Jan 2020	High Tide (ft)	4.8
I26	28 Jan 2020	High Tide Time	1028
I26	28 Jan 2020	Low Tide (ft)	1.81
I26	28 Jan 2020	Low Tide Time	437
I26	28 Jan 2020	Comments	none
I32	02 Jan 2020	Depth (m)	10

Station	Date	Parameter	Value
I32	02 Jan 2020	Arrive Time	1140
I32	02 Jan 2020	Depart Time	1143
I32	02 Jan 2020	Air Temp (C)	16
I32	02 Jan 2020	Weather	Haze
I32	02 Jan 2020	Visibility (mi)	10
I32	02 Jan 2020	Wind Speed (kts)	8
I32	02 Jan 2020	Wind Dir	W
I32	02 Jan 2020	Water Color	Brownish-Green
I32	02 Jan 2020	Wave Ht Low (ft)	4
I32	02 Jan 2020	Wave Period (sec)	16
I32	02 Jan 2020	Sea State	Calm
I32	02 Jan 2020	High Tide (ft)	3.23
I32	02 Jan 2020	High Tide Time	1348
I32	02 Jan 2020	Low Tide (ft)	2.5
I32	02 Jan 2020	Low Tide Time	853
I32	02 Jan 2020	Comments	none
I32	07 Jan 2020	Depth (m)	10
I32	07 Jan 2020	Arrive Time	1202
I32	07 Jan 2020	Depart Time	1207
I32	07 Jan 2020	Air Temp (C)	16
I32	07 Jan 2020	Weather	Partly Cloudy
I32	07 Jan 2020	Visibility (mi)	10
I32	07 Jan 2020	Wind Speed (kts)	8
I32	07 Jan 2020	Wind Dir	W
I32	07 Jan 2020	Water Color	Greenish-Brown
I32	07 Jan 2020	Wave Ht Low (ft)	3
I32	07 Jan 2020	Wave Period (sec)	13
I32	07 Jan 2020	Sea State	Calm
I32	07 Jan 2020	High Tide (ft)	5.56
I32	07 Jan 2020	High Tide Time	608
I32	07 Jan 2020	Low Tide (ft)	-0.35
I32	07 Jan 2020	Low Tide Time	1329
I32	07 Jan 2020	Comments	none
I32	13 Jan 2020	Depth (m)	10
I32	13 Jan 2020	Arrive Time	1115
I32	13 Jan 2020	Depart Time	1119
I32	13 Jan 2020	Air Temp (C)	15
I32	13 Jan 2020	Weather	Haze
I32	13 Jan 2020	Visibility (mi)	8
I32	13 Jan 2020	Wind Speed (kts)	4
I32	13 Jan 2020	Wind Dir	E
I32	13 Jan 2020	Water Color	Green
I32	13 Jan 2020	Wave Ht Low (ft)	3
I32	13 Jan 2020	Wave Period (sec)	9
I32	13 Jan 2020	Sea State	Calm
I32	13 Jan 2020	High Tide (ft)	6.02
I32	13 Jan 2020	High Tide Time	1011
I32	13 Jan 2020	Low Tide (ft)	1.75
I32	13 Jan 2020	Low Tide Time	409
I32	13 Jan 2020	Comments	none
I32	21 Jan 2020	Depth (m)	10
I32	21 Jan 2020	Arrive Time	1359
I32	21 Jan 2020	Depart Time	1405
I32	21 Jan 2020	Air Temp (C)	14
I32	21 Jan 2020	Weather	Partly Cloudy
I32	21 Jan 2020	Visibility (mi)	10
I32	21 Jan 2020	Wind Speed (kts)	3
I32	21 Jan 2020	Wind Dir	W

Station	Date	Parameter	Value
I32	21 Jan 2020	Water Color	Green
I32	21 Jan 2020	Wave Ht Low (ft)	4
I32	21 Jan 2020	Wave Period (sec)	13
I32	21 Jan 2020	Sea State	Calm
I32	21 Jan 2020	High Tide (ft)	5.85
I32	21 Jan 2020	High Tide Time	613
I32	21 Jan 2020	Low Tide (ft)	-0.86
I32	21 Jan 2020	Low Tide Time	1338
I32	21 Jan 2020	Comments	none
I32	28 Jan 2020	Depth (m)	10
I32	28 Jan 2020	Arrive Time	1228
I32	28 Jan 2020	Depart Time	1232
I32	28 Jan 2020	Air Temp (C)	16
I32	28 Jan 2020	Weather	Clear
I32	28 Jan 2020	Visibility (mi)	12
I32	28 Jan 2020	Wind Speed (kts)	8
I32	28 Jan 2020	Wind Dir	W
I32	28 Jan 2020	Water Color	Green
I32	28 Jan 2020	Wave Ht Low (ft)	6
I32	28 Jan 2020	Wave Period (sec)	13
I32	28 Jan 2020	Sea State	Calm
I32	28 Jan 2020	High Tide (ft)	4.8
I32	28 Jan 2020	High Tide Time	1028
I32	28 Jan 2020	Low Tide (ft)	1.81
I32	28 Jan 2020	Low Tide Time	437
I32	28 Jan 2020	Comments	none
I39	02 Jan 2020	Depth (m)	18
I39	02 Jan 2020	Arrive Time	1014
I39	02 Jan 2020	Depart Time	1024
I39	02 Jan 2020	Air Temp (C)	14
I39	02 Jan 2020	Weather	Haze
I39	02 Jan 2020	Visibility (mi)	10
I39	02 Jan 2020	Wind Speed (kts)	4
I39	02 Jan 2020	Wind Dir	N
I39	02 Jan 2020	Water Color	Brownish-Green
I39	02 Jan 2020	Wave Ht Low (ft)	3
I39	02 Jan 2020	Wave Period (sec)	16
I39	02 Jan 2020	Sea State	Calm
I39	02 Jan 2020	High Tide (ft)	3.23
I39	02 Jan 2020	High Tide Time	1348
I39	02 Jan 2020	Low Tide (ft)	2.5
I39	02 Jan 2020	Low Tide Time	853
I39	02 Jan 2020	Comments	none
I39	07 Jan 2020	Depth (m)	19
I39	07 Jan 2020	Arrive Time	1043
I39	07 Jan 2020	Depart Time	1049
I39	07 Jan 2020	Air Temp (C)	16
I39	07 Jan 2020	Weather	Partly Cloudy
I39	07 Jan 2020	Visibility (mi)	10
I39	07 Jan 2020	Wind Speed (kts)	1
I39	07 Jan 2020	Wind Dir	S
I39	07 Jan 2020	Water Color	Green
I39	07 Jan 2020	Wave Ht Low (ft)	3
I39	07 Jan 2020	Wave Period (sec)	13
I39	07 Jan 2020	Sea State	Calm
I39	07 Jan 2020	High Tide (ft)	5.56
I39	07 Jan 2020	High Tide Time	608
I39	07 Jan 2020	Low Tide (ft)	-0.35

Station	Date	Parameter	Value
I39	07 Jan 2020	Low Tide Time	1329
I39	07 Jan 2020	Comments	none
I39	13 Jan 2020	Depth (m)	18
I39	13 Jan 2020	Arrive Time	1008
I39	13 Jan 2020	Depart Time	1013
I39	13 Jan 2020	Air Temp (C)	14
I39	13 Jan 2020	Weather	Haze
I39	13 Jan 2020	Visibility (mi)	8
I39	13 Jan 2020	Wind Speed (kts)	6
I39	13 Jan 2020	Wind Dir	NW
I39	13 Jan 2020	Water Color	Green
I39	13 Jan 2020	Wave Ht Low (ft)	3
I39	13 Jan 2020	Wave Period (sec)	9
I39	13 Jan 2020	Sea State	Calm
I39	13 Jan 2020	High Tide (ft)	6.02
I39	13 Jan 2020	High Tide Time	1011
I39	13 Jan 2020	Low Tide (ft)	1.75
I39	13 Jan 2020	Low Tide Time	409
I39	13 Jan 2020	Comments	none
I39	21 Jan 2020	Depth (m)	18
I39	21 Jan 2020	Arrive Time	1226
I39	21 Jan 2020	Depart Time	1231
I39	21 Jan 2020	Air Temp (C)	14
I39	21 Jan 2020	Weather	Overcast
I39	21 Jan 2020	Visibility (mi)	10
I39	21 Jan 2020	Wind Speed (kts)	4
I39	21 Jan 2020	Wind Dir	SW
I39	21 Jan 2020	Water Color	Green
I39	21 Jan 2020	Wave Ht Low (ft)	4
I39	21 Jan 2020	Wave Period (sec)	13
I39	21 Jan 2020	Sea State	Calm
I39	21 Jan 2020	High Tide (ft)	5.85
I39	21 Jan 2020	High Tide Time	613
I39	21 Jan 2020	Low Tide (ft)	-0.86
I39	21 Jan 2020	Low Tide Time	1338
I39	21 Jan 2020	Comments	none
I39	28 Jan 2020	Depth (m)	20
I39	28 Jan 2020	Arrive Time	1104
I39	28 Jan 2020	Depart Time	1108
I39	28 Jan 2020	Air Temp (C)	16
I39	28 Jan 2020	Weather	Clear
I39	28 Jan 2020	Visibility (mi)	12
I39	28 Jan 2020	Wind Speed (kts)	5
I39	28 Jan 2020	Wind Dir	NW
I39	28 Jan 2020	Water Color	Green
I39	28 Jan 2020	Wave Ht Low (ft)	4
I39	28 Jan 2020	Wave Period (sec)	13
I39	28 Jan 2020	Sea State	Calm
I39	28 Jan 2020	High Tide (ft)	4.8
I39	28 Jan 2020	High Tide Time	1028
I39	28 Jan 2020	Low Tide (ft)	1.81
I39	28 Jan 2020	Low Tide Time	437
I39	28 Jan 2020	Comments	Boats
I40	02 Jan 2020	Depth (m)	10
I40	02 Jan 2020	Arrive Time	1053
I40	02 Jan 2020	Depart Time	1058
I40	02 Jan 2020	Air Temp (C)	16

Station	Date	Parameter	Value
I40	02 Jan 2020	Weather	Haze
I40	02 Jan 2020	Visibility (mi)	10
I40	02 Jan 2020	Wind Speed (kts)	5
I40	02 Jan 2020	Wind Dir	N
I40	02 Jan 2020	Water Color	Brownish-Green
I40	02 Jan 2020	Wave Ht Low (ft)	4
I40	02 Jan 2020	Wave Period (sec)	16
I40	02 Jan 2020	Sea State	Calm
I40	02 Jan 2020	High Tide (ft)	3.23
I40	02 Jan 2020	High Tide Time	1348
I40	02 Jan 2020	Low Tide (ft)	2.5
I40	02 Jan 2020	Low Tide Time	853
I40	02 Jan 2020	Comments	Birds on station
I40	07 Jan 2020	Depth (m)	10
I40	07 Jan 2020	Arrive Time	1115
I40	07 Jan 2020	Depart Time	1119
I40	07 Jan 2020	Air Temp (C)	15
I40	07 Jan 2020	Weather	Partly Cloudy
I40	07 Jan 2020	Visibility (mi)	10
I40	07 Jan 2020	Wind Speed (kts)	6
I40	07 Jan 2020	Wind Dir	S
I40	07 Jan 2020	Water Color	Greenish-Brown
I40	07 Jan 2020	Wave Ht Low (ft)	3
I40	07 Jan 2020	Wave Period (sec)	13
I40	07 Jan 2020	Sea State	Calm
I40	07 Jan 2020	High Tide (ft)	5.56
I40	07 Jan 2020	High Tide Time	608
I40	07 Jan 2020	Low Tide (ft)	-0.35
I40	07 Jan 2020	Low Tide Time	1329
I40	07 Jan 2020	Comments	none
I40	13 Jan 2020	Depth (m)	12
I40	13 Jan 2020	Arrive Time	1038
I40	13 Jan 2020	Depart Time	1042
I40	13 Jan 2020	Air Temp (C)	15
I40	13 Jan 2020	Weather	Haze
I40	13 Jan 2020	Visibility (mi)	8
I40	13 Jan 2020	Wind Speed (kts)	2
I40	13 Jan 2020	Wind Dir	SE
I40	13 Jan 2020	Water Color	Brownish-Green
I40	13 Jan 2020	Wave Ht Low (ft)	3
I40	13 Jan 2020	Wave Period (sec)	9
I40	13 Jan 2020	Sea State	Calm
I40	13 Jan 2020	High Tide (ft)	6.02
I40	13 Jan 2020	High Tide Time	1011
I40	13 Jan 2020	Low Tide (ft)	1.75
I40	13 Jan 2020	Low Tide Time	409
I40	13 Jan 2020	Comments	none
I40	21 Jan 2020	Depth (m)	9
I40	21 Jan 2020	Arrive Time	1307
I40	21 Jan 2020	Depart Time	1314
I40	21 Jan 2020	Air Temp (C)	14
I40	21 Jan 2020	Weather	Overcast
I40	21 Jan 2020	Visibility (mi)	10
I40	21 Jan 2020	Wind Speed (kts)	6
I40	21 Jan 2020	Wind Dir	SW
I40	21 Jan 2020	Water Color	Brownish-Green
I40	21 Jan 2020	Wave Ht Low (ft)	4
I40	21 Jan 2020	Wave Period (sec)	13

Station	Date	Parameter	Value
I40	21 Jan 2020	Sea State	Calm
I40	21 Jan 2020	High Tide (ft)	5.85
I40	21 Jan 2020	High Tide Time	613
I40	21 Jan 2020	Low Tide (ft)	-0.86
I40	21 Jan 2020	Low Tide Time	1338
I40	21 Jan 2020	Comments	Freshwater lens
I40	28 Jan 2020	Depth (m)	10
I40	28 Jan 2020	Arrive Time	1140
I40	28 Jan 2020	Depart Time	1144
I40	28 Jan 2020	Air Temp (C)	16
I40	28 Jan 2020	Weather	Clear
I40	28 Jan 2020	Visibility (mi)	12
I40	28 Jan 2020	Wind Speed (kts)	9
I40	28 Jan 2020	Wind Dir	NW
I40	28 Jan 2020	Water Color	Green
I40	28 Jan 2020	Wave Ht Low (ft)	4
I40	28 Jan 2020	Wave Period (sec)	13
I40	28 Jan 2020	Sea State	Calm
I40	28 Jan 2020	High Tide (ft)	4.8
I40	28 Jan 2020	High Tide Time	1028
I40	28 Jan 2020	Low Tide (ft)	1.81
I40	28 Jan 2020	Low Tide Time	437
I40	28 Jan 2020	Comments	none

Table 3.10

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

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
I19	02 Jan 2020	1	15.12	40.17	7.9	33.19	8.2	24.6	1.10
I19	02 Jan 2020	2	15.12	41.50	7.9	33.19	8.2	24.6	1.08
I19	02 Jan 2020	3	15.12	41.59	7.9	33.21	8.2	24.6	1.12
I19	02 Jan 2020	4	15.12	46.84	7.9	33.24	8.2	24.6	1.35
I19	02 Jan 2020	5	15.13	51.55	7.8	33.27	8.2	24.6	1.44
I19	02 Jan 2020	6	15.08	54.95	7.8	33.28	8.2	24.6	1.39
I19	02 Jan 2020	7	15.09	51.95	7.8	33.28	8.2	24.6	1.26
I19	02 Jan 2020	8	15.00	41.56	7.8	33.27	8.1	24.6	1.28
I19	02 Jan 2020	9	15.07	35.89	7.7	33.30	8.1	24.6	1.21
I19	02 Jan 2020	10	15.13	44.23	7.4	33.35	8.1	24.7	1.08
I19	07 Jan 2020	1	15.30	47.62	7.7	33.39	8.1	24.7	1.17
I19	07 Jan 2020	2	15.27	48.41	7.7	33.40	8.1	24.7	1.13
I19	07 Jan 2020	3	15.11	47.84	7.7	33.41	8.1	24.7	1.33
I19	07 Jan 2020	4	15.05	43.31	7.6	33.40	8.1	24.7	1.78
I19	07 Jan 2020	5	15.05	42.57	7.6	33.40	8.1	24.7	2.10
I19	07 Jan 2020	6	15.05	42.68	7.6	33.40	8.1	24.7	2.10
I19	07 Jan 2020	7	15.05	42.01	7.6	33.40	8.1	24.7	1.98
I19	07 Jan 2020	8	15.05	32.37	7.5	33.42	8.1	24.7	1.94
I19	07 Jan 2020	9	15.02	25.63	7.5	33.42	8.1	24.7	2.09
I19	07 Jan 2020	10	14.98	31.39	7.6	33.42	8.1	24.8	2.11
I19	13 Jan 2020	1	15.09	45.46	7.7	33.43	8.1	24.7	1.45
I19	13 Jan 2020	2	15.02	45.36	7.7	33.43	8.1	24.8	1.51
I19	13 Jan 2020	3	15.01	49.31	7.7	33.42	8.1	24.8	1.93
I19	13 Jan 2020	4	15.00	50.32	7.7	33.42	8.1	24.8	2.29
I19	13 Jan 2020	5	15.00	51.26	7.7	33.42	8.1	24.8	2.53
I19	13 Jan 2020	6	15.01	56.19	7.7	33.43	8.1	24.8	2.58
I19	13 Jan 2020	7	15.01	61.29	7.6	33.45	8.1	24.8	2.60
I19	13 Jan 2020	8	15.00	69.33	7.6	33.46	8.1	24.8	2.36
I19	13 Jan 2020	9	15.00	72.62	7.5	33.46	8.1	24.8	2.23
I19	13 Jan 2020	10	15.00	72.38	7.5	33.47	8.1	24.8	2.08
I19	21 Jan 2020	1	15.32	66.08	8.3	33.27	8.1	24.6	2.04
I19	21 Jan 2020	2	15.31	65.92	8.3	33.28	8.1	24.6	2.07
I19	21 Jan 2020	3	15.28	65.87	8.3	33.29	8.1	24.6	2.26
I19	21 Jan 2020	4	15.15	66.09	8.3	33.37	8.1	24.7	2.49
I19	21 Jan 2020	5	15.14	66.85	8.2	33.43	8.1	24.7	2.88
I19	21 Jan 2020	6	15.14	68.10	8.1	33.46	8.1	24.8	3.14
I19	21 Jan 2020	7	15.13	73.16	8.0	33.48	8.1	24.8	3.40
I19	21 Jan 2020	8	15.08	70.89	7.7	33.51	8.1	24.8	3.47
I19	21 Jan 2020	9	14.97	43.13	7.2	33.53	8.1	24.8	3.54
I19	21 Jan 2020	10	14.94	24.43	7.0	33.52	8.0	24.8	3.38
I19	28 Jan 2020	1	15.55	46.07	7.9	33.51	8.1	24.7	1.39
I19	28 Jan 2020	2	15.45	45.87	7.9	33.52	8.1	24.7	1.38
I19	28 Jan 2020	3	15.36	45.30	7.8	33.51	8.1	24.7	1.59
I19	28 Jan 2020	4	15.27	42.77	7.8	33.51	8.1	24.8	2.06
I19	28 Jan 2020	5	15.25	42.38	7.8	33.51	8.1	24.8	2.72
I19	28 Jan 2020	6	15.17	45.08	7.7	33.50	8.1	24.8	3.13
I19	28 Jan 2020	7	15.13	48.68	7.6	33.49	8.1	24.8	3.39
I19	28 Jan 2020	8	15.11	56.15	7.6	33.49	8.1	24.8	3.33
I19	28 Jan 2020	9	15.06	59.50	7.5	33.50	8.1	24.8	3.17
I19	28 Jan 2020	10	14.95	65.88	7.3	33.52	8.1	24.8	2.97
I24	02 Jan 2020	1	15.30	67.55	7.9	33.32	8.2	24.6	1.04

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
I24	02 Jan 2020	2	15.29	69.79	7.9	33.32	8.2	24.6	1.07
I24	02 Jan 2020	3	15.30	70.05	7.9	33.32	8.2	24.6	1.10
I24	02 Jan 2020	4	15.29	70.33	7.9	33.32	8.2	24.6	1.20
I24	02 Jan 2020	5	15.28	70.77	7.9	33.34	8.2	24.6	1.41
I24	02 Jan 2020	6	15.32	71.22	7.7	33.39	8.2	24.7	1.47
I24	02 Jan 2020	7	15.35	61.26	7.4	33.41	8.2	24.7	1.50
I24	02 Jan 2020	8	15.35	36.44	7.4	33.41	8.2	24.7	1.47
I24	02 Jan 2020	9	15.35	25.13	7.4	33.41	8.2	24.7	1.47
I24	02 Jan 2020	10	15.33	24.69	7.5	33.40	8.2	24.7	1.44
I24	02 Jan 2020	11	15.33	26.71	7.5	33.40	8.2	24.7	1.49
I24	07 Jan 2020	1	15.38	59.54	7.6	33.44	8.1	24.7	0.67
I24	07 Jan 2020	2	15.33	59.40	7.6	33.45	8.1	24.7	0.71
I24	07 Jan 2020	3	15.09	57.41	7.6	33.48	8.1	24.8	0.76
I24	07 Jan 2020	4	14.97	53.66	7.5	33.45	8.1	24.8	1.12
I24	07 Jan 2020	5	14.95	51.45	7.5	33.45	8.1	24.8	1.85
I24	07 Jan 2020	6	14.94	47.79	7.4	33.45	8.1	24.8	2.19
I24	07 Jan 2020	7	14.94	45.88	7.4	33.45	8.1	24.8	2.29
I24	07 Jan 2020	8	14.94	41.36	7.3	33.45	8.1	24.8	2.13
I24	07 Jan 2020	9	14.94	33.93	7.3	33.45	8.1	24.8	2.03
I24	07 Jan 2020	10	14.95	30.93	7.4	33.45	8.1	24.8	2.11
I24	13 Jan 2020	1	15.01	68.13	7.9	33.39	8.1	24.7	1.85
I24	13 Jan 2020	2	15.02	68.32	7.9	33.39	8.1	24.7	1.92
I24	13 Jan 2020	3	14.98	68.15	7.9	33.39	8.1	24.7	1.86
I24	13 Jan 2020	4	14.96	67.88	7.9	33.40	8.1	24.7	1.80
I24	13 Jan 2020	5	14.95	68.81	7.8	33.41	8.1	24.8	2.11
I24	13 Jan 2020	6	14.96	71.71	7.8	33.42	8.1	24.8	2.52
I24	13 Jan 2020	7	14.96	69.98	7.5	33.44	8.1	24.8	2.53
I24	13 Jan 2020	8	14.95	61.69	7.4	33.46	8.1	24.8	2.49
I24	13 Jan 2020	9	14.96	43.19	7.3	33.45	8.1	24.8	2.23
I24	13 Jan 2020	10	14.94	33.01	7.2	33.47	8.1	24.8	2.08
I24	13 Jan 2020	11	14.93	29.51	7.0	33.47	8.1	24.8	2.07
I24	21 Jan 2020	1	15.28	67.43	8.1	33.10	8.1	24.4	1.94
I24	21 Jan 2020	2	15.27	66.77	8.1	33.13	8.1	24.5	1.96
I24	21 Jan 2020	3	15.26	68.64	8.1	33.25	8.1	24.6	1.96
I24	21 Jan 2020	4	15.22	74.36	8.0	33.44	8.1	24.7	1.96
I24	21 Jan 2020	5	15.18	76.42	7.9	33.51	8.1	24.8	1.80
I24	21 Jan 2020	6	15.18	73.66	7.8	33.51	8.1	24.8	1.81
I24	21 Jan 2020	7	15.18	72.69	7.8	33.51	8.1	24.8	1.79
I24	21 Jan 2020	8	15.18	71.66	7.8	33.51	8.1	24.8	1.77
I24	21 Jan 2020	9	15.18	70.66	7.7	33.51	8.1	24.8	1.76
I24	28 Jan 2020	1	15.72	54.34	8.0	33.52	8.1	24.7	1.23
I24	28 Jan 2020	2	15.63	54.26	8.0	33.53	8.1	24.7	1.25
I24	28 Jan 2020	3	15.52	55.45	8.0	33.52	8.1	24.7	1.32
I24	28 Jan 2020	4	15.48	52.70	8.1	33.51	8.1	24.7	1.64
I24	28 Jan 2020	5	15.47	51.93	8.2	33.51	8.1	24.7	2.54
I24	28 Jan 2020	6	15.43	51.45	8.2	33.51	8.1	24.7	3.40
I24	28 Jan 2020	7	15.38	50.70	8.1	33.51	8.1	24.7	3.76
I24	28 Jan 2020	8	15.38	48.95	8.1	33.51	8.1	24.7	4.06
I24	28 Jan 2020	9	15.36	50.94	8.0	33.51	8.1	24.7	4.35
I24	28 Jan 2020	10	15.35	47.94	7.9	33.51	8.1	24.7	4.15
I24	28 Jan 2020	11	15.34	32.87	7.8	33.51	8.1	24.7	3.68
I25	02 Jan 2020	1	15.41	76.71	7.9	33.37	8.2	24.6	0.71
I25	02 Jan 2020	2	15.42	80.19	7.9	33.38	8.2	24.6	0.75
I25	02 Jan 2020	3	15.42	81.99	7.9	33.39	8.2	24.6	0.81
I25	02 Jan 2020	4	15.42	81.98	7.9	33.40	8.2	24.6	0.94
I25	02 Jan 2020	5	15.46	81.41	7.8	33.42	8.2	24.7	1.06

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
I25	02 Jan 2020	6	15.48	73.70	7.8	33.43	8.2	24.7	1.13
I25	02 Jan 2020	7	15.49	70.51	7.6	33.45	8.2	24.7	1.14
I25	02 Jan 2020	8	15.47	49.57	7.5	33.45	8.2	24.7	1.23
I25	02 Jan 2020	9	15.41	19.37	7.3	33.43	8.2	24.7	1.57
I25	07 Jan 2020	1	15.46	67.30	8.0	33.43	8.1	24.7	0.83
I25	07 Jan 2020	2	15.21	68.05	8.0	33.45	8.2	24.7	0.86
I25	07 Jan 2020	3	15.08	64.99	8.0	33.44	8.1	24.8	1.06
I25	07 Jan 2020	4	15.06	60.49	8.0	33.43	8.1	24.8	1.43
I25	07 Jan 2020	5	15.04	60.38	7.9	33.43	8.1	24.8	1.78
I25	07 Jan 2020	6	15.02	59.95	7.9	33.43	8.1	24.8	2.20
I25	07 Jan 2020	7	15.01	59.25	7.9	33.43	8.1	24.8	2.35
I25	07 Jan 2020	8	15.01	56.53	7.8	33.43	8.1	24.8	2.40
I25	07 Jan 2020	9	15.00	56.02	7.8	33.43	8.1	24.8	2.47
I25	13 Jan 2020	1	15.01	68.34	7.9	33.40	8.1	24.7	1.55
I25	13 Jan 2020	2	15.01	68.51	7.9	33.40	8.1	24.7	1.68
I25	13 Jan 2020	3	15.01	68.52	7.9	33.40	8.1	24.7	1.70
I25	13 Jan 2020	4	15.01	67.89	7.9	33.40	8.1	24.7	1.84
I25	13 Jan 2020	5	14.98	68.55	7.8	33.41	8.1	24.8	1.95
I25	13 Jan 2020	6	14.95	69.17	7.8	33.43	8.1	24.8	2.14
I25	13 Jan 2020	7	14.96	70.49	7.7	33.43	8.1	24.8	2.41
I25	13 Jan 2020	8	14.92	61.73	7.4	33.45	8.1	24.8	2.38
I25	13 Jan 2020	9	14.89	53.24	7.2	33.46	8.1	24.8	2.12
I25	21 Jan 2020	1	15.23	78.20	7.9	33.49	8.1	24.8	1.42
I25	21 Jan 2020	2	15.20	78.17	7.9	33.51	8.1	24.8	1.44
I25	21 Jan 2020	3	15.19	76.25	7.8	33.52	8.1	24.8	1.52
I25	21 Jan 2020	4	15.19	72.51	7.8	33.52	8.1	24.8	1.67
I25	21 Jan 2020	5	15.19	71.08	7.8	33.52	8.1	24.8	1.81
I25	21 Jan 2020	6	15.19	70.53	7.7	33.52	8.1	24.8	1.91
I25	21 Jan 2020	7	15.19	70.11	7.7	33.52	8.1	24.8	1.96
I25	21 Jan 2020	8	15.19	69.69	7.7	33.52	8.1	24.8	1.92
I25	28 Jan 2020	1	15.77	37.41	8.2	33.51	8.1	24.7	1.46
I25	28 Jan 2020	2	15.76	31.03	8.2	33.45	8.1	24.6	1.56
I25	28 Jan 2020	3	15.78	39.44	8.2	33.51	8.1	24.7	1.70
I25	28 Jan 2020	4	15.74	40.15	8.2	33.52	8.1	24.7	1.92
I25	28 Jan 2020	5	15.46	38.03	8.1	33.55	8.1	24.8	2.02
I25	28 Jan 2020	6	15.38	37.95	8.1	33.52	8.1	24.7	2.51
I25	28 Jan 2020	7	15.35	39.98	8.1	33.52	8.1	24.8	3.21
I25	28 Jan 2020	8	15.34	40.99	8.0	33.52	8.1	24.8	3.53
I25	28 Jan 2020	9	15.34	41.30	7.8	33.52	8.1	24.8	3.62
I26	02 Jan 2020	1	15.50	14.82	8.0	33.36	8.2	24.6	1.23
I26	02 Jan 2020	2	15.42	14.15	8.0	33.36	8.2	24.6	1.35
I26	02 Jan 2020	3	15.32	11.96	8.0	33.37	8.2	24.6	2.01
I26	02 Jan 2020	4	15.32	11.50	7.9	33.38	8.2	24.7	2.08
I26	02 Jan 2020	5	15.31	20.04	7.9	33.38	8.2	24.7	2.02
I26	02 Jan 2020	6	15.25	34.47	7.8	33.38	8.2	24.7	1.91
I26	02 Jan 2020	7	15.27	38.05	7.8	33.38	8.2	24.7	1.79
I26	02 Jan 2020	8	15.31	45.10	7.6	33.40	8.2	24.7	1.47
I26	02 Jan 2020	9	15.33	39.77	7.5	33.41	8.2	24.7	1.42
I26	07 Jan 2020	1	15.48	72.32	8.1	33.43	8.2	24.7	0.83
I26	07 Jan 2020	2	15.22	71.83	8.1	33.46	8.2	24.7	0.85
I26	07 Jan 2020	3	15.08	68.25	8.0	33.44	8.2	24.7	0.95
I26	07 Jan 2020	4	15.07	65.16	8.0	33.43	8.1	24.7	1.33
I26	07 Jan 2020	5	15.08	60.05	7.8	33.43	8.1	24.7	1.67
I26	07 Jan 2020	6	15.09	51.39	7.5	33.46	8.1	24.8	2.02
I26	07 Jan 2020	7	15.06	43.91	7.2	33.48	8.1	24.8	2.22

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
I26	07 Jan 2020	8	15.04	34.09	7.0	33.48	8.1	24.8	2.09
I26	07 Jan 2020	9	15.04	26.85	7.0	33.48	8.1	24.8	1.97
I26	13 Jan 2020	1	15.10	59.75	7.9	33.48	8.1	24.8	1.37
I26	13 Jan 2020	2	15.06	58.88	7.9	33.48	8.1	24.8	1.42
I26	13 Jan 2020	3	15.04	58.81	7.9	33.48	8.1	24.8	1.60
I26	13 Jan 2020	4	15.01	59.20	7.9	33.48	8.1	24.8	1.97
I26	13 Jan 2020	5	14.99	58.94	7.9	33.48	8.1	24.8	2.27
I26	13 Jan 2020	6	14.98	59.44	7.9	33.47	8.1	24.8	2.66
I26	13 Jan 2020	7	14.96	60.27	7.8	33.48	8.1	24.8	2.85
I26	13 Jan 2020	8	14.93	60.00	7.6	33.48	8.1	24.8	2.85
I26	13 Jan 2020	9	14.92	59.12	7.5	33.48	8.1	24.8	2.82
I26	21 Jan 2020	1	15.25	84.48	8.1	33.48	8.1	24.7	1.42
I26	21 Jan 2020	2	15.25	84.40	8.1	33.48	8.1	24.7	1.41
I26	21 Jan 2020	3	15.22	84.49	8.0	33.50	8.1	24.8	1.43
I26	21 Jan 2020	4	15.19	84.03	8.1	33.52	8.1	24.8	1.52
I26	21 Jan 2020	5	15.15	82.97	7.9	33.54	8.1	24.8	1.66
I26	21 Jan 2020	6	15.09	61.64	7.5	33.54	8.1	24.8	1.85
I26	21 Jan 2020	7	15.08	38.99	7.3	33.53	8.1	24.8	2.19
I26	21 Jan 2020	8	15.08	21.87	7.2	33.53	8.1	24.8	2.46
I26	21 Jan 2020	9	15.08	24.15	7.2	33.53	8.1	24.8	2.49
I26	28 Jan 2020	1	15.74	73.42	8.2	33.52	8.1	24.7	0.88
I26	28 Jan 2020	2	15.67	73.45	8.2	33.53	8.1	24.7	0.89
I26	28 Jan 2020	3	15.44	73.17	8.2	33.54	8.1	24.7	0.93
I26	28 Jan 2020	4	15.39	73.11	8.1	33.52	8.1	24.7	1.04
I26	28 Jan 2020	5	15.37	66.92	8.0	33.52	8.1	24.8	1.30
I26	28 Jan 2020	6	15.36	60.13	8.0	33.52	8.1	24.8	1.64
I26	28 Jan 2020	7	15.36	57.89	8.0	33.52	8.1	24.8	2.00
I26	28 Jan 2020	8	15.36	56.94	8.0	33.52	8.1	24.8	2.25
I26	28 Jan 2020	9	15.35	55.33	7.9	33.52	8.1	24.8	2.44
I32	02 Jan 2020	1	15.34	24.61	8.1	33.38	8.2	24.6	1.23
I32	02 Jan 2020	2	15.32	24.40	8.0	33.39	8.2	24.7	1.31
I32	02 Jan 2020	3	15.24	24.38	8.0	33.39	8.2	24.7	1.70
I32	02 Jan 2020	4	15.23	24.09	8.0	33.39	8.2	24.7	2.00
I32	02 Jan 2020	5	15.23	23.89	8.0	33.39	8.2	24.7	2.09
I32	02 Jan 2020	6	15.22	24.32	8.0	33.39	8.2	24.7	2.03
I32	02 Jan 2020	7	15.20	22.52	8.0	33.39	8.2	24.7	2.07
I32	02 Jan 2020	8	15.19	20.14	8.0	33.39	8.2	24.7	2.08
I32	02 Jan 2020	9	15.17	18.63	8.0	33.38	8.2	24.7	2.13
I32	07 Jan 2020	1	15.35	66.91	7.9	33.44	8.2	24.7	0.91
I32	07 Jan 2020	2	15.16	63.35	7.9	33.44	8.1	24.7	0.97
I32	07 Jan 2020	3	15.08	59.71	7.9	33.44	8.1	24.7	1.44
I32	07 Jan 2020	4	15.03	57.30	7.8	33.44	8.1	24.8	2.21
I32	07 Jan 2020	5	15.00	56.01	7.7	33.44	8.1	24.8	2.81
I32	07 Jan 2020	6	14.98	55.09	7.6	33.43	8.1	24.8	2.87
I32	07 Jan 2020	7	14.96	54.24	7.6	33.44	8.1	24.8	3.18
I32	07 Jan 2020	8	14.92	52.02	7.5	33.43	8.1	24.8	2.90
I32	07 Jan 2020	9	14.84	48.68	7.5	33.44	8.1	24.8	2.63
I32	07 Jan 2020	10	14.79	43.00	7.6	33.43	8.1	24.8	2.58
I32	13 Jan 2020	1	15.15	61.52	7.9	33.48	8.1	24.8	1.31
I32	13 Jan 2020	2	15.08	61.83	8.0	33.49	8.1	24.8	1.35
I32	13 Jan 2020	3	15.03	61.84	7.9	33.49	8.1	24.8	1.43
I32	13 Jan 2020	4	14.99	60.09	7.9	33.48	8.1	24.8	1.81
I32	13 Jan 2020	5	14.99	60.16	7.9	33.48	8.1	24.8	2.47
I32	13 Jan 2020	6	14.98	60.08	7.8	33.48	8.1	24.8	2.86
I32	13 Jan 2020	7	14.97	59.74	7.8	33.48	8.1	24.8	3.06

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
I32	13 Jan 2020	8	14.97	59.41	7.9	33.48	8.1	24.8	3.18
I32	13 Jan 2020	9	14.94	56.88	7.8	33.48	8.1	24.8	3.28
I32	13 Jan 2020	10	14.85	43.01	7.8	33.49	8.1	24.8	3.20
I32	21 Jan 2020	1	15.22	78.16	8.1	33.44	8.1	24.7	1.33
I32	21 Jan 2020	2	15.20	77.75	8.1	33.43	8.1	24.7	1.37
I32	21 Jan 2020	3	15.19	75.73	8.2	33.43	8.1	24.7	1.42
I32	21 Jan 2020	4	15.17	74.33	8.2	33.45	8.1	24.7	1.59
I32	21 Jan 2020	5	15.11	71.10	8.2	33.47	8.1	24.8	1.76
I32	21 Jan 2020	6	15.10	71.24	8.1	33.46	8.1	24.8	2.07
I32	21 Jan 2020	7	15.10	68.11	8.1	33.47	8.1	24.8	2.32
I32	21 Jan 2020	8	15.13	70.38	8.1	33.50	8.1	24.8	2.54
I32	21 Jan 2020	9	15.15	69.22	8.0	33.52	8.1	24.8	2.64
I32	21 Jan 2020	10	15.15	58.30	7.9	33.52	8.1	24.8	2.64
I32	28 Jan 2020	1	15.68	57.18	8.2	33.52	8.1	24.7	1.43
I32	28 Jan 2020	2	15.65	55.57	8.2	33.52	8.1	24.7	1.52
I32	28 Jan 2020	3	15.64	55.40	8.2	33.52	8.1	24.7	1.63
I32	28 Jan 2020	4	15.44	54.16	8.2	33.55	8.1	24.8	1.71
I32	28 Jan 2020	5	15.35	48.91	8.1	33.53	8.1	24.8	1.91
I32	28 Jan 2020	6	15.32	52.20	8.1	33.52	8.1	24.8	2.73
I32	28 Jan 2020	7	15.32	52.16	8.1	33.52	8.1	24.8	3.70
I32	28 Jan 2020	8	15.24	47.69	7.7	33.52	8.1	24.8	4.01
I32	28 Jan 2020	9	15.23	43.79	7.6	33.52	8.1	24.8	4.15
I32	28 Jan 2020	10	15.22	34.55	7.8	33.52	8.1	24.8	4.03
I39	02 Jan 2020	1	15.60	87.13	7.7	33.48	8.2	24.7	0.57
I39	02 Jan 2020	2	15.59	87.16	7.8	33.48	8.2	24.7	0.58
I39	02 Jan 2020	3	15.59	87.33	7.7	33.48	8.2	24.7	0.60
I39	02 Jan 2020	4	15.59	87.41	7.8	33.48	8.2	24.7	0.64
I39	02 Jan 2020	5	15.59	87.66	7.8	33.48	8.2	24.7	0.65
I39	02 Jan 2020	6	15.58	87.63	7.7	33.49	8.2	24.7	0.73
I39	02 Jan 2020	7	15.57	87.75	7.7	33.49	8.2	24.7	0.80
I39	02 Jan 2020	8	15.54	87.75	7.7	33.49	8.2	24.7	0.92
I39	02 Jan 2020	9	15.50	87.60	7.6	33.49	8.2	24.7	1.06
I39	02 Jan 2020	10	15.40	87.83	7.6	33.49	8.2	24.7	1.11
I39	02 Jan 2020	11	15.28	88.24	7.4	33.50	8.2	24.8	1.00
I39	02 Jan 2020	12	15.11	87.02	7.3	33.50	8.2	24.8	0.85
I39	02 Jan 2020	13	15.11	79.19	7.2	33.49	8.1	24.8	0.78
I39	02 Jan 2020	14	15.09	76.44	7.2	33.49	8.1	24.8	0.89
I39	02 Jan 2020	15	15.07	77.38	7.2	33.49	8.1	24.8	0.94
I39	02 Jan 2020	16	15.07	76.29	7.2	33.49	8.1	24.8	0.96
I39	02 Jan 2020	17	15.07	76.94	7.2	33.49	8.1	24.8	1.00
I39	02 Jan 2020	18	15.07	67.70	7.2	33.49	8.1	24.8	0.98
I39	07 Jan 2020	1	15.52	86.26	7.8	33.48	8.1	24.7	0.88
I39	07 Jan 2020	2	15.49	86.24	7.8	33.49	8.1	24.7	0.88
I39	07 Jan 2020	3	15.43	85.92	7.8	33.49	8.1	24.7	0.87
I39	07 Jan 2020	4	15.42	85.63	7.8	33.49	8.1	24.7	0.96
I39	07 Jan 2020	5	15.41	85.56	7.8	33.49	8.1	24.7	1.03
I39	07 Jan 2020	6	15.41	85.47	7.8	33.49	8.1	24.7	1.15
I39	07 Jan 2020	7	15.41	85.46	7.8	33.49	8.1	24.7	1.27
I39	07 Jan 2020	8	15.40	85.54	7.8	33.49	8.1	24.7	1.41
I39	07 Jan 2020	9	15.40	85.50	7.8	33.49	8.1	24.7	1.46
I39	07 Jan 2020	10	15.39	85.50	7.8	33.49	8.1	24.7	1.54
I39	07 Jan 2020	11	15.38	85.37	7.8	33.49	8.1	24.7	1.56
I39	07 Jan 2020	12	15.39	85.29	7.8	33.49	8.1	24.7	1.68
I39	07 Jan 2020	13	15.38	85.30	7.8	33.49	8.1	24.7	1.77
I39	07 Jan 2020	14	15.37	85.30	7.8	33.49	8.1	24.7	1.91
I39	07 Jan 2020	15	15.36	85.34	7.8	33.49	8.1	24.7	1.82
I39	07 Jan 2020	16	15.35	85.86	7.7	33.49	8.1	24.7	1.84

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
I39	07 Jan 2020	17	15.12	86.13	7.4	33.53	8.1	24.8	1.89
I39	07 Jan 2020	18	15.02	83.62	7.2	33.51	8.1	24.8	1.77
I39	13 Jan 2020	1	14.92	74.29	7.8	33.47	8.1	24.8	1.20
I39	13 Jan 2020	2	14.91	75.19	7.8	33.47	8.1	24.8	1.30
I39	13 Jan 2020	3	14.91	75.21	7.7	33.47	8.1	24.8	1.29
I39	13 Jan 2020	4	14.91	75.42	7.6	33.47	8.1	24.8	1.46
I39	13 Jan 2020	5	14.91	76.76	7.7	33.47	8.1	24.8	1.66
I39	13 Jan 2020	6	14.91	76.72	7.7	33.47	8.1	24.8	1.75
I39	13 Jan 2020	7	14.91	76.95	7.7	33.47	8.1	24.8	2.07
I39	13 Jan 2020	8	14.91	77.46	7.7	33.47	8.1	24.8	2.29
I39	13 Jan 2020	9	14.91	77.48	7.7	33.47	8.1	24.8	2.42
I39	13 Jan 2020	10	14.91	77.48	7.7	33.47	8.1	24.8	2.51
I39	13 Jan 2020	11	14.92	77.68	7.6	33.47	8.1	24.8	2.58
I39	13 Jan 2020	12	14.91	78.49	7.7	33.47	8.1	24.8	2.64
I39	13 Jan 2020	13	14.90	78.83	7.6	33.48	8.1	24.8	2.54
I39	13 Jan 2020	14	14.83	79.76	7.4	33.49	8.1	24.8	2.65
I39	13 Jan 2020	15	14.72	79.77	7.2	33.50	8.1	24.9	2.37
I39	13 Jan 2020	16	14.58	76.02	6.9	33.51	8.1	24.9	1.87
I39	13 Jan 2020	17	14.55	74.80	6.8	33.50	8.0	24.9	1.62
I39	13 Jan 2020	18	14.54	74.41	6.8	33.50	8.0	24.9	1.39
I39	21 Jan 2020	1	15.63	89.36	7.8	33.51	8.1	24.7	0.51
I39	21 Jan 2020	2	15.62	89.52	7.8	33.51	8.1	24.7	0.49
I39	21 Jan 2020	3	15.60	89.52	7.8	33.51	8.1	24.7	0.51
I39	21 Jan 2020	4	15.57	89.53	7.8	33.51	8.1	24.7	0.54
I39	21 Jan 2020	5	15.53	89.40	7.8	33.51	8.1	24.7	0.55
I39	21 Jan 2020	6	15.51	88.95	7.8	33.51	8.1	24.7	0.63
I39	21 Jan 2020	7	15.46	88.61	7.8	33.51	8.1	24.7	0.71
I39	21 Jan 2020	8	15.33	88.15	7.8	33.50	8.1	24.7	0.82
I39	21 Jan 2020	9	15.22	86.55	7.9	33.48	8.1	24.8	1.09
I39	21 Jan 2020	10	15.21	84.90	7.9	33.48	8.1	24.8	1.47
I39	21 Jan 2020	11	15.22	84.68	7.9	33.50	8.1	24.8	1.78
I39	21 Jan 2020	12	15.19	84.89	7.9	33.51	8.1	24.8	2.00
I39	21 Jan 2020	13	15.12	85.02	7.9	33.53	8.1	24.8	2.10
I39	21 Jan 2020	14	15.03	84.66	7.8	33.53	8.1	24.8	2.18
I39	21 Jan 2020	15	15.00	82.99	7.7	33.52	8.1	24.8	2.33
I39	21 Jan 2020	16	14.99	81.98	7.7	33.52	8.1	24.8	2.42
I39	21 Jan 2020	17	14.98	80.91	7.7	33.52	8.1	24.8	2.54
I39	21 Jan 2020	18	14.98	79.97	7.6	33.52	8.1	24.8	2.44
I39	28 Jan 2020	1	15.74	76.01	8.2	33.52	8.1	24.7	0.77
I39	28 Jan 2020	2	15.51	75.88	8.2	33.54	8.1	24.7	0.78
I39	28 Jan 2020	3	15.40	76.11	8.2	33.53	8.1	24.7	0.82
I39	28 Jan 2020	4	15.37	76.45	8.2	33.52	8.1	24.8	0.93
I39	28 Jan 2020	5	15.35	76.85	8.2	33.52	8.1	24.8	1.12
I39	28 Jan 2020	6	15.34	77.01	8.2	33.52	8.1	24.8	1.30
I39	28 Jan 2020	7	15.33	77.24	8.2	33.52	8.1	24.8	1.46
I39	28 Jan 2020	8	15.33	77.86	8.1	33.52	8.1	24.8	1.68
I39	28 Jan 2020	9	15.32	78.26	8.1	33.52	8.1	24.8	1.90
I39	28 Jan 2020	10	15.30	78.63	8.0	33.52	8.1	24.8	1.94
I39	28 Jan 2020	11	15.30	78.74	8.0	33.52	8.1	24.8	2.15
I39	28 Jan 2020	12	15.28	79.55	7.9	33.53	8.1	24.8	2.30
I39	28 Jan 2020	13	15.19	79.74	7.6	33.53	8.1	24.8	2.32
I39	28 Jan 2020	14	15.05	76.02	7.4	33.54	8.1	24.8	2.38
I39	28 Jan 2020	15	14.97	70.73	7.2	33.52	8.1	24.8	2.43
I39	28 Jan 2020	16	14.92	68.03	7.1	33.52	8.1	24.9	2.53
I39	28 Jan 2020	17	14.92	67.61	7.1	33.51	8.1	24.8	2.35
I39	28 Jan 2020	18	14.94	68.04	7.1	33.52	8.1	24.8	2.16
I40	02 Jan 2020	1	15.03	43.64	7.8	33.24	8.2	24.6	0.96

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
I40	02 Jan 2020	2	15.02	41.47	7.8	33.24	8.2	24.6	1.04
I40	02 Jan 2020	3	14.99	45.71	7.8	33.24	8.2	24.6	1.24
I40	02 Jan 2020	4	14.94	47.31	7.8	33.24	8.2	24.6	1.63
I40	02 Jan 2020	5	14.92	48.95	7.8	33.25	8.2	24.6	1.70
I40	02 Jan 2020	6	14.92	48.83	7.7	33.25	8.2	24.6	1.62
I40	02 Jan 2020	7	14.92	48.78	7.7	33.25	8.2	24.6	1.46
I40	02 Jan 2020	8	14.91	48.72	7.7	33.25	8.2	24.6	1.27
I40	02 Jan 2020	9	14.89	47.72	7.5	33.26	8.2	24.7	1.20
I40	02 Jan 2020	10	14.89	43.22	7.4	33.28	8.1	24.7	1.21
I40	07 Jan 2020	1	15.25	44.24	7.8	33.35	8.1	24.6	1.10
I40	07 Jan 2020	2	15.15	42.54	7.8	33.39	8.1	24.7	1.16
I40	07 Jan 2020	3	15.11	40.91	7.8	33.40	8.1	24.7	1.30
I40	07 Jan 2020	4	15.06	39.00	7.7	33.43	8.1	24.7	1.59
I40	07 Jan 2020	5	14.99	37.42	7.8	33.44	8.1	24.8	1.86
I40	07 Jan 2020	6	14.91	36.05	7.8	33.45	8.1	24.8	1.96
I40	07 Jan 2020	7	14.79	34.67	7.8	33.45	8.1	24.8	2.05
I40	07 Jan 2020	8	14.74	33.07	7.8	33.44	8.1	24.8	2.17
I40	07 Jan 2020	9	14.67	30.76	7.7	33.44	8.1	24.8	2.32
I40	07 Jan 2020	10	14.67	28.00	7.7	33.43	8.1	24.8	2.45
I40	13 Jan 2020	1	15.02	59.23	7.8	33.40	8.1	24.7	1.39
I40	13 Jan 2020	2	15.00	60.07	7.8	33.40	8.1	24.7	1.48
I40	13 Jan 2020	3	14.97	60.74	7.8	33.41	8.1	24.8	1.61
I40	13 Jan 2020	4	14.96	61.12	7.8	33.41	8.1	24.8	1.92
I40	13 Jan 2020	5	14.96	60.83	7.7	33.42	8.1	24.8	2.26
I40	13 Jan 2020	6	14.96	60.15	7.7	33.43	8.1	24.8	2.45
I40	13 Jan 2020	7	14.96	58.64	7.7	33.45	8.1	24.8	2.52
I40	13 Jan 2020	8	14.93	43.72	7.7	33.46	8.1	24.8	2.59
I40	13 Jan 2020	9	14.90	33.70	7.8	33.47	8.1	24.8	2.66
I40	13 Jan 2020	10	14.90	32.52	7.8	33.47	8.1	24.8	2.74
I40	21 Jan 2020	1	15.20	50.69	7.5	32.85	8.1	24.3	1.97
I40	21 Jan 2020	2	15.09	55.50	7.9	33.20	8.1	24.6	2.20
I40	21 Jan 2020	3	15.07	61.92	7.9	33.27	8.1	24.6	2.69
I40	21 Jan 2020	4	15.09	65.42	8.0	33.29	8.1	24.6	2.82
I40	21 Jan 2020	5	15.10	67.05	8.0	33.33	8.1	24.7	2.74
I40	21 Jan 2020	6	15.06	68.48	8.0	33.35	8.1	24.7	3.08
I40	21 Jan 2020	7	15.05	67.16	7.9	33.35	8.1	24.7	3.22
I40	21 Jan 2020	8	15.08	64.90	7.9	33.36	8.1	24.7	2.48
I40	21 Jan 2020	9	15.11	65.61	7.8	33.40	8.1	24.7	3.29
I40	28 Jan 2020	1	15.82	64.36	8.2	33.49	8.1	24.6	1.31
I40	28 Jan 2020	2	15.63	64.20	8.2	33.53	8.1	24.7	1.35
I40	28 Jan 2020	3	15.49	63.41	8.2	33.51	8.1	24.7	1.44
I40	28 Jan 2020	4	15.35	64.34	8.1	33.52	8.1	24.8	1.74
I40	28 Jan 2020	5	15.26	65.57	8.0	33.51	8.1	24.8	2.15
I40	28 Jan 2020	6	15.18	65.82	7.9	33.51	8.1	24.8	2.48
I40	28 Jan 2020	7	15.12	66.47	7.7	33.51	8.1	24.8	2.88
I40	28 Jan 2020	8	15.10	62.27	7.5	33.50	8.1	24.8	2.82
I40	28 Jan 2020	9	15.08	50.35	7.2	33.51	8.1	24.8	2.77
I40	28 Jan 2020	10	15.07	28.74	7.0	33.50	8.1	24.8	2.84

NA = not available

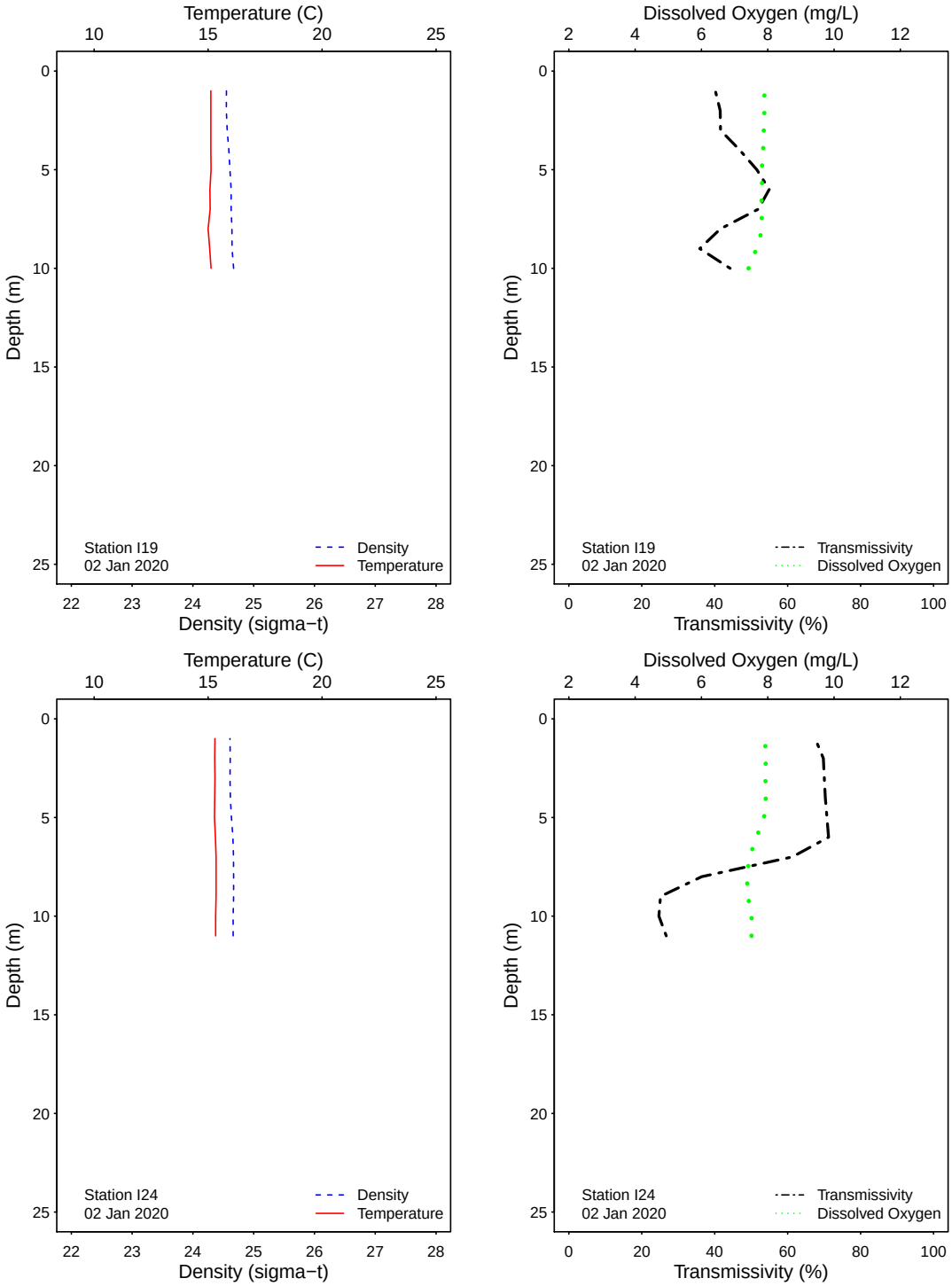
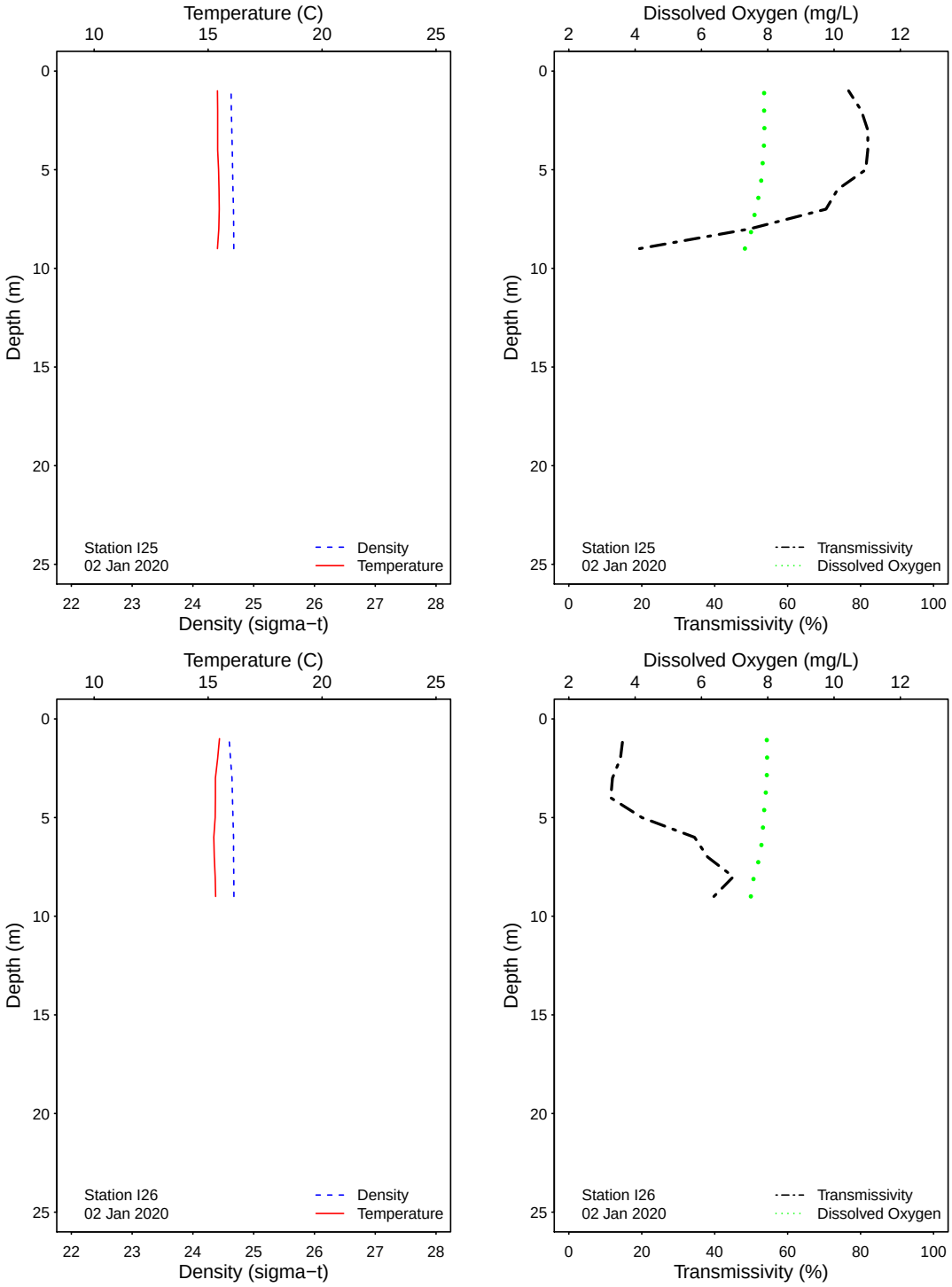


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.



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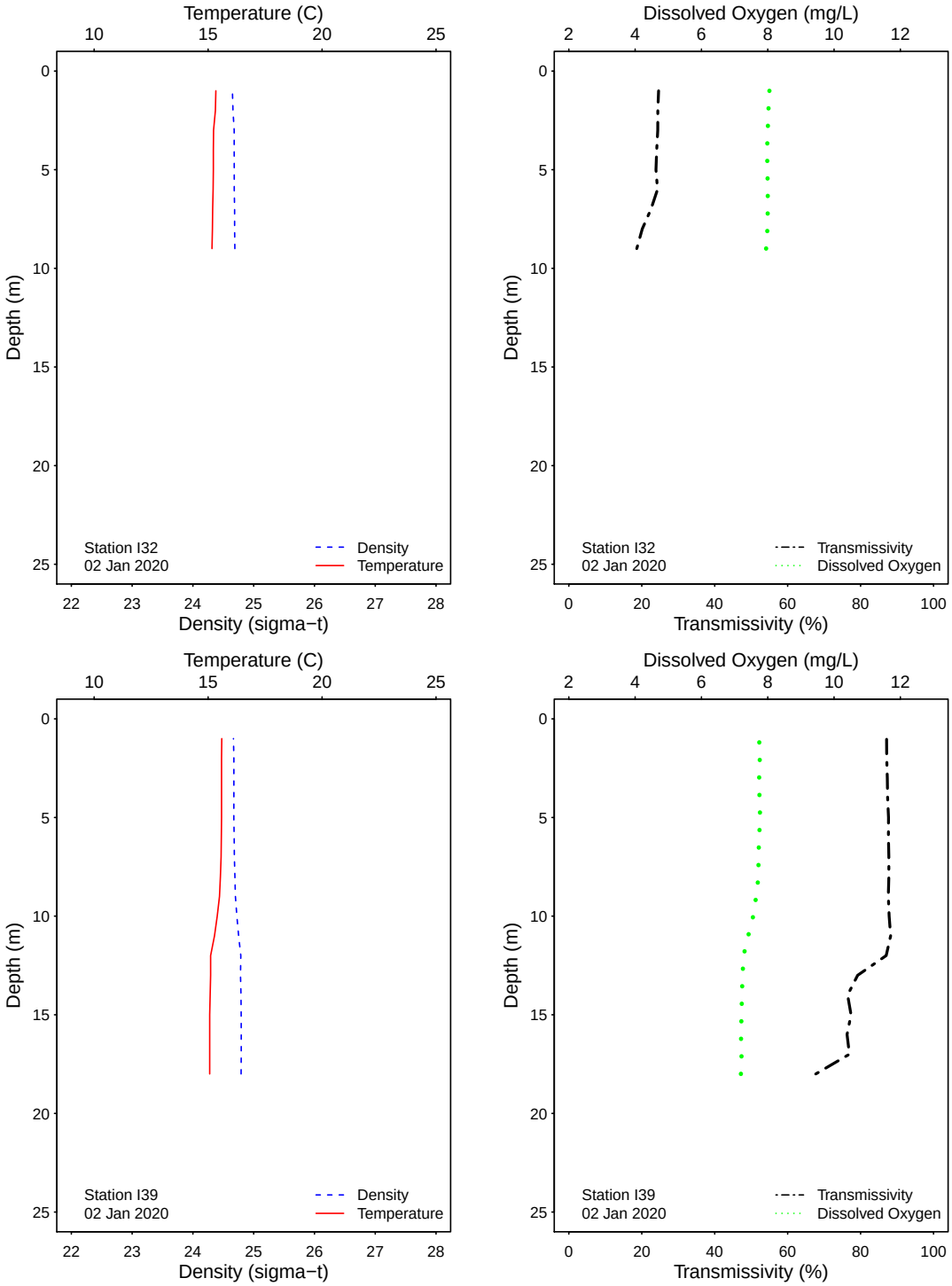

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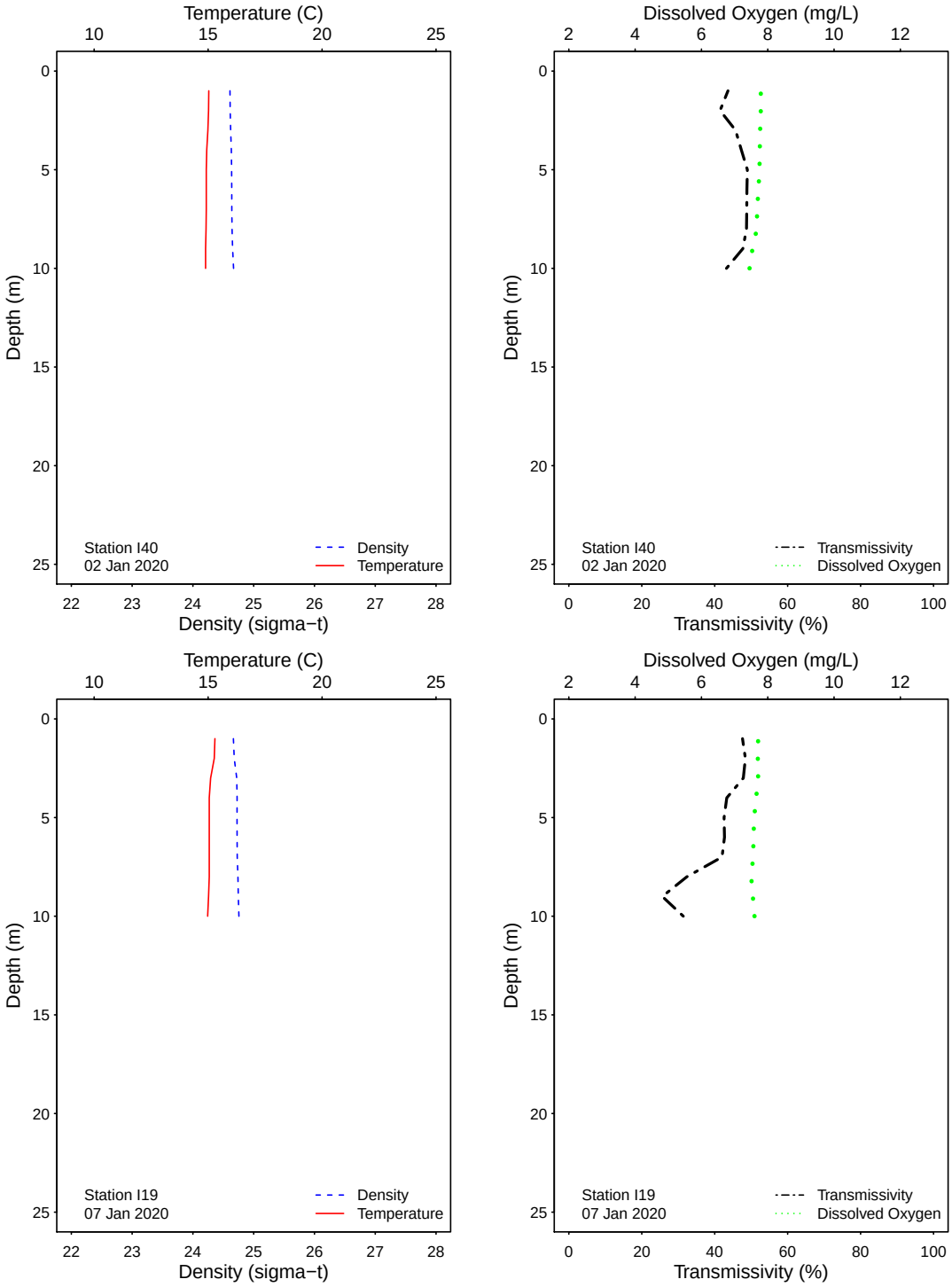

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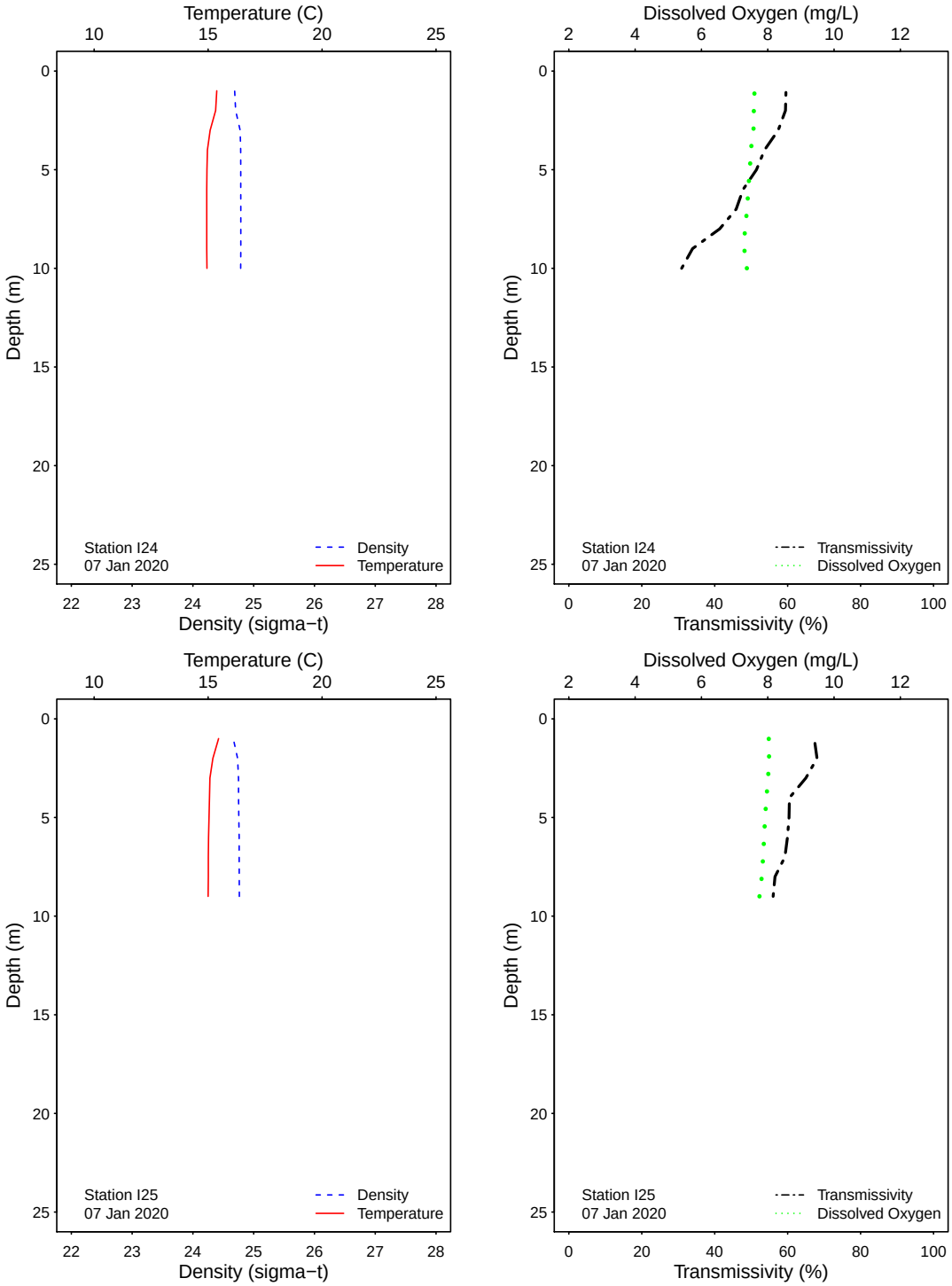

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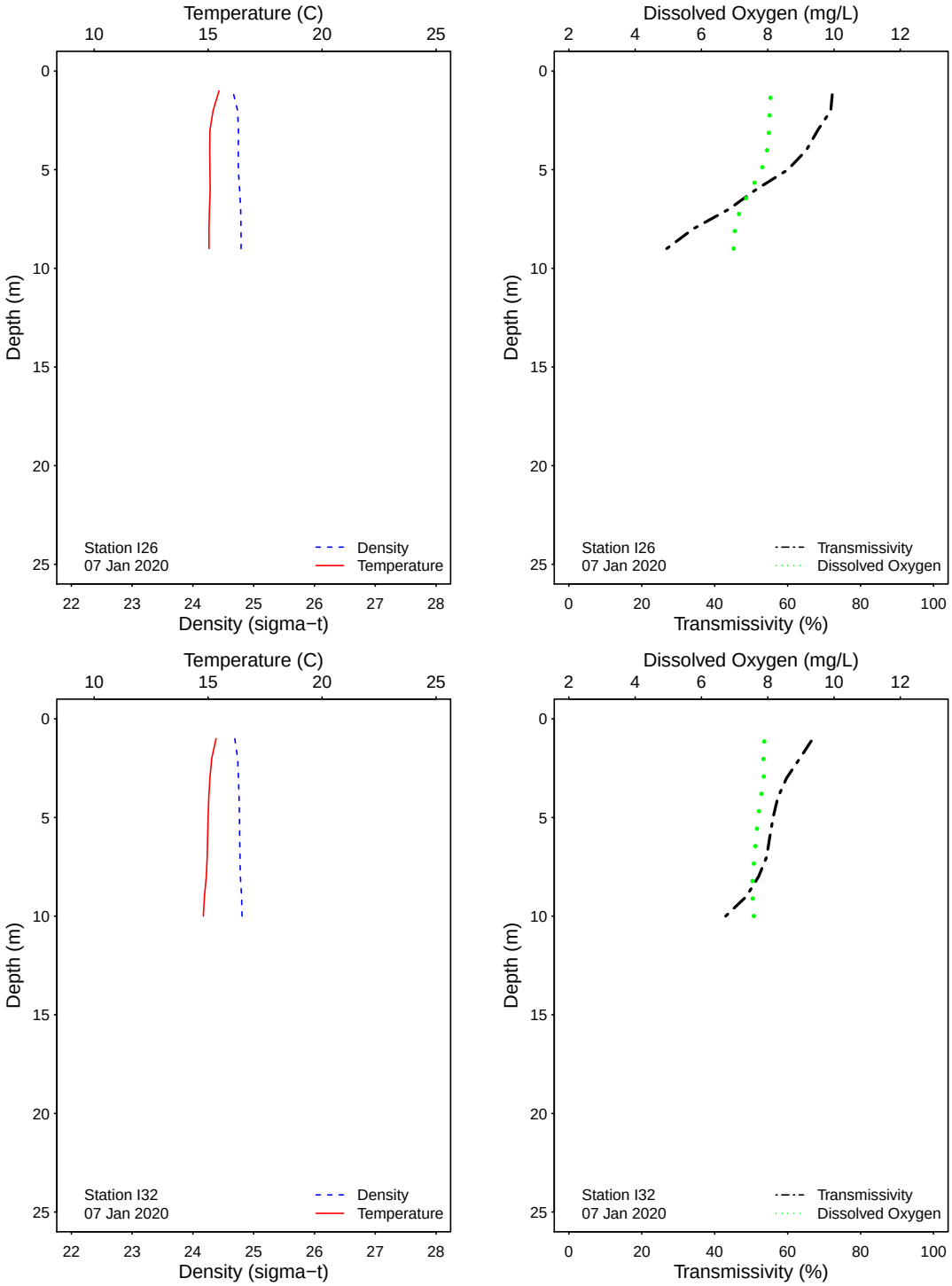

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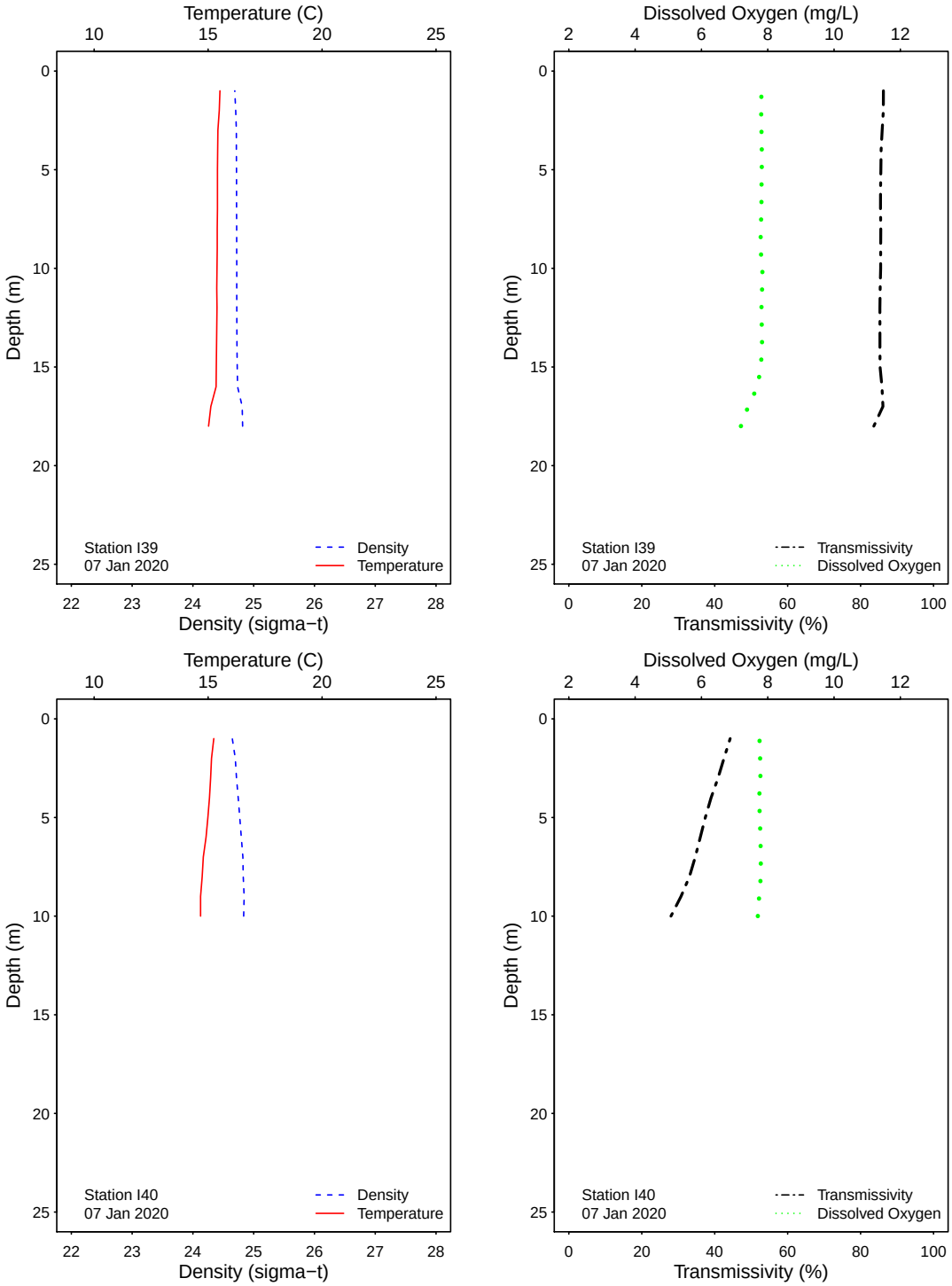

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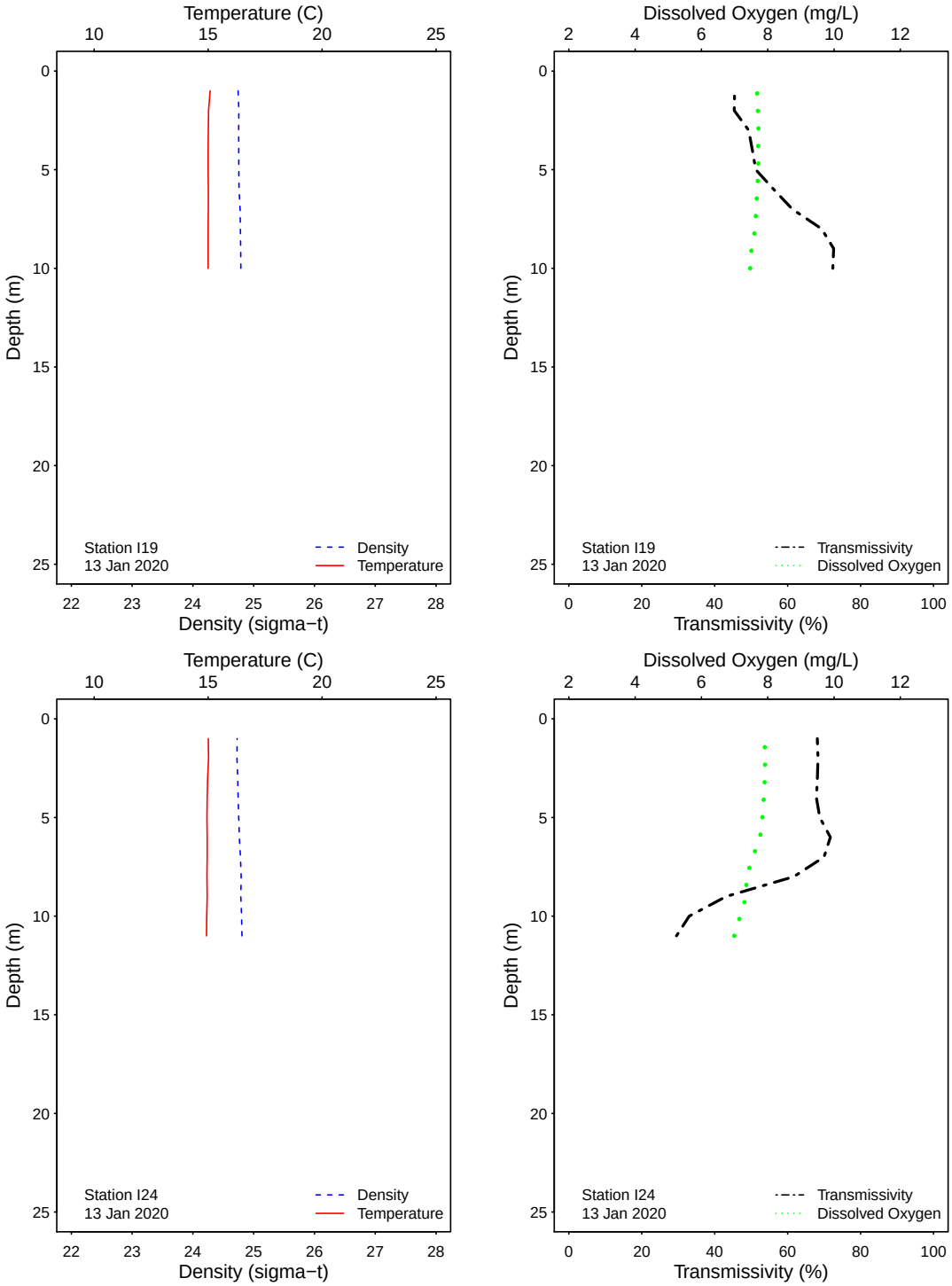

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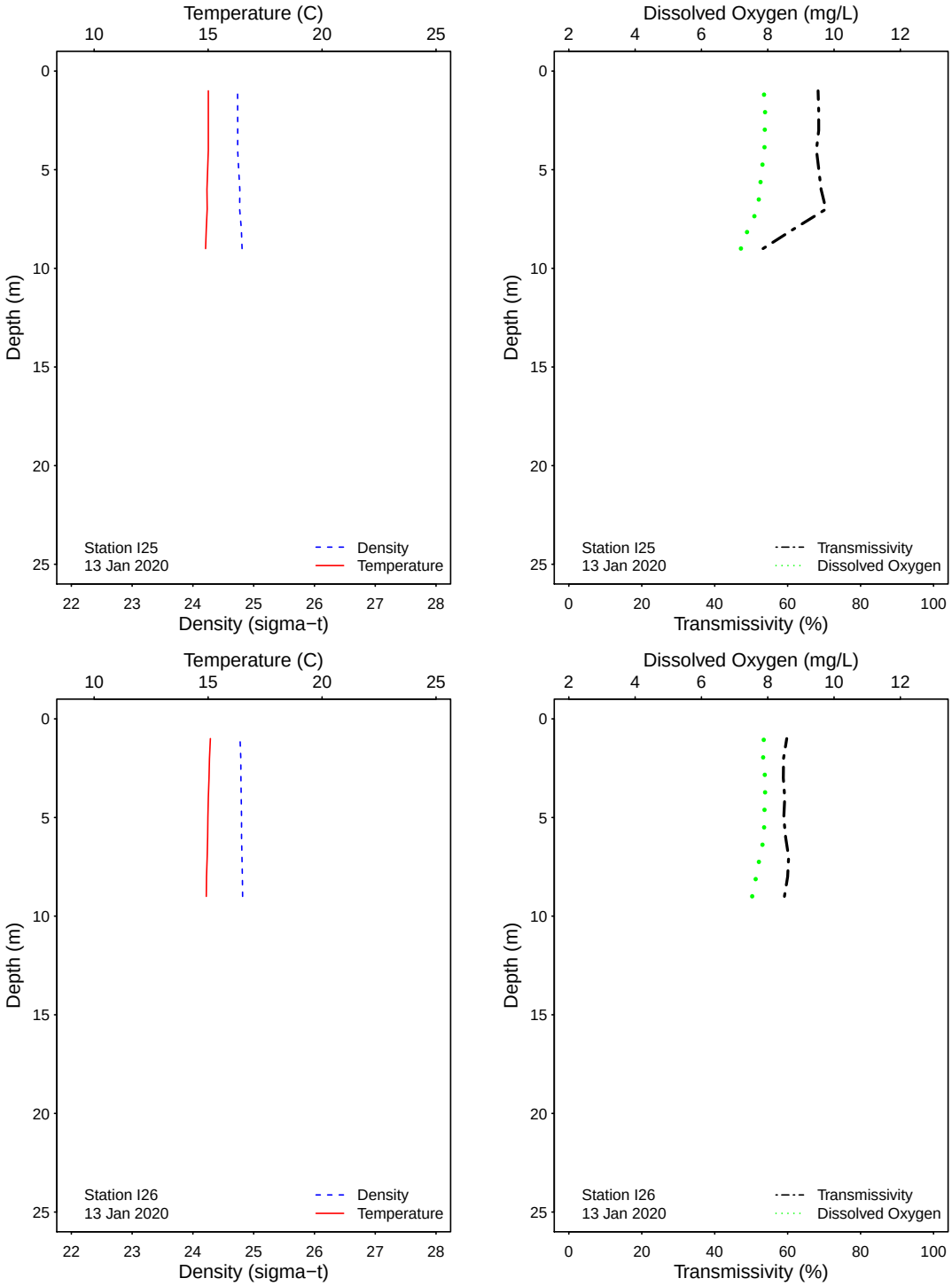

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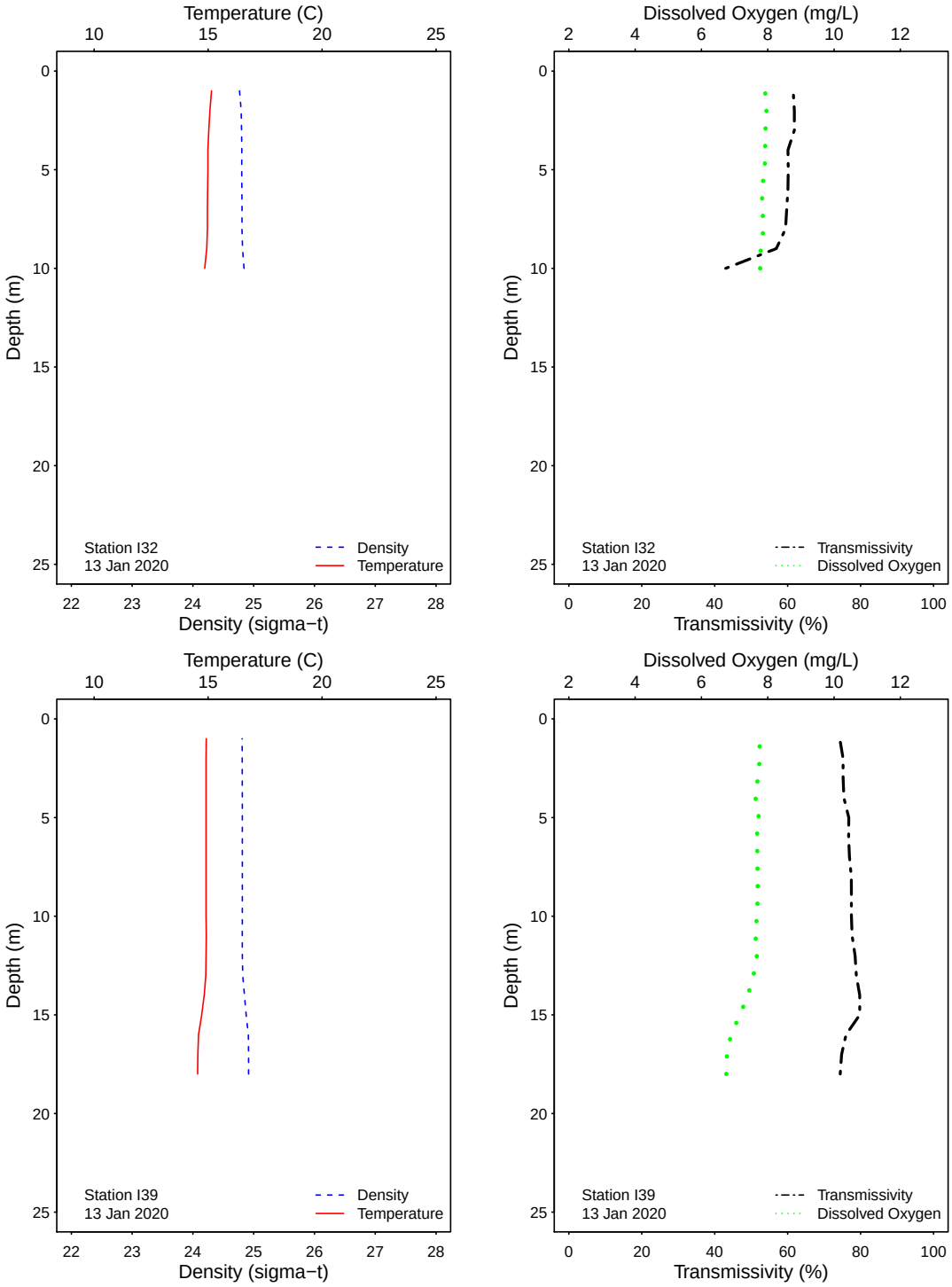

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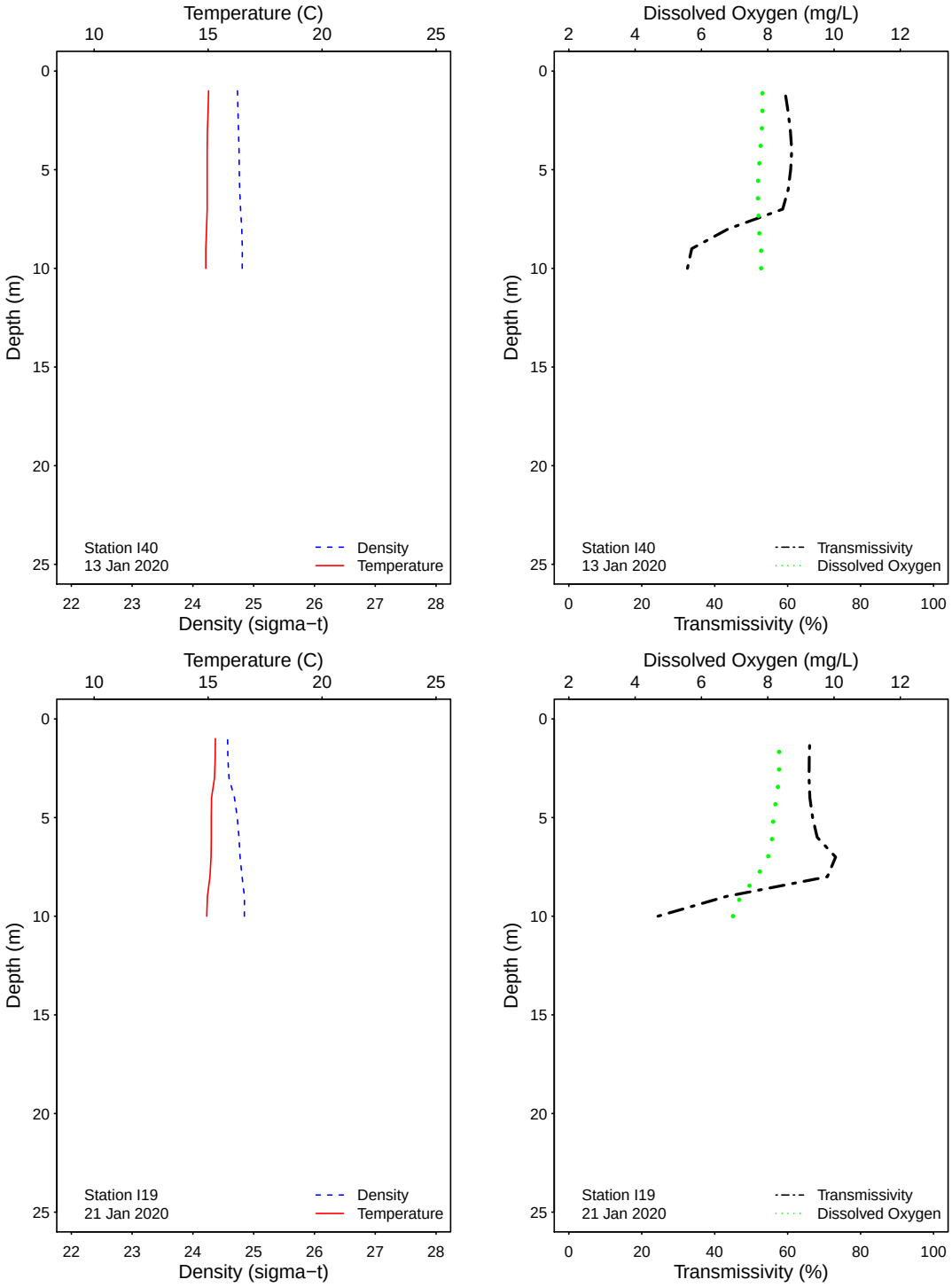

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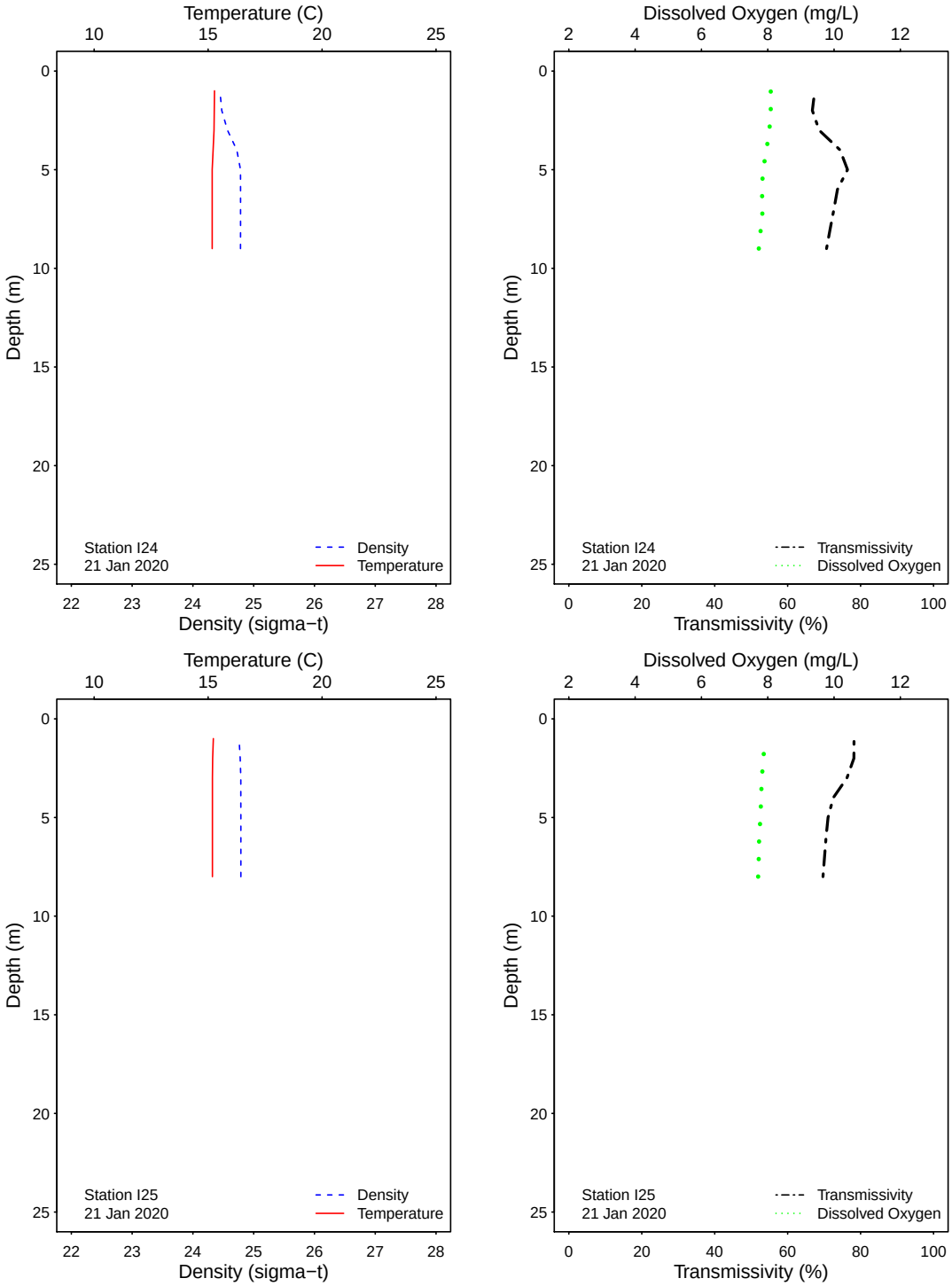

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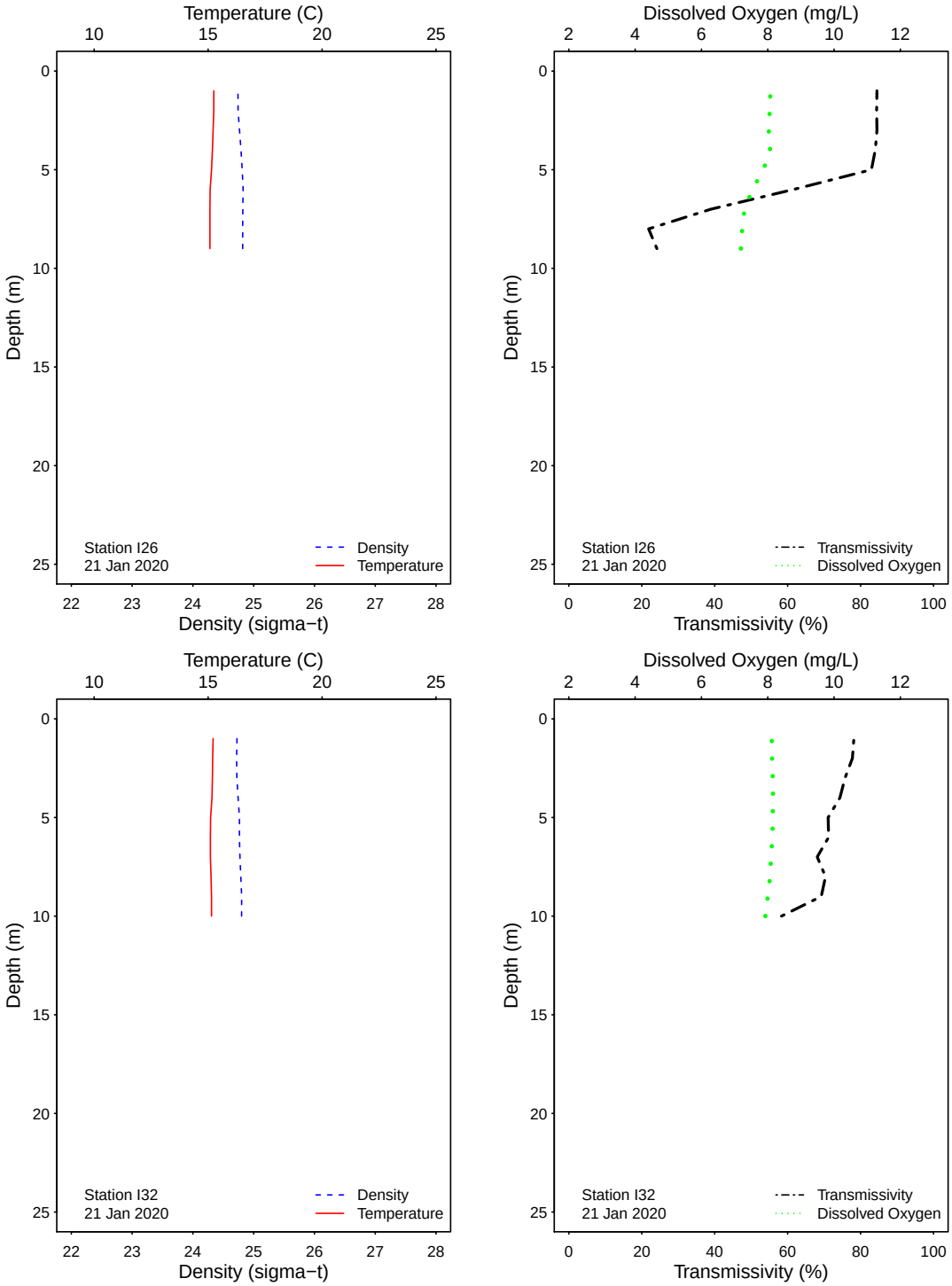

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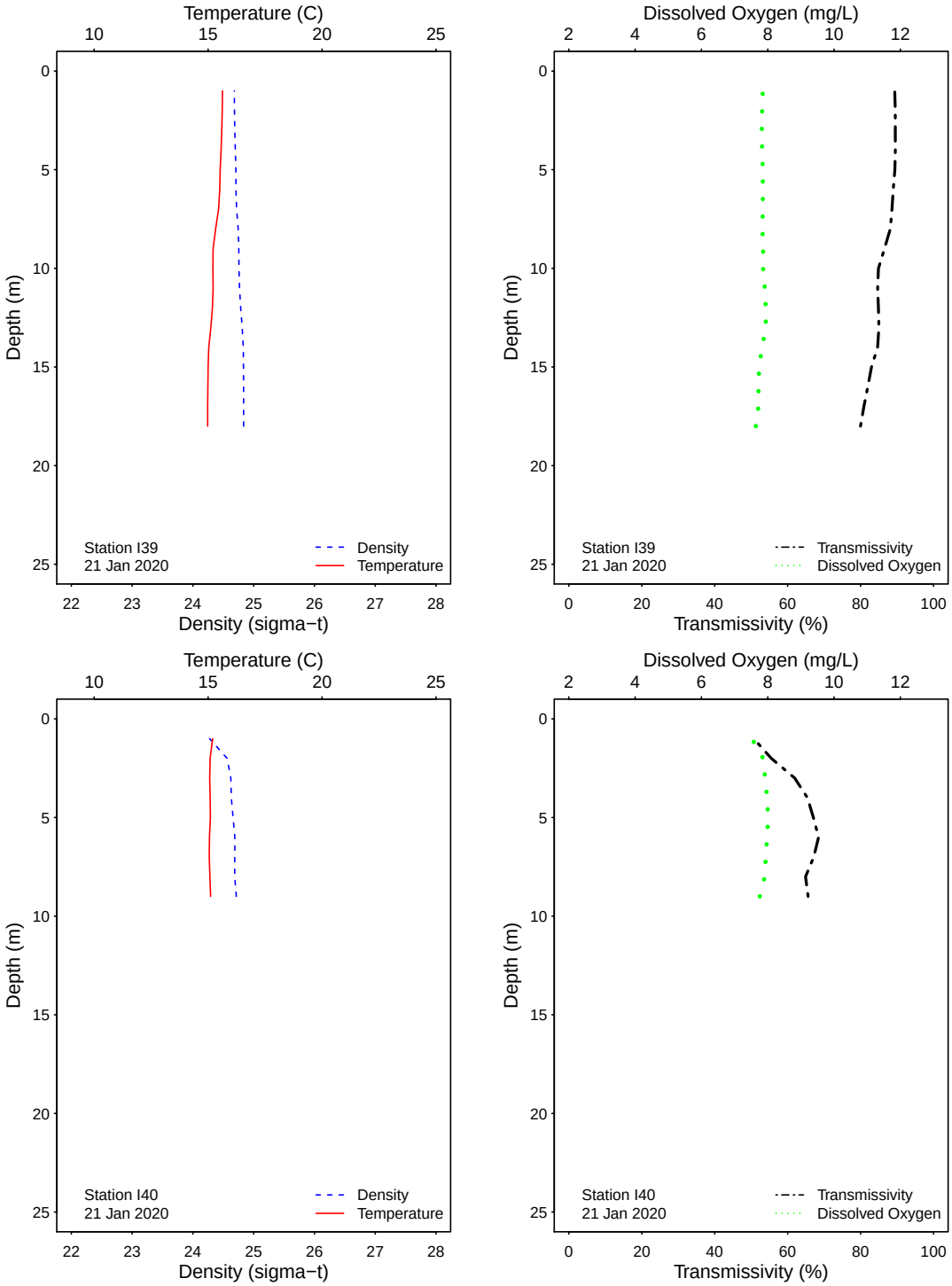

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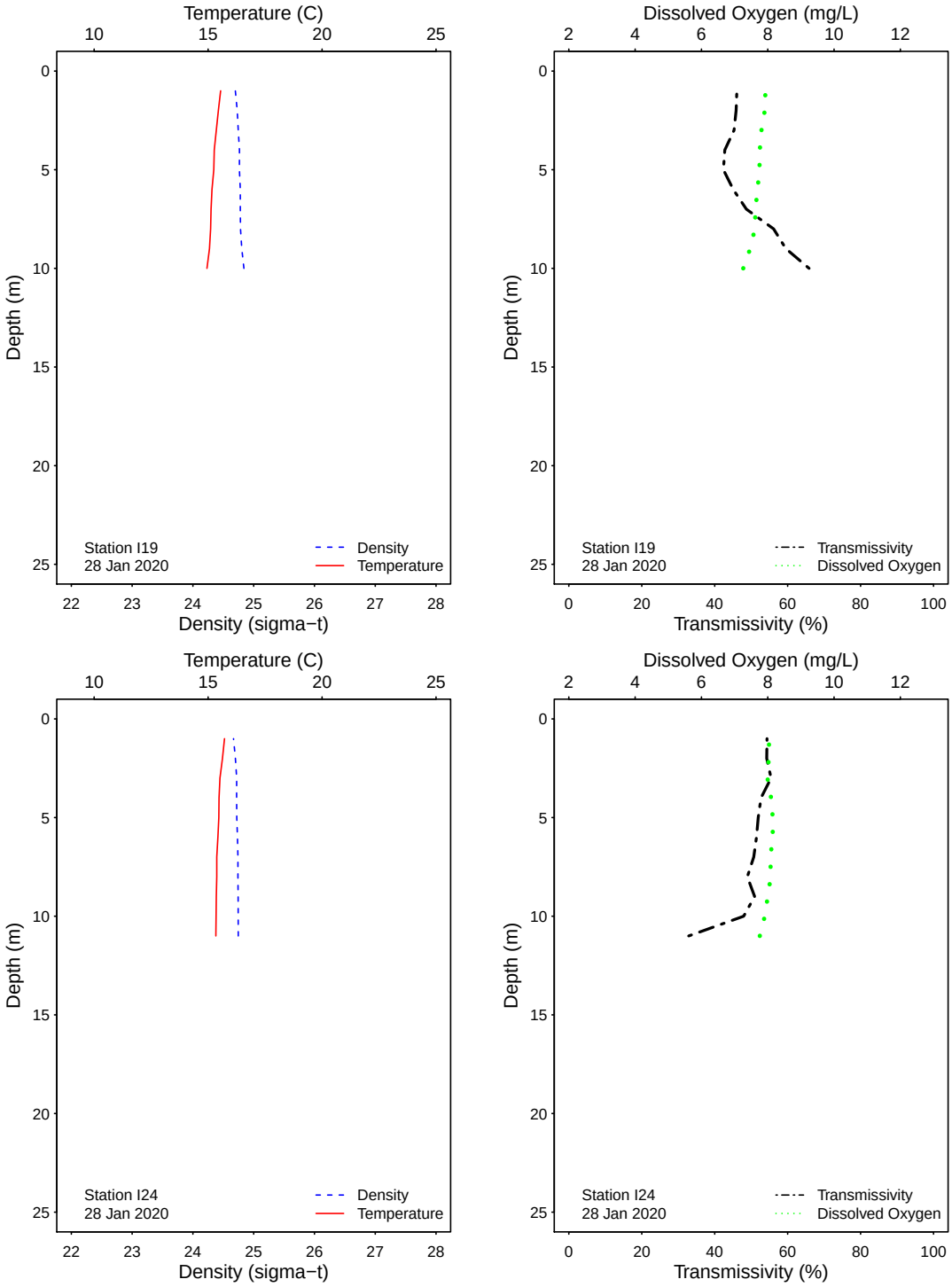

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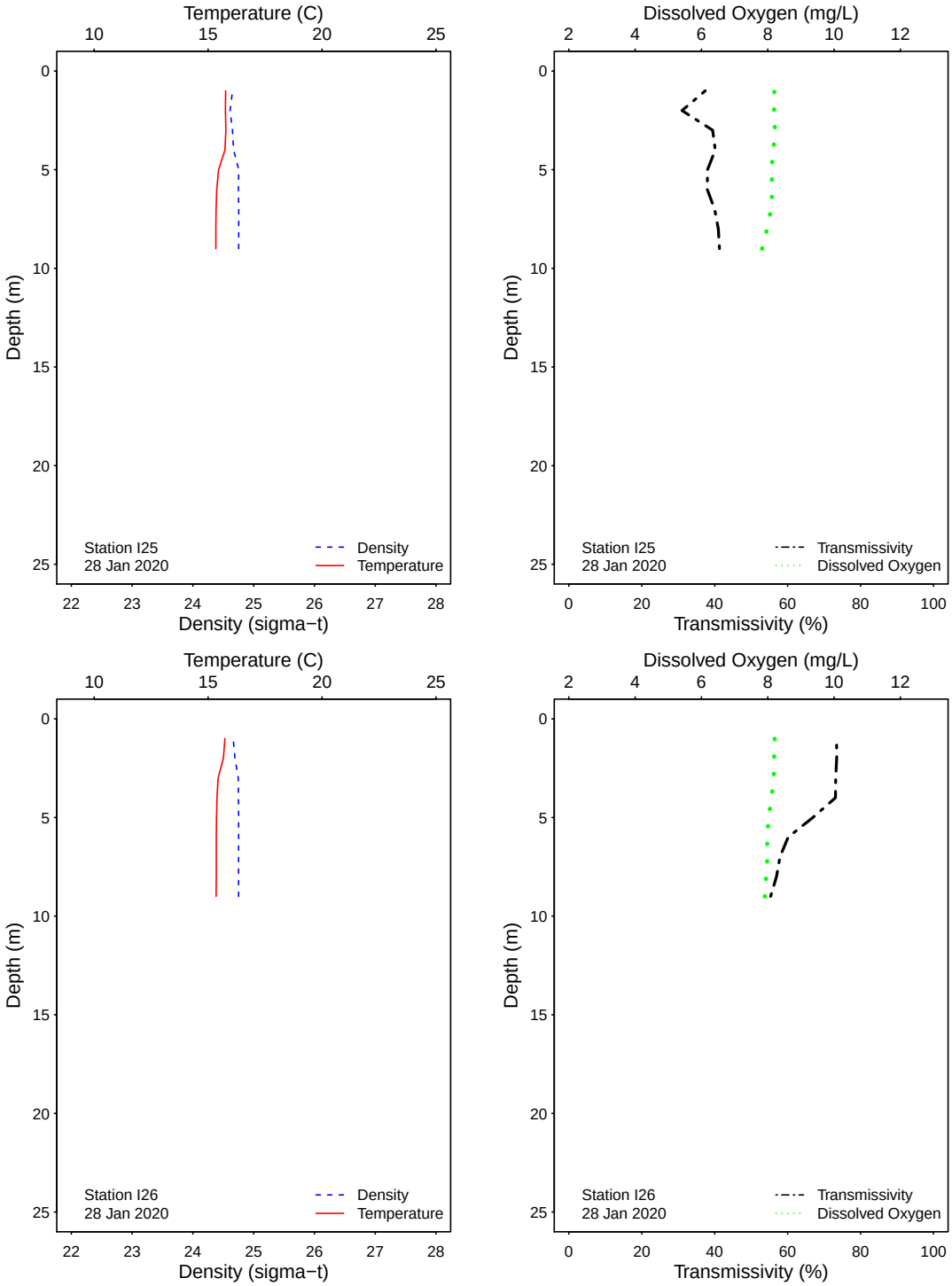

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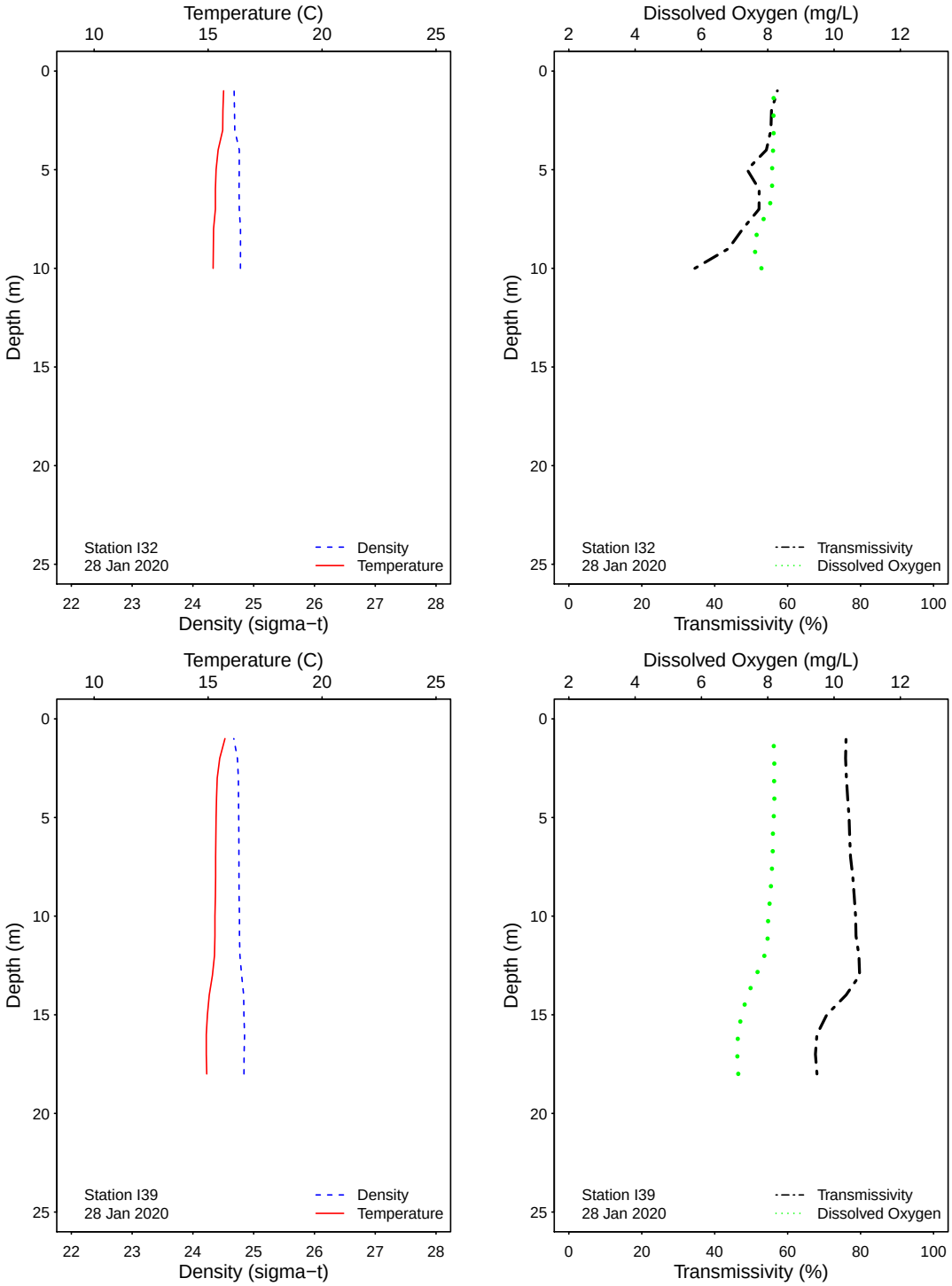

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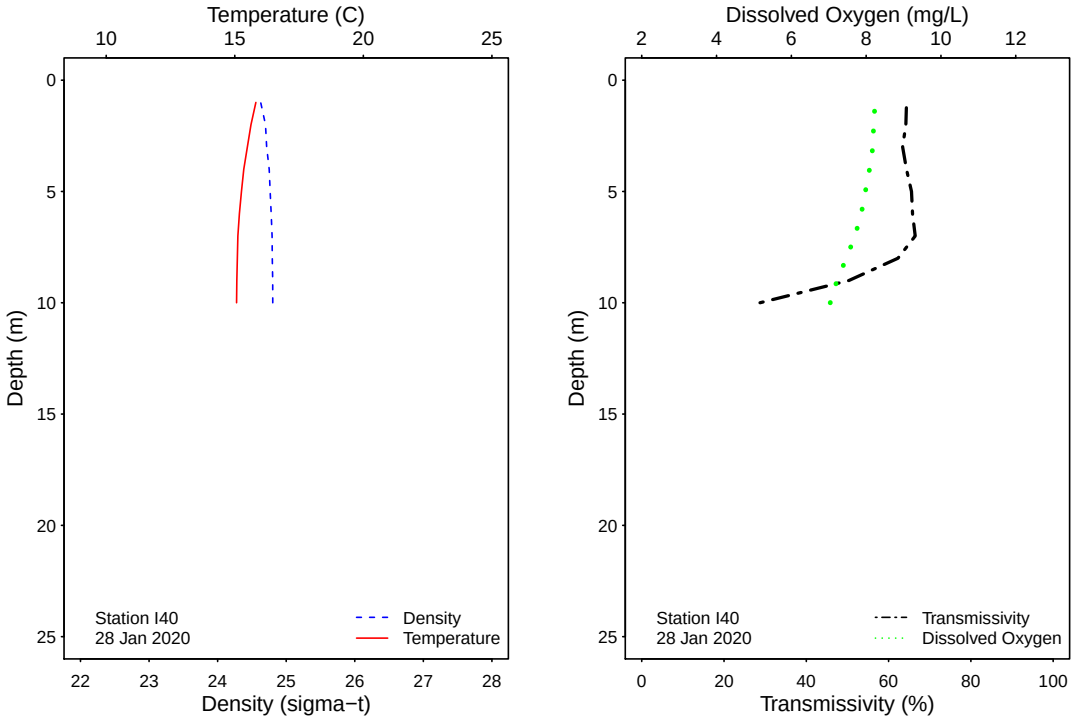

Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

APPENDIX A

Quality Assurance

Table A.1

Summary of bacteriological quality assurance field and lab duplicate sample analyses at selected SBOO 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
I19	02 Jan 2020	6	BS	LAB DUPLICATE	2200e	360e	180e
I19	07 Jan 2020	6	JF	LAB DUPLICATE	7800	2200e	360e
I19	13 Jan 2020	6	BS	LAB DUPLICATE	9000	2800e	320e
I19	21 Jan 2020	6	AE	LAB DUPLICATE	900	180e	76
I19	28 Jan 2020	6	AE	LAB DUPLICATE	1400e	560	220e
I40	02 Jan 2020	6	AE	LAB DUPLICATE	2800e	540	140e
I40	07 Jan 2020	6	JF	LAB DUPLICATE	540	54	20e
I40	13 Jan 2020	6	AR	LAB DUPLICATE	5400	760	180e
I40	21 Jan 2020	6	AE	LAB DUPLICATE	11000	1800e	520
I40	28 Jan 2020	6	BS	LAB DUPLICATE	12e	<2	<2
S12	07 Jan 2020		JF	FIELD DUPLICATE	<2	<2	2e
S12	07 Jan 2020		JF	LAB DUPLICATE	<2	<2	<2
S12	14 Jan 2020		BS	FIELD DUPLICATE	<2	<2	<2
S12	14 Jan 2020		BS	LAB DUPLICATE	2e	<2	6e
S12	21 Jan 2020		BS	FIELD DUPLICATE	6e	<2	2e
S12	21 Jan 2020		BS	LAB DUPLICATE	6e	2e	2e
S12	28 Jan 2020		AE	FIELD DUPLICATE	<20	<2	<2
S12	28 Jan 2020		AE	LAB DUPLICATE	<20	<2	2e

ns = not sampled
ND = no data

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