SD Public Utilities

MONTHLY RECEIVING WATERS MONITORING REPORT FOR THE SOUTH BAY OCEAN OUTFALL

SOUTH BAY WATER RECLAMATION PLANT

NPDES PERMIT NO. CA 0109045
SDRWQCB Order No. R9-2013-0006

DECEMBER 2016

Environmental Monitoring and Technical Services
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CERTIFIED
Public Utilities Department
Continual Improvement, Prevention of Pollution, Regulatory Compliance
ISO 14001

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

January 30, 2017

David 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 December 2016 Monthly Receiving Waters Monitoring Report for the South Bay Ocean Outfall, South Bay Water Reclamation Plant as required per Order No. R9-2013-0006, NPDES Permit No. CA0109045.

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, 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 Director, Public Utilities Department

TDS/asb

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

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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, NPDES Permit No. CA0109045, for the South Bay Water Reclamation Plant (SBWRP), South Bay Ocean Outfall (SBOO). Order No. R9-2013-0006 superseded Order No. R9-2006-0067 effective April 4, 2013. 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 five 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 of eight 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, suspended solids, and oil and grease analyses were typically 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:

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

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

[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) is used to statistically compare both the results from the laboratory duplicates, as well as the results from the field duplicates. These data will be further analyzed in the City's 2016 Quality Assurance Report, which will be completed in March 2017.

SUMMARY OF RESULTS

- **Shoreline Water Quality Sampling**
  - Because of site access restrictions in Mexico, the South Bay shoreline sampling is carried out on the same day each week (i.e., Tuesday) in order 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 IBWC 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.
  - During December, two of the eight shore stations located north of the border were out of compliance with various California Ocean Plan (Ocean Plan) water contact standards (see below); these standards do not apply to stations located in Mexican waters.
    - The 30-day geometric mean standards for total coliform bacteria, fecal coliform bacteria, and *Enterococcus* were each exceeded at station S5 on one or more days during the month.
    - The single sample maximum (SSM) standards for total coliform bacteria, fecal coliform bacteria, and the standard that states total coliform densities shall not

exceed 1000 CFU/100 mL when the fecal:total ratio exceeds 0.1 were each exceeded at station S5 on one or more days during the month.
        - The SSM standard for *Enterococcus* was exceeded at stations S5 and S6 on one or more days during the month.
        - 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 at stations S0 and S3 on multiple days during the month.
    - Historical analyses of Ocean Plan compliance rates for the South Bay outfall shoreline 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 *South Bay Ocean Outfall Annual Receiving Waters Monitoring and Assessment Report* for details (http://www.sandiego.gov/mwwd/environment/oceanmonitor/reports/index.shtml).
    - Notable visual observations for December included: a sewage-like odor at stations S5 and S10 on one or more days during the month, and storm drain run-off at station S0 on multiple days during the month.

- **Kelp Bed Water Quality Sampling**
    - The seven kelp bed water quality stations (I19, I24, I25, I26, I32, I39, I40) were sampled five times during December (i.e. December 1, 5, 13, 17, 20).
    - During December, two of the seven stations were out of compliance with various Ocean Plan water contact standards (see below).
        - The SSM standards for total coliform bacteria, fecal coliform bacteria, and *Enterococcus* were each exceeded at station I19 on December 17 and at station I25 on December 1.
        - 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 station I25 on December 1.
    - Water column temperatures ranged from 13.60 to 15.88°C. The difference between surface and bottom waters ranged from approximately 0.04 to 1.70°C, indicating the water column was stratified at some of these sites during the month.
    - Chlorophyll *a* concentrations ranged from 0.73 to 7.83 µg/L at these stations, suggesting the presence of phytoplankton blooms during the month.
    - Nothing of sewage origin was observed at any of the kelp bed stations.

- **Offshore Water Quality Sampling**
    - Quarterly sampling was not conducted during December at the offshore stations. The next quarterly sampling is scheduled for February 2017.

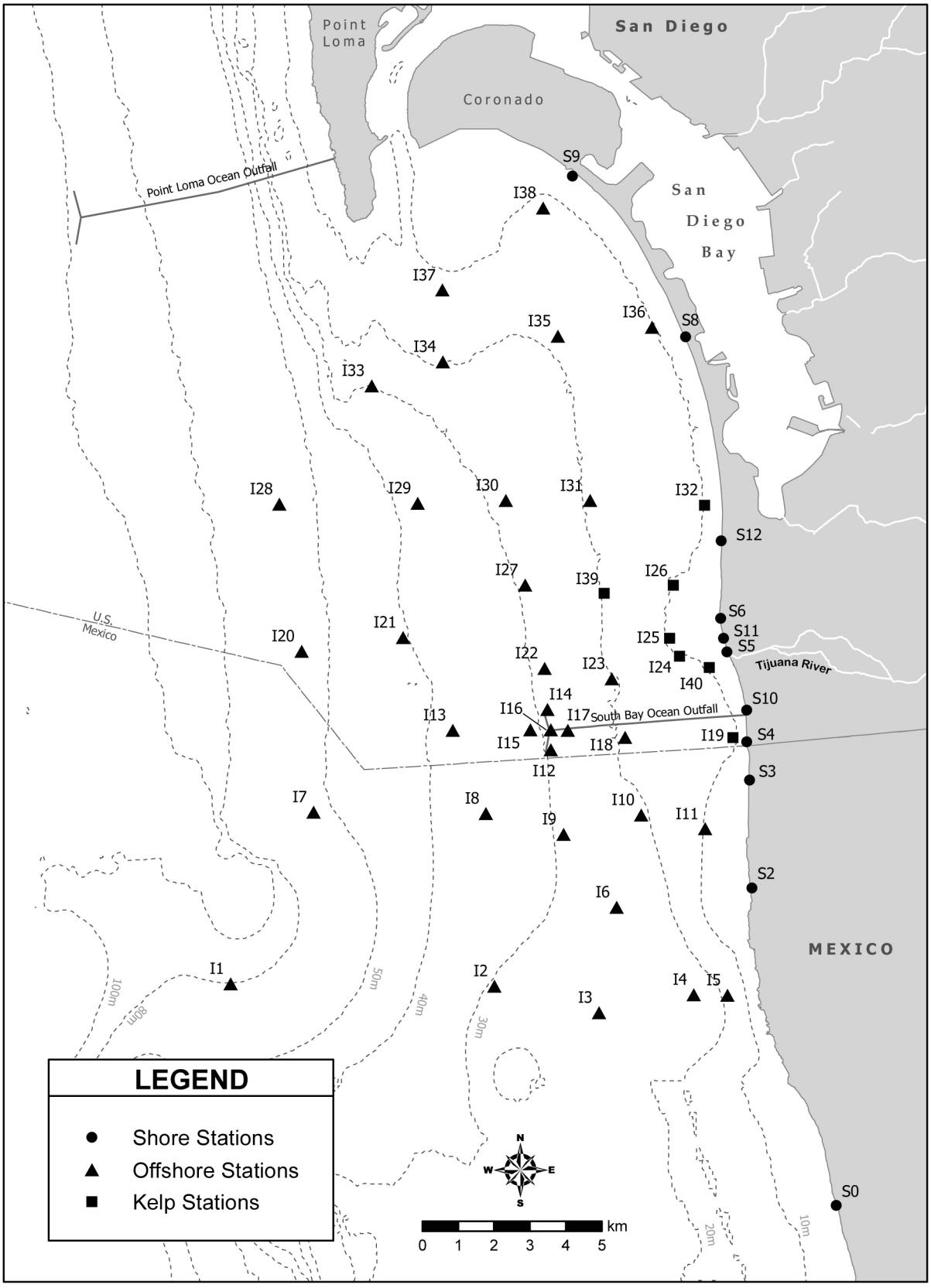

Figure 1.1 Station Map

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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 Dec 2016	56*	468	13*	11*	13*	238	11*	20*
02 Dec 2016	56*	468	13*	11*	13*	238	11*	20*
03 Dec 2016	56*	468	13*	11*	13*	238	11*	20*
04 Dec 2016	56*	468	13*	11*	13*	238	11*	20*
05 Dec 2016	56*	468	13*	11*	13*	238	11*	20*
06 Dec 2016	97	775	21	8	9	340	18	32
07 Dec 2016	97	775	21	8	9	340	18	32
08 Dec 2016	255*	1553	21*	11*	11*	599	18*	36*
09 Dec 2016	255*	1373	21*	11*	11*	599	18*	36*
10 Dec 2016	255*	1373	21*	11*	11*	599	18*	36*
11 Dec 2016	255*	1373	21*	11*	11*	599	18*	36*
12 Dec 2016	255*	1373	21*	11*	11*	599	18*	36*
13 Dec 2016	153	858	19	13	13	278	11	23
14 Dec 2016	153	858	19	13	13	278	11	23
15 Dec 2016	453*	1831	34*	11*	11*	746	18*	24*
16 Dec 2016	453*	1831	34*	11*	11*	746	18*	24*
17 Dec 2016	453*	1831	34*	11*	11*	746	18*	24*
18 Dec 2016	453*	1831	34*	11*	11*	746	18*	24*
19 Dec 2016	453*	1831	34*	11*	11*	746	18*	24*
20 Dec 2016	513	2257	28	8	13	754	13	17
21 Dec 2016	513	2257	28	8	13	754	13	17
22 Dec 2016	249*	2257	30*	6*	11*	410	12*	16*
23 Dec 2016	249*	1767	30*	6*	11*	328*	12*	16*
24 Dec 2016	249*	1992	30*	6*	11*	328*	12*	16*
25 Dec 2016	249*	1721	30*	6*	11*	328*	12*	16*
26 Dec 2016	249*	2205	30*	6*	11*	328*	12*	16*
27 Dec 2016	198	2689	47	10	14	303	22	19
28 Dec 2016	198	2689	47	10	14	303	22	19
29 Dec 2016	185*	3425	49*	8*	13*	214*	23*	19*
30 Dec 2016	185*	3425	49*	8*	13*	214*	23*	19*
31 Dec 2016	185*	3425	49*	8*	13*	214*	23*	19*

* 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 Dec 2016	10*	127	2*	2*	2*	41	2*	2*
02 Dec 2016	10*	127	2*	2*	2*	41	2*	2*
03 Dec 2016	10*	127	2*	2*	2*	41	2*	2*
04 Dec 2016	10*	127	2*	2*	2*	41	2*	2*
05 Dec 2016	10*	127	2*	2*	2*	41	2*	2*
06 Dec 2016	16	193	3	2	2	53	3	3
07 Dec 2016	16	193	3	2	2	53	3	3
08 Dec 2016	28*	395	3*	2*	2*	101	3*	3*
09 Dec 2016	28*	278	3*	2*	2*	101	3*	3*
10 Dec 2016	28*	278	3*	2*	2*	101	3*	3*
11 Dec 2016	28*	278	3*	2*	2*	101	3*	3*
12 Dec 2016	28*	278	3*	2*	2*	101	3*	3*
13 Dec 2016	19	161	3	2	2	53	3	3
14 Dec 2016	19	161	3	2	2	53	3	3
15 Dec 2016	33*	278	3*	2*	2*	101	3*	3*
16 Dec 2016	33*	278	3*	2*	2*	101	3*	3*
17 Dec 2016	33*	278	3*	2*	2*	101	3*	3*
18 Dec 2016	33*	278	3*	2*	2*	101	3*	3*
19 Dec 2016	33*	278	3*	2*	2*	101	3*	3*
20 Dec 2016	29	299	4	2	2	83	3	3
21 Dec 2016	29	299	4	2	2	83	3	3
22 Dec 2016	15*	299	4*	2*	3*	37	3*	3*
23 Dec 2016	15*	189	4*	2*	3*	25*	3*	3*
24 Dec 2016	15*	214	4*	2*	3*	25*	3*	3*
25 Dec 2016	15*	205	4*	2*	3*	25*	3*	3*
26 Dec 2016	15*	310	4*	2*	3*	25*	3*	3*
27 Dec 2016	16	404	6	2	2	17	5	3
28 Dec 2016	16	404	6	2	2	17	5	3
29 Dec 2016	20*	482	8*	2*	3*	14*	7*	4*
30 Dec 2016	20*	482	8*	2*	3*	14*	7*	4*
31 Dec 2016	20*	482	8*	2*	3*	14*	7*	4*

* 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 Dec 2016	14	71	2*	4*	4*	17	3*	4*
02 Dec 2016	14	71	2*	4*	4*	17	3*	4*
03 Dec 2016	14	71	2*	4*	4*	17	3*	4*
04 Dec 2016	14	71	2*	4*	4*	17	3*	4*
05 Dec 2016	14	71	2*	4*	4*	17	3*	4*
06 Dec 2016	16	97	2	3	4	21	3	4
07 Dec 2016	16	97	2	3	4	21	3	4
08 Dec 2016	25	143	3*	4*	4*	34	3*	5*
09 Dec 2016	25	143	3*	4*	4*	34	3*	5*
10 Dec 2016	25	143	3*	4*	4*	34	3*	5*
11 Dec 2016	25	143	3*	4*	4*	34	3*	5*
12 Dec 2016	25	143	3*	4*	4*	34	3*	5*
13 Dec 2016	16	84	2	3	4	21	3	5
14 Dec 2016	16	84	2	3	4	21	3	5
15 Dec 2016	17	143	3*	4*	3*	34	3*	5*
16 Dec 2016	17	143	3*	4*	3*	34	3*	5*
17 Dec 2016	17	143	3*	4*	3*	34	3*	5*
18 Dec 2016	17	143	3*	4*	3*	34	3*	5*
19 Dec 2016	17	143	3*	4*	3*	34	3*	5*
20 Dec 2016	17	140	2	3	3	29	3	4
21 Dec 2016	17	140	2	3	3	29	3	4
22 Dec 2016	9	140	3*	4*	2*	11	3*	5*
23 Dec 2016	7*	80	3*	4*	2*	11*	3*	5*
24 Dec 2016	7*	114	3*	4*	2*	11*	3*	5*
25 Dec 2016	7*	122	3*	4*	2*	11*	3*	5*
26 Dec 2016	7*	217	3*	4*	2*	11*	3*	5*
27 Dec 2016	11	307	6	4	3	17	7	7
28 Dec 2016	11	307	6	4	3	17	7	7
29 Dec 2016	18*	432	7	3*	3*	20*	7*	6*
30 Dec 2016	18*	521	7	3*	3*	20*	7*	6*
31 Dec 2016	18*	521	7	3*	3*	20*	7*	6*

* 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
06 Dec 2016	IC	E	IC	IC	IC	IC	IC	IC
08 Dec 2016	ns	IC	ns	ns	ns	ns	ns	ns
09 Dec 2016	ns	IC	ns	ns	ns	ns	ns	ns
13 Dec 2016	IC	IC	IC	IC	IC	IC	IC	IC
20 Dec 2016	IC	E	IC	IC	IC	IC	IC	IC
22 Dec 2016	ns	E	ns	ns	ns	ns	ns	ns
24 Dec 2016	ns	IC	ns	ns	ns	ns	ns	ns
26 Dec 2016	ns	E	ns	ns	ns	ns	ns	ns
27 Dec 2016	IC	E	IC	IC	IC	IC	IC	IC
29 Dec 2016	ns	IC	ns	ns	ns	ns	ns	ns

IC = In Compliance
E = Exceedance
ns = not sampled

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
06 Dec 2016	IC	E	IC	IC	IC	IC	IC	IC
08 Dec 2016	ns	IC	ns	ns	ns	ns	ns	ns
09 Dec 2016	ns	IC	ns	ns	ns	ns	ns	ns
13 Dec 2016	IC	IC	IC	IC	IC	IC	IC	IC
20 Dec 2016	IC	E	IC	IC	IC	IC	IC	IC
22 Dec 2016	ns	E	ns	ns	ns	ns	ns	ns
24 Dec 2016	ns	E	ns	ns	ns	ns	ns	ns
26 Dec 2016	ns	E	ns	ns	ns	ns	ns	ns
27 Dec 2016	IC	E	IC	IC	IC	IC	IC	IC
29 Dec 2016	ns	IC	ns	ns	ns	ns	ns	ns

IC = In Compliance
E = Exceedance
ns = not sampled

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
06 Dec 2016	IC	E	IC	IC	IC	IC	IC	IC
08 Dec 2016	ns	IC	ns	ns	ns	ns	ns	ns
13 Dec 2016	IC	IC	IC	IC	IC	IC	IC	IC
20 Dec 2016	IC	E	IC	IC	IC	IC	IC	IC
22 Dec 2016	ns	E	ns	ns	ns	ns	ns	ns
24 Dec 2016	ns	E	ns	ns	ns	ns	ns	ns
26 Dec 2016	ns	E	ns	ns	ns	ns	ns	ns
27 Dec 2016	IC	E	E	IC	IC	IC	IC	IC
29 Dec 2016	ns	E	IC	ns	ns	ns	ns	ns
30 Dec 2016	ns	E	ns	ns	ns	ns	ns	ns

IC = In Compliance
E = Exceedance
ns = not sampled

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
06 Dec 2016	IC	E	IC	IC	IC	IC	IC	IC
08 Dec 2016	ns	E	ns	ns	ns	ns	ns	ns
09 Dec 2016	ns	IC	ns	ns	ns	ns	ns	ns
13 Dec 2016	IC	IC	IC	IC	IC	IC	IC	IC
20 Dec 2016	IC	IC	IC	IC	IC	IC	IC	IC
22 Dec 2016	ns	E	ns	ns	ns	ns	ns	ns
24 Dec 2016	ns	E	ns	ns	ns	ns	ns	ns
26 Dec 2016	ns	E	ns	ns	ns	ns	ns	ns
27 Dec 2016	IC	E	IC	IC	IC	IC	IC	IC
29 Dec 2016	ns	IC	ns	ns	ns	ns	ns	ns

IC = In Compliance
E = Exceedance
ns = not sampled

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	06 Dec 2016	1110	800	62	110	0.08
S0	13 Dec 2016	1040	660	50	32e	0.08
S0	20 Dec 2016	1022	400	48	44	0.12
S0	27 Dec 2016	1115	740	62	320e	0.08
S2	06 Dec 2016	1255	580	40	82	0.07
S2	13 Dec 2016	1220	60e	12e	2e	0.20
S2	20 Dec 2016	1150	320e	32e	14e	0.10
S2	27 Dec 2016	1250	40e	2e	54	0.05
S3	06 Dec 2016	1200	600	86	28e	0.14
S3	13 Dec 2016	1130	4e	<2	<2	0.50
S3	20 Dec 2016	1105	800e	70	12e	0.09
S3	27 Dec 2016	1200	120e	20e	120e	0.17
S4	06 Dec 2016	931	880	120	38e	0.14
S4	13 Dec 2016	838	<20	4e	2e	0.20
S4	20 Dec 2016	1149	840	18e	18e	0.02
S4	27 Dec 2016	1246	80e	18e	70	0.22
S5	06 Dec 2016	822	>16000	2400e	600e	0.15
S5	08 Dec 2016	1059	2600e	300e	30e	0.12
S5	09 Dec 2016	1018	580	24e	ns	0.04
S5	13 Dec 2016	1017	<20	<2	<2	0.10
S5	20 Dec 2016	1005	>=12000	540	120	0.04
S5	22 Dec 2016	942	>16000	>12000	>12000	0.75
S5	24 Dec 2016	915	5200	580	1300e	0.11
S5	26 Dec 2016	1315	>16000	8400	>12000	0.52
S5	27 Dec 2016	1039	>16000	4400	5000	0.28
S5	29 Dec 2016	851	1800e	140e	130e	0.08
S5	30 Dec 2016	1306	ns	ns	2800e	ns
S6	06 Dec 2016	807	120e	18e	6e	0.15
S6	13 Dec 2016	1007	14e	2e	<2	0.14
S6	20 Dec 2016	951	12e	4e	<2	0.33
S6	27 Dec 2016	1023	280e	32e	110	0.11
S6	29 Dec 2016	1251	ns	ns	6e	ns
S8	06 Dec 2016	716	<2	<2	<2	1.00
S8	13 Dec 2016	1159	<20	<2	<2	0.10
S8	20 Dec 2016	851	2e	<2	<2	1.00
S8	27 Dec 2016	932	60e	4e	10e	0.07
S9	06 Dec 2016	655	<2	<2	<2	1.00
S9	13 Dec 2016	1247	20e	<2	2e	0.10
S9	20 Dec 2016	816	<20	6e	2e	0.30
S9	27 Dec 2016	840	40e	<2	10e	0.05
S10	06 Dec 2016	925	2000e	180e	64	0.09

Station	Date	Time	Total	Fecal	Entero	F:T
S10	13 Dec 2016	830	6e	<2	2e	0.33
S10	20 Dec 2016	1141	800e	30e	14e	0.04
S10	27 Dec 2016	1240	220e	4e	88	0.02
S11	06 Dec 2016	813	120e	10e	6e	0.08
S11	13 Dec 2016	1025	<2	<2	<2	1.00
S11	20 Dec 2016	956	4e	2e	<2	0.50
S11	27 Dec 2016	1030	280e	60	100e	0.21
S12	06 Dec 2016	750	220e	10e	4e	0.05
S12	13 Dec 2016	945	4e	<2	6e	0.50
S12	20 Dec 2016	933	4e	<2	<2	0.50
S12	27 Dec 2016	1010	40e	4e	22e	0.10

ns = not sampled
ND = no data

Comments

Station	Date	Depth	Parameter	Comments
S5	08 Dec 2016			Resample
S5	09 Dec 2016			Resample
S5	22 Dec 2016			Resample
S5	24 Dec 2016			Resample
S5	26 Dec 2016			Resample
S5	29 Dec 2016			Resample
S6	29 Dec 2016			Resample
S5	30 Dec 2016			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	06 Dec 2016	Arrive Time	1110
S0	06 Dec 2016	Weather	Sunny
S0	06 Dec 2016	Wind Speed (kts)	10.4
S0	06 Dec 2016	Wind Dir	NE
S0	06 Dec 2016	Animal Life	1 Dog
S0	06 Dec 2016	Floatables	None
S0	06 Dec 2016	Water Color	Green
S0	06 Dec 2016	Current Direction	S
S0	06 Dec 2016	Water Temp (C)	14
S0	06 Dec 2016	Wave Height Low (ft)	3.5
S0	06 Dec 2016	High Tide (ft)	4
S0	06 Dec 2016	High Tide Time	1309
S0	06 Dec 2016	Low Tide (ft)	2.7
S0	06 Dec 2016	Low Tide Time	754
S0	06 Dec 2016	Comments	Kelp; Algae; 1 Person; Water clear; Flow from storm drain approx 1.5L/sec
S0	13 Dec 2016	Arrive Time	1040
S0	13 Dec 2016	Weather	Sunny
S0	13 Dec 2016	Wind Speed (kts)	12.9
S0	13 Dec 2016	Wind Dir	NE
S0	13 Dec 2016	Animal Life	5 Shorebirds
S0	13 Dec 2016	Floatables	None
S0	13 Dec 2016	Water Color	Green
S0	13 Dec 2016	Current Direction	S
S0	13 Dec 2016	Water Temp (C)	15
S0	13 Dec 2016	Wave Height Low (ft)	2
S0	13 Dec 2016	High Tide (ft)	6.9
S0	13 Dec 2016	High Tide Time	744
S0	13 Dec 2016	Low Tide (ft)	-1.5
S0	13 Dec 2016	Low Tide Time	1452
S0	13 Dec 2016	Comments	Kelp; Seagrass; Algae; Debris; Water clear; Flow from storm drain approx 0.5L/sec
S0	20 Dec 2016	Arrive Time	1022
S0	20 Dec 2016	Weather	Sunny
S0	20 Dec 2016	Wind Speed (kts)	0.8
S0	20 Dec 2016	Wind Dir	SE
S0	20 Dec 2016	Animal Life	10 Shorebirds; 10 Dolphins
S0	20 Dec 2016	Floatables	None
S0	20 Dec 2016	Water Color	Green
S0	20 Dec 2016	Current Direction	N
S0	20 Dec 2016	Water Temp (C)	15
S0	20 Dec 2016	Wave Height Low (ft)	3
S0	20 Dec 2016	High Tide (ft)	3.6
S0	20 Dec 2016	High Tide Time	1401
S0	20 Dec 2016	Low Tide (ft)	2.2
S0	20 Dec 2016	Low Tide Time	847
S0	20 Dec 2016	Comments	Kelp; Algae; 3 Surfers; Water clear; Discharge from storm drain approx 0.5L/sec; ＞100 Ocean birds out beyond the surfline

Station	Date	Parameter	Value
S0	27 Dec 2016	Arrive Time	1115
S0	27 Dec 2016	Weather	Sunny
S0	27 Dec 2016	Wind Speed (kts)	2
S0	27 Dec 2016	Wind Dir	NW
S0	27 Dec 2016	Animal Life	5 Seagulls
S0	27 Dec 2016	Floatables	None
S0	27 Dec 2016	Water Color	Green
S0	27 Dec 2016	Current Direction	NW
S0	27 Dec 2016	Water Temp (C)	16
S0	27 Dec 2016	Wave Height Low (ft)	3
S0	27 Dec 2016	High Tide (ft)	5.7
S0	27 Dec 2016	High Tide Time	721
S0	27 Dec 2016	Low Tide (ft)	-0.5
S0	27 Dec 2016	Low Tide Time	1431
S0	27 Dec 2016	Comments	Kelp; Water clear; Flow from stormdrain 0.5L/sec
S2	06 Dec 2016	Arrive Time	1255
S2	06 Dec 2016	Weather	Sunny
S2	06 Dec 2016	Wind Speed (kts)	10.4
S2	06 Dec 2016	Wind Dir	NE
S2	06 Dec 2016	Animal Life	5 Shorebirds
S2	06 Dec 2016	Floatables	None
S2	06 Dec 2016	Water Color	Green
S2	06 Dec 2016	Current Direction	S
S2	06 Dec 2016	Water Temp (C)	14
S2	06 Dec 2016	Wave Height Low (ft)	3.5
S2	06 Dec 2016	High Tide (ft)	4
S2	06 Dec 2016	High Tide Time	1309
S2	06 Dec 2016	Low Tide (ft)	2.7
S2	06 Dec 2016	Low Tide Time	754
S2	06 Dec 2016	Comments	Kelp; Algae; Water clear; No flow from storm drain
S2	13 Dec 2016	Arrive Time	1220
S2	13 Dec 2016	Weather	Sunny
S2	13 Dec 2016	Wind Speed (kts)	14.3
S2	13 Dec 2016	Wind Dir	NE
S2	13 Dec 2016	Animal Life	5 Seagulls
S2	13 Dec 2016	Floatables	None
S2	13 Dec 2016	Water Color	Green
S2	13 Dec 2016	Current Direction	S
S2	13 Dec 2016	Water Temp (C)	15
S2	13 Dec 2016	Wave Height Low (ft)	2.5
S2	13 Dec 2016	High Tide (ft)	6.9
S2	13 Dec 2016	High Tide Time	744
S2	13 Dec 2016	Low Tide (ft)	-1.5
S2	13 Dec 2016	Low Tide Time	1452
S2	13 Dec 2016	Comments	1 Person; Water clear
S2	20 Dec 2016	Arrive Time	1150
S2	20 Dec 2016	Weather	Sunny
S2	20 Dec 2016	Wind Speed (kts)	0.7
S2	20 Dec 2016	Wind Dir	SE
S2	20 Dec 2016	Animal Life	5 Shorebirds; 1 Seal
S2	20 Dec 2016	Floatables	None
S2	20 Dec 2016	Water Color	Green

Station	Date	Parameter	Value
S2	20 Dec 2016	Current Direction	N
S2	20 Dec 2016	Water Temp (C)	15
S2	20 Dec 2016	Wave Height Low (ft)	3
S2	20 Dec 2016	High Tide (ft)	3.6
S2	20 Dec 2016	High Tide Time	1401
S2	20 Dec 2016	Low Tide (ft)	2.2
S2	20 Dec 2016	Low Tide Time	847
S2	20 Dec 2016	Comments	Kelp; Algae; Water clear; No flow from storm drain
S2	27 Dec 2016	Arrive Time	1250
S2	27 Dec 2016	Weather	Sunny
S2	27 Dec 2016	Wind Speed (kts)	2.6
S2	27 Dec 2016	Wind Dir	NW
S2	27 Dec 2016	Animal Life	1 Dog; ＞15 Seagulls
S2	27 Dec 2016	Floatables	None
S2	27 Dec 2016	Water Color	Green
S2	27 Dec 2016	Current Direction	NW
S2	27 Dec 2016	Water Temp (C)	16
S2	27 Dec 2016	Wave Height Low (ft)	3
S2	27 Dec 2016	High Tide (ft)	5.7
S2	27 Dec 2016	High Tide Time	721
S2	27 Dec 2016	Low Tide (ft)	-0.5
S2	27 Dec 2016	Low Tide Time	1431
S2	27 Dec 2016	Comments	Kelp; 5 Persons; Water clear; No flow from stormdrain
S3	06 Dec 2016	Arrive Time	1200
S3	06 Dec 2016	Weather	Sunny
S3	06 Dec 2016	Wind Speed (kts)	11.4
S3	06 Dec 2016	Wind Dir	NE
S3	06 Dec 2016	Animal Life	None
S3	06 Dec 2016	Floatables	None
S3	06 Dec 2016	Water Color	Green
S3	06 Dec 2016	Current Direction	S
S3	06 Dec 2016	Water Temp (C)	3.5
S3	06 Dec 2016	Wave Height Low (ft)	2
S3	06 Dec 2016	High Tide (ft)	4
S3	06 Dec 2016	High Tide Time	1309
S3	06 Dec 2016	Low Tide (ft)	2.7
S3	06 Dec 2016	Low Tide Time	754
S3	06 Dec 2016	Comments	Kelp; Algae; Water clear; No flow from storm drain
S3	13 Dec 2016	Arrive Time	1130
S3	13 Dec 2016	Weather	Sunny
S3	13 Dec 2016	Wind Speed (kts)	8.6
S3	13 Dec 2016	Wind Dir	NE
S3	13 Dec 2016	Animal Life	None
S3	13 Dec 2016	Floatables	None
S3	13 Dec 2016	Water Color	Green
S3	13 Dec 2016	Current Direction	S
S3	13 Dec 2016	Water Temp (C)	15
S3	13 Dec 2016	Wave Height Low (ft)	1.5
S3	13 Dec 2016	High Tide (ft)	6.9
S3	13 Dec 2016	High Tide Time	744
S3	13 Dec 2016	Low Tide (ft)	-1.5
S3	13 Dec 2016	Low Tide Time	1452

Station	Date	Parameter	Value
S3	13 Dec 2016	Comments	Kelp; Algae; 5 Persons; Water clear; No flow from storm drain
S3	20 Dec 2016	Arrive Time	1105
S3	20 Dec 2016	Weather	Sunny
S3	20 Dec 2016	Wind Speed (kts)	1.7
S3	20 Dec 2016	Wind Dir	SE
S3	20 Dec 2016	Animal Life	5 Shorebirds
S3	20 Dec 2016	Floatables	None
S3	20 Dec 2016	Water Color	Green
S3	20 Dec 2016	Current Direction	N
S3	20 Dec 2016	Water Temp (C)	15
S3	20 Dec 2016	Wave Height Low (ft)	4
S3	20 Dec 2016	High Tide (ft)	3.6
S3	20 Dec 2016	High Tide Time	1401
S3	20 Dec 2016	Low Tide (ft)	2.2
S3	20 Dec 2016	Low Tide Time	847
S3	20 Dec 2016	Comments	Kelp; Algae; 6 Persons; Water clear; No flow from storm drain
S3	27 Dec 2016	Arrive Time	1200
S3	27 Dec 2016	Weather	Sunny
S3	27 Dec 2016	Wind Speed (kts)	2.5
S3	27 Dec 2016	Wind Dir	NW
S3	27 Dec 2016	Animal Life	2 Dogs; >20 Seagulls
S3	27 Dec 2016	Floatables	None
S3	27 Dec 2016	Water Color	Green
S3	27 Dec 2016	Current Direction	NW
S3	27 Dec 2016	Water Temp (C)	16
S3	27 Dec 2016	Wave Height Low (ft)	3
S3	27 Dec 2016	High Tide (ft)	5.7
S3	27 Dec 2016	High Tide Time	721
S3	27 Dec 2016	Low Tide (ft)	-0.5
S3	27 Dec 2016	Low Tide Time	1431
S3	27 Dec 2016	Comments	Kelp; >10 Persons; Water clear; No flow from stormdrain
S4	06 Dec 2016	Arrive Time	931
S4	06 Dec 2016	Weather	Cloudy
S4	06 Dec 2016	Wind Speed (kts)	4.6
S4	06 Dec 2016	Wind Dir	S
S4	06 Dec 2016	Animal Life	None
S4	06 Dec 2016	Floatables	None
S4	06 Dec 2016	Water Color	Green
S4	06 Dec 2016	Current Direction	N
S4	06 Dec 2016	Water Temp (C)	15.4
S4	06 Dec 2016	Wave Height Low (ft)	2
S4	06 Dec 2016	High Tide (ft)	4
S4	06 Dec 2016	High Tide Time	1309
S4	06 Dec 2016	Low Tide (ft)	2.7
S4	06 Dec 2016	Low Tide Time	754
S4	06 Dec 2016	Comments	Water clear
S4	13 Dec 2016	Arrive Time	838
S4	13 Dec 2016	Weather	Sunny
S4	13 Dec 2016	Wind Speed (kts)	2.9
S4	13 Dec 2016	Wind Dir	NE
S4	13 Dec 2016	Animal Life	None

Station	Date	Parameter	Value
S4	13 Dec 2016	Floatables	None
S4	13 Dec 2016	Water Color	Green
S4	13 Dec 2016	Current Direction	N
S4	13 Dec 2016	Water Temp (C)	15.8
S4	13 Dec 2016	Wave Height Low (ft)	2
S4	13 Dec 2016	High Tide (ft)	6.9
S4	13 Dec 2016	High Tide Time	744
S4	13 Dec 2016	Low Tide (ft)	-1.5
S4	13 Dec 2016	Low Tide Time	1452
S4	13 Dec 2016	Comments	Kelp; Water clear
S4	20 Dec 2016	Arrive Time	1149
S4	20 Dec 2016	Weather	Sunny
S4	20 Dec 2016	Wind Speed (kts)	2.1
S4	20 Dec 2016	Wind Dir	W
S4	20 Dec 2016	Animal Life	None
S4	20 Dec 2016	Floatables	None
S4	20 Dec 2016	Water Color	Green
S4	20 Dec 2016	Current Direction	N
S4	20 Dec 2016	Water Temp (C)	15.6
S4	20 Dec 2016	Wave Height Low (ft)	4
S4	20 Dec 2016	High Tide (ft)	3.6
S4	20 Dec 2016	High Tide Time	1401
S4	20 Dec 2016	Low Tide (ft)	2.2
S4	20 Dec 2016	Low Tide Time	847
S4	20 Dec 2016	Comments	Kelp; Seagrass; Water clear
S4	27 Dec 2016	Arrive Time	1246
S4	27 Dec 2016	Weather	Sunny
S4	27 Dec 2016	Wind Speed (kts)	3.8
S4	27 Dec 2016	Wind Dir	N
S4	27 Dec 2016	Animal Life	None
S4	27 Dec 2016	Floatables	None
S4	27 Dec 2016	Water Color	Green
S4	27 Dec 2016	Current Direction	N
S4	27 Dec 2016	Water Temp (C)	14.6
S4	27 Dec 2016	Wave Height Low (ft)	1
S4	27 Dec 2016	High Tide (ft)	5.7
S4	27 Dec 2016	High Tide Time	721
S4	27 Dec 2016	Low Tide (ft)	-0.5
S4	27 Dec 2016	Low Tide Time	1431
S4	27 Dec 2016	Comments	Water clear
S5	06 Dec 2016	Arrive Time	822
S5	06 Dec 2016	Weather	Cloudy
S5	06 Dec 2016	Wind Speed (kts)	2.3
S5	06 Dec 2016	Wind Dir	SW
S5	06 Dec 2016	Animal Life	None
S5	06 Dec 2016	Floatables	None
S5	06 Dec 2016	Water Color	Green
S5	06 Dec 2016	Current Direction	N
S5	06 Dec 2016	Water Temp (C)	15.4
S5	06 Dec 2016	Wave Height Low (ft)	1
S5	06 Dec 2016	High Tide (ft)	4
S5	06 Dec 2016	High Tide Time	1309

Station	Date	Parameter	Value
S5	06 Dec 2016	Low Tide (ft)	2.7
S5	06 Dec 2016	Low Tide Time	754
S5	06 Dec 2016	Comments	Sewage-like odor; Water clear
S5	08 Dec 2016	Arrive Time	1059
S5	08 Dec 2016	Weather	Sunny
S5	08 Dec 2016	Wind Speed (kts)	5.2
S5	08 Dec 2016	Wind Dir	W
S5	08 Dec 2016	Animal Life	None
S5	08 Dec 2016	Floatables	None
S5	08 Dec 2016	Water Color	Green
S5	08 Dec 2016	Current Direction	N
S5	08 Dec 2016	Water Temp (C)	15.6
S5	08 Dec 2016	Wave Height Low (ft)	2
S5	08 Dec 2016	High Tide (ft)	3.7
S5	08 Dec 2016	High Tide Time	1614
S5	08 Dec 2016	Low Tide (ft)	1.6
S5	08 Dec 2016	Low Tide Time	1044
S5	08 Dec 2016	Comments	Sewage-like odor; Water clear
S5	09 Dec 2016	Arrive Time	1018
S5	09 Dec 2016	Weather	Partly Cloudy
S5	09 Dec 2016	Wind Speed (kts)	3.6
S5	09 Dec 2016	Wind Dir	N
S5	09 Dec 2016	Animal Life	None
S5	09 Dec 2016	Floatables	None
S5	09 Dec 2016	Water Color	Green
S5	09 Dec 2016	Current Direction	N
S5	09 Dec 2016	Water Temp (C)	16
S5	09 Dec 2016	Wave Height Low (ft)	2
S5	09 Dec 2016	High Tide (ft)	5.3
S5	09 Dec 2016	High Tide Time	457
S5	09 Dec 2016	Low Tide (ft)	0.8
S5	09 Dec 2016	Low Tide Time	1142
S5	09 Dec 2016	Comments	Kelp; Seagrass; 2 Persons; Water clear
S5	13 Dec 2016	Arrive Time	1017
S5	13 Dec 2016	Weather	Sunny
S5	13 Dec 2016	Wind Speed (kts)	6.5
S5	13 Dec 2016	Wind Dir	N
S5	13 Dec 2016	Animal Life	None
S5	13 Dec 2016	Floatables	None
S5	13 Dec 2016	Water Color	Green
S5	13 Dec 2016	Current Direction	N
S5	13 Dec 2016	Water Temp (C)	16.2
S5	13 Dec 2016	Wave Height Low (ft)	1
S5	13 Dec 2016	High Tide (ft)	6.9
S5	13 Dec 2016	High Tide Time	744
S5	13 Dec 2016	Low Tide (ft)	-1.5
S5	13 Dec 2016	Low Tide Time	1452
S5	13 Dec 2016	Comments	Water clear
S5	20 Dec 2016	Arrive Time	1005
S5	20 Dec 2016	Weather	Partly Cloudy
S5	20 Dec 2016	Wind Speed (kts)	12.8

Station	Date	Parameter	Value
S5	20 Dec 2016	Wind Dir	SE
S5	20 Dec 2016	Animal Life	None
S5	20 Dec 2016	Floatables	None
S5	20 Dec 2016	Water Color	Green
S5	20 Dec 2016	Current Direction	N
S5	20 Dec 2016	Water Temp (C)	16.2
S5	20 Dec 2016	Wave Height Low (ft)	4
S5	20 Dec 2016	High Tide (ft)	3.6
S5	20 Dec 2016	High Tide Time	1401
S5	20 Dec 2016	Low Tide (ft)	2.2
S5	20 Dec 2016	Low Tide Time	847
S5	20 Dec 2016	Comments	Kelp; Seagrass; Water clear
S5	22 Dec 2016	Arrive Time	942
S5	22 Dec 2016	Weather	Moderate Rain
S5	22 Dec 2016	Wind Speed (kts)	15.3
S5	22 Dec 2016	Wind Dir	S
S5	22 Dec 2016	Animal Life	None
S5	22 Dec 2016	Floatables	None
S5	22 Dec 2016	Water Color	Brown
S5	22 Dec 2016	Current Direction	N
S5	22 Dec 2016	Water Temp (C)	15.8
S5	22 Dec 2016	Wave Height Low (ft)	2
S5	22 Dec 2016	High Tide (ft)	4.7
S5	22 Dec 2016	High Tide Time	434
S5	22 Dec 2016	Low Tide (ft)	1.4
S5	22 Dec 2016	Low Tide Time	1129
S5	22 Dec 2016	Comments	Sewage-like odor; Water turbid
S5	24 Dec 2016	Arrive Time	915
S5	24 Dec 2016	Weather	Drizzle
S5	24 Dec 2016	Wind Speed (kts)	16.1
S5	24 Dec 2016	Wind Dir	W
S5	24 Dec 2016	Animal Life	None
S5	24 Dec 2016	Floatables	None
S5	24 Dec 2016	Water Color	Brown
S5	24 Dec 2016	Current Direction	N
S5	24 Dec 2016	Water Temp (C)	13.2
S5	24 Dec 2016	Wave Height Low (ft)	13.2
S5	24 Dec 2016	High Tide (ft)	5.2
S5	24 Dec 2016	High Tide Time	548
S5	24 Dec 2016	Low Tide (ft)	0.4
S5	24 Dec 2016	Low Tide Time	1256
S5	24 Dec 2016	Comments	Sewage-like odor; Water turbid
S5	26 Dec 2016	Arrive Time	1315
S5	26 Dec 2016	Weather	Sunny
S5	26 Dec 2016	Wind Speed (kts)	5
S5	26 Dec 2016	Wind Dir	NW
S5	26 Dec 2016	Animal Life	None
S5	26 Dec 2016	Floatables	None
S5	26 Dec 2016	Water Color	Brown
S5	26 Dec 2016	Current Direction	NW
S5	26 Dec 2016	Water Temp (C)	16
S5	26 Dec 2016	Wave Height Low (ft)	2

Station	Date	Parameter	Value
S5	26 Dec 2016	High Tide (ft)	5.6
S5	26 Dec 2016	High Tide Time	651
S5	26 Dec 2016	Low Tide (ft)	-0.3
S5	26 Dec 2016	Low Tide Time	1400
S5	26 Dec 2016	Comments	Kelp; Seagrass; 4 Persons; Water turbid; One dog
S5	27 Dec 2016	Arrive Time	1039
S5	27 Dec 2016	Weather	Sunny
S5	27 Dec 2016	Wind Speed (kts)	3.1
S5	27 Dec 2016	Wind Dir	N
S5	27 Dec 2016	Animal Life	None
S5	27 Dec 2016	Floatables	None
S5	27 Dec 2016	Water Color	Brown
S5	27 Dec 2016	Current Direction	N
S5	27 Dec 2016	Water Temp (C)	13
S5	27 Dec 2016	Wave Height Low (ft)	2
S5	27 Dec 2016	High Tide (ft)	5.7
S5	27 Dec 2016	High Tide Time	721
S5	27 Dec 2016	Low Tide (ft)	-0.5
S5	27 Dec 2016	Low Tide Time	1431
S5	27 Dec 2016	Comments	Sewage-like odor; Water turbid
S5	29 Dec 2016	Arrive Time	851
S5	29 Dec 2016	Weather	Sunny
S5	29 Dec 2016	Wind Speed (kts)	3.6
S5	29 Dec 2016	Wind Dir	W
S5	29 Dec 2016	Animal Life	None
S5	29 Dec 2016	Floatables	None
S5	29 Dec 2016	Water Color	Green
S5	29 Dec 2016	Current Direction	N
S5	29 Dec 2016	Water Temp (C)	14.8
S5	29 Dec 2016	Wave Height Low (ft)	5
S5	29 Dec 2016	High Tide (ft)	5.8
S5	29 Dec 2016	High Tide Time	823
S5	29 Dec 2016	Low Tide (ft)	1.8
S5	29 Dec 2016	Low Tide Time	218
S5	29 Dec 2016	Comments	Kelp; Seagrass; 3 Persons; Water clear
S5	30 Dec 2016	Arrive Time	1306
S5	30 Dec 2016	Weather	Cloudy
S5	30 Dec 2016	Wind Speed (kts)	4
S5	30 Dec 2016	Wind Dir	W
S5	30 Dec 2016	Animal Life	None
S5	30 Dec 2016	Floatables	None
S5	30 Dec 2016	Water Color	Green
S5	30 Dec 2016	Current Direction	N
S5	30 Dec 2016	Water Temp (C)	15.6
S5	30 Dec 2016	Wave Height Low (ft)	4
S5	30 Dec 2016	High Tide (ft)	5.8
S5	30 Dec 2016	High Tide Time	855
S5	30 Dec 2016	Low Tide (ft)	-0.7
S5	30 Dec 2016	Low Tide Time	1607
S5	30 Dec 2016	Comments	Kelp; Seagrass; Water clear
S6	06 Dec 2016	Arrive Time	807

Station	Date	Parameter	Value
S6	06 Dec 2016	Weather	Cloudy
S6	06 Dec 2016	Wind Speed (kts)	3.1
S6	06 Dec 2016	Wind Dir	SW
S6	06 Dec 2016	Animal Life	None
S6	06 Dec 2016	Floatables	None
S6	06 Dec 2016	Water Color	Green
S6	06 Dec 2016	Current Direction	N
S6	06 Dec 2016	Water Temp (C)	15.4
S6	06 Dec 2016	Wave Height Low (ft)	1
S6	06 Dec 2016	High Tide (ft)	4
S6	06 Dec 2016	High Tide Time	1309
S6	06 Dec 2016	Low Tide (ft)	2.7
S6	06 Dec 2016	Low Tide Time	754
S6	06 Dec 2016	Comments	Water clear
S6	13 Dec 2016	Arrive Time	1007
S6	13 Dec 2016	Weather	Partly Cloudy
S6	13 Dec 2016	Wind Speed (kts)	0.9
S6	13 Dec 2016	Wind Dir	NW
S6	13 Dec 2016	Animal Life	None
S6	13 Dec 2016	Floatables	None
S6	13 Dec 2016	Water Color	Colorless
S6	13 Dec 2016	Current Direction	N
S6	13 Dec 2016	Water Temp (C)	15.8
S6	13 Dec 2016	Wave Height Low (ft)	2
S6	13 Dec 2016	High Tide (ft)	6.9
S6	13 Dec 2016	High Tide Time	744
S6	13 Dec 2016	Low Tide (ft)	-1.5
S6	13 Dec 2016	Low Tide Time	1452
S6	13 Dec 2016	Comments	Water clear
S6	20 Dec 2016	Arrive Time	951
S6	20 Dec 2016	Weather	Partly Cloudy
S6	20 Dec 2016	Wind Speed (kts)	7.7
S6	20 Dec 2016	Wind Dir	SE
S6	20 Dec 2016	Animal Life	None
S6	20 Dec 2016	Floatables	None
S6	20 Dec 2016	Water Color	Green
S6	20 Dec 2016	Current Direction	N
S6	20 Dec 2016	Water Temp (C)	15.6
S6	20 Dec 2016	Wave Height Low (ft)	4
S6	20 Dec 2016	High Tide (ft)	3.6
S6	20 Dec 2016	High Tide Time	1401
S6	20 Dec 2016	Low Tide (ft)	2.2
S6	20 Dec 2016	Low Tide Time	847
S6	20 Dec 2016	Comments	Kelp; Seagrass; 1 Jogger; 4 Persons; Water clear
S6	27 Dec 2016	Arrive Time	1023
S6	27 Dec 2016	Weather	Sunny
S6	27 Dec 2016	Wind Speed (kts)	2.2
S6	27 Dec 2016	Wind Dir	N
S6	27 Dec 2016	Animal Life	None
S6	27 Dec 2016	Floatables	None
S6	27 Dec 2016	Water Color	Green
S6	27 Dec 2016	Current Direction	N

Station	Date	Parameter	Value
S6	27 Dec 2016	Water Temp (C)	15.4
S6	27 Dec 2016	Wave Height Low (ft)	2
S6	27 Dec 2016	High Tide (ft)	5.7
S6	27 Dec 2016	High Tide Time	721
S6	27 Dec 2016	Low Tide (ft)	-0.5
S6	27 Dec 2016	Low Tide Time	1431
S6	27 Dec 2016	Comments	Kelp; Water clear
S6	29 Dec 2016	Arrive Time	1251
S6	29 Dec 2016	Weather	Sunny
S6	29 Dec 2016	Wind Speed (kts)	4.1
S6	29 Dec 2016	Wind Dir	E
S6	29 Dec 2016	Animal Life	None
S6	29 Dec 2016	Floatables	None
S6	29 Dec 2016	Water Color	Green
S6	29 Dec 2016	Current Direction	N
S6	29 Dec 2016	Water Temp (C)	16.8
S6	29 Dec 2016	Wave Height Low (ft)	2
S6	29 Dec 2016	High Tide (ft)	5.8
S6	29 Dec 2016	High Tide Time	823
S6	29 Dec 2016	Low Tide (ft)	-0.7
S6	29 Dec 2016	Low Tide Time	1534
S6	29 Dec 2016	Comments	2 Persons; Water clear
S8	06 Dec 2016	Arrive Time	716
S8	06 Dec 2016	Weather	Cloudy
S8	06 Dec 2016	Wind Speed (kts)	1.9
S8	06 Dec 2016	Wind Dir	SW
S8	06 Dec 2016	Animal Life	None
S8	06 Dec 2016	Floatables	None
S8	06 Dec 2016	Water Color	Green
S8	06 Dec 2016	Current Direction	N
S8	06 Dec 2016	Water Temp (C)	15
S8	06 Dec 2016	Wave Height Low (ft)	1
S8	06 Dec 2016	High Tide (ft)	3.9
S8	06 Dec 2016	High Tide Time	231
S8	06 Dec 2016	Low Tide (ft)	2.7
S8	06 Dec 2016	Low Tide Time	754
S8	06 Dec 2016	Comments	Water clear
S8	13 Dec 2016	Arrive Time	1159
S8	13 Dec 2016	Weather	Sunny
S8	13 Dec 2016	Wind Speed (kts)	9.3
S8	13 Dec 2016	Wind Dir	N
S8	13 Dec 2016	Animal Life	None
S8	13 Dec 2016	Floatables	None
S8	13 Dec 2016	Water Color	Green
S8	13 Dec 2016	Current Direction	N
S8	13 Dec 2016	Water Temp (C)	16.2
S8	13 Dec 2016	Wave Height Low (ft)	1
S8	13 Dec 2016	High Tide (ft)	6.9
S8	13 Dec 2016	High Tide Time	744
S8	13 Dec 2016	Low Tide (ft)	-1.5
S8	13 Dec 2016	Low Tide Time	1452
S8	13 Dec 2016	Comments	3 Persons; Water clear

Station	Date	Parameter	Value
S8	20 Dec 2016	Arrive Time	851
S8	20 Dec 2016	Weather	Partly Cloudy
S8	20 Dec 2016	Wind Speed (kts)	4.2
S8	20 Dec 2016	Wind Dir	E
S8	20 Dec 2016	Animal Life	None
S8	20 Dec 2016	Floatables	None
S8	20 Dec 2016	Water Color	Green
S8	20 Dec 2016	Current Direction	N
S8	20 Dec 2016	Water Temp (C)	13
S8	20 Dec 2016	Wave Height Low (ft)	2
S8	20 Dec 2016	High Tide (ft)	3.6
S8	20 Dec 2016	High Tide Time	1401
S8	20 Dec 2016	Low Tide (ft)	2.2
S8	20 Dec 2016	Low Tide Time	847
S8	20 Dec 2016	Comments	Kelp; Seagrass; 1 Person; Water clear
S8	27 Dec 2016	Arrive Time	932
S8	27 Dec 2016	Weather	Sunny
S8	27 Dec 2016	Wind Speed (kts)	1.1
S8	27 Dec 2016	Wind Dir	S
S8	27 Dec 2016	Animal Life	None
S8	27 Dec 2016	Floatables	None
S8	27 Dec 2016	Water Color	Green
S8	27 Dec 2016	Current Direction	N
S8	27 Dec 2016	Water Temp (C)	14.2
S8	27 Dec 2016	Wave Height Low (ft)	2
S8	27 Dec 2016	High Tide (ft)	5.7
S8	27 Dec 2016	High Tide Time	721
S8	27 Dec 2016	Low Tide (ft)	-0.5
S8	27 Dec 2016	Low Tide Time	1431
S8	27 Dec 2016	Comments	1 Jogger; Water clear
S9	06 Dec 2016	Arrive Time	655
S9	06 Dec 2016	Weather	Cloudy
S9	06 Dec 2016	Wind Speed (kts)	1.7
S9	06 Dec 2016	Wind Dir	W
S9	06 Dec 2016	Animal Life	None
S9	06 Dec 2016	Floatables	None
S9	06 Dec 2016	Water Color	Green
S9	06 Dec 2016	Current Direction	N
S9	06 Dec 2016	Water Temp (C)	14.1
S9	06 Dec 2016	Wave Height Low (ft)	1
S9	06 Dec 2016	High Tide (ft)	3.9
S9	06 Dec 2016	High Tide Time	231
S9	06 Dec 2016	Low Tide (ft)	2.7
S9	06 Dec 2016	Low Tide Time	754
S9	06 Dec 2016	Comments	1 Person; Water clear
S9	13 Dec 2016	Arrive Time	1247
S9	13 Dec 2016	Weather	Sunny
S9	13 Dec 2016	Wind Speed (kts)	11.4
S9	13 Dec 2016	Wind Dir	N
S9	13 Dec 2016	Animal Life	None
S9	13 Dec 2016	Floatables	None

Station	Date	Parameter	Value
S9	13 Dec 2016	Water Color	Green
S9	13 Dec 2016	Current Direction	N
S9	13 Dec 2016	Water Temp (C)	18
S9	13 Dec 2016	Wave Height Low (ft)	1
S9	13 Dec 2016	High Tide (ft)	6.9
S9	13 Dec 2016	High Tide Time	744
S9	13 Dec 2016	Low Tide (ft)	-1.5
S9	13 Dec 2016	Low Tide Time	1452
S9	13 Dec 2016	Comments	8 Persons; Water clear
S9	20 Dec 2016	Arrive Time	816
S9	20 Dec 2016	Weather	Partly Cloudy
S9	20 Dec 2016	Wind Speed (kts)	0.1
S9	20 Dec 2016	Wind Dir	E
S9	20 Dec 2016	Animal Life	None
S9	20 Dec 2016	Floatables	None
S9	20 Dec 2016	Water Color	Green
S9	20 Dec 2016	Current Direction	N
S9	20 Dec 2016	Water Temp (C)	12.8
S9	20 Dec 2016	Wave Height Low (ft)	3
S9	20 Dec 2016	High Tide (ft)	4.2
S9	20 Dec 2016	High Tide Time	247
S9	20 Dec 2016	Low Tide (ft)	2.2
S9	20 Dec 2016	Low Tide Time	847
S9	20 Dec 2016	Comments	Kelp; Seagrass; 2 Persons; 1 Tractor; Water clear
S9	27 Dec 2016	Arrive Time	840
S9	27 Dec 2016	Weather	Sunny
S9	27 Dec 2016	Wind Speed (kts)	0.7
S9	27 Dec 2016	Wind Dir	N
S9	27 Dec 2016	Animal Life	None
S9	27 Dec 2016	Floatables	None
S9	27 Dec 2016	Water Color	Green
S9	27 Dec 2016	Current Direction	N
S9	27 Dec 2016	Water Temp (C)	14.6
S9	27 Dec 2016	Wave Height Low (ft)	2
S9	27 Dec 2016	High Tide (ft)	5.7
S9	27 Dec 2016	High Tide Time	721
S9	27 Dec 2016	Low Tide (ft)	-0.5
S9	27 Dec 2016	Low Tide Time	1431
S9	27 Dec 2016	Comments	3 Persons; 2 Surfers; Water clear
S10	06 Dec 2016	Arrive Time	925
S10	06 Dec 2016	Weather	Cloudy
S10	06 Dec 2016	Wind Speed (kts)	2.9
S10	06 Dec 2016	Wind Dir	W
S10	06 Dec 2016	Animal Life	None
S10	06 Dec 2016	Floatables	None
S10	06 Dec 2016	Water Color	Green
S10	06 Dec 2016	Current Direction	N
S10	06 Dec 2016	Water Temp (C)	15.4
S10	06 Dec 2016	Wave Height Low (ft)	2
S10	06 Dec 2016	High Tide (ft)	4
S10	06 Dec 2016	High Tide Time	1309
S10	06 Dec 2016	Low Tide (ft)	2.7

Station	Date	Parameter	Value
S10	06 Dec 2016	Low Tide Time	754
S10	06 Dec 2016	Comments	Sewage-like odor; Water clear
S10	13 Dec 2016	Arrive Time	830
S10	13 Dec 2016	Weather	Sunny
S10	13 Dec 2016	Wind Speed (kts)	1.9
S10	13 Dec 2016	Wind Dir	NE
S10	13 Dec 2016	Animal Life	None
S10	13 Dec 2016	Floatables	None
S10	13 Dec 2016	Water Color	Green
S10	13 Dec 2016	Current Direction	N
S10	13 Dec 2016	Water Temp (C)	14.8
S10	13 Dec 2016	Wave Height Low (ft)	1
S10	13 Dec 2016	High Tide (ft)	6.9
S10	13 Dec 2016	High Tide Time	744
S10	13 Dec 2016	Low Tide (ft)	-1.5
S10	13 Dec 2016	Low Tide Time	1452
S10	13 Dec 2016	Comments	Water clear
S10	20 Dec 2016	Arrive Time	1141
S10	20 Dec 2016	Weather	Sunny
S10	20 Dec 2016	Wind Speed (kts)	5
S10	20 Dec 2016	Wind Dir	W
S10	20 Dec 2016	Animal Life	None
S10	20 Dec 2016	Floatables	None
S10	20 Dec 2016	Water Color	Green
S10	20 Dec 2016	Current Direction	N
S10	20 Dec 2016	Water Temp (C)	16
S10	20 Dec 2016	Wave Height Low (ft)	3
S10	20 Dec 2016	High Tide (ft)	3.6
S10	20 Dec 2016	High Tide Time	1401
S10	20 Dec 2016	Low Tide (ft)	2.2
S10	20 Dec 2016	Low Tide Time	847
S10	20 Dec 2016	Comments	Kelp; Seagrass; Water clear
S10	27 Dec 2016	Arrive Time	1240
S10	27 Dec 2016	Weather	Sunny
S10	27 Dec 2016	Wind Speed (kts)	3.4
S10	27 Dec 2016	Wind Dir	N
S10	27 Dec 2016	Animal Life	None
S10	27 Dec 2016	Floatables	None
S10	27 Dec 2016	Water Color	Green
S10	27 Dec 2016	Current Direction	N
S10	27 Dec 2016	Water Temp (C)	16.2
S10	27 Dec 2016	Wave Height Low (ft)	1
S10	27 Dec 2016	High Tide (ft)	5.7
S10	27 Dec 2016	High Tide Time	721
S10	27 Dec 2016	Low Tide (ft)	-0.5
S10	27 Dec 2016	Low Tide Time	1431
S10	27 Dec 2016	Comments	Water clear
S11	06 Dec 2016	Arrive Time	813
S11	06 Dec 2016	Weather	Cloudy
S11	06 Dec 2016	Wind Speed (kts)	2.7
S11	06 Dec 2016	Wind Dir	S

Station	Date	Parameter	Value
S11	06 Dec 2016	Animal Life	None
S11	06 Dec 2016	Floatables	None
S11	06 Dec 2016	Water Color	Green
S11	06 Dec 2016	Current Direction	N
S11	06 Dec 2016	Water Temp (C)	15.4
S11	06 Dec 2016	Wave Height Low (ft)	2
S11	06 Dec 2016	High Tide (ft)	4
S11	06 Dec 2016	High Tide Time	1309
S11	06 Dec 2016	Low Tide (ft)	2.7
S11	06 Dec 2016	Low Tide Time	754
S11	06 Dec 2016	Comments	Water clear
S11	13 Dec 2016	Arrive Time	1025
S11	13 Dec 2016	Weather	Sunny
S11	13 Dec 2016	Wind Speed (kts)	4.6
S11	13 Dec 2016	Wind Dir	N
S11	13 Dec 2016	Animal Life	None
S11	13 Dec 2016	Floatables	None
S11	13 Dec 2016	Water Color	Green
S11	13 Dec 2016	Current Direction	N
S11	13 Dec 2016	Water Temp (C)	17.2
S11	13 Dec 2016	Wave Height Low (ft)	1
S11	13 Dec 2016	High Tide (ft)	6.9
S11	13 Dec 2016	High Tide Time	744
S11	13 Dec 2016	Low Tide (ft)	-1.5
S11	13 Dec 2016	Low Tide Time	1452
S11	13 Dec 2016	Comments	Water clear
S11	20 Dec 2016	Arrive Time	956
S11	20 Dec 2016	Weather	Partly Cloudy
S11	20 Dec 2016	Wind Speed (kts)	9.1
S11	20 Dec 2016	Wind Dir	SE
S11	20 Dec 2016	Animal Life	None
S11	20 Dec 2016	Floatables	None
S11	20 Dec 2016	Water Color	Green
S11	20 Dec 2016	Current Direction	N
S11	20 Dec 2016	Water Temp (C)	15.4
S11	20 Dec 2016	Wave Height Low (ft)	5
S11	20 Dec 2016	High Tide (ft)	3.6
S11	20 Dec 2016	High Tide Time	1401
S11	20 Dec 2016	Low Tide (ft)	2.2
S11	20 Dec 2016	Low Tide Time	847
S11	20 Dec 2016	Comments	Kelp; Seagrass; 1 Person; 4 Surfers; Water clear
S11	27 Dec 2016	Arrive Time	1030
S11	27 Dec 2016	Weather	Sunny
S11	27 Dec 2016	Wind Speed (kts)	4.2
S11	27 Dec 2016	Wind Dir	N
S11	27 Dec 2016	Animal Life	None
S11	27 Dec 2016	Floatables	None
S11	27 Dec 2016	Water Color	Green
S11	27 Dec 2016	Current Direction	N
S11	27 Dec 2016	Water Temp (C)	16.8
S11	27 Dec 2016	Wave Height Low (ft)	3
S11	27 Dec 2016	High Tide (ft)	5.7

Station	Date	Parameter	Value
S11	27 Dec 2016	High Tide Time	721
S11	27 Dec 2016	Low Tide (ft)	-0.5
S11	27 Dec 2016	Low Tide Time	1431
S11	27 Dec 2016	Comments	Water clear
S12	06 Dec 2016	Arrive Time	750
S12	06 Dec 2016	Weather	Cloudy
S12	06 Dec 2016	Wind Speed (kts)	0.3
S12	06 Dec 2016	Wind Dir	S
S12	06 Dec 2016	Animal Life	1 Bird
S12	06 Dec 2016	Floatables	None
S12	06 Dec 2016	Water Color	Green
S12	06 Dec 2016	Current Direction	N
S12	06 Dec 2016	Water Temp (C)	15.4
S12	06 Dec 2016	Wave Height Low (ft)	1
S12	06 Dec 2016	High Tide (ft)	3.9
S12	06 Dec 2016	High Tide Time	231
S12	06 Dec 2016	Low Tide (ft)	2.7
S12	06 Dec 2016	Low Tide Time	754
S12	06 Dec 2016	Comments	Water clear
S12	13 Dec 2016	Arrive Time	945
S12	13 Dec 2016	Weather	Sunny
S12	13 Dec 2016	Wind Speed (kts)	3.8
S12	13 Dec 2016	Wind Dir	N
S12	13 Dec 2016	Animal Life	None
S12	13 Dec 2016	Floatables	None
S12	13 Dec 2016	Water Color	Green
S12	13 Dec 2016	Current Direction	N
S12	13 Dec 2016	Water Temp (C)	16
S12	13 Dec 2016	Wave Height Low (ft)	1
S12	13 Dec 2016	High Tide (ft)	6.9
S12	13 Dec 2016	High Tide Time	744
S12	13 Dec 2016	Low Tide (ft)	-1.5
S12	13 Dec 2016	Low Tide Time	1452
S12	13 Dec 2016	Comments	Water clear
S12	20 Dec 2016	Arrive Time	933
S12	20 Dec 2016	Weather	Partly Cloudy
S12	20 Dec 2016	Wind Speed (kts)	3.8
S12	20 Dec 2016	Wind Dir	E
S12	20 Dec 2016	Animal Life	None
S12	20 Dec 2016	Floatables	None
S12	20 Dec 2016	Water Color	Green
S12	20 Dec 2016	Current Direction	N
S12	20 Dec 2016	Water Temp (C)	15.2
S12	20 Dec 2016	Wave Height Low (ft)	2
S12	20 Dec 2016	High Tide (ft)	3.6
S12	20 Dec 2016	High Tide Time	1401
S12	20 Dec 2016	Low Tide (ft)	2.2
S12	20 Dec 2016	Low Tide Time	847
S12	20 Dec 2016	Comments	Kelp; Seagrass; 1 Person; Water clear
S12	27 Dec 2016	Arrive Time	1010
S12	27 Dec 2016	Weather	Sunny

Station	Date	Parameter	Value
S12	27 Dec 2016	Wind Speed (kts)	3.4
S12	27 Dec 2016	Wind Dir	N
S12	27 Dec 2016	Animal Life	None
S12	27 Dec 2016	Floatables	None
S12	27 Dec 2016	Water Color	Green
S12	27 Dec 2016	Current Direction	N
S12	27 Dec 2016	Water Temp (C)	15.2
S12	27 Dec 2016	Wave Height Low (ft)	2
S12	27 Dec 2016	High Tide (ft)	5.7
S12	27 Dec 2016	High Tide Time	721
S12	27 Dec 2016	Low Tide (ft)	-0.5
S12	27 Dec 2016	Low Tide Time	1431
S12	27 Dec 2016	Comments	2 Persons; Water clear

Kelp Stations

Table 3.1

Summary of compliance with the Ocean Plan's 30-day Geometric Mean standard for total coliform bacteria at the 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 Dec 2016	7	13	11	4	2	3	18
02 Dec 2016	7	13	11	4	2	3	18
03 Dec 2016	7	13	11	4	2	3	18
04 Dec 2016	7	13	11	4	2	3	18
05 Dec 2016	13	19	8	6	2	3	28
06 Dec 2016	13	19	8	6	2	3	28
07 Dec 2016	13	19	8	6	2	3	28
08 Dec 2016	13	19	8	6	2	3	28
09 Dec 2016	13	19	8	6	2	3	28
10 Dec 2016	18	26	10	5	2	2	36
11 Dec 2016	18	26	10	5	2	2	36
12 Dec 2016	18	26	10	5	2	2	36
13 Dec 2016	12	17	8	4	2	2	22
14 Dec 2016	12	17	8	4	2	2	22
15 Dec 2016	12	17	8	4	2	2	22
16 Dec 2016	18	26	10	5	2	2	24
17 Dec 2016	45	17	8	4	3	2	23
18 Dec 2016	45	17	8	4	3	2	23
19 Dec 2016	45	17	8	4	3	2	23
20 Dec 2016	127	49	8	4	3	2	73
21 Dec 2016	127	49	8	4	3	2	73
22 Dec 2016	127	49	8	4	3	2	73
23 Dec 2016	127	49	8	4	3	2	73
24 Dec 2016	127	49	8	4	3	2	73
25 Dec 2016	127	49	8	4	3	2	73
26 Dec 2016	127	49	8	4	3	2	73
27 Dec 2016	127	49	8	4	3	2	73
28 Dec 2016	127	49	8	4	3	2	73
29 Dec 2016	192	74	10	4	3	2	115
30 Dec 2016	192	74	10	4	3	2	115
31 Dec 2016	222*	27*	2*	5*	3*	2*	63*

* 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 Dec 2016	3	6	5	2	2	2	4
02 Dec 2016	3	6	5	2	2	2	4
03 Dec 2016	3	6	5	2	2	2	4
04 Dec 2016	3	6	5	2	2	2	4
05 Dec 2016	4	6	5	2	2	2	6
06 Dec 2016	4	6	5	2	2	2	6
07 Dec 2016	4	6	5	2	2	2	6
08 Dec 2016	4	6	5	2	2	2	6
09 Dec 2016	4	6	5	2	2	2	6
10 Dec 2016	4	7	5	2	2	2	7
11 Dec 2016	4	7	5	2	2	2	7
12 Dec 2016	4	7	5	2	2	2	7
13 Dec 2016	4	6	5	2	2	2	6
14 Dec 2016	4	6	5	2	2	2	6
15 Dec 2016	4	6	5	2	2	2	6
16 Dec 2016	4	7	5	2	2	2	7
17 Dec 2016	9	6	5	2	2	2	6
18 Dec 2016	9	6	5	2	2	2	6
19 Dec 2016	9	6	5	2	2	2	6
20 Dec 2016	14	10	5	2	2	2	10
21 Dec 2016	14	10	5	2	2	2	10
22 Dec 2016	14	10	5	2	2	2	10
23 Dec 2016	14	10	5	2	2	2	10
24 Dec 2016	14	10	5	2	2	2	10
25 Dec 2016	14	10	5	2	2	2	10
26 Dec 2016	14	10	5	2	2	2	10
27 Dec 2016	14	10	5	2	2	2	10
28 Dec 2016	14	10	5	2	2	2	10
29 Dec 2016	21	14	5	2	2	2	14
30 Dec 2016	21	14	5	2	2	2	14
31 Dec 2016	24*	7*	2*	2*	2*	2*	8*

* 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 Dec 2016	2	4	4	2	2	2	4
02 Dec 2016	2	4	4	2	2	2	4
03 Dec 2016	2	4	4	2	2	2	4
04 Dec 2016	2	4	4	2	2	2	4
05 Dec 2016	2	4	4	2	2	2	4
06 Dec 2016	2	4	4	2	2	2	4
07 Dec 2016	2	4	4	2	2	2	4
08 Dec 2016	2	4	4	2	2	2	4
09 Dec 2016	2	4	4	2	2	2	4
10 Dec 2016	2	4	4	2	2	2	4
11 Dec 2016	2	4	4	2	2	2	4
12 Dec 2016	2	4	4	2	2	2	4
13 Dec 2016	2	3	4	2	2	2	4
14 Dec 2016	2	3	4	2	2	2	4
15 Dec 2016	2	3	4	2	2	2	4
16 Dec 2016	2	4	4	2	2	2	4
17 Dec 2016	5	3	4	2	2	2	4
18 Dec 2016	5	3	4	2	2	2	4
19 Dec 2016	5	3	4	2	2	2	4
20 Dec 2016	8	5	4	2	2	2	7
21 Dec 2016	8	5	4	2	2	2	7
22 Dec 2016	8	5	4	2	2	2	7
23 Dec 2016	8	5	4	2	2	2	7
24 Dec 2016	8	5	4	2	2	2	7
25 Dec 2016	8	5	4	2	2	2	7
26 Dec 2016	8	5	4	2	2	2	7
27 Dec 2016	8	5	4	2	2	2	7
28 Dec 2016	8	5	4	2	2	2	7
29 Dec 2016	10	6	4	2	2	2	8
30 Dec 2016	10	6	4	2	2	2	8
31 Dec 2016	15*	4*	2*	2*	2*	2*	6*

* 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
01 Dec 2016	IC	IC	E	IC	IC	IC	IC
05 Dec 2016	IC	IC	IC	IC	IC	IC	IC
13 Dec 2016	IC	IC	IC	IC	IC	IC	IC
17 Dec 2016	E	IC	IC	IC	IC	IC	IC
20 Dec 2016	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance
E = Exceedance
ns = not sampled

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
01 Dec 2016	IC	IC	E	IC	IC	IC	IC
05 Dec 2016	IC	IC	IC	IC	IC	IC	IC
13 Dec 2016	IC	IC	IC	IC	IC	IC	IC
17 Dec 2016	E	IC	IC	IC	IC	IC	IC
20 Dec 2016	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance
E = Exceedance
ns = not sampled

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
01 Dec 2016	IC	IC	E	IC	IC	IC	IC
05 Dec 2016	IC	IC	IC	IC	IC	IC	IC
13 Dec 2016	IC	IC	IC	IC	IC	IC	IC
17 Dec 2016	E	IC	IC	IC	IC	IC	IC
20 Dec 2016	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance
E = Exceedance
ns = not sampled

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
01 Dec 2016	IC	IC	E	IC	IC	IC	IC
05 Dec 2016	IC	IC	IC	IC	IC	IC	IC
13 Dec 2016	IC	IC	IC	IC	IC	IC	IC
17 Dec 2016	IC	IC	IC	IC	IC	IC	IC
20 Dec 2016	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance
E = Exceedance
ns = not sampled

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; oil and grease samples (OG) and suspended solids (SUSO) data are reported as mg/L. Duplicates are indicated by *. Comments follow the data summary.

Station	Date	Time	Depth	Total	Fecal	Entero	F:T	Temp	XMS	DO	Sal	pH	OG	SUSO
I19	01 Dec 2016	1100	2	6e	4e	<2	0.67	15.5	72.65	8.3	33.29	8.2	ns	ns
I19	01 Dec 2016	1100	6	180e	22e	<2	0.12	15.3	71.81	7.8	33.29	8.2	ns	ns
I19	01 Dec 2016	1100	11	140e	6e	<2	0.04	15.2	70.97	6.6	33.29	8.1	ns	ns
I19	05 Dec 2016	1130	2	16e	<2	<2	0.12	15.0	72.83	7.8	33.32	8.1	ns	ns
I19	05 Dec 2016	1130	6	160e	14e	6e	0.09	14.8	67.76	7.7	33.31	8.1	ns	ns
I19	05 Dec 2016	1130	11	540	48	10e	0.09	14.6	56.73	7.6	33.28	8.1	ns	ns
I19	13 Dec 2016	1048	2	<2	<2	<2	1.00	15.1	78.72	7.3	33.31	8.1	ns	ns
I19	13 Dec 2016	1048	6	<2	<2	<2	1.00	14.8	79.36	6.2	33.29	8.1	ns	ns
I19	13 Dec 2016	1048	11	<2	<2	<2	1.00	14.1	66.50	6.4	33.28	8.0	ns	ns
I19	17 Dec 2016	1030	2	14000	600	340e	0.04	15.6	64.28	7.9	33.22	8.2	ns	ns
I19	17 Dec 2016	1030	6	640	40	40	0.06	15.6	64.08	7.8	33.30	8.2	ns	ns
I19	17 Dec 2016	1030	11	860	64	58	0.07	15.6	64.55	8.0	33.29	8.2	ns	ns
I19	20 Dec 2016	1054	2	480	12e	4e	0.02	14.4	75.95	7.6	33.30	8.1	ns	ns
I19	20 Dec 2016	1054	6	860	52	20e	0.06	14.2	72.47	7.6	33.29	8.1	ns	ns
I19	20 Dec 2016	1054	11	1600e	40e	64	0.02	14.0	56.68	7.9	33.28	8.1	ns	ns
I24	01 Dec 2016	1121	2	6200	320e	24e	0.05	15.4	66.75	8.2	33.26	8.1	ns	ns
I24	01 Dec 2016	1121	6	3200e	140e	26e	0.04	15.2	70.19	7.0	33.29	8.1	ns	ns
I24	01 Dec 2016	1121	11	2600e	140e	54	0.05	15.0	50.08	6.1	33.28	8.1	ns	ns
I24	05 Dec 2016	1151	2	100	2e	<2	0.02	14.9	71.88	7.8	33.30	8.1	ns	ns
I24	05 Dec 2016	1151	6	160e	22e	4e	0.14	14.6	65.72	5.7	33.29	8.1	ns	ns
I24	05 Dec 2016	1151	11	52	2e	<2	0.04	13.9	44.60	5.5	33.29	8.0	ns	ns
I24	13 Dec 2016	1144	2	<2	<2	<2	1.00	15.6	81.49	7.4	33.33	8.1	ns	ns
I24	13 Dec 2016	1144	6	<2	<2	<2	1.00	14.6	82.08	7.1	33.29	8.1	ns	ns
I24	13 Dec 2016	1144	11	<2	<2	<2	1.00	14.4	82.55	7.2	33.28	8.1	ns	ns
I24	17 Dec 2016	1049	2	2e	<2	<2	1.00	15.4	67.01	7.9	33.26	8.2	ns	ns
I24	17 Dec 2016	1049	6	<2	<2	<2	1.00	15.3	68.15	7.8	33.28	8.2	ns	ns
I24	17 Dec 2016	1049	11	<2	<2	<2	1.00	15.3	65.51	7.8	33.28	8.2	ns	ns
I24	20 Dec 2016	1113	2	1600e	110	32e	0.07	14.4	74.91	7.8	33.21	8.1	ns	ns
I24	20 Dec 2016	1113	6	2000e	130e	38e	0.06	14.4	76.58	7.8	33.24	8.1	ns	ns
I24	20 Dec 2016	1113	11	320e	24e	10e	0.07	14.5	82.14	7.8	33.32	8.1	ns	ns
I25	01 Dec 2016	1127	2	2000e	82	20e	0.04	15.4	66.45	7.9	33.27	8.1	ns	ns
I25	01 Dec 2016	1127	6	11000	500	110	0.05	15.1	63.93	7.3	33.28	8.1	ns	ns
I25	01 Dec 2016	1127	9	1800e	240e	48	0.13	15.1	64.85	7.3	33.30	8.1	ns	ns
I25	05 Dec 2016	1158	2	<2	<2	<2	1.00	15.0	71.39	7.8	33.29	8.1	ns	ns
I25	05 Dec 2016	1158	6	<2	<2	<2	1.00	14.8	70.96	6.0	33.29	8.1	ns	ns

Station	Date	Time	Depth	Total	Fecal	Entero	F:T	Temp	XMS	DO	Sal	pH	OG	SUSO
I25	05 Dec 2016	1158	9	<2	<2	<2	1.00	14.3	47.97	5.9	33.30	8.0	ns	ns
I25	13 Dec 2016	1155	2	<2	<2	<2	1.00	15.8	82.68	7.3	33.34	8.1	ns	ns
I25	13 Dec 2016	1155	6	<2	<2	<2	1.00	14.6	83.20	7.3	33.29	8.1	ns	ns
I25	13 Dec 2016	1155	9	<2	<2	<2	1.00	14.7	83.43	7.3	33.30	8.1	ns	ns
I25	17 Dec 2016	1056	2	<2	<2	<2	1.00	15.4	72.07	7.9	33.28	8.2	ns	ns
I25	17 Dec 2016	1056	6	2e	<2	<2	1.00	15.3	72.51	7.8	33.28	8.2	ns	ns
I25	17 Dec 2016	1056	9	<2	<2	<2	1.00	15.3	72.01	7.8	33.28	8.2	ns	ns
I25	20 Dec 2016	1120	2	<2	<2	<2	1.00	14.6	83.51	7.8	33.31	8.1	ns	ns
I25	20 Dec 2016	1120	6	<2	<2	<2	1.00	14.6	82.35	7.8	33.31	8.1	ns	ns
I25	20 Dec 2016	1120	9	<2	<2	<2	1.00	14.6	82.24	7.8	33.31	8.1	ns	ns
I26	01 Dec 2016	1138	2	<2	<2	<2	1.00	15.5	70.22	7.7	33.30	8.1	ns	ns
I26	01 Dec 2016	1138	6	<2	<2	<2	1.00	15.2	66.03	7.3	33.30	8.1	ns	ns
I26	01 Dec 2016	1138	9	<2	<2	<2	1.00	15.1	66.53	6.8	33.30	8.1	ns	ns
I26	05 Dec 2016	1207	2	44	<2	<2	0.05	15.0	74.04	8.0	33.33	8.1	ns	ns
I26	05 Dec 2016	1207	6	100e	4e	<2	0.04	14.9	72.53	7.2	33.32	8.1	ns	ns
I26	05 Dec 2016	1207	9	80e	2e	<2	0.02	14.7	67.94	7.2	33.31	8.1	ns	ns
I26	13 Dec 2016	1209	2	<2	<2	<2	1.00	15.8	83.22	8.0	33.34	8.1	ns	ns
I26	13 Dec 2016	1209	6	<2	<2	<2	1.00	15.0	83.13	6.6	33.29	8.1	ns	ns
I26	13 Dec 2016	1209	9	<2	<2	<2	1.00	14.2	83.23	7.2	33.28	8.1	ns	ns
I26	17 Dec 2016	1104	2	<2	<2	<2	1.00	15.3	71.41	7.9	33.28	8.2	ns	ns
I26	17 Dec 2016	1104	6	<2	<2	<2	1.00	15.3	74.93	7.8	33.28	8.2	ns	ns
I26	17 Dec 2016	1104	9	<2	<2	<2	1.00	15.3	73.81	7.8	33.28	8.2	ns	ns
I26	20 Dec 2016	1129	2	<2	<2	<2	1.00	14.7	82.89	7.7	33.31	8.1	ns	ns
I26	20 Dec 2016	1129	6	<2	<2	<2	1.00	14.1	83.31	6.9	33.26	8.1	ns	ns
I26	20 Dec 2016	1129	9	2e	<2	<2	1.00	13.8	84.21	7.1	33.27	8.1	ns	ns
I32	01 Dec 2016	1151	2	<2	<2	<2	1.00	15.6	71.95	7.8	33.31	8.1	ns	ns
I32	01 Dec 2016	1151	6	<2	<2	<2	1.00	15.1	54.73	6.3	33.29	8.1	ns	ns
I32	01 Dec 2016	1151	9	<2	<2	<2	1.00	15.1	56.88	6.5	33.28	8.1	ns	ns
I32	05 Dec 2016	1219	2	<2	<2	<2	1.00	15.0	66.91	7.8	33.33	8.1	ns	ns
I32	05 Dec 2016	1219	6	<2	<2	<2	1.00	14.6	52.08	6.2	33.32	8.1	ns	ns
I32	05 Dec 2016	1219	9	<2	<2	<2	1.00	14.2	58.30	6.2	33.29	8.0	ns	ns
I32	13 Dec 2016	1224	2	<2	<2	<2	1.00	15.8	79.25	7.9	33.34	8.1	ns	ns
I32	13 Dec 2016	1224	6	<2	<2	<2	1.00	15.4	72.58	7.2	33.32	8.1	ns	ns
I32	13 Dec 2016	1224	9	<2	<2	<2	1.00	15.1	65.66	7.5	33.31	8.1	ns	ns
I32	17 Dec 2016	1116	2	<2	<2	<2	1.00	15.2	67.38	7.9	33.24	8.1	ns	ns
I32	17 Dec 2016	1116	6	<20	<2	<2	0.10	14.9	59.88	8.1	33.22	8.1	ns	ns
I32	17 Dec 2016	1116	9	<20	<2	<2	0.10	14.9	56.23	8.0	33.22	8.1	ns	ns
I32	20 Dec 2016	1142	2	<2	<2	<2	1.00	14.6	82.57	7.6	33.31	8.1	ns	ns
I32	20 Dec 2016	1142	6	<2	<2	<2	1.00	14.3	71.46	7.7	33.30	8.1	ns	ns
I32	20 Dec 2016	1142	9	<2	<2	<2	1.00	14.2	67.12	7.8	33.30	8.1	ns	ns
I39	01 Dec 2016	1033	2	<2	<2	<2	1.00	15.4	74.08	8.1	33.31	8.2	ns	ns

Station	Date	Time	Depth	Total	Fecal	Entero	F:T	Temp	XMS	DO	Sal	pH	OG	SUSO
I39	01 Dec 2016	1033	12	<2	<2	<2	1.00	14.7	71.85	5.4	33.28	8.1	ns	ns
I39	01 Dec 2016	1033	18	<2	<2	<2	1.00	14.2	67.04	5.8	33.27	8.0	ns	ns
I39	05 Dec 2016	1106	2	<2	<2	<2	1.00	15.1	80.73	8.0	33.32	8.1	ns	ns
I39	05 Dec 2016	1106	12	<2	<2	<2	1.00	14.8	81.67	7.5	33.31	8.1	ns	ns
I39	05 Dec 2016	1106	18	<2	<2	<2	1.00	14.0	74.85	6.6	33.29	8.1	ns	ns
I39	13 Dec 2016	1025	2	<2	<2	<2	1.00	15.9	84.90	8.0	33.35	8.1	ns	ns
I39	13 Dec 2016	1025	12	<2	<2	<2	1.00	15.5	81.28	7.5	33.36	8.1	ns	ns
I39	13 Dec 2016	1025	18	<2	<2	<2	1.00	14.7	82.68	7.0	33.28	8.1	ns	ns
I39	17 Dec 2016	1009	2	<2	<2	<2	1.00	15.5	79.62	7.8	33.29	8.2	ns	ns
I39	17 Dec 2016	1009	12	<2	<2	<2	1.00	15.3	78.06	6.8	33.29	8.2	ns	ns
I39	17 Dec 2016	1009	18	2e	<2	<2	1.00	14.3	65.80	6.9	33.28	8.1	ns	ns
I39	20 Dec 2016	1030	2	<2	<2	<2	1.00	15.1	84.72	7.9	33.33	8.2	ns	ns
I39	20 Dec 2016	1030	12	<2	<2	<2	1.00	14.6	83.38	7.7	33.30	8.1	ns	ns
I39	20 Dec 2016	1030	18	<2	<2	<2	1.00	13.6	85.27	6.9	33.27	8.1	ns	ns
I40	01 Dec 2016	1112	2	1200e	60e	18e	0.05	15.4	65.93	8.1	33.25	8.1	ns	ns
I40	01 Dec 2016	1112	6	1900e	160e	40e	0.08	15.1	49.33	7.8	33.29	8.1	ns	ns
I40	01 Dec 2016	1112	9	600e	120e	44	0.20	15.1	51.04	7.3	33.30	8.1	ns	ns
I40	05 Dec 2016	1143	2	180e	6e	<2	0.03	14.9	64.84	7.8	33.28	8.1	ns	ns
I40	05 Dec 2016	1143	6	320e	28e	10e	0.09	14.7	64.90	7.3	33.30	8.1	ns	ns
I40	05 Dec 2016	1143	9	180e	16e	6e	0.09	14.4	67.88	6.2	33.30	8.0	ns	ns
I40	13 Dec 2016	1134	2	<2	<2	<2	1.00	15.1	75.28	6.8	33.32	8.1	ns	ns
I40	13 Dec 2016	1134	6	<2	<2	<2	1.00	14.4	67.19	6.4	33.28	8.1	ns	ns
I40	13 Dec 2016	1134	9	<2	<2	<2	1.00	14.3	69.24	6.5	33.29	8.0	ns	ns
I40	17 Dec 2016	1042	2	<20	<2	<2	0.10	15.4	66.17	7.9	33.26	8.2	ns	ns
I40	17 Dec 2016	1042	6	8e	2e	<2	0.25	15.0	53.96	8.4	33.21	8.2	ns	ns
I40	17 Dec 2016	1042	9	<20	<2	4e	0.10	14.8	58.84	8.5	33.19	8.1	ns	ns
I40	20 Dec 2016	1104	2	4000	76	26e	0.02	14.4	69.95	7.8	33.12	8.1	ns	ns
I40	20 Dec 2016	1104	6	2000e	74	40	0.04	14.2	70.61	7.9	33.25	8.1	ns	ns
I40	20 Dec 2016	1104	9	680	52	48	0.08	14.2	62.37	7.7	33.29	8.1	ns	ns

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	01 Dec 2016	Depth (m)	11
I19	01 Dec 2016	Arrive Time	1100
I19	01 Dec 2016	Depart Time	1102
I19	01 Dec 2016	Air Temp (C)	15
I19	01 Dec 2016	Weather	Partly Cloudy
I19	01 Dec 2016	Visibility (mi)	10
I19	01 Dec 2016	Wind Speed (kts)	5
I19	01 Dec 2016	Wind Dir	W
I19	01 Dec 2016	Water Color	Greenish-Brown
I19	01 Dec 2016	Wave Ht Low (ft)	3
I19	01 Dec 2016	Wave Period (sec)	13
I19	01 Dec 2016	Sea State	Light chop
I19	01 Dec 2016	High Tide (ft)	5.63
I19	01 Dec 2016	High Tide Time	906
I19	01 Dec 2016	Low Tide (ft)	-0.27
I19	01 Dec 2016	Low Tide Time	1625
I19	01 Dec 2016	Comments	
I19	05 Dec 2016	Depth (m)	11
I19	05 Dec 2016	Arrive Time	1130
I19	05 Dec 2016	Depart Time	1133
I19	05 Dec 2016	Air Temp (C)	15
I19	05 Dec 2016	Weather	Partly Cloudy
I19	05 Dec 2016	Visibility (mi)	7
I19	05 Dec 2016	Wind Speed (kts)	10
I19	05 Dec 2016	Wind Dir	W
I19	05 Dec 2016	Water Color	Green
I19	05 Dec 2016	Wave Ht Low (ft)	5
I19	05 Dec 2016	Wave Period (sec)	9
I19	05 Dec 2016	Sea State	Light chop
I19	05 Dec 2016	High Tide (ft)	4.38
I19	05 Dec 2016	High Tide Time	1147
I19	05 Dec 2016	Low Tide (ft)	2.81
I19	05 Dec 2016	Low Tide Time	611
I19	05 Dec 2016	Comments	
I19	13 Dec 2016	Depth (m)	10
I19	13 Dec 2016	Arrive Time	1048
I19	13 Dec 2016	Depart Time	1052
I19	13 Dec 2016	Air Temp (C)	15
I19	13 Dec 2016	Weather	Partly Cloudy
I19	13 Dec 2016	Visibility (mi)	8
I19	13 Dec 2016	Wind Speed (kts)	8
I19	13 Dec 2016	Wind Dir	E
I19	13 Dec 2016	Water Color	Green
I19	13 Dec 2016	Wave Ht Low (ft)	2
I19	13 Dec 2016	Wave Period (sec)	11
I19	13 Dec 2016	Sea State	Calm
I19	13 Dec 2016	High Tide (ft)	6.92
I19	13 Dec 2016	High Tide Time	744
I19	13 Dec 2016	Low Tide (ft)	-1.52

Station	Date	Parameter	Value
I19	13 Dec 2016	Low Tide Time	1452
I19	13 Dec 2016	Comments	
I19	17 Dec 2016	Depth (m)	11
I19	17 Dec 2016	Arrive Time	1030
I19	17 Dec 2016	Depart Time	1034
I19	17 Dec 2016	Air Temp (C)	13
I19	17 Dec 2016	Weather	Clear
I19	17 Dec 2016	Visibility (mi)	12
I19	17 Dec 2016	Wind Speed (kts)	2
I19	17 Dec 2016	Wind Dir	W
I19	17 Dec 2016	Water Color	Green
I19	17 Dec 2016	Wave Ht Low (ft)	7
I19	17 Dec 2016	Wave Period (sec)	9
I19	17 Dec 2016	Sea State	Calm
I19	17 Dec 2016	High Tide (ft)	5.62
I19	17 Dec 2016	High Tide Time	1047
I19	17 Dec 2016	Low Tide (ft)	1.97
I19	17 Dec 2016	Low Tide Time	452
I19	17 Dec 2016	Comments	
I19	20 Dec 2016	Depth (m)	11
I19	20 Dec 2016	Arrive Time	1054
I19	20 Dec 2016	Depart Time	1056
I19	20 Dec 2016	Air Temp (C)	22
I19	20 Dec 2016	Weather	Clear
I19	20 Dec 2016	Visibility (mi)	18
I19	20 Dec 2016	Wind Speed (kts)	4
I19	20 Dec 2016	Wind Dir	S
I19	20 Dec 2016	Water Color	Brownish-Green
I19	20 Dec 2016	Wave Ht Low (ft)	2
I19	20 Dec 2016	Wave Period (sec)	9
I19	20 Dec 2016	Sea State	Calm
I19	20 Dec 2016	High Tide (ft)	3.63
I19	20 Dec 2016	High Tide Time	1401
I19	20 Dec 2016	Low Tide (ft)	2.24
I19	20 Dec 2016	Low Tide Time	847
I19	20 Dec 2016	Comments	
I24	01 Dec 2016	Depth (m)	10
I24	01 Dec 2016	Arrive Time	1121
I24	01 Dec 2016	Depart Time	1123
I24	01 Dec 2016	Air Temp (C)	15
I24	01 Dec 2016	Weather	Partly Cloudy
I24	01 Dec 2016	Visibility (mi)	10
I24	01 Dec 2016	Wind Speed (kts)	4
I24	01 Dec 2016	Wind Dir	W
I24	01 Dec 2016	Water Color	Greenish-Brown
I24	01 Dec 2016	Wave Ht Low (ft)	3
I24	01 Dec 2016	Wave Period (sec)	13
I24	01 Dec 2016	Sea State	Light chop
I24	01 Dec 2016	High Tide (ft)	5.63
I24	01 Dec 2016	High Tide Time	906
I24	01 Dec 2016	Low Tide (ft)	-0.27
I24	01 Dec 2016	Low Tide Time	1625

Station	Date	Parameter	Value
I24	01 Dec 2016	Comments	
I24	05 Dec 2016	Depth (m)	11
I24	05 Dec 2016	Arrive Time	1151
I24	05 Dec 2016	Depart Time	1154
I24	05 Dec 2016	Air Temp (C)	15
I24	05 Dec 2016	Weather	Partly Cloudy
I24	05 Dec 2016	Visibility (mi)	7
I24	05 Dec 2016	Wind Speed (kts)	9
I24	05 Dec 2016	Wind Dir	E
I24	05 Dec 2016	Water Color	Green
I24	05 Dec 2016	Wave Ht Low (ft)	5
I24	05 Dec 2016	Wave Period (sec)	9
I24	05 Dec 2016	Sea State	Light chop
I24	05 Dec 2016	High Tide (ft)	4.38
I24	05 Dec 2016	High Tide Time	1147
I24	05 Dec 2016	Low Tide (ft)	2.81
I24	05 Dec 2016	Low Tide Time	611
I24	05 Dec 2016	Comments	
I24	13 Dec 2016	Depth (m)	9
I24	13 Dec 2016	Arrive Time	1144
I24	13 Dec 2016	Depart Time	1147
I24	13 Dec 2016	Air Temp (C)	16
I24	13 Dec 2016	Weather	Partly Cloudy
I24	13 Dec 2016	Visibility (mi)	8
I24	13 Dec 2016	Wind Speed (kts)	8
I24	13 Dec 2016	Wind Dir	E
I24	13 Dec 2016	Water Color	Green
I24	13 Dec 2016	Wave Ht Low (ft)	2
I24	13 Dec 2016	Wave Period (sec)	11
I24	13 Dec 2016	Sea State	Calm
I24	13 Dec 2016	High Tide (ft)	6.92
I24	13 Dec 2016	High Tide Time	744
I24	13 Dec 2016	Low Tide (ft)	-1.52
I24	13 Dec 2016	Low Tide Time	1452
I24	13 Dec 2016	Comments	
I24	17 Dec 2016	Depth (m)	10
I24	17 Dec 2016	Arrive Time	1049
I24	17 Dec 2016	Depart Time	1052
I24	17 Dec 2016	Air Temp (C)	13
I24	17 Dec 2016	Weather	Clear
I24	17 Dec 2016	Visibility (mi)	12
I24	17 Dec 2016	Wind Speed (kts)	1
I24	17 Dec 2016	Wind Dir	S
I24	17 Dec 2016	Water Color	Green
I24	17 Dec 2016	Wave Ht Low (ft)	7
I24	17 Dec 2016	Wave Period (sec)	9
I24	17 Dec 2016	Sea State	Calm
I24	17 Dec 2016	High Tide (ft)	5.62
I24	17 Dec 2016	High Tide Time	1047
I24	17 Dec 2016	Low Tide (ft)	1.97
I24	17 Dec 2016	Low Tide Time	452
I24	17 Dec 2016	Comments	

Station	Date	Parameter	Value
I24	20 Dec 2016	Depth (m)	12
I24	20 Dec 2016	Arrive Time	1113
I24	20 Dec 2016	Depart Time	1116
I24	20 Dec 2016	Air Temp (C)	17
I24	20 Dec 2016	Weather	Clear
I24	20 Dec 2016	Visibility (mi)	18
I24	20 Dec 2016	Wind Speed (kts)	5
I24	20 Dec 2016	Wind Dir	SW
I24	20 Dec 2016	Water Color	Brownish-Green
I24	20 Dec 2016	Wave Ht Low (ft)	2
I24	20 Dec 2016	Wave Period (sec)	9
I24	20 Dec 2016	Sea State	Calm
I24	20 Dec 2016	High Tide (ft)	3.63
I24	20 Dec 2016	High Tide Time	1401
I24	20 Dec 2016	Low Tide (ft)	2.24
I24	20 Dec 2016	Low Tide Time	847
I24	20 Dec 2016	Comments	
I25	01 Dec 2016	Depth (m)	9
I25	01 Dec 2016	Arrive Time	1127
I25	01 Dec 2016	Depart Time	1130
I25	01 Dec 2016	Air Temp (C)	15
I25	01 Dec 2016	Weather	Partly Cloudy
I25	01 Dec 2016	Visibility (mi)	10
I25	01 Dec 2016	Wind Speed (kts)	5
I25	01 Dec 2016	Wind Dir	E
I25	01 Dec 2016	Water Color	Greenish-Brown
I25	01 Dec 2016	Wave Ht Low (ft)	3
I25	01 Dec 2016	Wave Period (sec)	13
I25	01 Dec 2016	Sea State	Light chop
I25	01 Dec 2016	High Tide (ft)	5.63
I25	01 Dec 2016	High Tide Time	906
I25	01 Dec 2016	Low Tide (ft)	-0.27
I25	01 Dec 2016	Low Tide Time	1625
I25	01 Dec 2016	Comments	
I25	05 Dec 2016	Depth (m)	11
I25	05 Dec 2016	Arrive Time	1158
I25	05 Dec 2016	Depart Time	1201
I25	05 Dec 2016	Air Temp (C)	15
I25	05 Dec 2016	Weather	Partly Cloudy
I25	05 Dec 2016	Visibility (mi)	7
I25	05 Dec 2016	Wind Speed (kts)	10
I25	05 Dec 2016	Wind Dir	E
I25	05 Dec 2016	Water Color	Green
I25	05 Dec 2016	Wave Ht Low (ft)	5
I25	05 Dec 2016	Wave Period (sec)	9
I25	05 Dec 2016	Sea State	Light chop
I25	05 Dec 2016	High Tide (ft)	4.38
I25	05 Dec 2016	High Tide Time	1147
I25	05 Dec 2016	Low Tide (ft)	2.81
I25	05 Dec 2016	Low Tide Time	611
I25	05 Dec 2016	Comments	

Station	Date	Parameter	Value
I25	13 Dec 2016	Depth (m)	9
I25	13 Dec 2016	Arrive Time	1155
I25	13 Dec 2016	Depart Time	1159
I25	13 Dec 2016	Air Temp (C)	16
I25	13 Dec 2016	Weather	Partly Cloudy
I25	13 Dec 2016	Visibility (mi)	8
I25	13 Dec 2016	Wind Speed (kts)	9
I25	13 Dec 2016	Wind Dir	N
I25	13 Dec 2016	Water Color	Green
I25	13 Dec 2016	Wave Ht Low (ft)	2
I25	13 Dec 2016	Wave Period (sec)	11
I25	13 Dec 2016	Sea State	Calm
I25	13 Dec 2016	High Tide (ft)	6.92
I25	13 Dec 2016	High Tide Time	744
I25	13 Dec 2016	Low Tide (ft)	-1.52
I25	13 Dec 2016	Low Tide Time	1452
I25	13 Dec 2016	Comments	
I25	17 Dec 2016	Depth (m)	9
I25	17 Dec 2016	Arrive Time	1056
I25	17 Dec 2016	Depart Time	1058
I25	17 Dec 2016	Air Temp (C)	13
I25	17 Dec 2016	Weather	Clear
I25	17 Dec 2016	Visibility (mi)	12
I25	17 Dec 2016	Wind Speed (kts)	1
I25	17 Dec 2016	Wind Dir	N
I25	17 Dec 2016	Water Color	Green
I25	17 Dec 2016	Wave Ht Low (ft)	7
I25	17 Dec 2016	Wave Period (sec)	9
I25	17 Dec 2016	Sea State	Calm
I25	17 Dec 2016	High Tide (ft)	5.62
I25	17 Dec 2016	High Tide Time	1047
I25	17 Dec 2016	Low Tide (ft)	1.97
I25	17 Dec 2016	Low Tide Time	452
I25	17 Dec 2016	Comments	
I25	20 Dec 2016	Depth (m)	10
I25	20 Dec 2016	Arrive Time	1120
I25	20 Dec 2016	Depart Time	1123
I25	20 Dec 2016	Air Temp (C)	16
I25	20 Dec 2016	Weather	Clear
I25	20 Dec 2016	Visibility (mi)	18
I25	20 Dec 2016	Wind Speed (kts)	5
I25	20 Dec 2016	Wind Dir	S
I25	20 Dec 2016	Water Color	Brownish-Green
I25	20 Dec 2016	Wave Ht Low (ft)	2
I25	20 Dec 2016	Wave Period (sec)	9
I25	20 Dec 2016	Sea State	Calm
I25	20 Dec 2016	High Tide (ft)	3.63
I25	20 Dec 2016	High Tide Time	1401
I25	20 Dec 2016	Low Tide (ft)	2.24
I25	20 Dec 2016	Low Tide Time	847
I25	20 Dec 2016	Comments	
I26	01 Dec 2016	Depth (m)	9

Station	Date	Parameter	Value
I26	01 Dec 2016	Arrive Time	1138
I26	01 Dec 2016	Depart Time	1141
I26	01 Dec 2016	Air Temp (C)	15
I26	01 Dec 2016	Weather	Partly Cloudy
I26	01 Dec 2016	Visibility (mi)	10
I26	01 Dec 2016	Wind Speed (kts)	5
I26	01 Dec 2016	Wind Dir	W
I26	01 Dec 2016	Water Color	Greenish-Brown
I26	01 Dec 2016	Wave Ht Low (ft)	3
I26	01 Dec 2016	Wave Period (sec)	13
I26	01 Dec 2016	Sea State	Light chop
I26	01 Dec 2016	High Tide (ft)	5.63
I26	01 Dec 2016	High Tide Time	906
I26	01 Dec 2016	Low Tide (ft)	-0.27
I26	01 Dec 2016	Low Tide Time	1625
I26	01 Dec 2016	Comments	
I26	05 Dec 2016	Depth (m)	11
I26	05 Dec 2016	Arrive Time	1207
I26	05 Dec 2016	Depart Time	1210
I26	05 Dec 2016	Air Temp (C)	15
I26	05 Dec 2016	Weather	Partly Cloudy
I26	05 Dec 2016	Visibility (mi)	7
I26	05 Dec 2016	Wind Speed (kts)	8
I26	05 Dec 2016	Wind Dir	NE
I26	05 Dec 2016	Water Color	Green
I26	05 Dec 2016	Wave Ht Low (ft)	5
I26	05 Dec 2016	Wave Period (sec)	9
I26	05 Dec 2016	Sea State	Light chop
I26	05 Dec 2016	High Tide (ft)	4.38
I26	05 Dec 2016	High Tide Time	1147
I26	05 Dec 2016	Low Tide (ft)	2.81
I26	05 Dec 2016	Low Tide Time	611
I26	05 Dec 2016	Comments	
I26	13 Dec 2016	Depth (m)	8
I26	13 Dec 2016	Arrive Time	1209
I26	13 Dec 2016	Depart Time	1212
I26	13 Dec 2016	Air Temp (C)	16
I26	13 Dec 2016	Weather	Partly Cloudy
I26	13 Dec 2016	Visibility (mi)	8
I26	13 Dec 2016	Wind Speed (kts)	11
I26	13 Dec 2016	Wind Dir	NW
I26	13 Dec 2016	Water Color	Green
I26	13 Dec 2016	Wave Ht Low (ft)	2
I26	13 Dec 2016	Wave Period (sec)	11
I26	13 Dec 2016	Sea State	Calm
I26	13 Dec 2016	High Tide (ft)	6.92
I26	13 Dec 2016	High Tide Time	744
I26	13 Dec 2016	Low Tide (ft)	-1.52
I26	13 Dec 2016	Low Tide Time	1452
I26	13 Dec 2016	Comments	
I26	17 Dec 2016	Depth (m)	10
I26	17 Dec 2016	Arrive Time	1104

Station	Date	Parameter	Value
I26	17 Dec 2016	Depart Time	1107
I26	17 Dec 2016	Air Temp (C)	13
I26	17 Dec 2016	Weather	Clear
I26	17 Dec 2016	Visibility (mi)	12
I26	17 Dec 2016	Wind Speed (kts)	3
I26	17 Dec 2016	Wind Dir	S
I26	17 Dec 2016	Water Color	Green
I26	17 Dec 2016	Wave Ht Low (ft)	7
I26	17 Dec 2016	Wave Period (sec)	9
I26	17 Dec 2016	Sea State	Calm
I26	17 Dec 2016	High Tide (ft)	5.62
I26	17 Dec 2016	High Tide Time	1047
I26	17 Dec 2016	Low Tide (ft)	1.97
I26	17 Dec 2016	Low Tide Time	452
I26	17 Dec 2016	Comments	
I26	20 Dec 2016	Depth (m)	9
I26	20 Dec 2016	Arrive Time	1129
I26	20 Dec 2016	Depart Time	1133
I26	20 Dec 2016	Air Temp (C)	17
I26	20 Dec 2016	Weather	Clear
I26	20 Dec 2016	Visibility (mi)	18
I26	20 Dec 2016	Wind Speed (kts)	7
I26	20 Dec 2016	Wind Dir	NW
I26	20 Dec 2016	Water Color	Brownish-Green
I26	20 Dec 2016	Wave Ht Low (ft)	2
I26	20 Dec 2016	Wave Period (sec)	9
I26	20 Dec 2016	Sea State	Calm
I26	20 Dec 2016	High Tide (ft)	3.63
I26	20 Dec 2016	High Tide Time	1401
I26	20 Dec 2016	Low Tide (ft)	2.24
I26	20 Dec 2016	Low Tide Time	847
I26	20 Dec 2016	Comments	
I32	01 Dec 2016	Depth (m)	9
I32	01 Dec 2016	Arrive Time	1151
I32	01 Dec 2016	Depart Time	1154
I32	01 Dec 2016	Air Temp (C)	15
I32	01 Dec 2016	Weather	Partly Cloudy
I32	01 Dec 2016	Visibility (mi)	10
I32	01 Dec 2016	Wind Speed (kts)	5
I32	01 Dec 2016	Wind Dir	NE
I32	01 Dec 2016	Water Color	Greenish-Brown
I32	01 Dec 2016	Wave Ht Low (ft)	3
I32	01 Dec 2016	Wave Period (sec)	13
I32	01 Dec 2016	Sea State	Light chop
I32	01 Dec 2016	High Tide (ft)	5.63
I32	01 Dec 2016	High Tide Time	906
I32	01 Dec 2016	Low Tide (ft)	-0.27
I32	01 Dec 2016	Low Tide Time	1625
I32	01 Dec 2016	Comments	
I32	05 Dec 2016	Depth (m)	10
I32	05 Dec 2016	Arrive Time	1219
I32	05 Dec 2016	Depart Time	1222

Station	Date	Parameter	Value
I32	05 Dec 2016	Air Temp (C)	15
I32	05 Dec 2016	Weather	Partly Cloudy
I32	05 Dec 2016	Visibility (mi)	7
I32	05 Dec 2016	Wind Speed (kts)	9
I32	05 Dec 2016	Wind Dir	NE
I32	05 Dec 2016	Water Color	Green
I32	05 Dec 2016	Wave Ht Low (ft)	5
I32	05 Dec 2016	Wave Period (sec)	9
I32	05 Dec 2016	Sea State	Light chop
I32	05 Dec 2016	High Tide (ft)	4.38
I32	05 Dec 2016	High Tide Time	1147
I32	05 Dec 2016	Low Tide (ft)	2.81
I32	05 Dec 2016	Low Tide Time	611
I32	05 Dec 2016	Comments	
I32	13 Dec 2016	Depth (m)	9
I32	13 Dec 2016	Arrive Time	1224
I32	13 Dec 2016	Depart Time	1227
I32	13 Dec 2016	Air Temp (C)	16
I32	13 Dec 2016	Weather	Partly Cloudy
I32	13 Dec 2016	Visibility (mi)	8
I32	13 Dec 2016	Wind Speed (kts)	10
I32	13 Dec 2016	Wind Dir	N
I32	13 Dec 2016	Water Color	Green
I32	13 Dec 2016	Wave Ht Low (ft)	2
I32	13 Dec 2016	Wave Period (sec)	11
I32	13 Dec 2016	Sea State	Calm
I32	13 Dec 2016	High Tide (ft)	6.92
I32	13 Dec 2016	High Tide Time	744
I32	13 Dec 2016	Low Tide (ft)	-1.52
I32	13 Dec 2016	Low Tide Time	1452
I32	13 Dec 2016	Comments	
I32	17 Dec 2016	Depth (m)	11
I32	17 Dec 2016	Arrive Time	1116
I32	17 Dec 2016	Depart Time	1120
I32	17 Dec 2016	Air Temp (C)	13
I32	17 Dec 2016	Weather	Clear
I32	17 Dec 2016	Visibility (mi)	12
I32	17 Dec 2016	Wind Speed (kts)	4
I32	17 Dec 2016	Wind Dir	SW
I32	17 Dec 2016	Water Color	Green
I32	17 Dec 2016	Wave Ht Low (ft)	7
I32	17 Dec 2016	Wave Period (sec)	9
I32	17 Dec 2016	Sea State	Calm
I32	17 Dec 2016	High Tide (ft)	5.62
I32	17 Dec 2016	High Tide Time	1047
I32	17 Dec 2016	Low Tide (ft)	1.97
I32	17 Dec 2016	Low Tide Time	452
I32	17 Dec 2016	Comments	
I32	20 Dec 2016	Depth (m)	10
I32	20 Dec 2016	Arrive Time	1142
I32	20 Dec 2016	Depart Time	1146
I32	20 Dec 2016	Air Temp (C)	17

Station	Date	Parameter	Value
I32	20 Dec 2016	Weather	Clear
I32	20 Dec 2016	Visibility (mi)	18
I32	20 Dec 2016	Wind Speed (kts)	7
I32	20 Dec 2016	Wind Dir	E
I32	20 Dec 2016	Water Color	Brownish-Green
I32	20 Dec 2016	Wave Ht Low (ft)	2
I32	20 Dec 2016	Wave Period (sec)	9
I32	20 Dec 2016	Sea State	Calm
I32	20 Dec 2016	High Tide (ft)	3.63
I32	20 Dec 2016	High Tide Time	1401
I32	20 Dec 2016	Low Tide (ft)	2.24
I32	20 Dec 2016	Low Tide Time	847
I32	20 Dec 2016	Comments	
I39	01 Dec 2016	Depth (m)	18
I39	01 Dec 2016	Arrive Time	1033
I39	01 Dec 2016	Depart Time	1036
I39	01 Dec 2016	Air Temp (C)	15
I39	01 Dec 2016	Weather	Partly Cloudy
I39	01 Dec 2016	Visibility (mi)	5
I39	01 Dec 2016	Wind Speed (kts)	5
I39	01 Dec 2016	Wind Dir	NE
I39	01 Dec 2016	Water Color	Brownish-Green
I39	01 Dec 2016	Wave Ht Low (ft)	3
I39	01 Dec 2016	Wave Period (sec)	9
I39	01 Dec 2016	Sea State	Calm
I39	01 Dec 2016	High Tide (ft)	5.63
I39	01 Dec 2016	High Tide Time	906
I39	01 Dec 2016	Low Tide (ft)	-0.27
I39	01 Dec 2016	Low Tide Time	1625
I39	01 Dec 2016	Comments	
I39	05 Dec 2016	Depth (m)	19
I39	05 Dec 2016	Arrive Time	1106
I39	05 Dec 2016	Depart Time	1110
I39	05 Dec 2016	Air Temp (C)	15
I39	05 Dec 2016	Weather	Partly Cloudy
I39	05 Dec 2016	Visibility (mi)	8
I39	05 Dec 2016	Wind Speed (kts)	10
I39	05 Dec 2016	Wind Dir	E
I39	05 Dec 2016	Water Color	Green
I39	05 Dec 2016	Wave Ht Low (ft)	5
I39	05 Dec 2016	Wave Period (sec)	9
I39	05 Dec 2016	Sea State	Light chop
I39	05 Dec 2016	High Tide (ft)	4.38
I39	05 Dec 2016	High Tide Time	1147
I39	05 Dec 2016	Low Tide (ft)	2.81
I39	05 Dec 2016	Low Tide Time	611
I39	05 Dec 2016	Comments	
I39	13 Dec 2016	Depth (m)	18
I39	13 Dec 2016	Arrive Time	1025
I39	13 Dec 2016	Depart Time	1029
I39	13 Dec 2016	Air Temp (C)	15
I39	13 Dec 2016	Weather	Partly Cloudy

Station	Date	Parameter	Value
I39	13 Dec 2016	Visibility (mi)	8
I39	13 Dec 2016	Wind Speed (kts)	4
I39	13 Dec 2016	Wind Dir	W
I39	13 Dec 2016	Water Color	Green
I39	13 Dec 2016	Wave Ht Low (ft)	2
I39	13 Dec 2016	Wave Period (sec)	11
I39	13 Dec 2016	Sea State	Calm
I39	13 Dec 2016	High Tide (ft)	6.92
I39	13 Dec 2016	High Tide Time	744
I39	13 Dec 2016	Low Tide (ft)	-1.52
I39	13 Dec 2016	Low Tide Time	1452
I39	13 Dec 2016	Comments	
I39	17 Dec 2016	Depth (m)	19
I39	17 Dec 2016	Arrive Time	1009
I39	17 Dec 2016	Depart Time	1011
I39	17 Dec 2016	Air Temp (C)	13
I39	17 Dec 2016	Weather	Clear
I39	17 Dec 2016	Visibility (mi)	12
I39	17 Dec 2016	Wind Speed (kts)	1
I39	17 Dec 2016	Wind Dir	W
I39	17 Dec 2016	Water Color	Green
I39	17 Dec 2016	Wave Ht Low (ft)	6
I39	17 Dec 2016	Wave Period (sec)	9
I39	17 Dec 2016	Sea State	Calm
I39	17 Dec 2016	High Tide (ft)	5.62
I39	17 Dec 2016	High Tide Time	1047
I39	17 Dec 2016	Low Tide (ft)	1.97
I39	17 Dec 2016	Low Tide Time	452
I39	17 Dec 2016	Comments	
I39	20 Dec 2016	Depth (m)	19
I39	20 Dec 2016	Arrive Time	1030
I39	20 Dec 2016	Depart Time	1032
I39	20 Dec 2016	Air Temp (C)	19
I39	20 Dec 2016	Weather	Clear
I39	20 Dec 2016	Visibility (mi)	18
I39	20 Dec 2016	Wind Speed (kts)	6
I39	20 Dec 2016	Wind Dir	S
I39	20 Dec 2016	Water Color	Brownish-Green
I39	20 Dec 2016	Wave Ht Low (ft)	2
I39	20 Dec 2016	Wave Period (sec)	9
I39	20 Dec 2016	Sea State	Calm
I39	20 Dec 2016	High Tide (ft)	3.63
I39	20 Dec 2016	High Tide Time	1401
I39	20 Dec 2016	Low Tide (ft)	2.24
I39	20 Dec 2016	Low Tide Time	847
I39	20 Dec 2016	Comments	
I40	01 Dec 2016	Depth (m)	10
I40	01 Dec 2016	Arrive Time	1112
I40	01 Dec 2016	Depart Time	1115
I40	01 Dec 2016	Air Temp (C)	15
I40	01 Dec 2016	Weather	Partly Cloudy
I40	01 Dec 2016	Visibility (mi)	10

Station	Date	Parameter	Value
I40	01 Dec 2016	Wind Speed (kts)	6
I40	01 Dec 2016	Wind Dir	NW
I40	01 Dec 2016	Water Color	Greenish-Brown
I40	01 Dec 2016	Wave Ht Low (ft)	3
I40	01 Dec 2016	Wave Period (sec)	13
I40	01 Dec 2016	Sea State	Light chop
I40	01 Dec 2016	High Tide (ft)	5.63
I40	01 Dec 2016	High Tide Time	906
I40	01 Dec 2016	Low Tide (ft)	-0.27
I40	01 Dec 2016	Low Tide Time	1625
I40	01 Dec 2016	Comments	
I40	05 Dec 2016	Depth (m)	11
I40	05 Dec 2016	Arrive Time	1143
I40	05 Dec 2016	Depart Time	1145
I40	05 Dec 2016	Air Temp (C)	15
I40	05 Dec 2016	Weather	Partly Cloudy
I40	05 Dec 2016	Visibility (mi)	7
I40	05 Dec 2016	Wind Speed (kts)	10
I40	05 Dec 2016	Wind Dir	E
I40	05 Dec 2016	Water Color	Green
I40	05 Dec 2016	Wave Ht Low (ft)	5
I40	05 Dec 2016	Wave Period (sec)	9
I40	05 Dec 2016	Sea State	Light chop
I40	05 Dec 2016	High Tide (ft)	4.38
I40	05 Dec 2016	High Tide Time	1147
I40	05 Dec 2016	Low Tide (ft)	2.81
I40	05 Dec 2016	Low Tide Time	611
I40	05 Dec 2016	Comments	
I40	13 Dec 2016	Depth (m)	9
I40	13 Dec 2016	Arrive Time	1134
I40	13 Dec 2016	Depart Time	1137
I40	13 Dec 2016	Air Temp (C)	16
I40	13 Dec 2016	Weather	Partly Cloudy
I40	13 Dec 2016	Visibility (mi)	8
I40	13 Dec 2016	Wind Speed (kts)	6
I40	13 Dec 2016	Wind Dir	N
I40	13 Dec 2016	Water Color	Green
I40	13 Dec 2016	Wave Ht Low (ft)	2
I40	13 Dec 2016	Wave Period (sec)	11
I40	13 Dec 2016	Sea State	Calm
I40	13 Dec 2016	High Tide (ft)	6.92
I40	13 Dec 2016	High Tide Time	744
I40	13 Dec 2016	Low Tide (ft)	-1.52
I40	13 Dec 2016	Low Tide Time	1452
I40	13 Dec 2016	Comments	
I40	17 Dec 2016	Depth (m)	10
I40	17 Dec 2016	Arrive Time	1042
I40	17 Dec 2016	Depart Time	1044
I40	17 Dec 2016	Air Temp (C)	13
I40	17 Dec 2016	Weather	Clear
I40	17 Dec 2016	Visibility (mi)	12
I40	17 Dec 2016	Wind Speed (kts)	4

Station	Date	Parameter	Value
I40	17 Dec 2016	Wind Dir	SW
I40	17 Dec 2016	Water Color	Green
I40	17 Dec 2016	Wave Ht Low (ft)	7
I40	17 Dec 2016	Wave Period (sec)	9
I40	17 Dec 2016	Sea State	Calm
I40	17 Dec 2016	High Tide (ft)	5.62
I40	17 Dec 2016	High Tide Time	1047
I40	17 Dec 2016	Low Tide (ft)	1.97
I40	17 Dec 2016	Low Tide Time	452
I40	17 Dec 2016	Comments	
I40	20 Dec 2016	Depth (m)	9
I40	20 Dec 2016	Arrive Time	1104
I40	20 Dec 2016	Depart Time	1107
I40	20 Dec 2016	Air Temp (C)	20
I40	20 Dec 2016	Weather	Clear
I40	20 Dec 2016	Visibility (mi)	18
I40	20 Dec 2016	Wind Speed (kts)	3
I40	20 Dec 2016	Wind Dir	E
I40	20 Dec 2016	Water Color	Brownish-Green
I40	20 Dec 2016	Wave Ht Low (ft)	2
I40	20 Dec 2016	Wave Period (sec)	9
I40	20 Dec 2016	Sea State	Calm
I40	20 Dec 2016	High Tide (ft)	3.63
I40	20 Dec 2016	High Tide Time	1401
I40	20 Dec 2016	Low Tide (ft)	2.24
I40	20 Dec 2016	Low Tide Time	847
I40	20 Dec 2016	Comments	

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	01 Dec 2016	1	15.49	73.32	8.3	33.29	8.2	24.5	2.50
I19	01 Dec 2016	2	15.46	72.65	8.3	33.29	8.2	24.6	3.50
I19	01 Dec 2016	3	15.44	73.06	8.2	33.29	8.2	24.6	4.83
I19	01 Dec 2016	4	15.35	72.22	8.1	33.29	8.2	24.6	6.06
I19	01 Dec 2016	5	15.33	71.98	8.0	33.29	8.2	24.6	6.45
I19	01 Dec 2016	6	15.30	71.81	7.8	33.29	8.2	24.6	7.21
I19	01 Dec 2016	7	15.31	71.83	7.3	33.29	8.2	24.6	7.73
I19	01 Dec 2016	8	15.25	68.27	7.3	33.29	8.1	24.6	7.83
I19	01 Dec 2016	9	15.22	70.34	7.1	33.29	8.1	24.6	7.37
I19	01 Dec 2016	10	15.19	70.97	6.6	33.29	8.1	24.6	7.35
I19	05 Dec 2016	1	15.00	72.89	7.8	33.32	8.1	24.7	1.69
I19	05 Dec 2016	2	15.00	72.83	7.8	33.32	8.1	24.7	2.32
I19	05 Dec 2016	3	14.96	71.84	7.8	33.31	8.1	24.7	2.78
I19	05 Dec 2016	4	14.88	69.09	7.8	33.31	8.1	24.7	3.03
I19	05 Dec 2016	5	14.87	68.59	7.7	33.31	8.1	24.7	3.04
I19	05 Dec 2016	6	14.85	67.76	7.7	33.31	8.1	24.7	3.15
I19	05 Dec 2016	7	14.81	66.12	7.7	33.30	8.1	24.7	3.00
I19	05 Dec 2016	8	14.77	64.08	7.7	33.30	8.1	24.7	2.72
I19	05 Dec 2016	9	14.70	61.94	7.6	33.29	8.1	24.7	2.75
I19	05 Dec 2016	10	14.61	56.73	7.6	33.28	8.1	24.7	2.93
I19	13 Dec 2016	1	15.14	78.79	7.3	33.31	8.1	24.6	0.91
I19	13 Dec 2016	2	15.13	78.72	7.3	33.31	8.1	24.6	1.21
I19	13 Dec 2016	3	15.10	78.48	7.2	33.31	8.1	24.6	1.53
I19	13 Dec 2016	4	15.02	78.21	7.1	33.31	8.1	24.7	1.66
I19	13 Dec 2016	5	14.95	78.17	6.6	33.30	8.1	24.7	1.77
I19	13 Dec 2016	6	14.80	79.36	6.2	33.29	8.1	24.7	2.11
I19	13 Dec 2016	7	14.40	80.15	6.2	33.28	8.1	24.8	2.42
I19	13 Dec 2016	8	14.18	77.89	6.2	33.29	8.1	24.8	2.66
I19	13 Dec 2016	9	14.15	72.57	6.3	33.29	8.0	24.8	2.64
I19	13 Dec 2016	10	14.10	66.50	6.4	33.28	8.0	24.8	2.47
I19	17 Dec 2016	1	15.57	64.16	7.9	33.22	8.2	24.5	1.04
I19	17 Dec 2016	2	15.56	64.28	7.9	33.22	8.2	24.5	1.22
I19	17 Dec 2016	3	15.62	64.82	7.8	33.27	8.2	24.5	1.45
I19	17 Dec 2016	4	15.67	67.81	7.8	33.30	8.2	24.5	1.60
I19	17 Dec 2016	5	15.67	67.26	7.8	33.30	8.2	24.5	1.68
I19	17 Dec 2016	6	15.64	64.08	7.8	33.30	8.2	24.5	1.71
I19	17 Dec 2016	7	15.62	63.85	7.8	33.30	8.2	24.5	1.72
I19	17 Dec 2016	8	15.60	65.38	7.8	33.30	8.2	24.5	1.80
I19	17 Dec 2016	9	15.57	65.86	7.8	33.29	8.2	24.5	2.02
I19	17 Dec 2016	10	15.55	64.55	8.0	33.29	8.2	24.5	2.26
I19	20 Dec 2016	1	14.40	76.21	7.6	33.30	8.1	24.8	1.31
I19	20 Dec 2016	2	14.39	75.95	7.6	33.30	8.1	24.8	1.57
I19	20 Dec 2016	3	14.35	75.37	7.6	33.29	8.1	24.8	2.03
I19	20 Dec 2016	4	14.30	73.63	7.6	33.29	8.1	24.8	2.17
I19	20 Dec 2016	5	14.27	73.10	7.6	33.29	8.1	24.8	2.25
I19	20 Dec 2016	6	14.24	72.47	7.6	33.29	8.1	24.8	2.28
I19	20 Dec 2016	7	14.17	71.87	7.6	33.28	8.1	24.8	2.24

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
I19	20 Dec 2016	8	14.09	69.14	7.7	33.28	8.1	24.8	2.23
I19	20 Dec 2016	9	14.05	64.18	7.9	33.29	8.1	24.9	2.21
I19	20 Dec 2016	10	14.01	56.68	7.9	33.28	8.1	24.9	2.26
I24	01 Dec 2016	1	15.48	66.28	8.3	33.25	8.1	24.5	4.52
I24	01 Dec 2016	2	15.45	66.75	8.2	33.26	8.1	24.5	5.69
I24	01 Dec 2016	3	15.28	65.99	8.0	33.27	8.2	24.6	6.38
I24	01 Dec 2016	4	15.24	69.21	7.5	33.29	8.2	24.6	6.20
I24	01 Dec 2016	5	15.21	70.64	7.2	33.29	8.1	24.6	6.01
I24	01 Dec 2016	6	15.17	70.19	7.0	33.29	8.1	24.6	4.79
I24	01 Dec 2016	7	15.12	67.01	6.4	33.28	8.1	24.6	3.98
I24	01 Dec 2016	8	15.03	59.85	6.2	33.28	8.1	24.6	4.23
I24	01 Dec 2016	9	14.99	52.93	6.4	33.28	8.1	24.7	3.68
I24	01 Dec 2016	10	14.98	50.08	6.1	33.28	8.1	24.7	3.58
I24	05 Dec 2016	1	14.95	72.35	7.8	33.30	8.1	24.7	2.44
I24	05 Dec 2016	2	14.90	71.88	7.8	33.30	8.1	24.7	2.84
I24	05 Dec 2016	3	14.88	71.28	7.6	33.30	8.1	24.7	3.00
I24	05 Dec 2016	4	14.84	70.66	7.3	33.30	8.1	24.7	2.63
I24	05 Dec 2016	5	14.76	67.99	6.5	33.30	8.1	24.7	2.32
I24	05 Dec 2016	6	14.57	65.72	5.7	33.29	8.1	24.7	2.14
I24	05 Dec 2016	7	14.32	68.57	5.4	33.29	8.1	24.8	2.17
I24	05 Dec 2016	8	14.10	56.94	5.5	33.28	8.0	24.8	2.02
I24	05 Dec 2016	9	14.02	47.91	5.7	33.29	8.0	24.9	2.05
I24	05 Dec 2016	10	13.96	48.11	5.5	33.29	8.0	24.9	2.15
I24	05 Dec 2016	11	13.94	44.60	5.5	33.29	8.0	24.9	2.11
I24	13 Dec 2016	2	15.64	81.49	7.4	33.33	8.1	24.5	1.31
I24	13 Dec 2016	3	15.51	81.26	7.0	33.31	8.1	24.6	1.37
I24	13 Dec 2016	4	15.04	80.72	7.0	33.29	8.1	24.6	1.40
I24	13 Dec 2016	5	14.72	81.00	7.0	33.29	8.1	24.7	1.45
I24	13 Dec 2016	6	14.59	82.08	7.1	33.29	8.1	24.7	1.49
I24	13 Dec 2016	7	14.50	82.54	7.1	33.29	8.1	24.8	1.53
I24	13 Dec 2016	8	14.49	82.71	7.1	33.29	8.1	24.8	1.51
I24	13 Dec 2016	9	14.46	82.74	7.2	33.28	8.1	24.8	1.49
I24	13 Dec 2016	10	14.44	82.82	7.2	33.28	8.1	24.8	1.46
I24	13 Dec 2016	11	14.43	82.55	7.2	33.28	8.1	24.8	1.48
I24	17 Dec 2016	1	15.41	66.98	7.9	33.26	8.2	24.5	1.49
I24	17 Dec 2016	2	15.41	67.01	7.9	33.26	8.2	24.5	2.00
I24	17 Dec 2016	3	15.41	66.40	7.8	33.26	8.2	24.5	2.22
I24	17 Dec 2016	4	15.37	66.89	7.8	33.27	8.2	24.6	2.24
I24	17 Dec 2016	5	15.34	67.83	7.8	33.28	8.2	24.6	2.25
I24	17 Dec 2016	6	15.34	68.15	7.8	33.28	8.2	24.6	2.21
I24	17 Dec 2016	7	15.34	68.46	7.8	33.28	8.2	24.6	2.13
I24	17 Dec 2016	8	15.34	67.79	7.8	33.28	8.2	24.6	2.09
I24	17 Dec 2016	9	15.33	66.60	7.8	33.28	8.2	24.6	2.11
I24	17 Dec 2016	10	15.33	66.36	7.8	33.28	8.2	24.6	2.12
I24	17 Dec 2016	11	15.33	65.51	7.8	33.28	8.2	24.6	2.16
I24	20 Dec 2016	1	14.42	75.11	7.8	33.20	8.1	24.7	1.20
I24	20 Dec 2016	2	14.40	74.91	7.8	33.21	8.1	24.7	1.35
I24	20 Dec 2016	3	14.38	74.98	7.7	33.21	8.1	24.7	1.52
I24	20 Dec 2016	4	14.37	75.08	7.8	33.23	8.1	24.7	1.61
I24	20 Dec 2016	5	14.38	75.94	7.8	33.23	8.1	24.7	1.55

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
I24	20 Dec 2016	6	14.38	76.58	7.8	33.24	8.1	24.7	1.44
I24	20 Dec 2016	7	14.41	77.45	7.7	33.26	8.1	24.8	1.32
I24	20 Dec 2016	8	14.44	79.05	7.7	33.30	8.1	24.8	1.25
I24	20 Dec 2016	9	14.46	81.73	7.8	33.32	8.1	24.8	1.27
I24	20 Dec 2016	10	14.47	82.14	7.8	33.32	8.1	24.8	1.26
I25	01 Dec 2016	1	15.40	66.45	8.2	33.27	8.1	24.6	5.41
I25	01 Dec 2016	2	15.39	66.45	7.9	33.27	8.1	24.6	5.84
I25	01 Dec 2016	3	15.33	66.39	7.5	33.26	8.1	24.6	5.71
I25	01 Dec 2016	4	15.17	64.79	7.4	33.27	8.1	24.6	5.23
I25	01 Dec 2016	5	15.14	63.42	7.4	33.28	8.1	24.6	4.63
I25	01 Dec 2016	6	15.14	63.93	7.3	33.28	8.1	24.6	4.34
I25	01 Dec 2016	7	15.14	63.76	7.3	33.29	8.1	24.6	4.09
I25	01 Dec 2016	8	15.14	64.41	7.3	33.30	8.1	24.6	4.04
I25	01 Dec 2016	9	15.14	64.85	7.3	33.30	8.1	24.6	4.32
I25	05 Dec 2016	1	14.98	71.51	7.8	33.29	8.1	24.7	1.45
I25	05 Dec 2016	2	14.98	71.39	7.8	33.29	8.1	24.7	1.61
I25	05 Dec 2016	3	14.99	71.49	7.8	33.29	8.1	24.7	2.19
I25	05 Dec 2016	4	14.98	71.40	7.6	33.29	8.1	24.7	2.63
I25	05 Dec 2016	5	14.96	71.37	7.0	33.29	8.1	24.7	2.52
I25	05 Dec 2016	6	14.83	70.96	6.0	33.29	8.1	24.7	2.28
I25	05 Dec 2016	7	14.63	64.18	5.3	33.28	8.1	24.7	2.26
I25	05 Dec 2016	8	14.31	55.57	5.6	33.30	8.0	24.8	2.27
I25	05 Dec 2016	9	14.31	47.97	5.9	33.30	8.0	24.8	2.22
I25	13 Dec 2016	1	15.78	82.74	7.7	33.34	8.1	24.5	1.16
I25	13 Dec 2016	2	15.77	82.68	7.3	33.34	8.1	24.5	1.22
I25	13 Dec 2016	3	15.63	82.54	7.1	33.31	8.1	24.5	1.23
I25	13 Dec 2016	4	15.13	82.67	7.1	33.29	8.1	24.6	1.25
I25	13 Dec 2016	5	14.84	82.99	7.2	33.30	8.1	24.7	1.25
I25	13 Dec 2016	6	14.63	83.20	7.3	33.29	8.1	24.7	1.29
I25	13 Dec 2016	7	14.57	83.50	7.4	33.29	8.1	24.7	1.29
I25	13 Dec 2016	8	14.56	83.51	7.4	33.29	8.1	24.7	1.27
I25	13 Dec 2016	9	14.66	83.43	7.3	33.30	8.1	24.7	1.28
I25	17 Dec 2016	1	15.42	71.71	7.9	33.28	8.2	24.6	1.34
I25	17 Dec 2016	2	15.42	72.07	7.9	33.28	8.2	24.6	1.75
I25	17 Dec 2016	3	15.39	71.97	7.9	33.28	8.2	24.6	2.03
I25	17 Dec 2016	4	15.34	71.98	7.9	33.28	8.2	24.6	2.09
I25	17 Dec 2016	5	15.33	72.21	7.8	33.28	8.2	24.6	2.10
I25	17 Dec 2016	6	15.32	72.51	7.8	33.28	8.2	24.6	2.04
I25	17 Dec 2016	7	15.31	72.42	7.8	33.28	8.2	24.6	2.01
I25	17 Dec 2016	8	15.31	72.20	7.8	33.28	8.2	24.6	1.98
I25	17 Dec 2016	9	15.31	72.01	7.8	33.28	8.2	24.6	1.96
I25	20 Dec 2016	1	14.69	83.65	7.8	33.31	8.1	24.7	0.84
I25	20 Dec 2016	2	14.65	83.51	7.8	33.31	8.1	24.7	0.97
I25	20 Dec 2016	3	14.64	82.92	7.8	33.31	8.1	24.7	1.09
I25	20 Dec 2016	4	14.62	82.50	7.8	33.31	8.1	24.8	1.15
I25	20 Dec 2016	5	14.61	82.48	7.8	33.31	8.1	24.8	1.22
I25	20 Dec 2016	6	14.61	82.35	7.8	33.31	8.1	24.8	1.20
I25	20 Dec 2016	7	14.61	82.35	7.8	33.31	8.1	24.8	1.21
I25	20 Dec 2016	8	14.61	82.40	7.8	33.31	8.1	24.8	1.20
I25	20 Dec 2016	9	14.61	82.24	7.8	33.31	8.1	24.8	1.17

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
I26	01 Dec 2016	1	15.54	70.90	7.7	33.29	8.1	24.5	3.10
I26	01 Dec 2016	2	15.48	70.22	7.7	33.30	8.1	24.6	4.13
I26	01 Dec 2016	3	15.29	69.36	7.6	33.31	8.1	24.6	5.90
I26	01 Dec 2016	4	15.25	68.28	7.5	33.30	8.1	24.6	6.61
I26	01 Dec 2016	5	15.20	66.82	7.5	33.30	8.1	24.6	6.79
I26	01 Dec 2016	6	15.18	66.03	7.3	33.30	8.1	24.6	5.50
I26	01 Dec 2016	7	15.15	66.01	6.8	33.30	8.1	24.6	4.56
I26	01 Dec 2016	8	15.12	66.16	6.6	33.29	8.1	24.6	4.25
I26	01 Dec 2016	9	15.06	66.53	6.8	33.30	8.1	24.6	4.53
I26	05 Dec 2016	1	14.98	74.08	7.9	33.33	8.1	24.7	2.41
I26	05 Dec 2016	2	14.97	74.04	8.0	33.33	8.1	24.7	2.80
I26	05 Dec 2016	3	14.95	73.82	8.0	33.33	8.1	24.7	3.51
I26	05 Dec 2016	4	14.94	73.27	8.0	33.33	8.1	24.7	3.61
I26	05 Dec 2016	5	14.91	72.70	7.7	33.33	8.1	24.7	3.24
I26	05 Dec 2016	6	14.86	72.53	7.2	33.32	8.1	24.7	3.11
I26	05 Dec 2016	7	14.75	69.85	7.2	33.32	8.1	24.7	2.95
I26	05 Dec 2016	8	14.75	68.68	7.2	33.32	8.1	24.7	2.77
I26	05 Dec 2016	9	14.74	67.94	7.2	33.31	8.1	24.7	2.82
I26	13 Dec 2016	1	15.79	83.20	8.0	33.34	8.1	24.5	1.13
I26	13 Dec 2016	2	15.79	83.22	8.0	33.34	8.1	24.5	1.28
I26	13 Dec 2016	3	15.65	82.79	8.0	33.34	8.1	24.5	1.47
I26	13 Dec 2016	4	15.62	82.38	7.8	33.34	8.1	24.6	1.48
I26	13 Dec 2016	5	15.53	82.71	7.2	33.33	8.1	24.6	1.39
I26	13 Dec 2016	6	15.00	83.13	6.6	33.29	8.1	24.7	1.29
I26	13 Dec 2016	7	14.29	83.08	6.8	33.27	8.1	24.8	1.30
I26	13 Dec 2016	8	14.09	83.19	7.1	33.27	8.1	24.8	1.32
I26	13 Dec 2016	9	14.15	83.23	7.2	33.28	8.1	24.8	1.36
I26	17 Dec 2016	1	15.31	71.27	7.9	33.27	8.2	24.6	1.52
I26	17 Dec 2016	2	15.30	71.41	7.9	33.28	8.2	24.6	1.88
I26	17 Dec 2016	3	15.28	72.41	7.8	33.28	8.2	24.6	2.06
I26	17 Dec 2016	4	15.29	73.67	7.8	33.28	8.2	24.6	2.16
I26	17 Dec 2016	5	15.29	74.58	7.8	33.28	8.2	24.6	2.14
I26	17 Dec 2016	6	15.27	74.93	7.8	33.28	8.2	24.6	2.19
I26	17 Dec 2016	7	15.27	73.91	7.8	33.28	8.2	24.6	2.18
I26	17 Dec 2016	8	15.27	73.58	7.8	33.28	8.2	24.6	2.15
I26	17 Dec 2016	9	15.27	73.81	7.8	33.28	8.2	24.6	2.09
I26	20 Dec 2016	1	14.77	82.81	7.8	33.31	8.1	24.7	0.86
I26	20 Dec 2016	2	14.74	82.89	7.7	33.31	8.1	24.7	0.90
I26	20 Dec 2016	3	14.64	82.62	7.5	33.30	8.1	24.7	0.84
I26	20 Dec 2016	4	14.59	82.48	7.1	33.30	8.1	24.8	0.76
I26	20 Dec 2016	5	14.50	82.71	6.9	33.29	8.1	24.8	0.73
I26	20 Dec 2016	6	14.13	83.31	6.9	33.26	8.1	24.8	0.73
I26	20 Dec 2016	7	13.93	84.20	7.0	33.27	8.1	24.9	0.74
I26	20 Dec 2016	8	13.84	84.28	7.0	33.26	8.1	24.9	0.75
I26	20 Dec 2016	9	13.77	84.21	7.1	33.27	8.1	24.9	0.74
I32	01 Dec 2016	1	15.58	72.07	7.9	33.31	8.1	24.5	3.97
I32	01 Dec 2016	2	15.57	71.95	7.8	33.31	8.1	24.5	5.66
I32	01 Dec 2016	3	15.46	71.37	7.6	33.29	8.1	24.6	6.42
I32	01 Dec 2016	4	15.29	66.05	6.9	33.30	8.1	24.6	6.12

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
I32	01 Dec 2016	5	15.23	59.92	6.4	33.28	8.1	24.6	5.87
I32	01 Dec 2016	6	15.12	54.73	6.3	33.29	8.1	24.6	5.65
I32	01 Dec 2016	7	15.07	55.96	6.3	33.29	8.1	24.6	4.81
I32	01 Dec 2016	8	15.06	56.98	6.3	33.29	8.1	24.6	4.10
I32	01 Dec 2016	9	15.05	56.88	6.5	33.28	8.1	24.6	4.42
I32	01 Dec 2016	10	15.02	48.58	6.5	33.29	8.1	24.6	3.84
I32	05 Dec 2016	1	14.96	66.39	7.9	33.33	8.1	24.7	3.16
I32	05 Dec 2016	2	14.97	66.91	7.8	33.33	8.1	24.7	2.97
I32	05 Dec 2016	3	14.93	67.41	7.6	33.33	8.1	24.7	3.00
I32	05 Dec 2016	4	14.85	64.16	7.2	33.33	8.1	24.7	3.12
I32	05 Dec 2016	5	14.71	56.71	6.7	33.33	8.1	24.7	3.30
I32	05 Dec 2016	6	14.63	52.08	6.2	33.32	8.1	24.8	3.34
I32	05 Dec 2016	7	14.45	51.96	6.0	33.30	8.1	24.8	3.27
I32	05 Dec 2016	8	14.29	56.16	6.0	33.29	8.1	24.8	3.28
I32	05 Dec 2016	9	14.22	58.30	6.2	33.29	8.0	24.8	3.39
I32	05 Dec 2016	10	14.19	54.07	6.4	33.29	8.0	24.8	3.37
I32	13 Dec 2016	1	15.82	79.28	7.9	33.34	8.1	24.5	2.34
I32	13 Dec 2016	2	15.82	79.25	7.9	33.34	8.1	24.5	3.06
I32	13 Dec 2016	3	15.81	79.11	7.8	33.33	8.1	24.5	3.56
I32	13 Dec 2016	4	15.65	77.81	7.6	33.32	8.1	24.5	3.33
I32	13 Dec 2016	5	15.55	75.57	7.4	33.33	8.1	24.6	3.06
I32	13 Dec 2016	6	15.41	72.58	7.2	33.32	8.1	24.6	2.87
I32	13 Dec 2016	7	15.34	71.23	7.1	33.32	8.1	24.6	2.82
I32	13 Dec 2016	8	15.27	69.80	7.1	33.31	8.1	24.6	3.09
I32	13 Dec 2016	9	15.06	65.66	7.5	33.31	8.1	24.7	2.98
I32	17 Dec 2016	1	15.18	67.05	7.9	33.24	8.1	24.6	1.84
I32	17 Dec 2016	2	15.18	67.38	7.9	33.24	8.1	24.6	2.86
I32	17 Dec 2016	3	15.09	67.05	8.0	33.24	8.1	24.6	3.19
I32	17 Dec 2016	4	14.99	64.35	8.0	33.24	8.1	24.6	3.14
I32	17 Dec 2016	5	14.96	62.49	8.1	33.23	8.1	24.6	3.15
I32	17 Dec 2016	6	14.93	59.88	8.1	33.22	8.1	24.6	3.14
I32	17 Dec 2016	7	14.87	57.46	8.1	33.22	8.1	24.6	3.24
I32	17 Dec 2016	8	14.81	56.88	8.1	33.22	8.1	24.6	3.21
I32	17 Dec 2016	9	14.86	56.23	8.0	33.22	8.1	24.6	3.04
I32	17 Dec 2016	10	14.81	54.05	8.0	33.21	8.1	24.6	3.01
I32	20 Dec 2016	1	14.68	82.92	7.6	33.32	8.1	24.7	1.19
I32	20 Dec 2016	2	14.59	82.57	7.6	33.31	8.1	24.8	1.45
I32	20 Dec 2016	3	14.37	79.10	7.7	33.30	8.1	24.8	1.86
I32	20 Dec 2016	4	14.32	76.48	7.7	33.30	8.1	24.8	2.16
I32	20 Dec 2016	5	14.29	74.78	7.7	33.30	8.1	24.8	2.39
I32	20 Dec 2016	6	14.27	71.46	7.7	33.30	8.1	24.8	2.46
I32	20 Dec 2016	7	14.26	69.21	7.7	33.30	8.1	24.8	2.49
I32	20 Dec 2016	8	14.25	67.90	7.8	33.30	8.1	24.8	2.48
I32	20 Dec 2016	9	14.25	67.12	7.8	33.30	8.1	24.8	2.44
I32	20 Dec 2016	10	14.23	66.84	7.8	33.30	8.1	24.8	2.37
I39	01 Dec 2016	1	15.39	74.40	8.1	33.31	8.2	24.6	1.87
I39	01 Dec 2016	2	15.40	74.08	8.1	33.31	8.2	24.6	2.78
I39	01 Dec 2016	3	15.39	74.22	8.0	33.31	8.2	24.6	3.71
I39	01 Dec 2016	4	15.30	73.59	8.0	33.30	8.2	24.6	4.28
I39	01 Dec 2016	5	15.28	73.13	7.9	33.31	8.2	24.6	4.80

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
I39	01 Dec 2016	6	15.26	72.94	7.8	33.30	8.2	24.6	4.88
I39	01 Dec 2016	7	15.24	73.52	7.6	33.30	8.2	24.6	4.56
I39	01 Dec 2016	8	15.20	74.57	7.2	33.30	8.1	24.6	4.09
I39	01 Dec 2016	9	15.15	74.08	6.7	33.30	8.1	24.6	3.41
I39	01 Dec 2016	10	15.05	73.89	6.1	33.29	8.1	24.6	2.88
I39	01 Dec 2016	11	14.92	73.37	5.6	33.28	8.1	24.7	2.76
I39	01 Dec 2016	12	14.70	71.85	5.4	33.28	8.1	24.7	2.77
I39	01 Dec 2016	13	14.60	70.48	5.5	33.28	8.1	24.7	2.46
I39	01 Dec 2016	14	14.51	69.62	5.7	33.27	8.1	24.7	2.10
I39	01 Dec 2016	15	14.39	69.06	5.8	33.27	8.0	24.8	2.11
I39	01 Dec 2016	16	14.25	68.09	5.8	33.26	8.0	24.8	2.11
I39	01 Dec 2016	17	14.14	65.37	5.8	33.27	8.0	24.8	1.98
I39	01 Dec 2016	18	14.22	67.04	5.8	33.27	8.0	24.8	2.08
I39	05 Dec 2016	1	15.12	76.60	8.1	33.30	8.1	24.6	1.79
I39	05 Dec 2016	2	15.12	80.73	8.0	33.32	8.1	24.7	2.01
I39	05 Dec 2016	3	15.12	80.56	8.1	33.33	8.1	24.7	2.34
I39	05 Dec 2016	4	15.11	80.51	8.1	33.33	8.1	24.7	2.47
I39	05 Dec 2016	5	15.10	80.62	8.0	33.33	8.1	24.7	2.79
I39	05 Dec 2016	6	15.10	80.64	7.9	33.33	8.1	24.7	3.20
I39	05 Dec 2016	7	15.07	80.44	7.8	33.32	8.1	24.7	3.30
I39	05 Dec 2016	8	15.00	80.66	7.8	33.32	8.1	24.7	3.55
I39	05 Dec 2016	9	14.95	80.87	7.8	33.32	8.1	24.7	3.77
I39	05 Dec 2016	10	14.92	81.26	7.7	33.31	8.1	24.7	3.71
I39	05 Dec 2016	11	14.85	81.76	7.7	33.31	8.1	24.7	3.66
I39	05 Dec 2016	12	14.85	81.67	7.5	33.31	8.1	24.7	3.17
I39	05 Dec 2016	13	14.82	81.38	7.3	33.31	8.1	24.7	2.93
I39	05 Dec 2016	14	14.78	81.70	7.0	33.30	8.1	24.7	2.74
I39	05 Dec 2016	15	14.55	82.31	6.9	33.28	8.1	24.7	2.43
I39	05 Dec 2016	16	14.41	83.04	6.5	33.30	8.1	24.8	2.21
I39	05 Dec 2016	17	14.27	82.44	6.3	33.27	8.1	24.8	2.33
I39	05 Dec 2016	18	14.01	74.85	6.6	33.29	8.1	24.9	2.34
I39	13 Dec 2016	1	15.88	84.91	8.0	33.35	8.1	24.5	0.80
I39	13 Dec 2016	2	15.87	84.90	8.0	33.35	8.1	24.5	0.97
I39	13 Dec 2016	3	15.81	84.65	8.0	33.35	8.1	24.5	1.26
I39	13 Dec 2016	4	15.78	84.30	7.9	33.35	8.1	24.5	1.52
I39	13 Dec 2016	5	15.76	84.32	7.9	33.35	8.1	24.5	1.77
I39	13 Dec 2016	6	15.75	83.81	7.8	33.35	8.1	24.5	1.93
I39	13 Dec 2016	7	15.74	83.23	7.8	33.35	8.1	24.5	2.04
I39	13 Dec 2016	8	15.71	82.89	7.8	33.35	8.1	24.5	2.08
I39	13 Dec 2016	9	15.67	82.37	7.7	33.35	8.1	24.6	2.08
I39	13 Dec 2016	10	15.63	81.74	7.6	33.36	8.1	24.6	2.09
I39	13 Dec 2016	11	15.59	81.50	7.6	33.35	8.1	24.6	2.06
I39	13 Dec 2016	12	15.51	81.28	7.5	33.36	8.1	24.6	2.10
I39	13 Dec 2016	13	15.47	81.39	7.5	33.35	8.1	24.6	2.07
I39	13 Dec 2016	14	15.43	81.51	7.4	33.35	8.1	24.6	1.96
I39	13 Dec 2016	15	15.40	81.57	7.2	33.35	8.1	24.6	1.79
I39	13 Dec 2016	16	15.35	81.84	6.9	33.34	8.1	24.6	1.62
I39	13 Dec 2016	17	15.10	81.87	6.8	33.32	8.1	24.7	1.61
I39	13 Dec 2016	18	14.66	82.68	7.0	33.28	8.1	24.7	1.68
I39	17 Dec 2016	1	15.52	79.63	7.8	33.29	8.2	24.5	1.01
I39	17 Dec 2016	2	15.51	79.62	7.8	33.29	8.2	24.5	1.16
I39	17 Dec 2016	3	15.50	79.28	7.8	33.29	8.2	24.5	1.34

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
I39	17 Dec 2016	4	15.49	78.93	7.8	33.29	8.2	24.5	1.61
I39	17 Dec 2016	5	15.48	78.70	7.7	33.29	8.2	24.6	1.79
I39	17 Dec 2016	6	15.47	78.48	7.8	33.29	8.2	24.6	1.91
I39	17 Dec 2016	7	15.44	77.92	7.8	33.29	8.2	24.6	1.99
I39	17 Dec 2016	8	15.43	78.01	7.8	33.29	8.2	24.6	1.98
I39	17 Dec 2016	9	15.41	77.89	7.8	33.29	8.2	24.6	1.96
I39	17 Dec 2016	10	15.38	78.04	7.7	33.29	8.2	24.6	1.84
I39	17 Dec 2016	11	15.38	78.58	7.2	33.29	8.2	24.6	1.66
I39	17 Dec 2016	12	15.35	78.06	6.8	33.29	8.2	24.6	1.65
I39	17 Dec 2016	13	15.07	77.24	6.7	33.27	8.2	24.6	1.67
I39	17 Dec 2016	14	14.59	76.28	6.9	33.29	8.1	24.7	1.66
I39	17 Dec 2016	15	14.53	72.82	6.9	33.29	8.1	24.8	1.62
I39	17 Dec 2016	16	14.61	71.69	6.8	33.26	8.1	24.7	1.62
I39	17 Dec 2016	17	14.34	68.42	6.9	33.28	8.1	24.8	1.63
I39	17 Dec 2016	18	14.34	65.80	6.9	33.28	8.1	24.8	1.61
I39	20 Dec 2016	1	15.06	84.69	7.9	33.33	8.2	24.7	0.82
I39	20 Dec 2016	2	15.05	84.72	7.9	33.33	8.2	24.7	1.01
I39	20 Dec 2016	3	15.02	84.78	7.8	33.33	8.2	24.7	1.23
I39	20 Dec 2016	4	15.00	84.47	7.8	33.33	8.2	24.7	1.42
I39	20 Dec 2016	5	14.95	84.19	7.8	33.32	8.2	24.7	1.57
I39	20 Dec 2016	6	14.91	83.51	7.8	33.31	8.2	24.7	1.64
I39	20 Dec 2016	7	14.83	82.50	7.7	33.31	8.2	24.7	1.64
I39	20 Dec 2016	8	14.77	82.56	7.7	33.31	8.1	24.7	1.63
I39	20 Dec 2016	9	14.70	82.54	7.8	33.30	8.1	24.7	1.66
I39	20 Dec 2016	10	14.64	82.94	7.8	33.30	8.1	24.7	1.63
I39	20 Dec 2016	11	14.63	83.23	7.8	33.30	8.1	24.7	1.64
I39	20 Dec 2016	12	14.60	83.38	7.7	33.30	8.1	24.7	1.64
I39	20 Dec 2016	13	14.58	83.46	7.7	33.30	8.1	24.8	1.60
I39	20 Dec 2016	14	14.57	83.74	7.5	33.30	8.1	24.8	1.43
I39	20 Dec 2016	15	14.54	83.90	7.1	33.30	8.1	24.8	1.18
I39	20 Dec 2016	16	14.42	84.19	6.7	33.29	8.1	24.8	1.10
I39	20 Dec 2016	17	14.11	84.63	6.6	33.26	8.1	24.8	1.04
I39	20 Dec 2016	18	13.60	85.27	6.9	33.27	8.1	24.9	1.20
I40	01 Dec 2016	1	15.43	62.44	8.3	33.24	8.1	24.5	3.05
I40	01 Dec 2016	2	15.44	65.93	8.1	33.25	8.1	24.5	6.11
I40	01 Dec 2016	3	15.31	64.73	7.5	33.26	8.1	24.6	7.00
I40	01 Dec 2016	4	15.24	62.66	6.8	33.28	8.1	24.6	6.43
I40	01 Dec 2016	5	15.19	60.98	7.1	33.29	8.1	24.6	5.63
I40	01 Dec 2016	6	15.14	49.33	7.8	33.29	8.1	24.6	5.52
I40	01 Dec 2016	7	15.10	43.95	7.9	33.30	8.1	24.6	4.95
I40	01 Dec 2016	8	15.11	49.29	7.9	33.30	8.1	24.6	4.53
I40	01 Dec 2016	9	15.09	51.04	7.3	33.30	8.1	24.6	4.26
I40	01 Dec 2016	10	15.03	49.08	6.7	33.29	8.1	24.7	4.02
I40	05 Dec 2016	1	14.90	65.45	7.8	33.28	8.1	24.7	1.91
I40	05 Dec 2016	2	14.89	64.84	7.8	33.28	8.1	24.7	1.97
I40	05 Dec 2016	3	14.88	65.61	7.8	33.28	8.1	24.7	2.22
I40	05 Dec 2016	4	14.88	65.56	7.7	33.28	8.1	24.7	2.43
I40	05 Dec 2016	5	14.86	65.62	7.3	33.28	8.1	24.7	2.39
I40	05 Dec 2016	6	14.67	64.90	7.3	33.30	8.1	24.7	2.48
I40	05 Dec 2016	7	14.64	64.12	7.2	33.30	8.1	24.7	2.46
I40	05 Dec 2016	8	14.61	66.52	6.7	33.30	8.1	24.7	2.35
I40	05 Dec 2016	9	14.43	67.88	6.2	33.30	8.0	24.8	2.24

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
I40	05 Dec 2016	10	14.32	66.74	6.1	33.29	8.0	24.8	2.26
I40	13 Dec 2016	1	15.14	75.48	7.0	33.32	8.1	24.6	1.33
I40	13 Dec 2016	2	15.14	75.28	6.8	33.32	8.1	24.6	1.95
I40	13 Dec 2016	3	15.07	74.87	6.4	33.30	8.1	24.6	2.35
I40	13 Dec 2016	4	14.82	71.41	6.3	33.30	8.1	24.7	2.43
I40	13 Dec 2016	5	14.68	68.59	6.4	33.29	8.1	24.7	2.49
I40	13 Dec 2016	6	14.45	67.19	6.4	33.28	8.1	24.8	2.66
I40	13 Dec 2016	7	14.31	70.08	6.4	33.29	8.0	24.8	2.67
I40	13 Dec 2016	8	14.29	72.23	6.4	33.29	8.0	24.8	2.58
I40	13 Dec 2016	9	14.29	69.24	6.5	33.29	8.0	24.8	2.52
I40	13 Dec 2016	10	14.30	69.18	6.6	33.29	8.0	24.8	2.53
I40	17 Dec 2016	1	15.43	66.81	7.9	33.27	8.2	24.5	1.41
I40	17 Dec 2016	2	15.41	66.17	7.9	33.26	8.2	24.5	2.41
I40	17 Dec 2016	3	15.40	64.97	8.1	33.28	8.2	24.6	2.79
I40	17 Dec 2016	4	15.31	61.40	8.2	33.26	8.2	24.6	2.95
I40	17 Dec 2016	5	15.09	53.56	8.3	33.23	8.2	24.6	2.92
I40	17 Dec 2016	6	14.96	53.96	8.4	33.21	8.2	24.6	2.81
I40	17 Dec 2016	7	14.89	56.33	8.4	33.20	8.2	24.6	2.75
I40	17 Dec 2016	8	14.84	58.65	8.5	33.20	8.1	24.6	2.76
I40	17 Dec 2016	9	14.75	58.84	8.5	33.19	8.1	24.6	2.73
I40	17 Dec 2016	10	14.73	58.60	8.5	33.19	8.1	24.6	2.75
I40	20 Dec 2016	1	14.36	70.04	7.8	33.13	8.1	24.7	1.52
I40	20 Dec 2016	2	14.37	69.95	7.8	33.12	8.1	24.7	1.85
I40	20 Dec 2016	3	14.33	70.35	7.8	33.22	8.1	24.7	2.12
I40	20 Dec 2016	4	14.31	71.12	7.9	33.23	8.1	24.8	2.25
I40	20 Dec 2016	5	14.28	71.47	8.0	33.23	8.1	24.8	2.24
I40	20 Dec 2016	6	14.19	70.61	7.9	33.25	8.1	24.8	2.34
I40	20 Dec 2016	7	14.17	68.64	7.8	33.28	8.1	24.8	2.48
I40	20 Dec 2016	8	14.18	65.03	7.7	33.29	8.1	24.8	2.68
I40	20 Dec 2016	9	14.19	62.37	7.7	33.29	8.1	24.8	2.64
I40	20 Dec 2016	10	14.18	51.10	7.8	33.29	8.1	24.8	2.53

NA = not available

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	01 Dec 2016	6	ZV	LAB DUPLICATE	60e	8e	4e
I19	05 Dec 2016	6	LMA	LAB DUPLICATE	100e	6e	<2
I19	13 Dec 2016	6	AR	LAB DUPLICATE	ns	<2	<2
I19	13 Dec 2016	6	ZV	LAB DUPLICATE	<2	ns	ns
I19	17 Dec 2016	6	SR	LAB DUPLICATE	640	34e	48
I19	20 Dec 2016	6	JT	LAB DUPLICATE	840	40	40e
I40	01 Dec 2016	6	ZV	LAB DUPLICATE	1400	80e	40e
I40	05 Dec 2016	6	LMA	LAB DUPLICATE	620	44	ns
I40	13 Dec 2016	6	AR	LAB DUPLICATE	ns	<2	<2
I40	13 Dec 2016	6	ZV	LAB DUPLICATE	<2	ns	ns
I40	17 Dec 2016	6	LMA	LAB DUPLICATE	26e	<2	<2
I40	20 Dec 2016	6	JT	LAB DUPLICATE	3400e	50	54
S12	06 Dec 2016		JT	FIELD DUPLICATE	40e	6e	10e
S12	06 Dec 2016		JT	LAB DUPLICATE	240e	16e	8e
S12	13 Dec 2016		ZV	FIELD DUPLICATE	2e	<2	<2
S12	13 Dec 2016		ZV	LAB DUPLICATE	4e	<2	2e
S12	20 Dec 2016		LMA	FIELD DUPLICATE	<2	<2	<2
S12	20 Dec 2016		LMA	LAB DUPLICATE	2e	<2	ns
S12	27 Dec 2016		JT	FIELD DUPLICATE	40e	8e	26e
S12	27 Dec 2016		JT	LAB DUPLICATE	60e	6e	50

ns = not sampled
ND = no data

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