

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

APRIL 2017

Environmental Monitoring and Technical Services
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May 31, 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 April 2017 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

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 Order No. R9-2013-0006 superseded Order No. R9-2006-0067 effective April 4, 2013.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, Seasoftware, 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 chromophoric 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 2017 Quality Assurance Report, which will be completed in March 2018.

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 April, five 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 standard for total coliform bacteria was exceeded at station S5 on April 6.
 - The 30-day geometric mean standard for fecal coliform bacteria was exceeded at station S5 on multiple days during the month.
 - The 30-day geometric mean standard for *Enterococcus* was exceeded at stations S5, S6, S10, S11, and S12 on multiple days during the month.

- The single sample maximum (SSM) standards for total and fecal coliform bacteria were exceeded at station S5 on April 4.
 - The SSM standard for *Enterococcus* was exceeded at stations S5 and S10 on April 4.
 - 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 S5 on April 4.
 - 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 this station, 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 station S0 on multiple days during the month.
- Historical analyses of Ocean Plan compliance rates for the South Bay outfall shore and kelp monitoring stations, combined with the results of satellite imagery data, suggest that outflows from the Tijuana River and Los Buenos Creek, as well as surface runoff during or after rain events (storms), are likely to be the cause of impacted water quality along the shore and in near shore recreational waters in the South Bay region. See the City of San Diego's most recent *South Bay Ocean Outfall Annual Receiving Waters Monitoring and Assessment Report* for details (<http://www.sandiego.gov/mwwd/environment/oceanmonitor/reports/index.shtml>).
- Nothing of sewage origin was observed at any of the shore stations.

➤ **Kelp Bed Water Quality Sampling**

- The seven kelp bed water quality stations (I19, I24, I25, I26, I32, I39, I40) were sampled five times during April (i.e. April 6, 10, 14, 19, 26).
- During April, two of the seven stations were out of compliance with various Ocean Plan water contact standards (see below).
 - The 30-day geometric mean standard for *Enterococcus* was exceeded at stations I32 and I40 on April 1.
 - The SSM standards for fecal coliform and *Enterococcus* bacteria, as well as the SSM standard that states total coliform densities shall not exceed 1000 CFU/100 mL when the fecal:total ratio exceeds 0.1, were exceeded at station I40 on April 19.
- Water column temperatures ranged from 10.57 to 17.77°C. The difference between surface and bottom waters ranged from approximately 1.52 to 6.01°C, indicating the water column was stratified at some of these sites during the month.
- Chlorophyll *a* concentrations ranged from 0.39 to 31.23 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 April at the offshore stations. The next quarterly sampling is scheduled for May 2017.



TABLES AND FIGURES

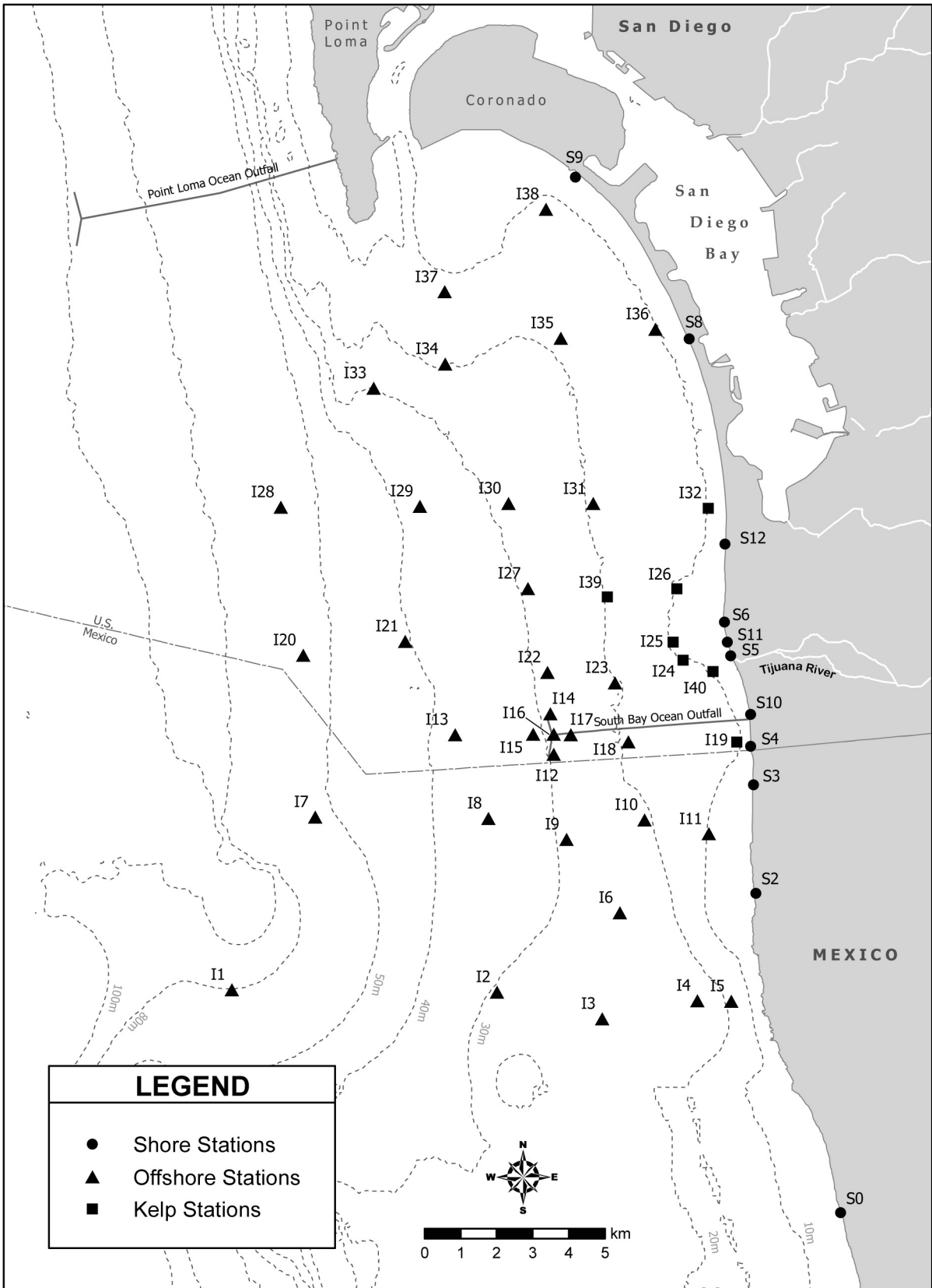


Figure 1.1 Station Map

Shore Stations

Table 2.1

Summary of compliance with the Ocean Plan's 30-day Geometric Mean standard for total coliform bacteria at the 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 Apr 2017	50*	459	75*	16*	12*	109*	135*	72*
02 Apr 2017	50*	459	75*	16*	12*	109*	135*	72*
03 Apr 2017	50*	459	75*	16*	12*	109*	135*	72*
04 Apr 2017	60	829	36	11	8	147	58	35
05 Apr 2017	60	829	36	11	8	147	58	35
06 Apr 2017	43*	1560	15*	8*	4*	81*	25*	16*
07 Apr 2017	43*	980	15*	8*	4*	81*	25*	16*
08 Apr 2017	43*	980	15*	8*	4*	81*	25*	16*
09 Apr 2017	43*	980	15*	8*	4*	81*	25*	16*
10 Apr 2017	43*	980	15*	8*	4*	81*	25*	16*
11 Apr 2017	41	602	16	9	6	61	24	17
12 Apr 2017	41	602	16	9	6	61	24	17
13 Apr 2017	35*	630	15*	13*	8*	44*	13*	11*
14 Apr 2017	35*	630	15*	13*	8*	44*	13*	11*
15 Apr 2017	35*	630	15*	13*	8*	44*	13*	11*
16 Apr 2017	35*	630	15*	13*	8*	44*	13*	11*
17 Apr 2017	35*	630	15*	13*	8*	44*	13*	11*
18 Apr 2017	20	307	10	9	9	24	9	13
19 Apr 2017	20	307	10	9	9	24	9	13
20 Apr 2017	35*	174	6*	8*	8*	25*	6*	11*
21 Apr 2017	35*	174	6*	8*	8*	25*	6*	11*
22 Apr 2017	35*	223	6*	8*	8*	25*	6*	11*
23 Apr 2017	35*	223	6*	8*	8*	25*	6*	11*
24 Apr 2017	35*	223	6*	8*	8*	25*	6*	11*
25 Apr 2017	48	158	6	9	9	27	9	13
26 Apr 2017	48	158	6	9	9	27	9	13
27 Apr 2017	33*	152	4*	6*	11*	30*	8*	11*
28 Apr 2017	33*	152	4*	6*	11*	30*	8*	11*
29 Apr 2017	33*	152	4*	6*	11*	30*	8*	11*
30 Apr 2017	33*	152	4*	6*	11*	30*	8*	11*

* 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 Apr 2017	6*	75	10*	2*	2*	8*	11*	4*
02 Apr 2017	6*	75	10*	2*	2*	8*	11*	4*
03 Apr 2017	6*	75	10*	2*	2*	8*	11*	4*
04 Apr 2017	7	179	7	2	2	11	8	4
05 Apr 2017	7	179	7	2	2	11	8	4
06 Apr 2017	7*	411	4*	2*	2*	6*	5*	2*
07 Apr 2017	7*	248	4*	2*	2*	6*	5*	2*
08 Apr 2017	7*	248	4*	2*	2*	6*	5*	2*
09 Apr 2017	7*	248	4*	2*	2*	6*	5*	2*
10 Apr 2017	7*	248	4*	2*	2*	6*	5*	2*
11 Apr 2017	5	136	4	2	2	5	4	2
12 Apr 2017	5	136	4	2	2	5	4	2
13 Apr 2017	5*	145	3*	2*	2*	5*	3*	2*
14 Apr 2017	5*	145	3*	2*	2*	5*	3*	2*
15 Apr 2017	5*	145	3*	2*	2*	5*	3*	2*
16 Apr 2017	5*	145	3*	2*	2*	5*	3*	2*
17 Apr 2017	5*	145	3*	2*	2*	5*	3*	2*
18 Apr 2017	4	85	3	2	2	4	2	3
19 Apr 2017	4	85	3	2	2	4	2	3
20 Apr 2017	5*	42	2*	2*	2*	5*	2*	3*
21 Apr 2017	5*	42	2*	2*	2*	5*	2*	3*
22 Apr 2017	5*	47	2*	2*	2*	5*	2*	3*
23 Apr 2017	5*	47	2*	2*	2*	5*	2*	3*
24 Apr 2017	5*	47	2*	2*	2*	5*	2*	3*
25 Apr 2017	4	33	3	2	3	4	3	3
26 Apr 2017	4	33	3	2	3	4	3	3
27 Apr 2017	3*	47	3*	2*	3*	5*	3*	3*
28 Apr 2017	3*	47	3*	2*	3*	5*	3*	3*
29 Apr 2017	3*	47	3*	2*	3*	5*	3*	3*
30 Apr 2017	3*	47	3*	2*	3*	5*	3*	3*

* 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 Apr 2017	11*	324	105	8	7*	28	70	54
02 Apr 2017	11*	316	73	7*	7*	24	66	40
03 Apr 2017	11*	316	73	7*	7*	24	66	40
04 Apr 2017	17	316	49	6	7	36	47	24
05 Apr 2017	17	316	49	6	7	36	47	24
06 Apr 2017	13*	351	28	3*	4*	35	31	14
07 Apr 2017	13*	254	28	3*	4*	23	31	14
08 Apr 2017	13*	243	22*	3*	4*	19	23	9
09 Apr 2017	13*	205	22*	3*	4*	19	17	9*
10 Apr 2017	13*	205	22*	3*	4*	19	17	9*
11 Apr 2017	9	157	13	3	3	14	11	7
12 Apr 2017	9	157	13	3	3	14	11	7
13 Apr 2017	8*	185	9*	3*	4*	16	8*	4*
14 Apr 2017	8*	185	9*	3*	4*	16	8*	4*
15 Apr 2017	8*	185	9*	3*	4*	16	8*	4*
16 Apr 2017	8*	185	9*	3*	4*	16	8*	4*
17 Apr 2017	8*	185	9*	3*	4*	16	8*	4*
18 Apr 2017	6	126	9	4	3	12	7	4
19 Apr 2017	6	126	9	4	3	12	7	4
20 Apr 2017	8*	72	11*	5*	4*	16	6*	5*
21 Apr 2017	8*	72	11*	5*	4*	16	6*	5*
22 Apr 2017	8*	66	11*	5*	4*	16	6*	5*
23 Apr 2017	8*	65	11*	5*	4*	16	6*	5*
24 Apr 2017	8*	65	11*	5*	4*	16	6*	5*
25 Apr 2017	8	44	8	4	5	13	5	4
26 Apr 2017	8	44	8	4	5	13	5	4
27 Apr 2017	8*	38	4*	3*	5*	11	3*	3*
28 Apr 2017	8*	38	4*	3*	5*	11	3*	3*
29 Apr 2017	8*	38	4*	3*	5*	11	3*	3*
30 Apr 2017	8*	38	4*	3*	5*	11	3*	3*

* 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
04 Apr 2017	IC	E	IC	IC	IC	IC	IC	IC
06 Apr 2017	ns	E	ns	ns	ns	ns	ns	ns
07 Apr 2017	ns	IC	ns	ns	ns	ns	ns	ns
11 Apr 2017	IC	IC	IC	IC	IC	IC	IC	IC
18 Apr 2017	IC	IC	IC	IC	IC	IC	IC	IC
25 Apr 2017	IC	IC	IC	IC	IC	IC	IC	IC

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
04 Apr 2017	IC	E	IC	IC	IC	IC	IC	IC
06 Apr 2017	ns	E	ns	ns	ns	ns	ns	ns
07 Apr 2017	ns	IC	ns	ns	ns	ns	ns	ns
11 Apr 2017	IC	IC	IC	IC	IC	IC	IC	IC
18 Apr 2017	IC	IC	IC	IC	IC	IC	IC	IC
25 Apr 2017	IC	IC	IC	IC	IC	IC	IC	IC

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
04 Apr 2017	IC	E	IC	IC	IC	E	IC	IC
06 Apr 2017	ns	E	ns	ns	ns	E	ns	ns
07 Apr 2017	ns	IC	ns	ns	ns	IC	ns	ns
11 Apr 2017	IC	IC	IC	IC	IC	IC	IC	IC
18 Apr 2017	IC	IC	IC	IC	IC	IC	IC	IC
25 Apr 2017	IC	IC	IC	IC	IC	IC	IC	IC

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
04 Apr 2017	IC	E	IC	IC	IC	IC	IC	IC
06 Apr 2017	ns	E	ns	ns	ns	ns	ns	ns
07 Apr 2017	ns	IC	ns	ns	ns	ns	ns	ns
11 Apr 2017	IC	IC	IC	IC	IC	IC	IC	IC
18 Apr 2017	IC	IC	IC	IC	IC	IC	IC	IC
25 Apr 2017	IC	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance
E = Exceedance
ns = not sampled

Table 2.8

Summary of water quality parameters at the 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	04 Apr 2017	1145	1500	78	740	0.05
S0	11 Apr 2017	1140	5200	220e	2400e	0.04
S0	18 Apr 2017	1230	900	100	420	0.11
S0	25 Apr 2017	1000	120e	<2	12e	0.02
S2	04 Apr 2017	1040	<2	<2	2e	1.00
S2	11 Apr 2017	1040	<20	2e	<2	0.10
S2	18 Apr 2017	1121	<2	<2	<2	1.00
S2	25 Apr 2017	1100	400	32e	68	0.08
S3	04 Apr 2017	950	100e	12e	18e	0.12
S3	11 Apr 2017	1433	20e	4e	22e	0.20
S3	18 Apr 2017	1030	<20	<2	<2	0.10
S3	25 Apr 2017	1215	100e	4e	4e	0.04
S4	04 Apr 2017	1151	120e	12e	86	0.10
S4	11 Apr 2017	846	32e	<2	<2	0.06
S4	18 Apr 2017	1133	<2	<2	<2	1.00
S4	25 Apr 2017	953	160e	2e	10e	0.01
S5	04 Apr 2017	949	>16000	14000e	>12000	0.88
S5	06 Apr 2017	1028	>16000	4200	520	0.26
S5	07 Apr 2017	1032	60e	12e	10e	0.20
S5	11 Apr 2017	639	<20	<2	<2	0.10
S5	18 Apr 2017	952	<2	<2	6e	1.00
S5	25 Apr 2017	956	<20	4e	4e	0.20
S6	04 Apr 2017	937	2e	2e	10e	1.00
S6	11 Apr 2017	1359	<20	<2	<2	0.10
S6	18 Apr 2017	1007	<2	<2	8e	1.00
S6	25 Apr 2017	941	4e	6e	2e	1.50
S8	04 Apr 2017	844	<2	2e	<2	1.00
S8	11 Apr 2017	1154	<20	<2	<2	0.10
S8	18 Apr 2017	841	2e	<2	10e	1.00
S8	25 Apr 2017	842	<20	4e	2e	0.20
S9	04 Apr 2017	812	2e	<2	6e	1.00
S9	11 Apr 2017	1132	<20	<2	<2	0.10
S9	18 Apr 2017	823	<20	<2	<2	0.10
S9	25 Apr 2017	809	20e	10e	20e	0.50
S10	04 Apr 2017	1156	480	28e	240e	0.06
S10	06 Apr 2017	930	ns	ns	240e	ns
S10	07 Apr 2017	949	ns	ns	<2	ns
S10	11 Apr 2017	853	20e	2e	<2	0.10
S10	18 Apr 2017	1156	<2	<2	2e	1.00
S10	25 Apr 2017	1222	40e	4e	4e	0.10

Station	Date	Time	Total	Fecal	Entero	F:T
S11	04 Apr 2017	943	2e	<2	4e	1.00
S11	11 Apr 2017	1346	<20	<2	2e	0.10
S11	18 Apr 2017	1001	2e	<2	4e	1.00
S11	25 Apr 2017	946	40e	8e	2e	0.20
S12	04 Apr 2017	920	<2	<2	<2	1.00
S12	11 Apr 2017	1410	<20	<2	<2	0.10
S12	18 Apr 2017	910	<20	12e	8e	0.60
S12	25 Apr 2017	922	<20	2e	2e	0.10

ns = not sampled

ND = no data

Comments

Station	Date	Depth	Parameter	Comments
S5	06 Apr 2017			Resample
S10	06 Apr 2017			Resample
S10	07 Apr 2017			Resample
S5	07 Apr 2017			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	04 Apr 2017	Arrive Time	1145
S0	04 Apr 2017	Weather	Sunny
S0	04 Apr 2017	Wind Speed (kts)	9
S0	04 Apr 2017	Wind Dir	NW
S0	04 Apr 2017	Animal Life	20 Shorebirds; 5 Dogs
S0	04 Apr 2017	Floatables	None
S0	04 Apr 2017	Water Color	Green
S0	04 Apr 2017	Current Direction	S
S0	04 Apr 2017	Water Temp (C)	15
S0	04 Apr 2017	Wave Height Low (ft)	2
S0	04 Apr 2017	High Tide (ft)	3.7
S0	04 Apr 2017	High Tide Time	1831
S0	04 Apr 2017	Low Tide (ft)	-0.1
S0	04 Apr 2017	Low Tide Time	1139
S0	04 Apr 2017	Comments	Kelp; Water turbid; No flow from stormdrain
S0	11 Apr 2017	Arrive Time	1140
S0	11 Apr 2017	Weather	Sunny
S0	11 Apr 2017	Wind Speed (kts)	1
S0	11 Apr 2017	Wind Dir	NE
S0	11 Apr 2017	Animal Life	20 Shorebirds; 1 Dog; 4 Pelicans; 7 Seagulls
S0	11 Apr 2017	Floatables	None
S0	11 Apr 2017	Water Color	Green
S0	11 Apr 2017	Current Direction	N
S0	11 Apr 2017	Water Temp (C)	0
S0	11 Apr 2017	Wave Height Low (ft)	3
S0	11 Apr 2017	High Tide (ft)	4.5
S0	11 Apr 2017	High Tide Time	1003
S0	11 Apr 2017	Low Tide (ft)	0.5
S0	11 Apr 2017	Low Tide Time	1601
S0	11 Apr 2017	Comments	Seagrass; Algae; 2 Persons; Water clear; 1.1L/sec flow from stormdrain
S0	18 Apr 2017	Arrive Time	1230
S0	18 Apr 2017	Weather	Cloudy
S0	18 Apr 2017	Wind Speed (kts)	1.1
S0	18 Apr 2017	Wind Dir	NE
S0	18 Apr 2017	Animal Life	5 Shorebirds
S0	18 Apr 2017	Floatables	None
S0	18 Apr 2017	Water Color	Green
S0	18 Apr 2017	Current Direction	N
S0	18 Apr 2017	Water Temp (C)	14.5
S0	18 Apr 2017	Wave Height Low (ft)	4
S0	18 Apr 2017	High Tide (ft)	3
S0	18 Apr 2017	High Tide Time	1736
S0	18 Apr 2017	Low Tide (ft)	0.8
S0	18 Apr 2017	Low Tide Time	953
S0	18 Apr 2017	Comments	Kelp; Algae; Water clear
S0	25 Apr 2017	Arrive Time	1000
S0	25 Apr 2017	Weather	Sunny

Station	Date	Parameter	Value
S0	25 Apr 2017	Wind Speed (kts)	1.6
S0	25 Apr 2017	Wind Dir	SE
S0	25 Apr 2017	Animal Life	5 Shorebirds
S0	25 Apr 2017	Floatables	None
S0	25 Apr 2017	Water Color	Green
S0	25 Apr 2017	Current Direction	N
S0	25 Apr 2017	Water Temp (C)	16
S0	25 Apr 2017	Wave Height Low (ft)	4
S0	25 Apr 2017	High Tide (ft)	4.9
S0	25 Apr 2017	High Tide Time	906
S0	25 Apr 2017	Low Tide (ft)	0.1
S0	25 Apr 2017	Low Tide Time	1505
S0	25 Apr 2017	Comments	Kelp; Algae; Water clear; Flow from stormdrain 1L/sec
S2	04 Apr 2017	Arrive Time	1040
S2	04 Apr 2017	Weather	Sunny
S2	04 Apr 2017	Wind Speed (kts)	3
S2	04 Apr 2017	Wind Dir	NW
S2	04 Apr 2017	Animal Life	20 Shorebirds
S2	04 Apr 2017	Floatables	None
S2	04 Apr 2017	Water Color	Green
S2	04 Apr 2017	Current Direction	S
S2	04 Apr 2017	Water Temp (C)	16
S2	04 Apr 2017	Wave Height Low (ft)	2
S2	04 Apr 2017	High Tide (ft)	4.5
S2	04 Apr 2017	High Tide Time	404
S2	04 Apr 2017	Low Tide (ft)	-0.1
S2	04 Apr 2017	Low Tide Time	1139
S2	04 Apr 2017	Comments	Kelp; Water turbid; No flow from stormdrain
S2	11 Apr 2017	Arrive Time	1040
S2	11 Apr 2017	Weather	Sunny
S2	11 Apr 2017	Wind Speed (kts)	1.2
S2	11 Apr 2017	Wind Dir	NE
S2	11 Apr 2017	Animal Life	20 Shorebirds; 1 Dog; 2 Pelicans; 7 Seagulls
S2	11 Apr 2017	Floatables	None
S2	11 Apr 2017	Water Color	Green
S2	11 Apr 2017	Current Direction	N
S2	11 Apr 2017	Water Temp (C)	0
S2	11 Apr 2017	Wave Height Low (ft)	4
S2	11 Apr 2017	High Tide (ft)	4.5
S2	11 Apr 2017	High Tide Time	1003
S2	11 Apr 2017	Low Tide (ft)	0.5
S2	11 Apr 2017	Low Tide Time	1601
S2	11 Apr 2017	Comments	Seagrass; Algae; 3 Persons; Water clear; No flow from stormdrain
S2	18 Apr 2017	Arrive Time	1121
S2	18 Apr 2017	Weather	Cloudy
S2	18 Apr 2017	Wind Speed (kts)	4.1
S2	18 Apr 2017	Wind Dir	NE
S2	18 Apr 2017	Animal Life	15 Shorebirds; 5 Dogs; 15 Dolphins
S2	18 Apr 2017	Floatables	None
S2	18 Apr 2017	Water Color	Green
S2	18 Apr 2017	Current Direction	N
S2	18 Apr 2017	Water Temp (C)	14.5

Station	Date	Parameter	Value
S2	18 Apr 2017	Wave Height Low (ft)	4
S2	18 Apr 2017	High Tide (ft)	3
S2	18 Apr 2017	High Tide Time	1736
S2	18 Apr 2017	Low Tide (ft)	0.8
S2	18 Apr 2017	Low Tide Time	953
S2	18 Apr 2017	Comments	Kelp; Algae; 5 Persons; Water clear; No flow from stormdrain
S2	25 Apr 2017	Arrive Time	1100
S2	25 Apr 2017	Weather	Sunny
S2	25 Apr 2017	Wind Speed (kts)	2.3
S2	25 Apr 2017	Wind Dir	SE
S2	25 Apr 2017	Animal Life	5 Shorebirds
S2	25 Apr 2017	Floatables	None
S2	25 Apr 2017	Water Color	Green
S2	25 Apr 2017	Current Direction	N
S2	25 Apr 2017	Water Temp (C)	17
S2	25 Apr 2017	Wave Height Low (ft)	4
S2	25 Apr 2017	High Tide (ft)	4.9
S2	25 Apr 2017	High Tide Time	906
S2	25 Apr 2017	Low Tide (ft)	0.1
S2	25 Apr 2017	Low Tide Time	1505
S2	25 Apr 2017	Comments	Kelp; Algae; Water clear; No flow from stormdrain
S3	04 Apr 2017	Arrive Time	950
S3	04 Apr 2017	Weather	Sunny
S3	04 Apr 2017	Wind Speed (kts)	7
S3	04 Apr 2017	Wind Dir	NW
S3	04 Apr 2017	Animal Life	None
S3	04 Apr 2017	Floatables	None
S3	04 Apr 2017	Water Color	Green
S3	04 Apr 2017	Current Direction	S
S3	04 Apr 2017	Water Temp (C)	15
S3	04 Apr 2017	Wave Height Low (ft)	2
S3	04 Apr 2017	High Tide (ft)	4.5
S3	04 Apr 2017	High Tide Time	404
S3	04 Apr 2017	Low Tide (ft)	-0.1
S3	04 Apr 2017	Low Tide Time	1139
S3	04 Apr 2017	Comments	Water turbid; 3.2 L/sec flow from stormdrain
S3	11 Apr 2017	Arrive Time	1433
S3	11 Apr 2017	Weather	Sunny
S3	11 Apr 2017	Wind Speed (kts)	1.1
S3	11 Apr 2017	Wind Dir	NE
S3	11 Apr 2017	Animal Life	7 Shorebirds; 1 Dog; 4 Seagulls
S3	11 Apr 2017	Floatables	None
S3	11 Apr 2017	Water Color	Green
S3	11 Apr 2017	Current Direction	N
S3	11 Apr 2017	Water Temp (C)	0
S3	11 Apr 2017	Wave Height Low (ft)	3
S3	11 Apr 2017	High Tide (ft)	4.5
S3	11 Apr 2017	High Tide Time	1003
S3	11 Apr 2017	Low Tide (ft)	0.5
S3	11 Apr 2017	Low Tide Time	1601
S3	11 Apr 2017	Comments	Algae; 3 Persons; 5 Surfers; Water clear; No discharge from stormdrain

Station	Date	Parameter	Value
S3	18 Apr 2017	Arrive Time	1030
S3	18 Apr 2017	Weather	Cloudy
S3	18 Apr 2017	Wind Speed (kts)	0.9
S3	18 Apr 2017	Wind Dir	NE
S3	18 Apr 2017	Animal Life	5 Shorebirds; 5 Dogs
S3	18 Apr 2017	Floatables	None
S3	18 Apr 2017	Water Color	Green
S3	18 Apr 2017	Current Direction	N
S3	18 Apr 2017	Water Temp (C)	14
S3	18 Apr 2017	Wave Height Low (ft)	4
S3	18 Apr 2017	High Tide (ft)	3
S3	18 Apr 2017	High Tide Time	1736
S3	18 Apr 2017	Low Tide (ft)	0.8
S3	18 Apr 2017	Low Tide Time	953
S3	18 Apr 2017	Comments	Kelp; Algae; 5 Persons; Water clear; Flow from stormdrain 0.3L/sec
S3	25 Apr 2017	Arrive Time	1215
S3	25 Apr 2017	Weather	Sunny
S3	25 Apr 2017	Wind Speed (kts)	2.4
S3	25 Apr 2017	Wind Dir	SE
S3	25 Apr 2017	Animal Life	5 Shorebirds
S3	25 Apr 2017	Floatables	None
S3	25 Apr 2017	Water Color	Green
S3	25 Apr 2017	Current Direction	N
S3	25 Apr 2017	Water Temp (C)	17
S3	25 Apr 2017	Wave Height Low (ft)	4
S3	25 Apr 2017	High Tide (ft)	4.9
S3	25 Apr 2017	High Tide Time	906
S3	25 Apr 2017	Low Tide (ft)	0.1
S3	25 Apr 2017	Low Tide Time	1505
S3	25 Apr 2017	Comments	Kelp; Algae; Water clear
S4	04 Apr 2017	Arrive Time	1151
S4	04 Apr 2017	Weather	Sunny
S4	04 Apr 2017	Wind Speed (kts)	5
S4	04 Apr 2017	Wind Dir	W
S4	04 Apr 2017	Animal Life	None
S4	04 Apr 2017	Floatables	None
S4	04 Apr 2017	Water Color	Green
S4	04 Apr 2017	Current Direction	N
S4	04 Apr 2017	Water Temp (C)	16.6
S4	04 Apr 2017	Wave Height Low (ft)	3
S4	04 Apr 2017	High Tide (ft)	3.7
S4	04 Apr 2017	High Tide Time	1831
S4	04 Apr 2017	Low Tide (ft)	-0.1
S4	04 Apr 2017	Low Tide Time	1139
S4	04 Apr 2017	Comments	Seagrass; Water clear
S4	11 Apr 2017	Arrive Time	846
S4	11 Apr 2017	Weather	Overcast
S4	11 Apr 2017	Wind Speed (kts)	1.9
S4	11 Apr 2017	Wind Dir	W
S4	11 Apr 2017	Animal Life	None

Station	Date	Parameter	Value
S4	11 Apr 2017	Floatables	None
S4	11 Apr 2017	Water Color	Green
S4	11 Apr 2017	Current Direction	N
S4	11 Apr 2017	Water Temp (C)	16
S4	11 Apr 2017	Wave Height Low (ft)	3
S4	11 Apr 2017	High Tide (ft)	4.5
S4	11 Apr 2017	High Tide Time	1003
S4	11 Apr 2017	Low Tide (ft)	-0.1
S4	11 Apr 2017	Low Tide Time	406
S4	11 Apr 2017	Comments	Kelp; Seagrass; Debris; Water clear
S4	18 Apr 2017	Arrive Time	1133
S4	18 Apr 2017	Weather	Partly Cloudy
S4	18 Apr 2017	Wind Speed (kts)	3.8
S4	18 Apr 2017	Wind Dir	W
S4	18 Apr 2017	Animal Life	1 Bird
S4	18 Apr 2017	Floatables	None
S4	18 Apr 2017	Water Color	Green
S4	18 Apr 2017	Current Direction	N
S4	18 Apr 2017	Water Temp (C)	16
S4	18 Apr 2017	Wave Height Low (ft)	2
S4	18 Apr 2017	High Tide (ft)	3
S4	18 Apr 2017	High Tide Time	1736
S4	18 Apr 2017	Low Tide (ft)	0.8
S4	18 Apr 2017	Low Tide Time	953
S4	18 Apr 2017	Comments	Kelp; Seagrass; Water clear
S4	25 Apr 2017	Arrive Time	953
S4	25 Apr 2017	Weather	Partly Cloudy
S4	25 Apr 2017	Wind Speed (kts)	5
S4	25 Apr 2017	Wind Dir	W
S4	25 Apr 2017	Animal Life	None
S4	25 Apr 2017	Floatables	None
S4	25 Apr 2017	Water Color	Green
S4	25 Apr 2017	Current Direction	W
S4	25 Apr 2017	Water Temp (C)	18.3
S4	25 Apr 2017	Wave Height Low (ft)	3
S4	25 Apr 2017	High Tide (ft)	4.9
S4	25 Apr 2017	High Tide Time	906
S4	25 Apr 2017	Low Tide (ft)	0.1
S4	25 Apr 2017	Low Tide Time	1505
S4	25 Apr 2017	Comments	Kelp; Seagrass; Water clear
S5	04 Apr 2017	Arrive Time	949
S5	04 Apr 2017	Weather	Sunny
S5	04 Apr 2017	Wind Speed (kts)	3.8
S5	04 Apr 2017	Wind Dir	N
S5	04 Apr 2017	Animal Life	None
S5	04 Apr 2017	Floatables	None
S5	04 Apr 2017	Water Color	Green
S5	04 Apr 2017	Current Direction	N
S5	04 Apr 2017	Water Temp (C)	15.2
S5	04 Apr 2017	Wave Height Low (ft)	2
S5	04 Apr 2017	High Tide (ft)	4.5
S5	04 Apr 2017	High Tide Time	404

Station	Date	Parameter	Value
S5	04 Apr 2017	Low Tide (ft)	-0.1
S5	04 Apr 2017	Low Tide Time	1139
S5	04 Apr 2017	Comments	Water clear
S5	06 Apr 2017	Arrive Time	1028
S5	06 Apr 2017	Weather	Partly Cloudy
S5	06 Apr 2017	Wind Speed (kts)	3.3
S5	06 Apr 2017	Wind Dir	W
S5	06 Apr 2017	Animal Life	None
S5	06 Apr 2017	Floatables	None
S5	06 Apr 2017	Water Color	Green
S5	06 Apr 2017	Current Direction	N
S5	06 Apr 2017	Water Temp (C)	18
S5	06 Apr 2017	Wave Height Low (ft)	3
S5	06 Apr 2017	High Tide (ft)	4.8
S5	06 Apr 2017	High Tide Time	634
S5	06 Apr 2017	Low Tide (ft)	-0.4
S5	06 Apr 2017	Low Tide Time	1326
S5	06 Apr 2017	Comments	Kelp; Seagrass; 1 Person; Water clear
S5	07 Apr 2017	Arrive Time	1032
S5	07 Apr 2017	Weather	Overcast
S5	07 Apr 2017	Wind Speed (kts)	3.8
S5	07 Apr 2017	Wind Dir	W
S5	07 Apr 2017	Animal Life	3 Shorebirds; 4 Plovers
S5	07 Apr 2017	Floatables	None
S5	07 Apr 2017	Water Color	Green
S5	07 Apr 2017	Current Direction	N
S5	07 Apr 2017	Water Temp (C)	16.8
S5	07 Apr 2017	Wave Height Low (ft)	3
S5	07 Apr 2017	High Tide (ft)	4.9
S5	07 Apr 2017	High Tide Time	727
S5	07 Apr 2017	Low Tide (ft)	-0.4
S5	07 Apr 2017	Low Tide Time	1405
S5	07 Apr 2017	Comments	Kelp; Seagrass; Water clear
S5	11 Apr 2017	Arrive Time	639
S5	11 Apr 2017	Weather	Sunny
S5	11 Apr 2017	Wind Speed (kts)	4
S5	11 Apr 2017	Wind Dir	W
S5	11 Apr 2017	Animal Life	None
S5	11 Apr 2017	Floatables	None
S5	11 Apr 2017	Water Color	Green
S5	11 Apr 2017	Current Direction	W
S5	11 Apr 2017	Water Temp (C)	16
S5	11 Apr 2017	Wave Height Low (ft)	2
S5	11 Apr 2017	High Tide (ft)	4.5
S5	11 Apr 2017	High Tide Time	1003
S5	11 Apr 2017	Low Tide (ft)	-0.1
S5	11 Apr 2017	Low Tide Time	406
S5	11 Apr 2017	Comments	Kelp; Seagrass; Water turbid
S5	18 Apr 2017	Arrive Time	952
S5	18 Apr 2017	Weather	Foggy
S5	18 Apr 2017	Wind Speed (kts)	7.7

Station	Date	Parameter	Value
S5	18 Apr 2017	Wind Dir	N
S5	18 Apr 2017	Animal Life	None
S5	18 Apr 2017	Floatables	None
S5	18 Apr 2017	Water Color	Green
S5	18 Apr 2017	Current Direction	N
S5	18 Apr 2017	Water Temp (C)	14.1
S5	18 Apr 2017	Wave Height Low (ft)	2
S5	18 Apr 2017	High Tide (ft)	3
S5	18 Apr 2017	High Tide Time	1736
S5	18 Apr 2017	Low Tide (ft)	0.8
S5	18 Apr 2017	Low Tide Time	953
S5	18 Apr 2017	Comments	Kelp; Seagrass; Water clear
S5	25 Apr 2017	Arrive Time	956
S5	25 Apr 2017	Weather	Partly Cloudy
S5	25 Apr 2017	Wind Speed (kts)	5
S5	25 Apr 2017	Wind Dir	W
S5	25 Apr 2017	Animal Life	None
S5	25 Apr 2017	Floatables	None
S5	25 Apr 2017	Water Color	Green
S5	25 Apr 2017	Current Direction	N
S5	25 Apr 2017	Water Temp (C)	18.3
S5	25 Apr 2017	Wave Height Low (ft)	3
S5	25 Apr 2017	High Tide (ft)	4.9
S5	25 Apr 2017	High Tide Time	906
S5	25 Apr 2017	Low Tide (ft)	0.1
S5	25 Apr 2017	Low Tide Time	1505
S5	25 Apr 2017	Comments	Kelp; Seagrass; Water clear
S6	04 Apr 2017	Arrive Time	937
S6	04 Apr 2017	Weather	Sunny
S6	04 Apr 2017	Wind Speed (kts)	4
S6	04 Apr 2017	Wind Dir	NE
S6	04 Apr 2017	Animal Life	None
S6	04 Apr 2017	Floatables	None
S6	04 Apr 2017	Water Color	Green
S6	04 Apr 2017	Current Direction	N
S6	04 Apr 2017	Water Temp (C)	16.8
S6	04 Apr 2017	Wave Height Low (ft)	2
S6	04 Apr 2017	High Tide (ft)	4.5
S6	04 Apr 2017	High Tide Time	404
S6	04 Apr 2017	Low Tide (ft)	-0.1
S6	04 Apr 2017	Low Tide Time	1139
S6	04 Apr 2017	Comments	Seagrass; Water clear
S6	11 Apr 2017	Arrive Time	1359
S6	11 Apr 2017	Weather	Sunny
S6	11 Apr 2017	Wind Speed (kts)	5
S6	11 Apr 2017	Wind Dir	W
S6	11 Apr 2017	Animal Life	None
S6	11 Apr 2017	Floatables	None
S6	11 Apr 2017	Water Color	Green
S6	11 Apr 2017	Current Direction	W
S6	11 Apr 2017	Water Temp (C)	16
S6	11 Apr 2017	Wave Height Low (ft)	2

Station	Date	Parameter	Value
S6	11 Apr 2017	High Tide (ft)	4.5
S6	11 Apr 2017	High Tide Time	1003
S6	11 Apr 2017	Low Tide (ft)	0.5
S6	11 Apr 2017	Low Tide Time	1601
S6	11 Apr 2017	Comments	Kelp; Seagrass; 3 Persons; Water turbid
S6	18 Apr 2017	Arrive Time	1007
S6	18 Apr 2017	Weather	Foggy
S6	18 Apr 2017	Wind Speed (kts)	7.3
S6	18 Apr 2017	Wind Dir	N
S6	18 Apr 2017	Animal Life	None
S6	18 Apr 2017	Floatables	None
S6	18 Apr 2017	Water Color	Green
S6	18 Apr 2017	Current Direction	N
S6	18 Apr 2017	Water Temp (C)	14.2
S6	18 Apr 2017	Wave Height Low (ft)	2
S6	18 Apr 2017	High Tide (ft)	3
S6	18 Apr 2017	High Tide Time	1736
S6	18 Apr 2017	Low Tide (ft)	0.8
S6	18 Apr 2017	Low Tide Time	953
S6	18 Apr 2017	Comments	Kelp; Seagrass; 3 Persons; Water clear
S6	25 Apr 2017	Arrive Time	941
S6	25 Apr 2017	Weather	Partly Cloudy
S6	25 Apr 2017	Wind Speed (kts)	5
S6	25 Apr 2017	Wind Dir	W
S6	25 Apr 2017	Animal Life	None
S6	25 Apr 2017	Floatables	None
S6	25 Apr 2017	Water Color	Green
S6	25 Apr 2017	Current Direction	N
S6	25 Apr 2017	Water Temp (C)	18
S6	25 Apr 2017	Wave Height Low (ft)	2
S6	25 Apr 2017	High Tide (ft)	4.9
S6	25 Apr 2017	High Tide Time	906
S6	25 Apr 2017	Low Tide (ft)	0.1
S6	25 Apr 2017	Low Tide Time	1505
S6	25 Apr 2017	Comments	Kelp; Seagrass; 1 Jogger; 2 Persons; Water clear
S8	04 Apr 2017	Arrive Time	844
S8	04 Apr 2017	Weather	Sunny
S8	04 Apr 2017	Wind Speed (kts)	0.5
S8	04 Apr 2017	Wind Dir	E
S8	04 Apr 2017	Animal Life	None
S8	04 Apr 2017	Floatables	None
S8	04 Apr 2017	Water Color	Green
S8	04 Apr 2017	Current Direction	N
S8	04 Apr 2017	Water Temp (C)	17
S8	04 Apr 2017	Wave Height Low (ft)	2
S8	04 Apr 2017	High Tide (ft)	4.5
S8	04 Apr 2017	High Tide Time	404
S8	04 Apr 2017	Low Tide (ft)	-0.1
S8	04 Apr 2017	Low Tide Time	1139
S8	04 Apr 2017	Comments	10 Persons; Water clear
S8	11 Apr 2017	Arrive Time	1154

Station	Date	Parameter	Value
S8	11 Apr 2017	Weather	Sunny
S8	11 Apr 2017	Wind Speed (kts)	4
S8	11 Apr 2017	Wind Dir	W
S8	11 Apr 2017	Animal Life	None
S8	11 Apr 2017	Floatables	None
S8	11 Apr 2017	Water Color	Green
S8	11 Apr 2017	Current Direction	W
S8	11 Apr 2017	Water Temp (C)	17
S8	11 Apr 2017	Wave Height Low (ft)	2
S8	11 Apr 2017	High Tide (ft)	4.5
S8	11 Apr 2017	High Tide Time	1003
S8	11 Apr 2017	Low Tide (ft)	0.5
S8	11 Apr 2017	Low Tide Time	1601
S8	11 Apr 2017	Comments	Kelp; Seagrass; 20 Persons; Water turbid
S8	18 Apr 2017	Arrive Time	841
S8	18 Apr 2017	Weather	Foggy
S8	18 Apr 2017	Wind Speed (kts)	4.5
S8	18 Apr 2017	Wind Dir	NW
S8	18 Apr 2017	Animal Life	None
S8	18 Apr 2017	Floatables	None
S8	18 Apr 2017	Water Color	Green
S8	18 Apr 2017	Current Direction	N
S8	18 Apr 2017	Water Temp (C)	13.2
S8	18 Apr 2017	Wave Height Low (ft)	1
S8	18 Apr 2017	High Tide (ft)	3.9
S8	18 Apr 2017	High Tide Time	132
S8	18 Apr 2017	Low Tide (ft)	0.8
S8	18 Apr 2017	Low Tide Time	953
S8	18 Apr 2017	Comments	Kelp; Seagrass; 2 Persons; Water clear
S8	25 Apr 2017	Arrive Time	842
S8	25 Apr 2017	Weather	Cloudy
S8	25 Apr 2017	Wind Speed (kts)	10.8
S8	25 Apr 2017	Wind Dir	S
S8	25 Apr 2017	Animal Life	70 Plovers
S8	25 Apr 2017	Floatables	None
S8	25 Apr 2017	Water Color	Green
S8	25 Apr 2017	Current Direction	N
S8	25 Apr 2017	Water Temp (C)	18.6
S8	25 Apr 2017	Wave Height Low (ft)	3
S8	25 Apr 2017	High Tide (ft)	4.9
S8	25 Apr 2017	High Tide Time	906
S8	25 Apr 2017	Low Tide (ft)	-0.4
S8	25 Apr 2017	Low Tide Time	305
S8	25 Apr 2017	Comments	Seagrass; Water clear
S9	04 Apr 2017	Arrive Time	812
S9	04 Apr 2017	Weather	Foggy
S9	04 Apr 2017	Wind Speed (kts)	1.5
S9	04 Apr 2017	Wind Dir	N
S9	04 Apr 2017	Animal Life	2 Dogs
S9	04 Apr 2017	Floatables	None
S9	04 Apr 2017	Water Color	Green
S9	04 Apr 2017	Current Direction	N

Station	Date	Parameter	Value
S9	04 Apr 2017	Water Temp (C)	17.6
S9	04 Apr 2017	Wave Height Low (ft)	2
S9	04 Apr 2017	High Tide (ft)	4.5
S9	04 Apr 2017	High Tide Time	404
S9	04 Apr 2017	Low Tide (ft)	-0.1
S9	04 Apr 2017	Low Tide Time	1139
S9	04 Apr 2017	Comments	2 Persons; Water clear
S9	11 Apr 2017	Arrive Time	1132
S9	11 Apr 2017	Weather	Sunny
S9	11 Apr 2017	Wind Speed (kts)	4
S9	11 Apr 2017	Wind Dir	W
S9	11 Apr 2017	Animal Life	None
S9	11 Apr 2017	Floatables	None
S9	11 Apr 2017	Water Color	Green
S9	11 Apr 2017	Current Direction	W
S9	11 Apr 2017	Water Temp (C)	17
S9	11 Apr 2017	Wave Height Low (ft)	2
S9	11 Apr 2017	High Tide (ft)	4.5
S9	11 Apr 2017	High Tide Time	1003
S9	11 Apr 2017	Low Tide (ft)	0.5
S9	11 Apr 2017	Low Tide Time	1601
S9	11 Apr 2017	Comments	Kelp; Seagrass; 20 Persons; Water turbid
S9	18 Apr 2017	Arrive Time	823
S9	18 Apr 2017	Weather	Foggy
S9	18 Apr 2017	Wind Speed (kts)	3.3
S9	18 Apr 2017	Wind Dir	NW
S9	18 Apr 2017	Animal Life	None
S9	18 Apr 2017	Floatables	None
S9	18 Apr 2017	Water Color	Green
S9	18 Apr 2017	Current Direction	N
S9	18 Apr 2017	Water Temp (C)	13.5
S9	18 Apr 2017	Wave Height Low (ft)	2
S9	18 Apr 2017	High Tide (ft)	3.9
S9	18 Apr 2017	High Tide Time	132
S9	18 Apr 2017	Low Tide (ft)	0.8
S9	18 Apr 2017	Low Tide Time	953
S9	18 Apr 2017	Comments	Seagrass; 4 Joggers; Water clear
S9	25 Apr 2017	Arrive Time	809
S9	25 Apr 2017	Weather	Cloudy
S9	25 Apr 2017	Wind Speed (kts)	9.1
S9	25 Apr 2017	Wind Dir	W
S9	25 Apr 2017	Animal Life	10 Shorebirds
S9	25 Apr 2017	Floatables	None
S9	25 Apr 2017	Water Color	Green
S9	25 Apr 2017	Current Direction	N
S9	25 Apr 2017	Water Temp (C)	17.3
S9	25 Apr 2017	Wave Height Low (ft)	3
S9	25 Apr 2017	High Tide (ft)	4.9
S9	25 Apr 2017	High Tide Time	906
S9	25 Apr 2017	Low Tide (ft)	-0.4
S9	25 Apr 2017	Low Tide Time	305
S9	25 Apr 2017	Comments	Kelp; Seagrass; 2 Persons; Water clear

Station	Date	Parameter	Value
S10	04 Apr 2017	Arrive Time	1156
S10	04 Apr 2017	Weather	Sunny
S10	04 Apr 2017	Wind Speed (kts)	4.6
S10	04 Apr 2017	Wind Dir	W
S10	04 Apr 2017	Animal Life	3 Horses
S10	04 Apr 2017	Floatables	None
S10	04 Apr 2017	Water Color	Green
S10	04 Apr 2017	Current Direction	N
S10	04 Apr 2017	Water Temp (C)	17
S10	04 Apr 2017	Wave Height Low (ft)	3
S10	04 Apr 2017	High Tide (ft)	3.7
S10	04 Apr 2017	High Tide Time	1831
S10	04 Apr 2017	Low Tide (ft)	-0.1
S10	04 Apr 2017	Low Tide Time	1139
S10	04 Apr 2017	Comments	3 Persons; Water clear
S10	06 Apr 2017	Arrive Time	930
S10	06 Apr 2017	Weather	Cloudy
S10	06 Apr 2017	Wind Speed (kts)	3.1
S10	06 Apr 2017	Wind Dir	W
S10	06 Apr 2017	Animal Life	None
S10	06 Apr 2017	Floatables	None
S10	06 Apr 2017	Water Color	Green
S10	06 Apr 2017	Current Direction	N
S10	06 Apr 2017	Water Temp (C)	16.8
S10	06 Apr 2017	Wave Height Low (ft)	3
S10	06 Apr 2017	High Tide (ft)	4.8
S10	06 Apr 2017	High Tide Time	634
S10	06 Apr 2017	Low Tide (ft)	-0.4
S10	06 Apr 2017	Low Tide Time	1326
S10	06 Apr 2017	Comments	Kelp; Seagrass; 1 Person; Water clear
S10	07 Apr 2017	Arrive Time	949
S10	07 Apr 2017	Weather	Overcast
S10	07 Apr 2017	Wind Speed (kts)	3.6
S10	07 Apr 2017	Wind Dir	W
S10	07 Apr 2017	Animal Life	3 Horses
S10	07 Apr 2017	Floatables	None
S10	07 Apr 2017	Water Color	Green
S10	07 Apr 2017	Current Direction	N
S10	07 Apr 2017	Water Temp (C)	17
S10	07 Apr 2017	Wave Height Low (ft)	3
S10	07 Apr 2017	High Tide (ft)	4.9
S10	07 Apr 2017	High Tide Time	727
S10	07 Apr 2017	Low Tide (ft)	-0.4
S10	07 Apr 2017	Low Tide Time	1405
S10	07 Apr 2017	Comments	Kelp; Seagrass; 3 Persons; Water clear
S10	11 Apr 2017	Arrive Time	853
S10	11 Apr 2017	Weather	Overcast
S10	11 Apr 2017	Wind Speed (kts)	1.3
S10	11 Apr 2017	Wind Dir	W
S10	11 Apr 2017	Animal Life	None
S10	11 Apr 2017	Floatables	None

Station	Date	Parameter	Value
S10	11 Apr 2017	Water Color	Green
S10	11 Apr 2017	Current Direction	N
S10	11 Apr 2017	Water Temp (C)	14.8
S10	11 Apr 2017	Wave Height Low (ft)	3
S10	11 Apr 2017	High Tide (ft)	4.5
S10	11 Apr 2017	High Tide Time	1003
S10	11 Apr 2017	Low Tide (ft)	-0.1
S10	11 Apr 2017	Low Tide Time	406
S10	11 Apr 2017	Comments	Kelp; Seagrass; Debris; Water clear
S10	18 Apr 2017	Arrive Time	1156
S10	18 Apr 2017	Weather	Partly Cloudy
S10	18 Apr 2017	Wind Speed (kts)	3.1
S10	18 Apr 2017	Wind Dir	N
S10	18 Apr 2017	Animal Life	None
S10	18 Apr 2017	Floatables	None
S10	18 Apr 2017	Water Color	Green
S10	18 Apr 2017	Current Direction	N
S10	18 Apr 2017	Water Temp (C)	15.2
S10	18 Apr 2017	Wave Height Low (ft)	3
S10	18 Apr 2017	High Tide (ft)	3
S10	18 Apr 2017	High Tide Time	1736
S10	18 Apr 2017	Low Tide (ft)	0.8
S10	18 Apr 2017	Low Tide Time	953
S10	18 Apr 2017	Comments	Seagrass; Water clear
S10	25 Apr 2017	Arrive Time	1222
S10	25 Apr 2017	Weather	Sunny
S10	25 Apr 2017	Wind Speed (kts)	6.8
S10	25 Apr 2017	Wind Dir	W
S10	25 Apr 2017	Animal Life	None
S10	25 Apr 2017	Floatables	None
S10	25 Apr 2017	Water Color	Green
S10	25 Apr 2017	Current Direction	N
S10	25 Apr 2017	Water Temp (C)	18.4
S10	25 Apr 2017	Wave Height Low (ft)	3
S10	25 Apr 2017	High Tide (ft)	4.9
S10	25 Apr 2017	High Tide Time	906
S10	25 Apr 2017	Low Tide (ft)	0.1
S10	25 Apr 2017	Low Tide Time	1505
S10	25 Apr 2017	Comments	Seagrass; Water clear
S11	04 Apr 2017	Arrive Time	943
S11	04 Apr 2017	Weather	Sunny
S11	04 Apr 2017	Wind Speed (kts)	4.4
S11	04 Apr 2017	Wind Dir	NW
S11	04 Apr 2017	Animal Life	None
S11	04 Apr 2017	Floatables	None
S11	04 Apr 2017	Water Color	Green
S11	04 Apr 2017	Current Direction	N
S11	04 Apr 2017	Water Temp (C)	15.3
S11	04 Apr 2017	Wave Height Low (ft)	3
S11	04 Apr 2017	High Tide (ft)	4.5
S11	04 Apr 2017	High Tide Time	404
S11	04 Apr 2017	Low Tide (ft)	-0.1

Station	Date	Parameter	Value
S11	04 Apr 2017	Low Tide Time	1139
S11	04 Apr 2017	Comments	Water clear
S11	11 Apr 2017	Arrive Time	1346
S11	11 Apr 2017	Weather	Sunny
S11	11 Apr 2017	Wind Speed (kts)	5
S11	11 Apr 2017	Wind Dir	W
S11	11 Apr 2017	Animal Life	None
S11	11 Apr 2017	Floatables	None
S11	11 Apr 2017	Water Color	Green
S11	11 Apr 2017	Current Direction	W
S11	11 Apr 2017	Water Temp (C)	17
S11	11 Apr 2017	Wave Height Low (ft)	2
S11	11 Apr 2017	High Tide (ft)	4.5
S11	11 Apr 2017	High Tide Time	1003
S11	11 Apr 2017	Low Tide (ft)	0.5
S11	11 Apr 2017	Low Tide Time	1601
S11	11 Apr 2017	Comments	Kelp; Seagrass; Water turbid
S11	18 Apr 2017	Arrive Time	1001
S11	18 Apr 2017	Weather	Foggy
S11	18 Apr 2017	Wind Speed (kts)	6
S11	18 Apr 2017	Wind Dir	N
S11	18 Apr 2017	Animal Life	None
S11	18 Apr 2017	Floatables	None
S11	18 Apr 2017	Water Color	Green
S11	18 Apr 2017	Current Direction	N
S11	18 Apr 2017	Water Temp (C)	13.2
S11	18 Apr 2017	Wave Height Low (ft)	2
S11	18 Apr 2017	High Tide (ft)	3
S11	18 Apr 2017	High Tide Time	1736
S11	18 Apr 2017	Low Tide (ft)	0.8
S11	18 Apr 2017	Low Tide Time	953
S11	18 Apr 2017	Comments	Kelp; Seagrass; Water clear
S11	25 Apr 2017	Arrive Time	946
S11	25 Apr 2017	Weather	Partly Cloudy
S11	25 Apr 2017	Wind Speed (kts)	6.8
S11	25 Apr 2017	Wind Dir	W
S11	25 Apr 2017	Animal Life	None
S11	25 Apr 2017	Floatables	None
S11	25 Apr 2017	Water Color	Green
S11	25 Apr 2017	Current Direction	N
S11	25 Apr 2017	Water Temp (C)	18.6
S11	25 Apr 2017	Wave Height Low (ft)	3
S11	25 Apr 2017	High Tide (ft)	4.9
S11	25 Apr 2017	High Tide Time	906
S11	25 Apr 2017	Low Tide (ft)	0.1
S11	25 Apr 2017	Low Tide Time	1505
S11	25 Apr 2017	Comments	Kelp; Seagrass; Water clear
S12	04 Apr 2017	Arrive Time	920
S12	04 Apr 2017	Weather	Sunny
S12	04 Apr 2017	Wind Speed (kts)	3.8
S12	04 Apr 2017	Wind Dir	NE

Station	Date	Parameter	Value
S12	04 Apr 2017	Animal Life	None
S12	04 Apr 2017	Floatables	None
S12	04 Apr 2017	Water Color	Green
S12	04 Apr 2017	Current Direction	N
S12	04 Apr 2017	Water Temp (C)	16.4
S12	04 Apr 2017	Wave Height Low (ft)	2
S12	04 Apr 2017	High Tide (ft)	4.5
S12	04 Apr 2017	High Tide Time	404
S12	04 Apr 2017	Low Tide (ft)	-0.1
S12	04 Apr 2017	Low Tide Time	1139
S12	04 Apr 2017	Comments	2 Persons; Water clear
S12	11 Apr 2017	Arrive Time	1410
S12	11 Apr 2017	Weather	Sunny
S12	11 Apr 2017	Wind Speed (kts)	5
S12	11 Apr 2017	Wind Dir	W
S12	11 Apr 2017	Animal Life	None
S12	11 Apr 2017	Floatables	None
S12	11 Apr 2017	Water Color	Green
S12	11 Apr 2017	Current Direction	W
S12	11 Apr 2017	Water Temp (C)	17
S12	11 Apr 2017	Wave Height Low (ft)	2
S12	11 Apr 2017	High Tide (ft)	4.5
S12	11 Apr 2017	High Tide Time	1003
S12	11 Apr 2017	Low Tide (ft)	0.5
S12	11 Apr 2017	Low Tide Time	1601
S12	11 Apr 2017	Comments	Kelp; Seagrass; Water turbid
S12	18 Apr 2017	Arrive Time	910
S12	18 Apr 2017	Weather	Foggy
S12	18 Apr 2017	Wind Speed (kts)	5
S12	18 Apr 2017	Wind Dir	NW
S12	18 Apr 2017	Animal Life	None
S12	18 Apr 2017	Floatables	None
S12	18 Apr 2017	Water Color	Green
S12	18 Apr 2017	Current Direction	N
S12	18 Apr 2017	Water Temp (C)	14
S12	18 Apr 2017	Wave Height Low (ft)	1
S12	18 Apr 2017	High Tide (ft)	3.9
S12	18 Apr 2017	High Tide Time	132
S12	18 Apr 2017	Low Tide (ft)	0.8
S12	18 Apr 2017	Low Tide Time	953
S12	18 Apr 2017	Comments	2 Joggers; 1 Person; Water clear
S12	25 Apr 2017	Arrive Time	922
S12	25 Apr 2017	Weather	Cloudy
S12	25 Apr 2017	Wind Speed (kts)	3.2
S12	25 Apr 2017	Wind Dir	NW
S12	25 Apr 2017	Animal Life	None
S12	25 Apr 2017	Floatables	None
S12	25 Apr 2017	Water Color	Green
S12	25 Apr 2017	Current Direction	N
S12	25 Apr 2017	Water Temp (C)	17.6
S12	25 Apr 2017	Wave Height Low (ft)	3
S12	25 Apr 2017	High Tide (ft)	4.9

Station	Date	Parameter	Value
S12	25 Apr 2017	High Tide Time	906
S12	25 Apr 2017	Low Tide (ft)	0.1
S12	25 Apr 2017	Low Tide Time	1505
S12	25 Apr 2017	Comments	Seagrass; 2 Persons; Water clear

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Kelp Stations

Table 3.1

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

Date	I19	I24	I25	I26	I32	I39	I40
01 Apr 2017	92	17	20	28	92	6	241
02 Apr 2017	46*	6*	7*	19*	56*	4*	183*
03 Apr 2017	46*	6*	7*	19*	56*	4*	183*
04 Apr 2017	46*	6*	7*	19*	56*	4*	183*
05 Apr 2017	46*	6*	7*	19*	56*	4*	183*
06 Apr 2017	88	5	5	16	38	4	156
07 Apr 2017	88	5	5	16	38	4	156
08 Apr 2017	97*	2*	4*	13*	35*	3*	132*
09 Apr 2017	97*	2*	4*	13*	35*	3*	132*
10 Apr 2017	164	2	3	9	20	3	66
11 Apr 2017	164	2	3	9	20	3	66
12 Apr 2017	164	2	3	9	20	3	66
13 Apr 2017	164	2	3	9	20	3	66
14 Apr 2017	79	3	3	7	19	3	46
15 Apr 2017	79	3	3	7	19	3	46
16 Apr 2017	79	3	3	7	19	3	46
17 Apr 2017	90	3	2	6	20	2	26
18 Apr 2017	90	3	2	6	20	2	26
19 Apr 2017	70	4	2	7	19	2	41
20 Apr 2017	70	4	2	7	19	2	41
21 Apr 2017	143	5	2	4	8	2	24
22 Apr 2017	143	5	2	4	8	2	24
23 Apr 2017	143	5	2	4	8	2	24
24 Apr 2017	143	5	2	4	8	2	24
25 Apr 2017	91*	6*	2*	5*	7*	2*	32*
26 Apr 2017	88	9	4	7	8	4	44
27 Apr 2017	88	9	4	7	8	4	44
28 Apr 2017	88	9	4	7	8	4	44
29 Apr 2017	88	9	4	7	8	4	44
30 Apr 2017	88	9	4	7	8	4	44

* 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 Apr 2017	12	7	6	8	10	2	21
02 Apr 2017	7*	3*	3*	5*	7*	2*	15*
03 Apr 2017	7*	3*	3*	5*	7*	2*	15*
04 Apr 2017	7*	3*	3*	5*	7*	2*	15*
05 Apr 2017	7*	3*	3*	5*	7*	2*	15*
06 Apr 2017	11	3	3	4	5	2	15
07 Apr 2017	11	3	3	4	5	2	15
08 Apr 2017	12*	2*	2*	4*	5*	2*	12*
09 Apr 2017	12*	2*	2*	4*	5*	2*	12*
10 Apr 2017	14	2	2	3	4	2	8
11 Apr 2017	14	2	2	3	4	2	8
12 Apr 2017	14	2	2	3	4	2	8
13 Apr 2017	14	2	2	3	4	2	8
14 Apr 2017	10	2	2	3	4	2	7
15 Apr 2017	10	2	2	3	4	2	7
16 Apr 2017	10	2	2	3	4	2	7
17 Apr 2017	14	2	2	3	4	2	5
18 Apr 2017	14	2	2	3	4	2	5
19 Apr 2017	10	2	2	3	4	2	10
20 Apr 2017	10	2	2	3	4	2	10
21 Apr 2017	14	2	2	2	2	2	9
22 Apr 2017	14	2	2	2	2	2	9
23 Apr 2017	14	2	2	2	2	2	9
24 Apr 2017	14	2	2	2	2	2	9
25 Apr 2017	9*	2*	2*	2*	2*	2*	12*
26 Apr 2017	8	2	3	2	2	2	11
27 Apr 2017	8	2	3	2	2	2	11
28 Apr 2017	8	2	3	2	2	2	11
29 Apr 2017	8	2	3	2	2	2	11
30 Apr 2017	8	2	3	2	2	2	11

* 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 Apr 2017	19	15	12	15	49	2	38
02 Apr 2017	10*	7*	5*	11*	34*	2*	27*
03 Apr 2017	10*	7*	5*	11*	34*	2*	27*
04 Apr 2017	10*	7*	5*	11*	34*	2*	27*
05 Apr 2017	10*	7*	5*	11*	34*	2*	27*
06 Apr 2017	12	6	5	8	19	2	21
07 Apr 2017	12	6	5	8	19	2	21
08 Apr 2017	9*	3*	3*	5*	14*	2*	15*
09 Apr 2017	9*	3*	3*	5*	14*	2*	15*
10 Apr 2017	9	3	3	6	11	2	16
11 Apr 2017	9	3	3	6	11	2	16
12 Apr 2017	9	3	3	6	11	2	16
13 Apr 2017	9	3	3	6	11	2	16
14 Apr 2017	7	3	3	6	11	2	11
15 Apr 2017	7	3	3	6	11	2	11
16 Apr 2017	7	3	3	6	11	2	11
17 Apr 2017	9	3	2	5	9	2	10
18 Apr 2017	9	3	2	5	9	2	10
19 Apr 2017	7	3	2	5	8	2	15
20 Apr 2017	7	3	2	5	8	2	15
21 Apr 2017	9	4	2	5	6	2	14
22 Apr 2017	9	4	2	5	6	2	14
23 Apr 2017	9	4	2	5	6	2	14
24 Apr 2017	9	4	2	5	6	2	14
25 Apr 2017	7*	4*	3*	5*	4*	2*	12*
26 Apr 2017	7	4	3	6	4	3	13
27 Apr 2017	7	4	3	6	4	3	13
28 Apr 2017	7	4	3	6	4	3	13
29 Apr 2017	7	4	3	6	4	3	13
30 Apr 2017	7	4	3	6	4	3	13

* 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
06 Apr 2017	IC	IC	IC	IC	IC	IC	IC
10 Apr 2017	IC	IC	IC	IC	IC	IC	IC
14 Apr 2017	IC	IC	IC	IC	IC	IC	IC
19 Apr 2017	IC	IC	IC	IC	IC	IC	IC
26 Apr 2017	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
06 Apr 2017	IC	IC	IC	IC	IC	IC	IC
10 Apr 2017	IC	IC	IC	IC	IC	IC	IC
14 Apr 2017	IC	IC	IC	IC	IC	IC	IC
19 Apr 2017	IC	IC	IC	IC	IC	IC	E
26 Apr 2017	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
06 Apr 2017	IC	IC	IC	IC	IC	IC	IC
10 Apr 2017	IC	IC	IC	IC	IC	IC	IC
14 Apr 2017	IC	IC	IC	IC	IC	IC	IC
19 Apr 2017	IC	IC	IC	IC	IC	IC	E
26 Apr 2017	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
06 Apr 2017	IC	IC	IC	IC	IC	IC	IC
10 Apr 2017	IC	IC	IC	IC	IC	IC	IC
14 Apr 2017	IC	IC	IC	IC	IC	IC	IC
19 Apr 2017	IC	IC	IC	IC	IC	IC	E
26 Apr 2017	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
119	06 Apr 2017	1102	2	360e	32e	18e	0.09	15.9	69.81	7.9	33.34	8.2	ns	ns
119	06 Apr 2017	1102	6	2600e	140e	60	0.05	14.4	62.11	7.4	33.32	8.1	ns	ns
119	06 Apr 2017	1102	11	740	66	26e	0.09	13.2	56.92	7.1	33.38	8.0	ns	ns
119	10 Apr 2017	1132	2	2400e	32e	<2	0.01	14.2	57.73	6.8	33.35	8.1	ns	ns
119	10 Apr 2017	1132	6	1600e	30e	12e	0.02	12.4	26.23	4.4	33.41	8.0	ns	ns
119	10 Apr 2017	1132	11	80e	8e	12e	0.10	11.6	18.83	4.7	33.44	7.9	ns	ns
119	14 Apr 2017	1037	2	<2	<2	<2	1.00	14.7	70.05	7.2	33.42	8.1	ns	ns
119	14 Apr 2017	1037	6	<2	<2	<2	1.00	11.6	65.35	4.4	33.45	8.0	ns	ns
119	14 Apr 2017	1037	11	2e	<2	6e	1.00	11.4	44.78	4.8	33.44	7.9	ns	ns
119	19 Apr 2017	1002	2	<20	<2	<2	0.10	13.9	60.28	8.1	33.47	8.1	ns	ns
119	19 Apr 2017	1002	6	<20	<2	<2	0.10	13.4	56.58	7.2	33.47	8.1	ns	ns
119	19 Apr 2017	1002	11	<20	<2	2e	0.10	11.2	42.84	4.4	33.50	7.9	ns	ns
119	26 Apr 2017	1106	2	2e	<2	2e	1.00	16.6	50.58	9.2	33.47	8.3	ns	ns
119	26 Apr 2017	1106	6	120e	6e	16e	0.05	14.0	37.16	7.2	33.51	8.2	ns	ns
119	26 Apr 2017	1106	11	120e	<2	12e	0.02	12.8	8.36	6.7	33.52	8.0	ns	ns
124	06 Apr 2017	1125	2	<2	<2	<2	1.00	16.5	63.53	8.4	33.37	8.2	ns	ns
124	06 Apr 2017	1125	6	<2	<2	<2	1.00	15.2	61.32	6.9	33.42	8.2	ns	ns
124	06 Apr 2017	1125	11	<2	<2	4e	1.00	13.5	67.82	5.6	33.38	8.0	ns	ns
124	10 Apr 2017	1157	2	<2	<2	<2	1.00	14.7	57.60	5.8	33.42	8.1	ns	ns
124	10 Apr 2017	1157	6	2e	<2	2e	1.00	12.7	49.45	4.7	33.41	8.0	ns	ns
124	10 Apr 2017	1157	11	<2	<2	4e	1.00	12.2	56.20	5.0	33.40	7.9	ns	ns
124	14 Apr 2017	1057	2	<2	<2	2e	1.00	13.3	55.94	5.3	33.42	8.0	ns	ns
124	14 Apr 2017	1057	6	<20	<2	14e	0.10	11.7	72.65	4.5	33.45	8.0	ns	ns
124	14 Apr 2017	1057	11	<20	<2	16e	0.10	11.4	19.06	4.7	33.45	7.9	ns	ns
124	19 Apr 2017	1024	2	<20	<2	2e	0.10	14.7	61.49	9.0	33.45	8.2	ns	ns
124	19 Apr 2017	1024	6	<20	<2	2e	0.10	12.6	60.98	4.4	33.46	8.0	ns	ns
124	19 Apr 2017	1024	11	<20	<2	4e	0.10	11.1	52.17	4.5	33.49	7.9	ns	ns
124	26 Apr 2017	1130	2	<20	2e	<2	0.10	16.5	57.65	9.8	33.46	8.3	ns	ns
124	26 Apr 2017	1130	6	20e	4e	4e	0.20	13.4	58.06	9.2	33.48	8.2	ns	ns
124	26 Apr 2017	1130	11	80e	4e	8e	0.05	12.6	54.63	8.2	33.49	8.1	ns	ns
125	06 Apr 2017	1136	2	<2	<2	<2	1.00	16.2	65.99	8.5	33.40	8.2	ns	ns
125	06 Apr 2017	1136	6	<2	<2	4e	1.00	15.1	73.87	7.6	33.37	8.2	ns	ns
125	06 Apr 2017	1136	9	<2	<2	4e	1.00	13.5	66.57	7.5	33.37	8.0	ns	ns
125	10 Apr 2017	1206	2	<2	<2	<2	1.00	13.5	61.46	4.7	33.38	8.0	ns	ns
125	10 Apr 2017	1206	6	<2	<2	6e	1.00	12.0	65.58	5.0	33.41	7.9	ns	ns

Station	Date	Time	Depth	Total	Fecal	Entero	F:T	Temp	XMS	DO	Sal	pH	OG	SUSO
I25	10 Apr 2017	1206	9	<2	<2	2e	1.00	12.0	63.38	5.1	33.41	7.9	ns	ns
I25	14 Apr 2017	1105	2	<2	<2	<2	1.00	15.2	67.61	6.1	33.41	8.2	ns	ns
I25	14 Apr 2017	1105	6	<2	<2	2e	1.00	11.8	73.23	5.2	33.42	8.0	ns	ns
I25	14 Apr 2017	1105	9	<2	<2	2e	1.00	11.8	63.98	5.3	33.43	7.9	ns	ns
I25	19 Apr 2017	1035	2	<2	<2	<2	1.00	14.8	61.81	8.7	33.45	8.2	ns	ns
I25	19 Apr 2017	1035	6	<2	<2	<2	1.00	12.7	61.21	4.3	33.45	8.1	ns	ns
I25	19 Apr 2017	1035	9	<2	<2	<2	1.00	11.4	82.56	4.8	33.48	7.9	ns	ns
I25	26 Apr 2017	1138	2	<20	2e	<2	0.10	16.2	52.24	8.8	33.47	8.3	ns	ns
I25	26 Apr 2017	1138	6	160e	8e	12e	0.05	13.8	65.42	6.5	33.46	8.3	ns	ns
I25	26 Apr 2017	1138	9	<20	10e	6e	0.50	12.6	53.01	6.6	33.48	8.0	ns	ns
I26	06 Apr 2017	1152	2	<2	<2	<2	1.00	16.9	71.83	8.3	33.37	8.2	ns	ns
I26	06 Apr 2017	1152	6	<2	<2	<2	1.00	14.5	49.71	6.4	33.38	8.1	ns	ns
I26	06 Apr 2017	1152	9	<20	<2	4e	0.10	13.2	64.56	6.1	33.40	8.0	ns	ns
I26	10 Apr 2017	1218	2	<2	<2	<2	1.00	14.4	71.61	5.3	33.39	8.1	ns	ns
I26	10 Apr 2017	1218	6	<2	<2	12e	1.00	12.0	44.55	5.0	33.41	7.9	ns	ns
I26	10 Apr 2017	1218	9	<2	2e	10e	1.00	11.9	57.48	5.1	33.40	7.9	ns	ns
I26	14 Apr 2017	1115	2	<2	<2	<2	1.00	14.8	67.35	6.9	33.41	8.1	ns	ns
I26	14 Apr 2017	1115	6	2e	<2	10e	1.00	11.9	73.72	4.8	33.45	8.0	ns	ns
I26	14 Apr 2017	1115	9	<2	<2	8e	1.00	11.5	69.30	5.0	33.44	7.9	ns	ns
I26	19 Apr 2017	1047	2	<2	<2	<2	1.00	14.6	61.75	8.9	33.48	8.2	ns	ns
I26	19 Apr 2017	1047	6	<20	<2	6e	0.10	12.7	63.26	7.6	NA	8.0	ns	ns
I26	19 Apr 2017	1047	9	<20	2e	4e	0.10	11.1	68.04	5.6	NA	7.9	ns	ns
I26	26 Apr 2017	1148	2	2e	2e	<2	1.00	17.6	50.18	9.1	33.47	8.3	ns	ns
I26	26 Apr 2017	1148	6	20e	2e	2e	0.10	15.8	43.48	7.1	33.47	8.2	ns	ns
I26	26 Apr 2017	1148	9	80e	4e	32e	0.05	13.0	43.10	6.2	33.48	8.1	ns	ns
I32	06 Apr 2017	1207	2	<2	<2	<2	1.00	17.0	67.83	8.4	33.36	8.2	ns	ns
I32	06 Apr 2017	1207	6	<20	<2	<2	0.10	15.7	57.10	6.5	33.40	8.1	ns	ns
I32	06 Apr 2017	1207	9	<2	<2	<2	1.00	13.2	55.63	6.1	33.39	7.9	ns	ns
I32	10 Apr 2017	1231	2	<2	<2	<2	1.00	14.9	56.81	7.5	33.40	8.1	ns	ns
I32	10 Apr 2017	1231	6	<2	<2	4e	1.00	13.2	35.39	3.9	33.45	8.0	ns	ns
I32	10 Apr 2017	1231	9	<2	<2	6e	1.00	12.2	25.99	3.1	33.45	7.8	ns	ns
I32	14 Apr 2017	1128	2	<2	<2	<2	1.00	15.0	71.69	7.8	33.44	8.1	ns	ns
I32	14 Apr 2017	1128	6	<20	<2	2e	0.10	12.3	32.80	4.0	33.78	8.0	ns	ns
I32	14 Apr 2017	1128	9	<20	<2	42	0.10	11.6	29.79	4.3	33.50	7.9	ns	ns
I32	19 Apr 2017	1059	2	<2	<2	<2	1.00	14.1	53.95	8.6	33.52	8.2	ns	ns
I32	19 Apr 2017	1059	6	<20	<2	2e	0.10	13.9	50.91	7.5	33.54	8.1	ns	ns
I32	19 Apr 2017	1059	9	<20	<2	6e	0.10	12.8	29.75	7.5	33.92	8.1	ns	ns
I32	26 Apr 2017	1204	2	2e	<2	<2	1.00	17.7	63.17	9.3	33.45	8.3	ns	ns
I32	26 Apr 2017	1204	6	4e	<2	2e	0.50	16.5	56.68	8.1	33.45	8.3	ns	ns
I32	26 Apr 2017	1204	9	<20	<2	2e	0.10	15.8	43.95	7.9	33.44	8.3	ns	ns
I39	06 Apr 2017	1041	2	<2	<2	<2	1.00	16.8	73.37	9.1	33.38	8.3	ns	ns

Station	Date	Time	Depth	Total	Fecal	Entero	F:T	Temp	XMS	DO	Sal	pH	OG	SUSO
I39	06 Apr 2017	1041	12	<2	<2	<2	1.00	12.8	80.32	5.3	33.40	8.0	ns	ns
I39	06 Apr 2017	1041	18	4e	<2	<2	0.50	11.9	62.68	4.3	33.46	7.9	ns	ns
I39	10 Apr 2017	1110	2	<2	<2	<2	1.00	14.5	79.23	7.5	33.38	8.1	ns	ns
I39	10 Apr 2017	1110	12	<2	<2	<2	1.00	14.0	78.22	7.1	33.37	8.1	ns	ns
I39	10 Apr 2017	1110	18	<2	<2	<2	1.00	12.0	81.49	5.3	33.40	8.0	ns	ns
I39	14 Apr 2017	1018	2	<2	<2	<2	1.00	15.1	72.63	8.2	33.42	8.2	ns	ns
I39	14 Apr 2017	1018	12	<2	<2	<2	1.00	11.2	88.13	4.6	33.43	7.9	ns	ns
I39	14 Apr 2017	1018	18	<2	<2	<2	1.00	10.9	73.31	4.7	33.49	7.9	ns	ns
I39	19 Apr 2017	944	2	<2	<2	<2	1.00	14.6	69.73	9.7	33.43	8.3	ns	ns
I39	19 Apr 2017	944	12	<2	<2	<2	1.00	11.3	86.57	4.9	33.49	7.9	ns	ns
I39	19 Apr 2017	944	18	6e	<2	<2	0.33	10.6	77.86	4.2	33.57	7.8	ns	ns
I39	26 Apr 2017	1036	2	<20	<2	2e	0.10	17.1	68.89	9.5	33.46	8.3	ns	ns
I39	26 Apr 2017	1036	12	<20	2e	6e	0.10	11.6	62.78	5.3	33.51	7.9	ns	ns
I39	26 Apr 2017	1036	18	60e	<2	12e	0.03	11.3	47.76	5.1	33.54	7.9	ns	ns
I40	06 Apr 2017	1117	2	8e	<2	<2	0.25	16.3	60.95	8.0	33.37	8.2	ns	ns
I40	06 Apr 2017	1117	6	220e	32e	6e	0.15	14.4	52.34	4.1	33.44	8.0	ns	ns
I40	06 Apr 2017	1117	9	<20	8e	12e	0.40	12.8	41.68	4.2	33.41	7.9	ns	ns
I40	10 Apr 2017	1146	2	2e	<2	36e	1.00	14.6	39.17	6.1	33.41	8.0	ns	ns
I40	10 Apr 2017	1146	6	6e	<2	14e	0.33	12.6	21.76	4.0	33.45	7.9	ns	ns
I40	10 Apr 2017	1146	9	4e	2e	2e	0.50	12.0	12.55	4.2	33.43	7.9	ns	ns
I40	14 Apr 2017	1048	2	2e	2e	2e	1.00	13.3	51.47	5.6	33.44	8.0	ns	ns
I40	14 Apr 2017	1048	6	<2	<2	<2	1.00	11.7	74.69	4.5	33.45	8.0	ns	ns
I40	14 Apr 2017	1048	9	<20	<2	2e	0.10	11.5	36.54	4.5	33.46	7.9	ns	ns
I40	19 Apr 2017	1015	2	1200	1200	260e	1.00	13.8	59.81	7.1	33.47	8.1	ns	ns
I40	19 Apr 2017	1015	6	<20	2e	4e	0.10	11.3	52.26	4.0	33.48	7.9	ns	ns
I40	19 Apr 2017	1015	9	<20	4e	6e	0.20	11.1	18.49	4.3	33.49	7.8	ns	ns
I40	26 Apr 2017	1119	2	20e	<2	<2	0.10	16.2	50.88	8.6	33.47	8.3	ns	ns
I40	26 Apr 2017	1119	6	320e	16e	26e	0.05	14.2	45.93	7.8	33.52	8.2	ns	ns
I40	26 Apr 2017	1119	9	100e	4e	28e	0.04	12.9	45.94	6.7	33.50	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	06 Apr 2017	Depth (m)	11
I19	06 Apr 2017	Arrive Time	1102
I19	06 Apr 2017	Depart Time	1106
I19	06 Apr 2017	Air Temp (C)	16
I19	06 Apr 2017	Weather	Overcast
I19	06 Apr 2017	Visibility (mi)	8
I19	06 Apr 2017	Wind Speed (kts)	7
I19	06 Apr 2017	Wind Dir	S
I19	06 Apr 2017	Water Color	Green
I19	06 Apr 2017	Wave Ht Low (ft)	4
I19	06 Apr 2017	Wave Period (sec)	13
I19	06 Apr 2017	Sea State	Wind ripples
I19	06 Apr 2017	High Tide (ft)	4.8
I19	06 Apr 2017	High Tide Time	634
I19	06 Apr 2017	Low Tide (ft)	-0.4
I19	06 Apr 2017	Low Tide Time	1326
I19	06 Apr 2017	Comments	
I19	10 Apr 2017	Depth (m)	11
I19	10 Apr 2017	Arrive Time	1132
I19	10 Apr 2017	Depart Time	1135
I19	10 Apr 2017	Air Temp (C)	15
I19	10 Apr 2017	Weather	Clear
I19	10 Apr 2017	Visibility (mi)	12
I19	10 Apr 2017	Wind Speed (kts)	5
I19	10 Apr 2017	Wind Dir	SE
I19	10 Apr 2017	Water Color	Green
I19	10 Apr 2017	Wave Ht Low (ft)	3
I19	10 Apr 2017	Wave Period (sec)	13
I19	10 Apr 2017	Sea State	Confused swell
I19	10 Apr 2017	High Tide (ft)	4.7
I19	10 Apr 2017	High Tide Time	928
I19	10 Apr 2017	Low Tide (ft)	0.2
I19	10 Apr 2017	Low Tide Time	1535
I19	10 Apr 2017	Comments	
I19	14 Apr 2017	Depth (m)	10
I19	14 Apr 2017	Arrive Time	1037
I19	14 Apr 2017	Depart Time	1041
I19	14 Apr 2017	Air Temp (C)	14
I19	14 Apr 2017	Weather	Clear
I19	14 Apr 2017	Visibility (mi)	10
I19	14 Apr 2017	Wind Speed (kts)	4
I19	14 Apr 2017	Wind Dir	SW
I19	14 Apr 2017	Water Color	Green
I19	14 Apr 2017	Wave Ht Low (ft)	7
I19	14 Apr 2017	Wave Period (sec)	7
I19	14 Apr 2017	Sea State	Confused swell
I19	14 Apr 2017	High Tide (ft)	3.5
I19	14 Apr 2017	High Tide Time	1157
I19	14 Apr 2017	Low Tide (ft)	0.1

Station	Date	Parameter	Value
I19	14 Apr 2017	Low Tide Time	552
I19	14 Apr 2017	Comments	Kelp debris
I19	19 Apr 2017	Depth (m)	10
I19	19 Apr 2017	Arrive Time	1002
I19	19 Apr 2017	Depart Time	1006
I19	19 Apr 2017	Air Temp (C)	16
I19	19 Apr 2017	Weather	Cloudy
I19	19 Apr 2017	Visibility (mi)	12
I19	19 Apr 2017	Wind Speed (kts)	9
I19	19 Apr 2017	Wind Dir	SW
I19	19 Apr 2017	Water Color	Brownish-Green
I19	19 Apr 2017	Wave Ht Low (ft)	3
I19	19 Apr 2017	Wave Period (sec)	9
I19	19 Apr 2017	Sea State	Calm
I19	19 Apr 2017	High Tide (ft)	3.7
I19	19 Apr 2017	High Tide Time	313
I19	19 Apr 2017	Low Tide (ft)	0.6
I19	19 Apr 2017	Low Tide Time	1105
I19	19 Apr 2017	Comments	
I19	26 Apr 2017	Depth (m)	11
I19	26 Apr 2017	Arrive Time	1106
I19	26 Apr 2017	Depart Time	1111
I19	26 Apr 2017	Air Temp (C)	16
I19	26 Apr 2017	Weather	Haze
I19	26 Apr 2017	Visibility (mi)	12
I19	26 Apr 2017	Wind Speed (kts)	5
I19	26 Apr 2017	Wind Dir	S
I19	26 Apr 2017	Water Color	Greenish-Brown
I19	26 Apr 2017	Wave Ht Low (ft)	5
I19	26 Apr 2017	Wave Period (sec)	7
I19	26 Apr 2017	Sea State	Confused swell
I19	26 Apr 2017	High Tide (ft)	4.7
I19	26 Apr 2017	High Tide Time	953
I19	26 Apr 2017	Low Tide (ft)	0.4
I19	26 Apr 2017	Low Tide Time	1542
I19	26 Apr 2017	Comments	
I24	06 Apr 2017	Depth (m)	11
I24	06 Apr 2017	Arrive Time	1125
I24	06 Apr 2017	Depart Time	1131
I24	06 Apr 2017	Air Temp (C)	16
I24	06 Apr 2017	Weather	Overcast
I24	06 Apr 2017	Visibility (mi)	9
I24	06 Apr 2017	Wind Speed (kts)	4
I24	06 Apr 2017	Wind Dir	S
I24	06 Apr 2017	Water Color	Green
I24	06 Apr 2017	Wave Ht Low (ft)	4
I24	06 Apr 2017	Wave Period (sec)	13
I24	06 Apr 2017	Sea State	Wind ripples
I24	06 Apr 2017	High Tide (ft)	4.8
I24	06 Apr 2017	High Tide Time	634
I24	06 Apr 2017	Low Tide (ft)	-0.4
I24	06 Apr 2017	Low Tide Time	1326

Station	Date	Parameter	Value
I24	06 Apr 2017	Comments	
I24	10 Apr 2017	Depth (m)	10
I24	10 Apr 2017	Arrive Time	1157
I24	10 Apr 2017	Depart Time	1201
I24	10 Apr 2017	Air Temp (C)	15
I24	10 Apr 2017	Weather	Clear
I24	10 Apr 2017	Visibility (mi)	12
I24	10 Apr 2017	Wind Speed (kts)	7
I24	10 Apr 2017	Wind Dir	N
I24	10 Apr 2017	Water Color	Brown
I24	10 Apr 2017	Wave Ht Low (ft)	3
I24	10 Apr 2017	Wave Period (sec)	13
I24	10 Apr 2017	Sea State	Confused swell
I24	10 Apr 2017	High Tide (ft)	4.7
I24	10 Apr 2017	High Tide Time	928
I24	10 Apr 2017	Low Tide (ft)	0.2
I24	10 Apr 2017	Low Tide Time	1535
I24	10 Apr 2017	Comments	
I24	14 Apr 2017	Depth (m)	10
I24	14 Apr 2017	Arrive Time	1057
I24	14 Apr 2017	Depart Time	1100
I24	14 Apr 2017	Air Temp (C)	14
I24	14 Apr 2017	Weather	Clear
I24	14 Apr 2017	Visibility (mi)	10
I24	14 Apr 2017	Wind Speed (kts)	6
I24	14 Apr 2017	Wind Dir	NE
I24	14 Apr 2017	Water Color	Green
I24	14 Apr 2017	Wave Ht Low (ft)	7
I24	14 Apr 2017	Wave Period (sec)	7
I24	14 Apr 2017	Sea State	Confused swell
I24	14 Apr 2017	High Tide (ft)	3.5
I24	14 Apr 2017	High Tide Time	1157
I24	14 Apr 2017	Low Tide (ft)	0.1
I24	14 Apr 2017	Low Tide Time	552
I24	14 Apr 2017	Comments	
I24	19 Apr 2017	Depth (m)	10
I24	19 Apr 2017	Arrive Time	1024
I24	19 Apr 2017	Depart Time	1030
I24	19 Apr 2017	Air Temp (C)	16
I24	19 Apr 2017	Weather	Cloudy
I24	19 Apr 2017	Visibility (mi)	12
I24	19 Apr 2017	Wind Speed (kts)	7
I24	19 Apr 2017	Wind Dir	SE
I24	19 Apr 2017	Water Color	Brownish-Green
I24	19 Apr 2017	Wave Ht Low (ft)	3
I24	19 Apr 2017	Wave Period (sec)	9
I24	19 Apr 2017	Sea State	Calm
I24	19 Apr 2017	High Tide (ft)	3.7
I24	19 Apr 2017	High Tide Time	313
I24	19 Apr 2017	Low Tide (ft)	0.6
I24	19 Apr 2017	Low Tide Time	1105
I24	19 Apr 2017	Comments	

Station	Date	Parameter	Value
I24	26 Apr 2017	Depth (m)	9
I24	26 Apr 2017	Arrive Time	1130
I24	26 Apr 2017	Depart Time	1133
I24	26 Apr 2017	Air Temp (C)	17
I24	26 Apr 2017	Weather	Haze
I24	26 Apr 2017	Visibility (mi)	12
I24	26 Apr 2017	Wind Speed (kts)	5
I24	26 Apr 2017	Wind Dir	W
I24	26 Apr 2017	Water Color	Greenish-Brown
I24	26 Apr 2017	Wave Ht Low (ft)	5
I24	26 Apr 2017	Wave Period (sec)	7
I24	26 Apr 2017	Sea State	Confused swell
I24	26 Apr 2017	High Tide (ft)	4.7
I24	26 Apr 2017	High Tide Time	953
I24	26 Apr 2017	Low Tide (ft)	0.4
I24	26 Apr 2017	Low Tide Time	1542
I24	26 Apr 2017	Comments	
I25	06 Apr 2017	Depth (m)	9
I25	06 Apr 2017	Arrive Time	1136
I25	06 Apr 2017	Depart Time	1145
I25	06 Apr 2017	Air Temp (C)	16
I25	06 Apr 2017	Weather	Overcast
I25	06 Apr 2017	Visibility (mi)	9
I25	06 Apr 2017	Wind Speed (kts)	7
I25	06 Apr 2017	Wind Dir	E
I25	06 Apr 2017	Water Color	Green
I25	06 Apr 2017	Wave Ht Low (ft)	4
I25	06 Apr 2017	Wave Period (sec)	13
I25	06 Apr 2017	Sea State	Wind ripples
I25	06 Apr 2017	High Tide (ft)	4.8
I25	06 Apr 2017	High Tide Time	634
I25	06 Apr 2017	Low Tide (ft)	-0.4
I25	06 Apr 2017	Low Tide Time	1326
I25	06 Apr 2017	Comments	
I25	10 Apr 2017	Depth (m)	9
I25	10 Apr 2017	Arrive Time	1206
I25	10 Apr 2017	Depart Time	1209
I25	10 Apr 2017	Air Temp (C)	15
I25	10 Apr 2017	Weather	Clear
I25	10 Apr 2017	Visibility (mi)	12
I25	10 Apr 2017	Wind Speed (kts)	5
I25	10 Apr 2017	Wind Dir	NW
I25	10 Apr 2017	Water Color	Brownish-Green
I25	10 Apr 2017	Wave Ht Low (ft)	3
I25	10 Apr 2017	Wave Period (sec)	13
I25	10 Apr 2017	Sea State	Confused swell
I25	10 Apr 2017	High Tide (ft)	4.7
I25	10 Apr 2017	High Tide Time	928
I25	10 Apr 2017	Low Tide (ft)	0.2
I25	10 Apr 2017	Low Tide Time	1535
I25	10 Apr 2017	Comments	

Station	Date	Parameter	Value
I25	14 Apr 2017	Depth (m)	9
I25	14 Apr 2017	Arrive Time	1105
I25	14 Apr 2017	Depart Time	1108
I25	14 Apr 2017	Air Temp (C)	14
I25	14 Apr 2017	Weather	Clear
I25	14 Apr 2017	Visibility (mi)	12
I25	14 Apr 2017	Wind Speed (kts)	5
I25	14 Apr 2017	Wind Dir	NE
I25	14 Apr 2017	Water Color	Green
I25	14 Apr 2017	Wave Ht Low (ft)	7
I25	14 Apr 2017	Wave Period (sec)	7
I25	14 Apr 2017	Sea State	Confused swell
I25	14 Apr 2017	High Tide (ft)	3.5
I25	14 Apr 2017	High Tide Time	1157
I25	14 Apr 2017	Low Tide (ft)	0.1
I25	14 Apr 2017	Low Tide Time	552
I25	14 Apr 2017	Comments	
I25	19 Apr 2017	Depth (m)	9
I25	19 Apr 2017	Arrive Time	1035
I25	19 Apr 2017	Depart Time	1039
I25	19 Apr 2017	Air Temp (C)	16
I25	19 Apr 2017	Weather	Cloudy
I25	19 Apr 2017	Visibility (mi)	12
I25	19 Apr 2017	Wind Speed (kts)	8
I25	19 Apr 2017	Wind Dir	NE
I25	19 Apr 2017	Water Color	Brownish-Green
I25	19 Apr 2017	Wave Ht Low (ft)	3
I25	19 Apr 2017	Wave Period (sec)	9
I25	19 Apr 2017	Sea State	Calm
I25	19 Apr 2017	High Tide (ft)	3.7
I25	19 Apr 2017	High Tide Time	313
I25	19 Apr 2017	Low Tide (ft)	0.6
I25	19 Apr 2017	Low Tide Time	1105
I25	19 Apr 2017	Comments	
I25	26 Apr 2017	Depth (m)	9
I25	26 Apr 2017	Arrive Time	1138
I25	26 Apr 2017	Depart Time	1142
I25	26 Apr 2017	Air Temp (C)	17
I25	26 Apr 2017	Weather	Haze
I25	26 Apr 2017	Visibility (mi)	12
I25	26 Apr 2017	Wind Speed (kts)	6
I25	26 Apr 2017	Wind Dir	E
I25	26 Apr 2017	Water Color	Greenish-Brown
I25	26 Apr 2017	Wave Ht Low (ft)	5
I25	26 Apr 2017	Wave Period (sec)	7
I25	26 Apr 2017	Sea State	Confused swell
I25	26 Apr 2017	High Tide (ft)	4.7
I25	26 Apr 2017	High Tide Time	953
I25	26 Apr 2017	Low Tide (ft)	0.4
I25	26 Apr 2017	Low Tide Time	1542
I25	26 Apr 2017	Comments	
I26	06 Apr 2017	Depth (m)	9

Station	Date	Parameter	Value
I26	06 Apr 2017	Arrive Time	1152
I26	06 Apr 2017	Depart Time	1157
I26	06 Apr 2017	Air Temp (C)	16
I26	06 Apr 2017	Weather	Overcast
I26	06 Apr 2017	Visibility (mi)	9
I26	06 Apr 2017	Wind Speed (kts)	11
I26	06 Apr 2017	Wind Dir	NW
I26	06 Apr 2017	Water Color	Green
I26	06 Apr 2017	Wave Ht Low (ft)	4
I26	06 Apr 2017	Wave Period (sec)	13
I26	06 Apr 2017	Sea State	Wind ripples
I26	06 Apr 2017	High Tide (ft)	4.8
I26	06 Apr 2017	High Tide Time	634
I26	06 Apr 2017	Low Tide (ft)	-0.4
I26	06 Apr 2017	Low Tide Time	1326
I26	06 Apr 2017	Comments	
I26	10 Apr 2017	Depth (m)	9
I26	10 Apr 2017	Arrive Time	1218
I26	10 Apr 2017	Depart Time	1221
I26	10 Apr 2017	Air Temp (C)	15
I26	10 Apr 2017	Weather	Clear
I26	10 Apr 2017	Visibility (mi)	12
I26	10 Apr 2017	Wind Speed (kts)	6
I26	10 Apr 2017	Wind Dir	E
I26	10 Apr 2017	Water Color	Brownish-Green
I26	10 Apr 2017	Wave Ht Low (ft)	5
I26	10 Apr 2017	Wave Period (sec)	13
I26	10 Apr 2017	Sea State	Confused swell
I26	10 Apr 2017	High Tide (ft)	4.7
I26	10 Apr 2017	High Tide Time	928
I26	10 Apr 2017	Low Tide (ft)	0.2
I26	10 Apr 2017	Low Tide Time	1535
I26	10 Apr 2017	Comments	
I26	14 Apr 2017	Depth (m)	10
I26	14 Apr 2017	Arrive Time	1115
I26	14 Apr 2017	Depart Time	1118
I26	14 Apr 2017	Air Temp (C)	14
I26	14 Apr 2017	Weather	Clear
I26	14 Apr 2017	Visibility (mi)	12
I26	14 Apr 2017	Wind Speed (kts)	4
I26	14 Apr 2017	Wind Dir	E
I26	14 Apr 2017	Water Color	Green
I26	14 Apr 2017	Wave Ht Low (ft)	7
I26	14 Apr 2017	Wave Period (sec)	7
I26	14 Apr 2017	Sea State	Confused swell
I26	14 Apr 2017	High Tide (ft)	3.5
I26	14 Apr 2017	High Tide Time	1157
I26	14 Apr 2017	Low Tide (ft)	0.1
I26	14 Apr 2017	Low Tide Time	552
I26	14 Apr 2017	Comments	
I26	19 Apr 2017	Depth (m)	9
I26	19 Apr 2017	Arrive Time	1047

Station	Date	Parameter	Value
I26	19 Apr 2017	Depart Time	1051
I26	19 Apr 2017	Air Temp (C)	16
I26	19 Apr 2017	Weather	Cloudy
I26	19 Apr 2017	Visibility (mi)	12
I26	19 Apr 2017	Wind Speed (kts)	10
I26	19 Apr 2017	Wind Dir	W
I26	19 Apr 2017	Water Color	Brownish-Green
I26	19 Apr 2017	Wave Ht Low (ft)	3
I26	19 Apr 2017	Wave Period (sec)	9
I26	19 Apr 2017	Sea State	Calm
I26	19 Apr 2017	High Tide (ft)	3.7
I26	19 Apr 2017	High Tide Time	313
I26	19 Apr 2017	Low Tide (ft)	0.6
I26	19 Apr 2017	Low Tide Time	1105
I26	19 Apr 2017	Comments	
I26	26 Apr 2017	Depth (m)	9
I26	26 Apr 2017	Arrive Time	1148
I26	26 Apr 2017	Depart Time	1154
I26	26 Apr 2017	Air Temp (C)	17
I26	26 Apr 2017	Weather	Haze
I26	26 Apr 2017	Visibility (mi)	12
I26	26 Apr 2017	Wind Speed (kts)	8
I26	26 Apr 2017	Wind Dir	NE
I26	26 Apr 2017	Water Color	Greenish-Brown
I26	26 Apr 2017	Wave Ht Low (ft)	5
I26	26 Apr 2017	Wave Period (sec)	7
I26	26 Apr 2017	Sea State	Confused swell
I26	26 Apr 2017	High Tide (ft)	4.7
I26	26 Apr 2017	High Tide Time	953
I26	26 Apr 2017	Low Tide (ft)	0.4
I26	26 Apr 2017	Low Tide Time	1542
I26	26 Apr 2017	Comments	
I32	06 Apr 2017	Depth (m)	10
I32	06 Apr 2017	Arrive Time	1207
I32	06 Apr 2017	Depart Time	1212
I32	06 Apr 2017	Air Temp (C)	16
I32	06 Apr 2017	Weather	Overcast
I32	06 Apr 2017	Visibility (mi)	10
I32	06 Apr 2017	Wind Speed (kts)	10
I32	06 Apr 2017	Wind Dir	SW
I32	06 Apr 2017	Water Color	Green
I32	06 Apr 2017	Wave Ht Low (ft)	4
I32	06 Apr 2017	Wave Period (sec)	13
I32	06 Apr 2017	Sea State	Wind ripples
I32	06 Apr 2017	High Tide (ft)	4.8
I32	06 Apr 2017	High Tide Time	634
I32	06 Apr 2017	Low Tide (ft)	-0.4
I32	06 Apr 2017	Low Tide Time	1326
I32	06 Apr 2017	Comments	
I32	10 Apr 2017	Depth (m)	9
I32	10 Apr 2017	Arrive Time	1231
I32	10 Apr 2017	Depart Time	1236

Station	Date	Parameter	Value
I32	10 Apr 2017	Air Temp (C)	15
I32	10 Apr 2017	Weather	Clear
I32	10 Apr 2017	Visibility (mi)	12
I32	10 Apr 2017	Wind Speed (kts)	8
I32	10 Apr 2017	Wind Dir	NW
I32	10 Apr 2017	Water Color	Brownish-Green
I32	10 Apr 2017	Wave Ht Low (ft)	5
I32	10 Apr 2017	Wave Period (sec)	13
I32	10 Apr 2017	Sea State	Confused swell
I32	10 Apr 2017	High Tide (ft)	4.7
I32	10 Apr 2017	High Tide Time	928
I32	10 Apr 2017	Low Tide (ft)	0.2
I32	10 Apr 2017	Low Tide Time	1535
I32	10 Apr 2017	Comments	
I32	14 Apr 2017	Depth (m)	9
I32	14 Apr 2017	Arrive Time	1128
I32	14 Apr 2017	Depart Time	1132
I32	14 Apr 2017	Air Temp (C)	14
I32	14 Apr 2017	Weather	Clear
I32	14 Apr 2017	Visibility (mi)	12
I32	14 Apr 2017	Wind Speed (kts)	5
I32	14 Apr 2017	Wind Dir	SE
I32	14 Apr 2017	Water Color	Greenish-Brown
I32	14 Apr 2017	Wave Ht Low (ft)	7
I32	14 Apr 2017	Wave Period (sec)	7
I32	14 Apr 2017	Sea State	Confused swell
I32	14 Apr 2017	High Tide (ft)	3.5
I32	14 Apr 2017	High Tide Time	1157
I32	14 Apr 2017	Low Tide (ft)	0.1
I32	14 Apr 2017	Low Tide Time	552
I32	14 Apr 2017	Comments	
I32	19 Apr 2017	Depth (m)	9
I32	19 Apr 2017	Arrive Time	1059
I32	19 Apr 2017	Depart Time	1104
I32	19 Apr 2017	Air Temp (C)	16
I32	19 Apr 2017	Weather	Cloudy
I32	19 Apr 2017	Visibility (mi)	12
I32	19 Apr 2017	Wind Speed (kts)	8
I32	19 Apr 2017	Wind Dir	NE
I32	19 Apr 2017	Water Color	Brownish-Green
I32	19 Apr 2017	Wave Ht Low (ft)	3
I32	19 Apr 2017	Wave Period (sec)	9
I32	19 Apr 2017	Sea State	Calm
I32	19 Apr 2017	High Tide (ft)	3.7
I32	19 Apr 2017	High Tide Time	313
I32	19 Apr 2017	Low Tide (ft)	0.6
I32	19 Apr 2017	Low Tide Time	1105
I32	19 Apr 2017	Comments	none
I32	26 Apr 2017	Depth (m)	10
I32	26 Apr 2017	Arrive Time	1204
I32	26 Apr 2017	Depart Time	1207
I32	26 Apr 2017	Air Temp (C)	17

Station	Date	Parameter	Value
I32	26 Apr 2017	Weather	Haze
I32	26 Apr 2017	Visibility (mi)	12
I32	26 Apr 2017	Wind Speed (kts)	9
I32	26 Apr 2017	Wind Dir	NE
I32	26 Apr 2017	Water Color	Greenish-Brown
I32	26 Apr 2017	Wave Ht Low (ft)	5
I32	26 Apr 2017	Wave Period (sec)	7
I32	26 Apr 2017	Sea State	Confused swell
I32	26 Apr 2017	High Tide (ft)	4.7
I32	26 Apr 2017	High Tide Time	953
I32	26 Apr 2017	Low Tide (ft)	0.4
I32	26 Apr 2017	Low Tide Time	1542
I32	26 Apr 2017	Comments	
I39	06 Apr 2017	Depth (m)	19
I39	06 Apr 2017	Arrive Time	1041
I39	06 Apr 2017	Depart Time	1046
I39	06 Apr 2017	Air Temp (C)	16
I39	06 Apr 2017	Weather	Overcast
I39	06 Apr 2017	Visibility (mi)	8
I39	06 Apr 2017	Wind Speed (kts)	0
I39	06 Apr 2017	Wind Dir	
I39	06 Apr 2017	Water Color	Green
I39	06 Apr 2017	Wave Ht Low (ft)	4
I39	06 Apr 2017	Wave Period (sec)	13
I39	06 Apr 2017	Sea State	Wind ripples
I39	06 Apr 2017	High Tide (ft)	4.8
I39	06 Apr 2017	High Tide Time	634
I39	06 Apr 2017	Low Tide (ft)	-0.4
I39	06 Apr 2017	Low Tide Time	1326
I39	06 Apr 2017	Comments	
I39	10 Apr 2017	Depth (m)	18
I39	10 Apr 2017	Arrive Time	1110
I39	10 Apr 2017	Depart Time	1113
I39	10 Apr 2017	Air Temp (C)	15
I39	10 Apr 2017	Weather	Clear
I39	10 Apr 2017	Visibility (mi)	12
I39	10 Apr 2017	Wind Speed (kts)	6
I39	10 Apr 2017	Wind Dir	SW
I39	10 Apr 2017	Water Color	Greenish-Blue
I39	10 Apr 2017	Wave Ht Low (ft)	3
I39	10 Apr 2017	Wave Period (sec)	13
I39	10 Apr 2017	Sea State	Confused swell
I39	10 Apr 2017	High Tide (ft)	4.7
I39	10 Apr 2017	High Tide Time	928
I39	10 Apr 2017	Low Tide (ft)	0.2
I39	10 Apr 2017	Low Tide Time	1535
I39	10 Apr 2017	Comments	
I39	14 Apr 2017	Depth (m)	19
I39	14 Apr 2017	Arrive Time	1018
I39	14 Apr 2017	Depart Time	1021
I39	14 Apr 2017	Air Temp (C)	14
I39	14 Apr 2017	Weather	Partly Cloudy

Station	Date	Parameter	Value
I39	14 Apr 2017	Visibility (mi)	18
I39	14 Apr 2017	Wind Speed (kts)	3
I39	14 Apr 2017	Wind Dir	S
I39	14 Apr 2017	Water Color	Green
I39	14 Apr 2017	Wave Ht Low (ft)	7
I39	14 Apr 2017	Wave Period (sec)	7
I39	14 Apr 2017	Sea State	Confused swell
I39	14 Apr 2017	High Tide (ft)	3.5
I39	14 Apr 2017	High Tide Time	1157
I39	14 Apr 2017	Low Tide (ft)	0.1
I39	14 Apr 2017	Low Tide Time	552
I39	14 Apr 2017	Comments	
I39	19 Apr 2017	Depth (m)	19
I39	19 Apr 2017	Arrive Time	944
I39	19 Apr 2017	Depart Time	1002
I39	19 Apr 2017	Air Temp (C)	16
I39	19 Apr 2017	Weather	Cloudy
I39	19 Apr 2017	Visibility (mi)	12
I39	19 Apr 2017	Wind Speed (kts)	10
I39	19 Apr 2017	Wind Dir	N
I39	19 Apr 2017	Water Color	Brownish-Green
I39	19 Apr 2017	Wave Ht Low (ft)	3
I39	19 Apr 2017	Wave Period (sec)	9
I39	19 Apr 2017	Sea State	Calm
I39	19 Apr 2017	High Tide (ft)	3.7
I39	19 Apr 2017	High Tide Time	313
I39	19 Apr 2017	Low Tide (ft)	0.6
I39	19 Apr 2017	Low Tide Time	1105
I39	19 Apr 2017	Comments	
I39	26 Apr 2017	Depth (m)	18
I39	26 Apr 2017	Arrive Time	1036
I39	26 Apr 2017	Depart Time	1054
I39	26 Apr 2017	Air Temp (C)	16
I39	26 Apr 2017	Weather	Haze
I39	26 Apr 2017	Visibility (mi)	12
I39	26 Apr 2017	Wind Speed (kts)	5
I39	26 Apr 2017	Wind Dir	NE
I39	26 Apr 2017	Water Color	Greenish-Brown
I39	26 Apr 2017	Wave Ht Low (ft)	5
I39	26 Apr 2017	Wave Period (sec)	7
I39	26 Apr 2017	Sea State	Confused swell
I39	26 Apr 2017	High Tide (ft)	4.7
I39	26 Apr 2017	High Tide Time	953
I39	26 Apr 2017	Low Tide (ft)	0.4
I39	26 Apr 2017	Low Tide Time	1542
I39	26 Apr 2017	Comments	Salinity spikes were seen on 7 consecutive casts coinciding with a thermocline; Also, pH was high at the surface; A tryptophan hit was seen as well
I40	06 Apr 2017	Depth (m)	10
I40	06 Apr 2017	Arrive Time	1117
I40	06 Apr 2017	Depart Time	1122
I40	06 Apr 2017	Air Temp (C)	16

Station	Date	Parameter	Value
I40	06 Apr 2017	Weather	Overcast
I40	06 Apr 2017	Visibility (mi)	9
I40	06 Apr 2017	Wind Speed (kts)	7
I40	06 Apr 2017	Wind Dir	E
I40	06 Apr 2017	Water Color	Green
I40	06 Apr 2017	Wave Ht Low (ft)	4
I40	06 Apr 2017	Wave Period (sec)	13
I40	06 Apr 2017	Sea State	Wind ripples
I40	06 Apr 2017	High Tide (ft)	4.8
I40	06 Apr 2017	High Tide Time	634
I40	06 Apr 2017	Low Tide (ft)	-0.4
I40	06 Apr 2017	Low Tide Time	1326
I40	06 Apr 2017	Comments	
I40	10 Apr 2017	Depth (m)	11
I40	10 Apr 2017	Arrive Time	1146
I40	10 Apr 2017	Depart Time	1151
I40	10 Apr 2017	Air Temp (C)	15
I40	10 Apr 2017	Weather	Clear
I40	10 Apr 2017	Visibility (mi)	12
I40	10 Apr 2017	Wind Speed (kts)	6
I40	10 Apr 2017	Wind Dir	N
I40	10 Apr 2017	Water Color	Brown
I40	10 Apr 2017	Wave Ht Low (ft)	3
I40	10 Apr 2017	Wave Period (sec)	13
I40	10 Apr 2017	Sea State	Confused swell
I40	10 Apr 2017	High Tide (ft)	4.7
I40	10 Apr 2017	High Tide Time	928
I40	10 Apr 2017	Low Tide (ft)	0.2
I40	10 Apr 2017	Low Tide Time	1535
I40	10 Apr 2017	Comments	TJ River plume visible on station
I40	14 Apr 2017	Depth (m)	10
I40	14 Apr 2017	Arrive Time	1048
I40	14 Apr 2017	Depart Time	1051
I40	14 Apr 2017	Air Temp (C)	14
I40	14 Apr 2017	Weather	Clear
I40	14 Apr 2017	Visibility (mi)	10
I40	14 Apr 2017	Wind Speed (kts)	3
I40	14 Apr 2017	Wind Dir	N
I40	14 Apr 2017	Water Color	Green
I40	14 Apr 2017	Wave Ht Low (ft)	7
I40	14 Apr 2017	Wave Period (sec)	7
I40	14 Apr 2017	Sea State	Confused swell
I40	14 Apr 2017	High Tide (ft)	3.5
I40	14 Apr 2017	High Tide Time	1157
I40	14 Apr 2017	Low Tide (ft)	0.1
I40	14 Apr 2017	Low Tide Time	552
I40	14 Apr 2017	Comments	
I40	19 Apr 2017	Depth (m)	9
I40	19 Apr 2017	Arrive Time	1015
I40	19 Apr 2017	Depart Time	1018
I40	19 Apr 2017	Air Temp (C)	16
I40	19 Apr 2017	Weather	Cloudy

Station	Date	Parameter	Value
I40	19 Apr 2017	Visibility (mi)	12
I40	19 Apr 2017	Wind Speed (kts)	6
I40	19 Apr 2017	Wind Dir	W
I40	19 Apr 2017	Water Color	Brownish-Green
I40	19 Apr 2017	Wave Ht Low (ft)	3
I40	19 Apr 2017	Wave Period (sec)	9
I40	19 Apr 2017	Sea State	Calm
I40	19 Apr 2017	High Tide (ft)	3.7
I40	19 Apr 2017	High Tide Time	313
I40	19 Apr 2017	Low Tide (ft)	0.6
I40	19 Apr 2017	Low Tide Time	1105
I40	19 Apr 2017	Comments	
I40	26 Apr 2017	Depth (m)	10
I40	26 Apr 2017	Arrive Time	1119
I40	26 Apr 2017	Depart Time	1124
I40	26 Apr 2017	Air Temp (C)	17
I40	26 Apr 2017	Weather	Haze
I40	26 Apr 2017	Visibility (mi)	12
I40	26 Apr 2017	Wind Speed (kts)	7
I40	26 Apr 2017	Wind Dir	NW
I40	26 Apr 2017	Water Color	Greenish-Brown
I40	26 Apr 2017	Wave Ht Low (ft)	5
I40	26 Apr 2017	Wave Period (sec)	7
I40	26 Apr 2017	Sea State	Confused swell
I40	26 Apr 2017	High Tide (ft)	4.7
I40	26 Apr 2017	High Tide Time	953
I40	26 Apr 2017	Low Tide (ft)	0.4
I40	26 Apr 2017	Low Tide Time	1542
I40	26 Apr 2017	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 (μ g/L)
I19	06 Apr 2017	1	16.08	71.63	8.3	33.35	8.2	24.5	2.41
I19	06 Apr 2017	2	15.86	69.81	7.9	33.34	8.2	24.5	3.62
I19	06 Apr 2017	3	15.47	67.47	7.7	33.31	8.2	24.6	5.36
I19	06 Apr 2017	4	14.86	65.96	7.7	33.32	8.1	24.7	6.35
I19	06 Apr 2017	5	14.53	61.90	7.6	33.32	8.1	24.8	6.26
I19	06 Apr 2017	6	14.41	62.11	7.4	33.32	8.1	24.8	6.00
I19	06 Apr 2017	7	14.03	65.01	6.8	33.36	8.1	24.9	6.03
I19	06 Apr 2017	8	13.82	74.61	6.0	33.36	8.1	25.0	6.30
I19	06 Apr 2017	9	13.39	75.64	6.1	33.38	8.1	25.1	6.41
I19	06 Apr 2017	10	13.18	56.92	7.1	33.38	8.0	25.1	6.62
I19	10 Apr 2017	1	14.55	63.30	7.1	33.36	8.1	24.8	1.39
I19	10 Apr 2017	2	14.15	57.73	6.8	33.35	8.1	24.9	2.15
I19	10 Apr 2017	3	13.29	43.62	6.6	33.34	8.0	25.1	2.62
I19	10 Apr 2017	4	12.91	32.96	6.6	33.36	8.0	25.1	2.67
I19	10 Apr 2017	5	13.26	27.46	5.6	33.33	8.0	25.0	3.10
I19	10 Apr 2017	6	12.41	26.23	4.4	33.41	8.0	25.3	2.76
I19	10 Apr 2017	7	11.93	25.61	4.1	33.44	7.9	25.4	2.55
I19	10 Apr 2017	8	11.59	32.11	4.3	33.44	7.9	25.5	2.64
I19	10 Apr 2017	9	11.58	36.91	4.5	33.44	7.9	25.5	2.70
I19	10 Apr 2017	10	11.61	18.83	4.7	33.44	7.9	25.5	2.74
I19	14 Apr 2017	1	14.73	69.63	7.6	33.42	8.1	24.8	1.71
I19	14 Apr 2017	2	14.74	70.05	7.2	33.42	8.1	24.8	2.19
I19	14 Apr 2017	3	14.67	70.17	5.7	33.42	8.1	24.8	2.40
I19	14 Apr 2017	4	13.83	69.00	4.3	33.35	8.1	24.9	2.50
I19	14 Apr 2017	5	11.98	62.06	4.2	33.44	8.0	25.4	2.66
I19	14 Apr 2017	6	11.65	65.35	4.4	33.45	8.0	25.5	2.87
I19	14 Apr 2017	7	11.67	73.37	4.4	33.43	7.9	25.4	3.05
I19	14 Apr 2017	8	11.43	66.63	4.5	33.44	7.9	25.5	3.18
I19	14 Apr 2017	9	11.40	55.90	4.6	33.44	7.9	25.5	3.13
I19	14 Apr 2017	10	11.40	44.78	4.8	33.44	7.9	25.5	3.28
I19	19 Apr 2017	1	13.95	59.78	8.1	33.47	8.1	25.0	6.01
I19	19 Apr 2017	2	13.94	60.28	8.1	33.47	8.1	25.0	7.79
I19	19 Apr 2017	3	13.93	60.73	7.8	33.47	8.1	25.0	8.41
I19	19 Apr 2017	4	13.74	60.11	7.5	33.47	8.1	25.1	8.12
I19	19 Apr 2017	5	13.54	58.53	7.3	33.47	8.1	25.1	7.76
I19	19 Apr 2017	6	13.41	56.58	7.2	33.47	8.1	25.1	6.60
I19	19 Apr 2017	7	13.22	55.92	6.8	33.47	8.1	25.2	5.42
I19	19 Apr 2017	8	13.05	54.30	5.7	33.47	8.1	25.2	3.91
I19	19 Apr 2017	9	12.48	50.09	4.2	33.47	8.0	25.3	3.34
I19	19 Apr 2017	10	11.24	42.84	4.4	33.50	7.9	25.6	3.77
I19	26 Apr 2017	1	16.87	53.98	9.1	33.46	8.3	24.4	2.39
I19	26 Apr 2017	2	16.59	50.58	9.2	33.47	8.3	24.4	4.67
I19	26 Apr 2017	3	15.65	56.91	8.4	33.50	8.3	24.7	8.34
I19	26 Apr 2017	4	14.97	58.04	7.9	33.52	8.3	24.8	9.72
I19	26 Apr 2017	5	14.22	38.03	7.7	33.53	8.2	25.0	10.41
I19	26 Apr 2017	6	14.03	37.16	7.2	33.51	8.2	25.0	12.10
I19	26 Apr 2017	7	13.31	50.20	6.8	33.55	8.2	25.2	12.67

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
I19	26 Apr 2017	8	12.92	35.28	6.8	33.54	8.1	25.3	12.50
I19	26 Apr 2017	9	12.92	16.77	6.7	33.54	8.1	25.3	14.32
I19	26 Apr 2017	10	12.76	8.36	6.7	33.52	8.0	25.3	13.96
I24	06 Apr 2017	1	16.54	64.40	8.4	33.36	8.2	24.4	2.90
I24	06 Apr 2017	2	16.54	63.53	8.4	33.37	8.2	24.4	4.06
I24	06 Apr 2017	3	16.28	61.57	8.2	33.38	8.2	24.4	7.14
I24	06 Apr 2017	4	16.12	58.98	7.9	33.38	8.2	24.5	8.90
I24	06 Apr 2017	5	15.74	56.01	7.6	33.42	8.2	24.6	10.11
I24	06 Apr 2017	6	15.17	61.32	6.9	33.42	8.2	24.7	10.97
I24	06 Apr 2017	7	14.77	56.44	5.8	33.42	8.1	24.8	9.84
I24	06 Apr 2017	8	13.85	53.33	5.2	33.47	8.1	25.0	7.35
I24	06 Apr 2017	9	13.52	63.79	5.3	33.40	8.0	25.0	5.46
I24	06 Apr 2017	10	13.47	67.82	5.6	33.38	8.0	25.0	4.28
I24	10 Apr 2017	1	15.07	57.57	6.2	33.39	8.1	24.7	1.40
I24	10 Apr 2017	2	14.66	57.60	5.8	33.42	8.1	24.8	1.56
I24	10 Apr 2017	3	13.92	57.01	5.3	33.41	8.0	25.0	2.28
I24	10 Apr 2017	4	13.55	48.92	4.8	33.41	8.0	25.1	3.40
I24	10 Apr 2017	5	12.98	45.02	4.7	33.42	8.0	25.2	3.97
I24	10 Apr 2017	6	12.70	49.45	4.7	33.41	8.0	25.2	3.67
I24	10 Apr 2017	7	12.44	53.62	4.8	33.42	7.9	25.3	3.41
I24	10 Apr 2017	8	12.31	55.75	4.8	33.41	7.9	25.3	3.15
I24	10 Apr 2017	9	12.27	55.63	4.9	33.41	7.9	25.3	2.93
I24	10 Apr 2017	10	12.27	56.61	4.9	33.41	7.9	25.3	3.05
I24	10 Apr 2017	11	12.24	56.20	5.0	33.40	7.9	25.3	3.12
I24	14 Apr 2017	1	13.85	40.93	6.4	33.42	8.1	25.0	2.28
I24	14 Apr 2017	2	13.27	55.94	5.3	33.42	8.0	25.1	2.14
I24	14 Apr 2017	3	12.68	61.32	5.1	33.42	8.0	25.2	2.04
I24	14 Apr 2017	4	12.20	64.68	5.1	33.45	8.0	25.3	2.14
I24	14 Apr 2017	5	12.20	70.58	4.7	33.43	8.0	25.3	2.64
I24	14 Apr 2017	6	11.67	72.65	4.5	33.45	8.0	25.4	2.79
I24	14 Apr 2017	7	11.47	72.58	4.5	33.45	7.9	25.5	2.83
I24	14 Apr 2017	8	11.43	44.05	4.7	33.45	7.9	25.5	2.99
I24	14 Apr 2017	9	11.48	24.54	4.7	33.45	7.9	25.5	3.14
I24	14 Apr 2017	10	11.45	20.84	4.7	33.45	7.9	25.5	3.11
I24	14 Apr 2017	11	11.44	19.06	4.7	33.45	7.9	25.5	2.96
I24	19 Apr 2017	1	14.78	61.83	9.1	33.45	8.2	24.8	6.30
I24	19 Apr 2017	2	14.72	61.49	9.0	33.45	8.2	24.8	7.18
I24	19 Apr 2017	3	14.57	60.23	8.4	33.46	8.2	24.9	9.06
I24	19 Apr 2017	4	14.51	60.76	6.6	33.45	8.2	24.9	8.17
I24	19 Apr 2017	5	13.27	58.41	5.4	33.47	8.1	25.2	5.23
I24	19 Apr 2017	6	12.56	60.98	4.4	33.46	8.0	25.3	3.50
I24	19 Apr 2017	7	11.58	69.44	4.4	33.48	8.0	25.5	2.57
I24	19 Apr 2017	8	11.47	79.09	4.5	33.47	7.9	25.5	2.20
I24	19 Apr 2017	9	11.33	77.21	4.2	33.48	7.9	25.5	2.36
I24	19 Apr 2017	10	11.11	52.17	4.5	33.49	7.9	25.6	2.28
I24	26 Apr 2017	1	16.99	59.84	9.5	33.45	8.3	24.3	3.24
I24	26 Apr 2017	2	16.54	57.65	9.8	33.46	8.3	24.4	5.90
I24	26 Apr 2017	3	16.15	59.00	9.2	33.45	8.3	24.5	10.94
I24	26 Apr 2017	4	15.48	59.62	9.0	33.42	8.3	24.6	12.95
I24	26 Apr 2017	5	13.70	60.88	9.3	33.49	8.3	25.1	12.12

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
I24	26 Apr 2017	6	13.40	58.06	9.2	33.48	8.2	25.1	13.84
I24	26 Apr 2017	7	13.15	57.59	9.2	33.47	8.2	25.2	15.05
I24	26 Apr 2017	8	13.06	54.95	8.9	33.47	8.2	25.2	15.85
I24	26 Apr 2017	9	12.95	54.19	8.0	33.47	8.2	25.2	15.78
I24	26 Apr 2017	10	12.56	54.63	8.2	33.49	8.1	25.3	16.10
I25	06 Apr 2017	1	17.01	68.72	8.4	33.36	8.2	24.3	2.48
I25	06 Apr 2017	2	16.23	65.99	8.5	33.40	8.2	24.5	3.19
I25	06 Apr 2017	3	15.87	66.39	8.5	33.37	8.2	24.5	3.70
I25	06 Apr 2017	4	15.65	68.74	8.5	33.37	8.2	24.6	3.93
I25	06 Apr 2017	5	15.31	71.98	8.3	33.37	8.2	24.6	4.61
I25	06 Apr 2017	6	15.09	73.87	7.6	33.37	8.2	24.7	6.73
I25	06 Apr 2017	7	14.61	70.58	6.3	33.39	8.2	24.8	8.04
I25	06 Apr 2017	8	13.74	66.80	6.3	33.41	8.1	25.0	7.28
I25	06 Apr 2017	9	13.51	66.57	7.5	33.37	8.0	25.0	6.89
I25	10 Apr 2017	1	13.72	61.00	5.8	33.40	8.0	25.0	1.57
I25	10 Apr 2017	2	13.51	61.46	4.7	33.38	8.0	25.0	1.69
I25	10 Apr 2017	3	12.23	62.49	4.6	33.41	8.0	25.3	1.96
I25	10 Apr 2017	4	11.99	64.36	4.8	33.42	7.9	25.4	2.22
I25	10 Apr 2017	5	11.98	65.38	5.0	33.41	7.9	25.4	2.50
I25	10 Apr 2017	6	11.98	65.58	5.0	33.41	7.9	25.4	2.48
I25	10 Apr 2017	7	11.97	64.78	5.0	33.41	7.9	25.4	2.54
I25	10 Apr 2017	8	11.97	64.28	5.0	33.41	7.9	25.4	2.43
I25	10 Apr 2017	9	11.97	63.38	5.1	33.41	7.9	25.4	2.49
I25	14 Apr 2017	1	15.19	69.14	7.8	33.41	8.2	24.7	2.49
I25	14 Apr 2017	2	15.16	67.61	6.1	33.41	8.2	24.7	2.12
I25	14 Apr 2017	3	14.40	67.82	4.6	33.38	8.1	24.8	2.03
I25	14 Apr 2017	4	12.39	66.83	4.4	33.45	8.0	25.3	2.06
I25	14 Apr 2017	5	12.08	69.88	4.9	33.43	8.0	25.4	2.13
I25	14 Apr 2017	6	11.83	73.23	5.2	33.42	8.0	25.4	2.18
I25	14 Apr 2017	7	11.75	71.89	5.2	33.43	8.0	25.4	2.30
I25	14 Apr 2017	8	11.84	67.28	5.2	33.42	8.0	25.4	2.25
I25	14 Apr 2017	9	11.75	63.98	5.3	33.43	7.9	25.4	2.25
I25	19 Apr 2017	1	14.74	60.62	9.2	33.45	8.2	24.8	4.80
I25	19 Apr 2017	2	14.79	61.81	8.7	33.45	8.2	24.8	10.55
I25	19 Apr 2017	3	14.09	63.41	7.9	33.45	8.2	25.0	12.59
I25	19 Apr 2017	4	13.65	61.07	7.0	33.46	8.2	25.1	10.25
I25	19 Apr 2017	5	13.48	59.97	5.7	33.45	8.1	25.1	5.49
I25	19 Apr 2017	6	12.66	61.21	4.3	33.45	8.1	25.3	3.08
I25	19 Apr 2017	7	11.66	63.87	4.3	33.48	8.0	25.5	2.30
I25	19 Apr 2017	8	11.52	80.63	4.7	33.47	7.9	25.5	1.77
I25	19 Apr 2017	9	11.40	82.56	4.8	33.48	7.9	25.5	1.72
I25	26 Apr 2017	1	16.47	48.75	9.0	33.46	8.3	24.5	4.74
I25	26 Apr 2017	2	16.24	52.24	8.8	33.47	8.3	24.5	7.03
I25	26 Apr 2017	3	16.07	46.21	9.8	33.46	8.3	24.5	8.09
I25	26 Apr 2017	4	15.49	46.67	10.0	33.46	8.3	24.7	11.23
I25	26 Apr 2017	5	15.14	59.94	7.9	33.45	8.3	24.7	12.42
I25	26 Apr 2017	6	13.81	65.42	6.5	33.46	8.3	25.0	12.13
I25	26 Apr 2017	7	12.89	53.82	6.4	33.48	8.1	25.2	11.63
I25	26 Apr 2017	8	12.76	51.82	6.4	33.49	8.1	25.3	11.42
I25	26 Apr 2017	9	12.60	53.01	6.6	33.48	8.0	25.3	11.50

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
I26	06 Apr 2017	1	17.02	71.64	8.4	33.36	8.2	24.3	2.00
I26	06 Apr 2017	2	16.90	71.83	8.3	33.37	8.2	24.3	3.37
I26	06 Apr 2017	3	16.27	68.24	8.1	33.41	8.2	24.5	6.68
I26	06 Apr 2017	4	15.66	59.51	7.5	33.40	8.2	24.6	12.15
I26	06 Apr 2017	5	15.03	48.99	7.0	33.39	8.2	24.7	13.11
I26	06 Apr 2017	6	14.52	49.71	6.4	33.38	8.1	24.8	11.90
I26	06 Apr 2017	7	14.17	54.04	5.8	33.40	8.1	24.9	9.09
I26	06 Apr 2017	8	13.22	64.56	6.1	33.40	8.0	25.1	7.43
I26	10 Apr 2017	1	14.51	71.95	6.4	33.40	8.1	24.8	1.46
I26	10 Apr 2017	2	14.39	71.61	5.3	33.39	8.1	24.9	1.66
I26	10 Apr 2017	3	13.50	70.85	4.4	33.39	8.0	25.0	1.78
I26	10 Apr 2017	4	12.81	63.40	4.3	33.41	8.0	25.2	2.19
I26	10 Apr 2017	5	12.37	50.32	4.6	33.41	7.9	25.3	2.66
I26	10 Apr 2017	6	12.01	44.55	5.0	33.41	7.9	25.3	2.79
I26	10 Apr 2017	7	11.90	54.29	5.1	33.41	7.9	25.4	2.79
I26	10 Apr 2017	8	11.90	57.74	5.1	33.40	7.9	25.4	2.77
I26	10 Apr 2017	9	11.89	57.48	5.1	33.40	7.9	25.4	2.72
I26	14 Apr 2017	1	15.04	68.93	8.0	33.41	8.2	24.7	2.29
I26	14 Apr 2017	2	14.75	67.35	6.9	33.41	8.1	24.8	3.10
I26	14 Apr 2017	3	14.30	64.46	5.8	33.41	8.1	24.9	2.83
I26	14 Apr 2017	4	13.70	59.51	5.0	33.42	8.1	25.0	2.65
I26	14 Apr 2017	5	12.88	63.74	4.7	33.41	8.0	25.2	2.55
I26	14 Apr 2017	6	11.93	73.72	4.8	33.45	8.0	25.4	2.41
I26	14 Apr 2017	7	11.86	70.60	4.8	33.43	8.0	25.4	2.39
I26	14 Apr 2017	8	11.73	72.38	4.9	33.42	8.0	25.4	2.44
I26	14 Apr 2017	9	11.48	69.30	5.0	33.44	7.9	25.5	2.32
I26	19 Apr 2017	1	14.71	62.42	9.5	33.41	8.2	24.8	0.39
I26	19 Apr 2017	2	14.61	61.75	8.9	33.48	8.2	24.9	0.55
I26	19 Apr 2017	3	14.26	59.58	8.3	NA	8.2	NA	0.73
I26	19 Apr 2017	4	13.84	58.35	7.9	NA	8.2	NA	0.80
I26	19 Apr 2017	5	13.55	60.68	8.0	NA	8.1	NA	0.79
I26	19 Apr 2017	6	12.66	63.26	7.6	NA	8.0	NA	0.81
I26	19 Apr 2017	7	11.25	64.44	6.5	NA	7.9	NA	0.85
I26	19 Apr 2017	8	11.09	68.48	5.9	NA	7.9	NA	0.71
I26	19 Apr 2017	9	11.12	68.04	5.6	NA	7.9	NA	0.77
I26	26 Apr 2017	1	17.66	51.72	8.8	33.47	8.3	24.2	2.70
I26	26 Apr 2017	2	17.60	50.18	9.1	33.47	8.3	24.2	10.81
I26	26 Apr 2017	3	16.84	43.17	8.8	33.50	8.3	24.4	12.99
I26	26 Apr 2017	4	16.67	40.90	7.7	33.46	8.3	24.4	9.37
I26	26 Apr 2017	5	16.22	42.90	7.3	33.47	8.3	24.5	7.99
I26	26 Apr 2017	6	15.84	43.48	7.1	33.47	8.2	24.6	8.52
I26	26 Apr 2017	7	14.84	42.82	6.7	33.52	8.2	24.9	9.24
I26	26 Apr 2017	8	13.45	45.45	6.1	33.52	8.1	25.2	9.08
I26	26 Apr 2017	9	12.96	43.10	6.2	33.48	8.1	25.2	9.38
I32	06 Apr 2017	1	17.01	67.74	8.5	33.36	8.2	24.3	2.14
I32	06 Apr 2017	2	17.01	67.83	8.4	33.36	8.2	24.3	2.24
I32	06 Apr 2017	3	16.93	67.65	8.1	33.37	8.2	24.3	2.66
I32	06 Apr 2017	4	16.79	65.48	7.7	33.38	8.2	24.3	3.73
I32	06 Apr 2017	5	16.23	61.39	7.3	33.40	8.2	24.5	5.40

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
I32	06 Apr 2017	6	15.70	57.10	6.5	33.40	8.1	24.6	7.07
I32	06 Apr 2017	7	14.86	57.98	5.3	33.42	8.1	24.8	6.78
I32	06 Apr 2017	8	13.68	71.81	4.9	33.44	8.0	25.0	6.04
I32	06 Apr 2017	9	13.25	55.63	6.1	33.39	7.9	25.1	5.94
I32	10 Apr 2017	1	15.06	56.83	7.7	33.39	8.1	24.7	2.88
I32	10 Apr 2017	2	14.94	56.81	7.5	33.40	8.1	24.8	3.27
I32	10 Apr 2017	3	14.82	53.99	7.0	33.40	8.1	24.8	4.11
I32	10 Apr 2017	4	14.51	49.97	6.0	33.44	8.1	24.9	5.17
I32	10 Apr 2017	5	13.76	42.89	4.7	33.45	8.0	25.0	5.39
I32	10 Apr 2017	6	13.16	35.39	3.9	33.45	8.0	25.2	5.03
I32	10 Apr 2017	7	12.90	40.53	3.5	33.42	7.9	25.2	4.56
I32	10 Apr 2017	8	12.58	42.13	3.0	33.45	7.9	25.3	3.90
I32	10 Apr 2017	9	12.24	25.99	3.1	33.45	7.8	25.3	3.73
I32	10 Apr 2017	10	12.20	4.06	3.5	33.42	7.8	25.3	3.81
I32	14 Apr 2017	1	15.06	61.86	7.7	33.36	8.1	24.7	1.89
I32	14 Apr 2017	2	14.98	71.69	7.8	33.44	8.1	24.8	2.06
I32	14 Apr 2017	3	14.48	70.16	7.5	33.50	8.1	24.9	2.43
I32	14 Apr 2017	4	14.18	63.38	6.7	33.48	8.1	25.0	3.11
I32	14 Apr 2017	5	13.82	53.84	5.2	33.60	8.1	25.1	3.55
I32	14 Apr 2017	6	12.26	32.80	4.0	33.78	8.0	25.6	2.83
I32	14 Apr 2017	7	11.72	51.00	3.8	33.63	7.9	25.6	3.73
I32	14 Apr 2017	8	11.72	46.32	4.0	33.55	7.9	25.5	3.97
I32	14 Apr 2017	9	11.63	29.79	4.3	33.50	7.9	25.5	3.97
I32	14 Apr 2017	10	11.60	15.38	4.5	33.48	7.9	25.5	3.88
I32	19 Apr 2017	1	14.36	56.06	9.5	33.44	8.2	24.9	0.39
I32	19 Apr 2017	2	14.11	53.95	8.6	33.52	8.2	25.0	0.39
I32	19 Apr 2017	3	13.92	50.32	8.1	33.53	8.2	25.1	0.74
I32	19 Apr 2017	4	13.87	49.98	7.6	33.52	8.2	25.1	0.64
I32	19 Apr 2017	5	13.87	50.62	7.2	33.52	8.1	25.1	0.93
I32	19 Apr 2017	6	13.87	50.91	7.5	33.54	8.1	25.1	0.88
I32	19 Apr 2017	7	13.87	51.37	8.0	33.53	8.1	25.1	0.84
I32	19 Apr 2017	8	13.83	45.25	8.3	33.54	8.1	25.1	0.73
I32	19 Apr 2017	9	12.84	29.75	7.5	33.92	8.1	25.6	0.67
I32	26 Apr 2017	1	17.77	63.79	9.2	33.46	8.3	24.2	3.18
I32	26 Apr 2017	2	17.73	63.17	9.3	33.45	8.3	24.2	6.27
I32	26 Apr 2017	3	17.03	58.16	9.3	33.46	8.3	24.3	8.17
I32	26 Apr 2017	4	16.77	58.50	9.2	33.45	8.3	24.4	8.32
I32	26 Apr 2017	5	16.61	59.85	8.6	33.44	8.3	24.4	7.93
I32	26 Apr 2017	6	16.54	56.68	8.1	33.45	8.3	24.4	7.80
I32	26 Apr 2017	7	16.40	46.68	8.0	33.44	8.3	24.5	8.18
I32	26 Apr 2017	8	16.05	38.97	8.0	33.45	8.2	24.5	7.82
I32	26 Apr 2017	9	15.78	43.95	7.9	33.44	8.3	24.6	7.85
I32	26 Apr 2017	10	15.27	36.80	8.2	33.45	8.2	24.7	8.47
I39	06 Apr 2017	1	16.94	74.25	9.0	33.36	8.3	24.3	1.68
I39	06 Apr 2017	2	16.80	73.37	9.1	33.38	8.3	24.3	2.19
I39	06 Apr 2017	3	16.71	71.96	8.9	33.37	8.3	24.3	3.07
I39	06 Apr 2017	4	16.63	70.97	8.4	33.37	8.3	24.3	3.57
I39	06 Apr 2017	5	16.45	71.13	7.7	33.38	8.2	24.4	3.79
I39	06 Apr 2017	6	15.61	73.15	7.1	33.46	8.2	24.6	4.42
I39	06 Apr 2017	7	14.68	75.92	6.8	33.43	8.2	24.8	4.75

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
I39	06 Apr 2017	8	14.13	77.86	6.6	33.42	8.1	24.9	5.11
I39	06 Apr 2017	9	13.58	78.48	6.5	33.41	8.1	25.0	5.37
I39	06 Apr 2017	10	13.35	79.41	6.1	33.38	8.1	25.1	5.26
I39	06 Apr 2017	11	13.13	80.42	5.6	33.39	8.1	25.1	4.79
I39	06 Apr 2017	12	12.85	80.32	5.3	33.40	8.0	25.2	4.25
I39	06 Apr 2017	13	12.79	78.00	5.2	33.38	8.0	25.2	3.76
I39	06 Apr 2017	14	12.71	76.50	4.9	33.38	8.0	25.2	3.35
I39	06 Apr 2017	15	12.56	74.98	4.6	33.40	8.0	25.2	2.81
I39	06 Apr 2017	16	12.33	73.68	4.3	33.42	7.9	25.3	2.55
I39	06 Apr 2017	17	12.07	69.86	4.2	33.45	7.9	25.4	2.51
I39	06 Apr 2017	18	11.86	62.68	4.3	33.46	7.9	25.4	2.81
I39	10 Apr 2017	1	14.70	78.70	7.5	33.39	8.1	24.8	2.49
I39	10 Apr 2017	2	14.50	79.23	7.5	33.38	8.1	24.8	3.25
I39	10 Apr 2017	3	14.37	77.45	7.5	33.38	8.1	24.9	4.00
I39	10 Apr 2017	4	14.20	76.76	7.5	33.37	8.1	24.9	4.54
I39	10 Apr 2017	5	14.19	76.88	7.4	33.37	8.1	24.9	4.93
I39	10 Apr 2017	6	14.17	77.22	7.4	33.37	8.1	24.9	5.22
I39	10 Apr 2017	7	14.15	77.17	7.4	33.37	8.1	24.9	5.37
I39	10 Apr 2017	8	14.16	77.58	7.3	33.37	8.1	24.9	5.46
I39	10 Apr 2017	9	14.12	77.74	7.3	33.37	8.1	24.9	5.49
I39	10 Apr 2017	10	14.11	77.93	7.2	33.37	8.1	24.9	5.28
I39	10 Apr 2017	11	14.10	78.05	7.2	33.37	8.1	24.9	5.00
I39	10 Apr 2017	12	14.04	78.22	7.1	33.37	8.1	24.9	4.66
I39	10 Apr 2017	13	14.03	78.95	6.8	33.37	8.1	24.9	4.40
I39	10 Apr 2017	14	13.91	79.86	6.5	33.37	8.1	24.9	3.53
I39	10 Apr 2017	15	13.71	81.28	5.8	33.38	8.1	25.0	2.84
I39	10 Apr 2017	16	13.25	83.11	5.2	33.36	8.1	25.1	2.40
I39	10 Apr 2017	17	12.32	83.84	5.1	33.40	8.0	25.3	2.19
I39	10 Apr 2017	18	11.98	81.49	5.3	33.40	8.0	25.4	2.21
I39	14 Apr 2017	1	15.19	72.47	8.4	33.42	8.2	24.7	3.68
I39	14 Apr 2017	2	15.11	72.63	8.2	33.42	8.2	24.7	5.03
I39	14 Apr 2017	3	15.05	71.15	7.7	33.41	8.2	24.7	4.94
I39	14 Apr 2017	4	14.85	69.42	6.1	33.42	8.2	24.8	3.39
I39	14 Apr 2017	5	14.27	69.67	4.5	33.40	8.2	24.9	2.50
I39	14 Apr 2017	6	12.59	76.36	4.2	33.42	8.1	25.3	2.17
I39	14 Apr 2017	7	11.76	82.18	4.5	33.43	8.0	25.4	2.16
I39	14 Apr 2017	8	11.62	86.63	4.9	33.42	8.0	25.4	2.09
I39	14 Apr 2017	9	11.55	87.89	5.0	33.42	8.0	25.4	1.98
I39	14 Apr 2017	10	11.42	88.20	4.9	33.42	7.9	25.5	1.73
I39	14 Apr 2017	11	11.38	88.38	4.8	33.42	7.9	25.5	1.59
I39	14 Apr 2017	12	11.23	88.13	4.6	33.43	7.9	25.5	1.58
I39	14 Apr 2017	13	11.01	87.42	4.6	33.47	7.9	25.6	1.50
I39	14 Apr 2017	14	11.01	85.30	4.7	33.47	7.9	25.6	1.50
I39	14 Apr 2017	15	10.97	84.03	4.7	33.47	7.9	25.6	1.53
I39	14 Apr 2017	16	10.95	83.67	4.7	33.48	7.9	25.6	1.59
I39	14 Apr 2017	17	10.93	79.40	4.7	33.48	7.9	25.6	1.56
I39	14 Apr 2017	18	10.94	73.31	4.7	33.49	7.9	25.6	1.56
I39	19 Apr 2017	1	14.68	69.58	9.8	33.43	8.3	24.8	5.30
I39	19 Apr 2017	2	14.64	69.73	9.7	33.43	8.3	24.8	8.01
I39	19 Apr 2017	3	14.52	69.20	8.7	33.43	8.3	24.9	15.04
I39	19 Apr 2017	4	14.04	66.69	6.7	33.44	8.2	25.0	14.36
I39	19 Apr 2017	5	12.93	63.28	5.2	33.46	8.1	25.2	7.90

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
I39	19 Apr 2017	6	12.29	72.70	4.9	33.46	8.0	25.3	5.68
I39	19 Apr 2017	7	11.83	77.78	5.2	33.47	8.0	25.4	4.77
I39	19 Apr 2017	8	11.73	81.84	5.2	33.48	8.0	25.5	4.39
I39	19 Apr 2017	9	11.55	83.66	5.2	33.49	8.0	25.5	3.89
I39	19 Apr 2017	10	11.33	84.58	5.2	33.50	8.0	25.5	3.68
I39	19 Apr 2017	11	11.33	86.06	5.1	33.49	8.0	25.5	3.49
I39	19 Apr 2017	12	11.27	86.57	4.9	33.49	7.9	25.6	2.62
I39	19 Apr 2017	13	11.10	86.57	4.5	33.51	7.9	25.6	1.84
I39	19 Apr 2017	14	11.01	86.00	4.1	33.51	7.9	25.6	1.50
I39	19 Apr 2017	15	10.68	85.17	4.1	33.55	7.9	25.7	1.32
I39	19 Apr 2017	16	10.64	84.00	4.1	33.55	7.9	25.7	1.19
I39	19 Apr 2017	17	10.58	82.48	4.2	33.57	7.8	25.7	1.14
I39	19 Apr 2017	18	10.57	77.86	4.2	33.57	7.8	25.7	1.15
I39	26 Apr 2017	1	17.34	70.19	9.6	33.45	8.3	24.2	2.74
I39	26 Apr 2017	2	17.08	68.89	9.5	33.46	8.3	24.3	4.55
I39	26 Apr 2017	3	16.83	65.18	9.3	33.45	8.3	24.4	5.31
I39	26 Apr 2017	4	16.76	63.24	9.3	33.44	8.3	24.4	5.17
I39	26 Apr 2017	5	16.55	64.51	9.4	33.45	8.3	24.4	5.51
I39	26 Apr 2017	6	16.38	69.43	9.1	33.44	8.3	24.5	13.82
I39	26 Apr 2017	7	14.09	72.04	9.0	33.55	8.3	25.0	21.93
I39	26 Apr 2017	8	12.77	57.04	7.3	33.50	8.2	25.3	31.23
I39	26 Apr 2017	9	12.30	42.07	4.7	33.54	8.2	25.4	17.10
I39	26 Apr 2017	10	11.71	43.71	4.5	33.53	8.0	25.5	12.42
I39	26 Apr 2017	11	11.61	58.30	5.0	33.53	7.9	25.5	10.60
I39	26 Apr 2017	12	11.62	62.78	5.3	33.51	7.9	25.5	9.27
I39	26 Apr 2017	13	11.53	62.45	5.3	33.52	7.9	25.5	7.68
I39	26 Apr 2017	14	11.50	60.85	5.0	33.53	7.9	25.5	7.59
I39	26 Apr 2017	15	11.38	57.92	4.9	33.53	7.9	25.6	7.13
I39	26 Apr 2017	16	11.35	53.94	5.0	33.53	7.9	25.6	7.21
I39	26 Apr 2017	17	11.34	51.24	5.0	33.53	7.9	25.6	7.45
I39	26 Apr 2017	18	11.33	47.76	5.1	33.54	7.9	25.6	8.16
I40	06 Apr 2017	1	16.40	60.87	8.2	33.37	8.2	24.4	2.97
I40	06 Apr 2017	2	16.31	60.95	8.0	33.37	8.2	24.4	3.88
I40	06 Apr 2017	3	16.16	61.03	7.3	33.38	8.2	24.5	6.58
I40	06 Apr 2017	4	15.85	59.76	5.8	33.40	8.2	24.5	6.96
I40	06 Apr 2017	5	15.15	56.40	4.6	33.44	8.1	24.7	6.44
I40	06 Apr 2017	6	14.38	52.34	4.1	33.44	8.0	24.9	6.46
I40	06 Apr 2017	7	13.76	52.81	3.9	33.45	7.9	25.0	6.30
I40	06 Apr 2017	8	13.14	54.12	3.6	33.44	7.9	25.2	5.58
I40	06 Apr 2017	9	12.85	41.68	4.2	33.41	7.9	25.2	5.23
I40	06 Apr 2017	10	12.91	6.59	4.8	33.37	7.8	25.1	5.37
I40	10 Apr 2017	1	14.87	40.57	6.6	33.38	8.0	24.8	1.09
I40	10 Apr 2017	2	14.57	39.17	6.1	33.41	8.0	24.8	1.33
I40	10 Apr 2017	3	13.39	26.32	5.8	33.49	7.9	25.1	2.02
I40	10 Apr 2017	4	13.10	17.90	5.5	33.44	7.9	25.2	2.59
I40	10 Apr 2017	5	12.89	17.56	4.9	33.43	7.9	25.2	2.82
I40	10 Apr 2017	6	12.65	21.76	4.0	33.45	7.9	25.3	3.02
I40	10 Apr 2017	7	12.24	25.74	3.9	33.45	7.9	25.3	3.23
I40	10 Apr 2017	8	12.01	21.16	4.1	33.44	7.9	25.4	3.37
I40	10 Apr 2017	9	12.00	12.55	4.2	33.43	7.9	25.4	3.71
I40	10 Apr 2017	10	11.91	8.24	4.3	33.43	7.9	25.4	3.83

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
I40	14 Apr 2017	1	13.53	52.41	6.2	33.44	8.0	25.1	2.60
I40	14 Apr 2017	2	13.26	51.47	5.6	33.44	8.0	25.1	2.54
I40	14 Apr 2017	3	12.78	55.55	5.1	33.44	8.0	25.2	2.28
I40	14 Apr 2017	4	12.29	64.04	5.0	33.45	8.0	25.3	2.47
I40	14 Apr 2017	5	11.88	72.33	4.8	33.45	8.0	25.4	3.52
I40	14 Apr 2017	6	11.71	74.69	4.5	33.45	8.0	25.4	4.00
I40	14 Apr 2017	7	11.62	78.86	4.4	33.45	7.9	25.5	4.37
I40	14 Apr 2017	8	11.51	72.03	4.4	33.45	7.9	25.5	5.07
I40	14 Apr 2017	9	11.52	36.54	4.5	33.46	7.9	25.5	5.15
I40	14 Apr 2017	10	11.54	34.51	4.6	33.45	7.9	25.5	4.98
I40	19 Apr 2017	1	13.86	59.66	8.0	33.46	8.1	25.0	5.83
I40	19 Apr 2017	2	13.83	59.81	7.1	33.47	8.1	25.0	5.60
I40	19 Apr 2017	3	13.22	60.06	5.7	33.47	8.1	25.2	4.35
I40	19 Apr 2017	4	12.49	59.88	4.7	33.48	8.0	25.3	3.59
I40	19 Apr 2017	5	11.61	57.68	4.1	33.48	7.9	25.5	3.62
I40	19 Apr 2017	6	11.30	52.26	4.0	33.48	7.9	25.5	3.61
I40	19 Apr 2017	7	11.21	42.93	3.9	33.48	7.9	25.6	3.71
I40	19 Apr 2017	8	11.10	33.41	4.1	33.49	7.9	25.6	3.47
I40	19 Apr 2017	9	11.07	18.49	4.3	33.49	7.8	25.6	3.39
I40	19 Apr 2017	10	10.99	17.75	4.4	33.50	7.9	25.6	3.50
I40	26 Apr 2017	1	16.33	52.83	8.9	33.46	8.3	24.5	4.24
I40	26 Apr 2017	2	16.24	50.88	8.6	33.47	8.3	24.5	5.57
I40	26 Apr 2017	3	15.80	50.70	8.3	33.49	8.3	24.6	8.86
I40	26 Apr 2017	4	14.78	47.34	9.2	33.51	8.2	24.9	9.03
I40	26 Apr 2017	5	14.52	42.61	9.1	33.51	8.2	24.9	10.26
I40	26 Apr 2017	6	14.21	45.93	7.8	33.52	8.2	25.0	11.41
I40	26 Apr 2017	7	13.58	50.13	6.9	33.54	8.2	25.1	11.77
I40	26 Apr 2017	8	13.05	49.85	6.6	33.53	8.1	25.2	11.20
I40	26 Apr 2017	9	12.93	45.94	6.7	33.50	8.1	25.2	11.59
I40	26 Apr 2017	10	12.91	39.70	6.9	33.51	8.1	25.3	10.54

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	06 Apr 2017	6	AR	LAB DUPLICATE	400e	100e	50
I19	10 Apr 2017	6	JT	LAB DUPLICATE	1400e	ns	4e
I19	10 Apr 2017	6	ZV	LAB DUPLICATE	ns	18e	ns
I19	14 Apr 2017	6	LMA	LAB DUPLICATE	<20	<2	<2
I19	19 Apr 2017	6	ZV	LAB DUPLICATE	<20	<2	2e
I19	26 Apr 2017	6	ZV	LAB DUPLICATE	<20	10e	22e
I40	06 Apr 2017	6	ZV	LAB DUPLICATE	440	22e	<2
I40	10 Apr 2017	6	JT	LAB DUPLICATE	2e	ns	16e
I40	10 Apr 2017	6	ZV	LAB DUPLICATE	ns	<2	ns
I40	14 Apr 2017	6	LMA	LAB DUPLICATE	<2	<2	<2
I40	19 Apr 2017	6	ZV	LAB DUPLICATE	<20	2e	6e
I40	26 Apr 2017	6	ZV	LAB DUPLICATE	140e	6e	16e
S12	04 Apr 2017		JT	FIELD DUPLICATE	<2	<2	<2
S12	04 Apr 2017		JT	LAB DUPLICATE	<2	<2	2e
S12	11 Apr 2017		LMA	FIELD DUPLICATE	<2	<2	<2
S12	11 Apr 2017		LMA	LAB DUPLICATE	<20	<2	<2
S12	18 Apr 2017		JT	FIELD DUPLICATE	40e	8e	8e
S12	18 Apr 2017		JT	LAB DUPLICATE	40e	4e	8e
S12	25 Apr 2017		JT	FIELD DUPLICATE	<20	2e	4e
S12	25 Apr 2017		JT	LAB DUPLICATE	20e	<2	<2

ns = not sampled

ND = no data

