



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

OCTOBER 2016

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





Public Utilities Department

Environmental Monitoring & Technical Services Division

November 30, 2016

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

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

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

Sincerely,

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

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

Offshore Stations

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

At these offshore stations, water samples for bacteriological, suspended solids, and oil and grease analyses were typically collected using a rosette sampler with Niskin bottles. Measurements of the physical/chemical parameters listed above were taken using a Sea-Bird CTD. Additionally, CTD profile data for depths closest to those at which bacteriological samples were collected were extracted from the CTD profiles and are presented with the bacteriological data.

Bacteriological Reporting and Quality Assurance

Estimated values for bacteriological analyses are denoted by greater than (>), less than (<), or estimated (e) qualifiers and result from plates with colony counts above or below the permissible counting limits established in Bordner et al. (1978)^[1]. This document defines membrane filtration limits of 20–80 colonies per plate for total coliforms and 20–60 colonies per plate for fecal coliforms and *Enterococcus*. No Data (ND) is reported if plate counts from all dilutions have a total colony count of >200 per plate.

Results of the bacteriological analysis of seawater samples collected from each of the shore, kelp bed, and offshore stations located within State waters are assessed relative to the geometric mean and single sample maximum water-contact standards specified in the California Ocean Plan (Ocean Plan). The seven standards are defined as follows:

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

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

^[1]Bordner, R., J. Winter, and P. Scarpino (eds.). (1978). Microbiological Methods for Monitoring the Environment: Water and Wastes, EPA Research and Development, EPA-600/8-78-017. 337 p.

Single Sample Maximums:

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

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

Quality controls of bacteriological data include laboratory and field duplicate analyses. Laboratory duplicates are performed on approximately 10% of the water quality samples, while field duplicates are performed six times a month (see Appendix A). Laboratory duplicates represent two aliquots of the original sample that are split in the laboratory and analyzed by the same analyst using identical procedures within the same analytical run. The results of these analyses provide a measure of intra-analyst precision. In contrast, field duplicates represent two separate samples collected at the same time from the same site, which are handled under identical circumstances and treated exactly the same throughout field and lab procedures. The results of these analyses provide a measure of precision associated with sample collection, preservation, storage, and lab procedures. The sign test (see Gilbert, 1987) is used to statistically compare both the results from the laboratory duplicates, as well as the results from the field duplicates. These data will be further analyzed in the City's 2016 Quality Assurance Report, which will be completed in March 2017.

SUMMARY OF RESULTS

➤ **Shoreline Water Quality Sampling**

- Because of site access restrictions in Mexico, the South Bay shoreline sampling is carried out on the same day each week (i.e., Tuesday) in order to coordinate sampling between the Mexican and USA based stations. Seawater samples at the three shore stations located south of the USA/Mexico border (i.e., stations S0, S2 and S3) are presently collected by the Comisión Internacional de Límites y Aguas (CILA) and transported to the IBWC for subsequent delivery to the City's Marine Microbiology Lab, while samples from the eight stations located in USA waters are sampled by City staff.
- During October, each of the eight shore stations located north of the border was in compliance with various California Ocean Plan (Ocean Plan) water contact standards; these standards do not apply to stations located in Mexican waters.
- Although the Ocean Plan standards do not apply to these stations, bacteria densities exceeded one or more benchmark levels (i.e., total coliforms >10,000 CFU/100mL; fecal coliforms >400 CFU/100 mL; *Enterococcus* >104 CFU/100 mL; total >1000 CFU/100 mL & F:T ratio >0.1) in the seawater samples collected at stations S0, S2, and S3 on one or more days during the month.

- Historical analyses of Ocean Plan compliance rates for the South Bay outfall shoreline monitoring stations, combined with the results of satellite imagery data, suggest that outflows from the Tijuana River and Los Buenos Creek, as well as surface runoff during or after rain events (storms), are likely to be the cause of impacted water quality along the shore and in near shore recreational waters in the South Bay region. See the City of San Diego's most recent *South Bay Ocean Outfall Annual Receiving Waters Monitoring and Assessment Report* for details (<http://www.sandiego.gov/mwwd/environment/oceanmonitor/reports/index.shtml>).
- Notable visual observations for October included: a dead seal in the water at station S8 on October 4, brown foam on the beach at station S4 on October 11, and storm drain run-off at station S0 on one or more days during the month.

➤ **Kelp Bed Water Quality Sampling**

- The seven kelp bed water quality stations (I19, I24, I25, I26, I32, I39, I40) were sampled five times during October (i.e. October 8, 14, 20, 26, 31).
- During October, each of the seven stations was in compliance with various California Ocean Plan (Ocean Plan) water contact standards.
- Water column temperatures ranged from 13.90 to 18.10°C. The difference between surface and bottom waters ranged from approximately 0.91 to 4.08°C, indicating the water column was stratified at some of these sites during the month.
- Chlorophyll *a* concentrations ranged from 0.51 to 10.23 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 October at the offshore stations. The next quarterly sampling is scheduled for November 2016.

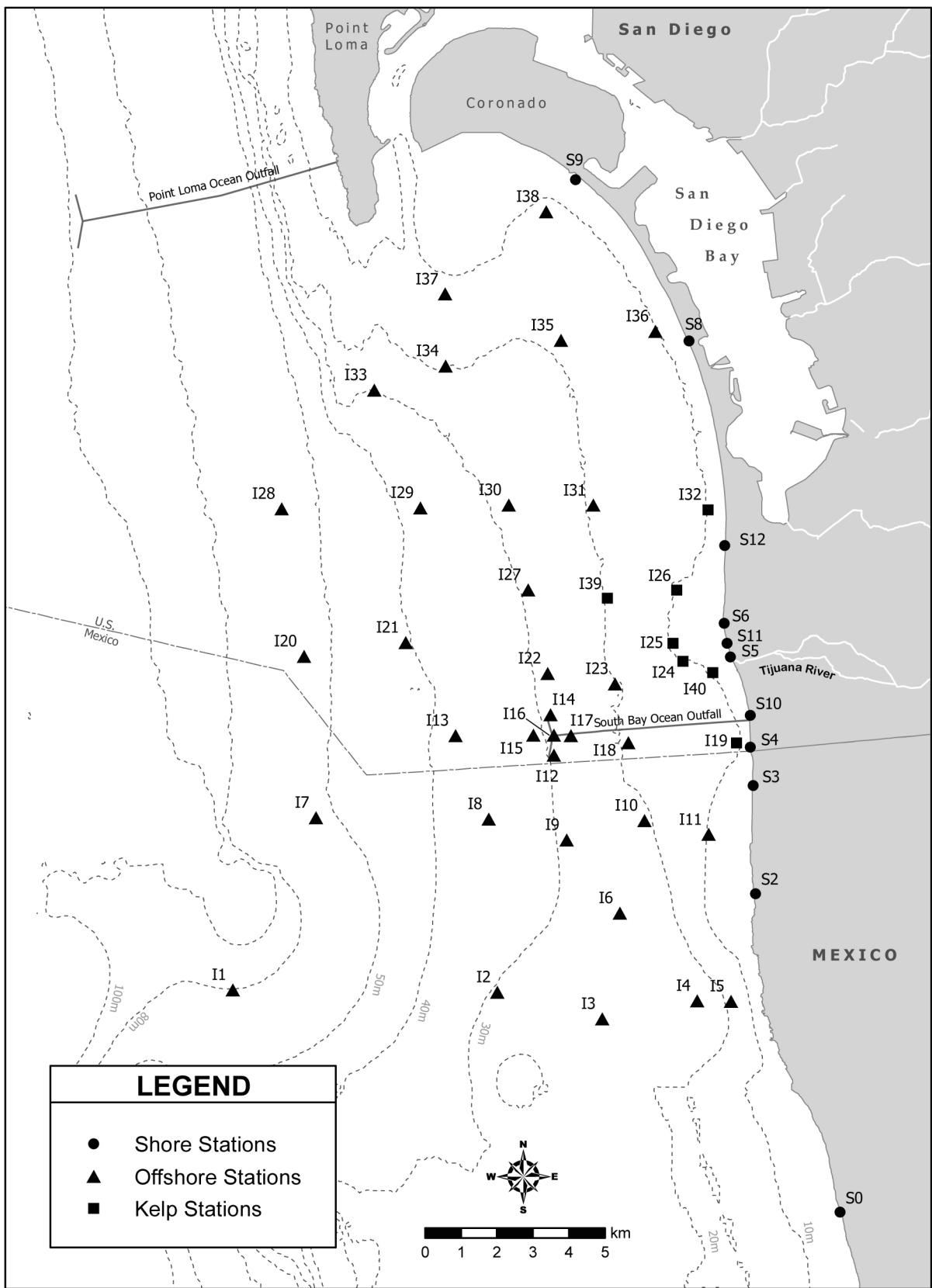


Figure 1.1 Station Map

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 Oct 2016	31*	16*	8*	4*	20*	8*	5*	11*
02 Oct 2016	31*	16*	8*	4*	20*	8*	5*	11*
03 Oct 2016	31*	16*	8*	4*	20*	8*	5*	11*
04 Oct 2016	28	17	6	4	20	6	6	20
05 Oct 2016	28	17	6	4	20	6	6	20
06 Oct 2016	31*	20*	4*	4*	20*	4*	8*	20*
07 Oct 2016	31*	20*	4*	4*	20*	4*	8*	20*
08 Oct 2016	31*	20*	4*	4*	20*	4*	8*	20*
09 Oct 2016	31*	20*	4*	4*	20*	4*	8*	20*
10 Oct 2016	31*	20*	4*	4*	20*	4*	8*	20*
11 Oct 2016	28	14	6	4	20	4	10	20
12 Oct 2016	28	14	6	4	20	4	10	20
13 Oct 2016	46*	24*	8*	4*	20*	5*	11*	36*
14 Oct 2016	46*	24*	8*	4*	20*	5*	11*	36*
15 Oct 2016	46*	24*	8*	4*	20*	5*	11*	36*
16 Oct 2016	46*	24*	8*	4*	20*	5*	11*	36*
17 Oct 2016	46*	24*	8*	4*	20*	5*	11*	36*
18 Oct 2016	39	23	11	6	20	7	13	32
19 Oct 2016	39	23	11	6	20	7	13	32
20 Oct 2016	20*	24*	18*	4*	20*	9*	20*	36*
21 Oct 2016	20*	24*	18*	4*	20*	9*	20*	36*
22 Oct 2016	20*	24*	18*	4*	20*	9*	20*	36*
23 Oct 2016	20*	24*	18*	4*	20*	9*	20*	36*
24 Oct 2016	20*	24*	18*	4*	20*	9*	20*	36*
25 Oct 2016	18	17	11	4	13	10	13	23
26 Oct 2016	18	17	11	4	13	10	13	23
27 Oct 2016	18*	9*	8*	4*	11*	8*	11*	24*
28 Oct 2016	18*	9*	8*	4*	11*	8*	11*	24*
29 Oct 2016	18*	9*	8*	4*	11*	8*	11*	24*
30 Oct 2016	18*	9*	8*	4*	11*	8*	11*	24*
31 Oct 2016	18*	9*	8*	4*	11*	8*	11*	24*

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

* Geometric mean calculated using n<5

Table 2.3

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

Date	S4	S5	S6	S8	S9	S10	S11	S12
01 Oct 2016	5*	3*	2*	2*	4*	3*	2*	5*
02 Oct 2016	5*	3*	2*	2*	4*	3*	2*	5*
03 Oct 2016	5*	3*	2*	2*	4*	3*	2*	5*
04 Oct 2016	4	3	2	2	3	3	2	4
05 Oct 2016	4	3	2	2	3	3	2	4
06 Oct 2016	5*	3*	2*	2*	4*	2*	2*	4*
07 Oct 2016	5*	3*	2*	2*	4*	2*	2*	4*
08 Oct 2016	5*	3*	2*	2*	4*	2*	2*	4*
09 Oct 2016	5*	3*	2*	2*	4*	2*	2*	4*
10 Oct 2016	5*	3*	2*	2*	4*	2*	2*	4*
11 Oct 2016	4	3	2	2	3	2	2	3
12 Oct 2016	4	3	2	2	3	2	2	3
13 Oct 2016	5*	3*	2*	2*	3*	2*	2*	4*
14 Oct 2016	5*	3*	2*	2*	3*	2*	2*	4*
15 Oct 2016	5*	3*	2*	2*	3*	2*	2*	4*
16 Oct 2016	5*	3*	2*	2*	3*	2*	2*	4*
17 Oct 2016	5*	3*	2*	2*	3*	2*	2*	4*
18 Oct 2016	5	3	4	2	3	3	2	3
19 Oct 2016	5	3	4	2	3	3	2	3
20 Oct 2016	3*	3*	5*	3*	3*	4*	2*	2*
21 Oct 2016	3*	3*	5*	3*	3*	4*	2*	2*
22 Oct 2016	3*	3*	5*	3*	3*	4*	2*	2*
23 Oct 2016	3*	3*	5*	3*	3*	4*	2*	2*
24 Oct 2016	3*	3*	5*	3*	3*	4*	2*	2*
25 Oct 2016	4	3	4	2	3	4	2	3
26 Oct 2016	4	3	4	2	3	4	2	3
27 Oct 2016	4*	2*	5*	3*	3*	5*	2*	3*
28 Oct 2016	4*	2*	5*	3*	3*	5*	2*	3*
29 Oct 2016	4*	2*	5*	3*	3*	5*	2*	3*
30 Oct 2016	4*	2*	5*	3*	3*	5*	2*	3*
31 Oct 2016	4*	2*	5*	3*	3*	5*	2*	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 Oct 2016	IC	IC	IC	IC	IC	IC	IC	IC
11 Oct 2016	IC	IC	IC	IC	IC	IC	IC	IC
18 Oct 2016	IC	IC	IC	IC	IC	IC	IC	IC
25 Oct 2016	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 Oct 2016	IC	IC	IC	IC	IC	IC	IC	IC
11 Oct 2016	IC	IC	IC	IC	IC	IC	IC	IC
18 Oct 2016	IC	IC	IC	IC	IC	IC	IC	IC
25 Oct 2016	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 Oct 2016	IC	IC	IC	IC	IC	IC	IC	IC
11 Oct 2016	IC	IC	IC	IC	IC	IC	IC	IC
18 Oct 2016	IC	IC	IC	IC	IC	IC	IC	IC
25 Oct 2016	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 Oct 2016	IC	IC	IC	IC	IC	IC	IC	IC
11 Oct 2016	IC	IC	IC	IC	IC	IC	IC	IC
18 Oct 2016	IC	IC	IC	IC	IC	IC	IC	IC
25 Oct 2016	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* (Enter) are reported as CFU/100 mL. The fecal:total coliform ratio (F:T) is unitless. Comments follow the data summary.

Station	Date	Time	Total	Fecal	Enter	F:T
S0	04 Oct 2016	1040	7600	220e	780	0.03
S0	11 Oct 2016	1015	6200	100	380e	0.02
S0	18 Oct 2016	1145	4000	240e	120e	0.06
S0	25 Oct 2016	1205	380e	120	160e	0.32
S2	04 Oct 2016	1205	2e	<2	10e	1.00
S2	11 Oct 2016	1215	240e	12e	110	0.05
S2	18 Oct 2016	1040	200e	96	320e	0.48
S2	25 Oct 2016	1050	24e	<2	42	0.08
S3	04 Oct 2016	1125	140e	12e	4e	0.09
S3	11 Oct 2016	1115	14e	2e	6e	0.14
S3	18 Oct 2016	945	1000e	96	560	0.10
S3	25 Oct 2016	950	10e	<2	<2	0.20
S4	04 Oct 2016	1316	<20	<2	<2	0.10
S4	11 Oct 2016	842	20e	2e	2e	0.10
S4	18 Oct 2016	1230	<20	6e	8e	0.30
S4	25 Oct 2016	901	12e	<2	12e	0.17
S5	04 Oct 2016	1111	<20	<2	<2	0.10
S5	11 Oct 2016	1011	4e	2e	<2	0.50
S5	18 Oct 2016	1038	<20	2e	2e	0.10
S5	25 Oct 2016	1039	4e	<2	<2	0.50
S6	04 Oct 2016	1055	<2	<2	<2	1.00
S6	11 Oct 2016	1001	<20	6e	2e	0.30
S6	18 Oct 2016	1021	60e	<2	64	0.03
S6	25 Oct 2016	1028	<2	<2	<2	1.00
S8	04 Oct 2016	949	4e	<2	<2	0.50
S8	11 Oct 2016	1202	<2	<2	<2	1.00
S8	18 Oct 2016	936	20e	12e	6e	0.60
S8	25 Oct 2016	1222	<2	<2	<2	1.00
S9	04 Oct 2016	913	<20	<2	2e	0.10
S9	11 Oct 2016	1239	<20	<2	<2	0.10
S9	18 Oct 2016	913	<20	4e	10e	0.20
S9	25 Oct 2016	1251	<2	<2	<2	1.00
S10	04 Oct 2016	1308	<2	<2	2e	1.00
S10	11 Oct 2016	835	6e	<2	2e	0.33
S10	18 Oct 2016	1237	<20	6e	20e	0.30
S10	25 Oct 2016	854	16e	<2	6e	0.12
S11	04 Oct 2016	1101	<20	<2	<2	0.10
S11	11 Oct 2016	1006	20e	<2	2e	0.10
S11	18 Oct 2016	1028	20e	8e	2e	0.40
S11	25 Oct 2016	1033	2e	<2	<2	1.00

Station	Date	Time	Total	Fecal	Enter	F:T
S12	04 Oct 2016	1044	<200	<2	<2	0.01
S12	11 Oct 2016	949	<20	<2	2e	0.10
S12	18 Oct 2016	1010	<20	<2	<2	0.10
S12	25 Oct 2016	1013	4e	<2	12e	0.50

ns = not sampled

ND = no data

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 Oct 2016	Arrive Time	1040
S0	04 Oct 2016	Weather	Sunny
S0	04 Oct 2016	Wind Speed (kts)	1.8
S0	04 Oct 2016	Wind Dir	NE
S0	04 Oct 2016	Animal Life	5 Shorebirds; 1 Dog
S0	04 Oct 2016	Floatables	None
S0	04 Oct 2016	Water Color	Green
S0	04 Oct 2016	Current Direction	S
S0	04 Oct 2016	Water Temp (C)	17
S0	04 Oct 2016	Wave Height Low (ft)	3
S0	04 Oct 2016	High Tide (ft)	5.1
S0	04 Oct 2016	High Tide Time	1104
S0	04 Oct 2016	Low Tide (ft)	1.7
S0	04 Oct 2016	Low Tide Time	457
S0	04 Oct 2016	Comments	Kelp; Algae; Water clear; Discharge from storm drain approx 0.5L/sec
S0	11 Oct 2016	Arrive Time	1015
S0	11 Oct 2016	Weather	Sunny
S0	11 Oct 2016	Wind Speed (kts)	1.5
S0	11 Oct 2016	Wind Dir	NE
S0	11 Oct 2016	Animal Life	>20 Shorebirds; 1 Dog
S0	11 Oct 2016	Floatables	None
S0	11 Oct 2016	Water Color	Green
S0	11 Oct 2016	Current Direction	N
S0	11 Oct 2016	Water Temp (C)	NS
S0	11 Oct 2016	Wave Height Low (ft)	3
S0	11 Oct 2016	High Tide (ft)	4.3
S0	11 Oct 2016	High Tide Time	648
S0	11 Oct 2016	Low Tide (ft)	2.1
S0	11 Oct 2016	Low Tide Time	1228
S0	11 Oct 2016	Comments	Algae; 3 Persons; Water clear; Flow from storm drain 1L/sec; Water temp not recorded on obs
S0	18 Oct 2016	Arrive Time	1145
S0	18 Oct 2016	Weather	Sunny
S0	18 Oct 2016	Wind Speed (kts)	1
S0	18 Oct 2016	Wind Dir	NE
S0	18 Oct 2016	Animal Life	>20 Shorebirds; 5 Pelicans
S0	18 Oct 2016	Floatables	None
S0	18 Oct 2016	Water Color	Green
S0	18 Oct 2016	Current Direction	S
S0	18 Oct 2016	Water Temp (C)	15
S0	18 Oct 2016	Wave Height Low (ft)	3
S0	18 Oct 2016	High Tide (ft)	6.4
S0	18 Oct 2016	High Tide Time	1048
S0	18 Oct 2016	Low Tide (ft)	-0.6
S0	18 Oct 2016	Low Tide Time	1747
S0	18 Oct 2016	Comments	Kelp; Seagrass; Algae; 2 Persons; Water clear; Discharge from storm drain approx 2L/sec

Station	Date	Parameter	Value
S0	25 Oct 2016	Arrive Time	1205
S0	25 Oct 2016	Weather	Sunny
S0	25 Oct 2016	Wind Speed (kts)	0.9
S0	25 Oct 2016	Wind Dir	NW
S0	25 Oct 2016	Animal Life	10 Shorebirds; 7 Pelicans; 10 Seagulls
S0	25 Oct 2016	Floatables	None
S0	25 Oct 2016	Water Color	Green
S0	25 Oct 2016	Current Direction	N
S0	25 Oct 2016	Water Temp (C)	17.9
S0	25 Oct 2016	Wave Height Low (ft)	2
S0	25 Oct 2016	High Tide (ft)	4.9
S0	25 Oct 2016	High Tide Time	701
S0	25 Oct 2016	Low Tide (ft)	1.5
S0	25 Oct 2016	Low Tide Time	1304
S0	25 Oct 2016	Comments	Seagrass; Algae; 1 Person; Water clear; Flow from storm drain approx 1.0L/sec
S2	04 Oct 2016	Arrive Time	1205
S2	04 Oct 2016	Weather	Sunny
S2	04 Oct 2016	Wind Speed (kts)	1.6
S2	04 Oct 2016	Wind Dir	SE
S2	04 Oct 2016	Animal Life	5 Shorebirds
S2	04 Oct 2016	Floatables	None
S2	04 Oct 2016	Water Color	Green
S2	04 Oct 2016	Current Direction	S
S2	04 Oct 2016	Water Temp (C)	17
S2	04 Oct 2016	Wave Height Low (ft)	4
S2	04 Oct 2016	High Tide (ft)	5.1
S2	04 Oct 2016	High Tide Time	1104
S2	04 Oct 2016	Low Tide (ft)	0.8
S2	04 Oct 2016	Low Tide Time	1759
S2	04 Oct 2016	Comments	Kelp; Algae; 1 Person; Water clear
S2	11 Oct 2016	Arrive Time	1215
S2	11 Oct 2016	Weather	Sunny
S2	11 Oct 2016	Wind Speed (kts)	1.7
S2	11 Oct 2016	Wind Dir	NE
S2	11 Oct 2016	Animal Life	10 Shorebirds
S2	11 Oct 2016	Floatables	None
S2	11 Oct 2016	Water Color	Green
S2	11 Oct 2016	Current Direction	N
S2	11 Oct 2016	Water Temp (C)	NS
S2	11 Oct 2016	Wave Height Low (ft)	3
S2	11 Oct 2016	High Tide (ft)	4.3
S2	11 Oct 2016	High Tide Time	648
S2	11 Oct 2016	Low Tide (ft)	2.1
S2	11 Oct 2016	Low Tide Time	1228
S2	11 Oct 2016	Comments	Algae; 3 Persons; Water clear; No flow from storm drain; Water temp not recorded on obs
S2	18 Oct 2016	Arrive Time	1040
S2	18 Oct 2016	Weather	Sunny
S2	18 Oct 2016	Wind Speed (kts)	1.2
S2	18 Oct 2016	Wind Dir	NE
S2	18 Oct 2016	Animal Life	15 Shorebirds; 5 Pelicans

Station	Date	Parameter	Value
S2	18 Oct 2016	Floatables	None
S2	18 Oct 2016	Water Color	Green
S2	18 Oct 2016	Current Direction	S
S2	18 Oct 2016	Water Temp (C)	15
S2	18 Oct 2016	Wave Height Low (ft)	3
S2	18 Oct 2016	High Tide (ft)	6.4
S2	18 Oct 2016	High Tide Time	1048
S2	18 Oct 2016	Low Tide (ft)	1.1
S2	18 Oct 2016	Low Tide Time	442
S2	18 Oct 2016	Comments	Kelp; Seagrass; Algae; 1 Person; Water clear; No discharge from storm drain
S2	25 Oct 2016	Arrive Time	1050
S2	25 Oct 2016	Weather	Sunny
S2	25 Oct 2016	Wind Speed (kts)	1.6
S2	25 Oct 2016	Wind Dir	NW
S2	25 Oct 2016	Animal Life	7 Shorebirds; 3 Dogs; 10 Seagulls
S2	25 Oct 2016	Floatables	None
S2	25 Oct 2016	Water Color	Green
S2	25 Oct 2016	Current Direction	N
S2	25 Oct 2016	Water Temp (C)	17.6
S2	25 Oct 2016	Wave Height Low (ft)	3
S2	25 Oct 2016	High Tide (ft)	4.9
S2	25 Oct 2016	High Tide Time	701
S2	25 Oct 2016	Low Tide (ft)	1.5
S2	25 Oct 2016	Low Tide Time	1304
S2	25 Oct 2016	Comments	Algae; 2 Fishermen; Water clear; No flow from storm drain
S3	04 Oct 2016	Arrive Time	1125
S3	04 Oct 2016	Weather	Sunny
S3	04 Oct 2016	Wind Speed (kts)	1.6
S3	04 Oct 2016	Wind Dir	SE
S3	04 Oct 2016	Animal Life	5 Shorebirds
S3	04 Oct 2016	Floatables	None
S3	04 Oct 2016	Water Color	Green
S3	04 Oct 2016	Current Direction	S
S3	04 Oct 2016	Water Temp (C)	17
S3	04 Oct 2016	Wave Height Low (ft)	3
S3	04 Oct 2016	High Tide (ft)	5.1
S3	04 Oct 2016	High Tide Time	1104
S3	04 Oct 2016	Low Tide (ft)	1.7
S3	04 Oct 2016	Low Tide Time	457
S3	04 Oct 2016	Comments	Kelp; Algae; 1 Surfer; Water clear
S3	11 Oct 2016	Arrive Time	1115
S3	11 Oct 2016	Weather	Sunny
S3	11 Oct 2016	Wind Speed (kts)	1.7
S3	11 Oct 2016	Wind Dir	NE
S3	11 Oct 2016	Animal Life	18 Shorebirds; 2 Dogs
S3	11 Oct 2016	Floatables	None
S3	11 Oct 2016	Water Color	Green
S3	11 Oct 2016	Current Direction	N
S3	11 Oct 2016	Water Temp (C)	NS
S3	11 Oct 2016	Wave Height Low (ft)	3
S3	11 Oct 2016	High Tide (ft)	4.3

Station	Date	Parameter	Value
S3	11 Oct 2016	High Tide Time	648
S3	11 Oct 2016	Low Tide (ft)	2.1
S3	11 Oct 2016	Low Tide Time	1228
S3	11 Oct 2016	Comments	Algae; 10 Persons; Water clear; No flow from storm drain; Water temp not recorded on obs
S3	18 Oct 2016	Arrive Time	945
S3	18 Oct 2016	Weather	Sunny
S3	18 Oct 2016	Wind Speed (kts)	0.9
S3	18 Oct 2016	Wind Dir	NE
S3	18 Oct 2016	Animal Life	15 Shorebirds; 5 Dogs
S3	18 Oct 2016	Floatables	None
S3	18 Oct 2016	Water Color	Green
S3	18 Oct 2016	Current Direction	S
S3	18 Oct 2016	Water Temp (C)	15
S3	18 Oct 2016	Wave Height Low (ft)	2
S3	18 Oct 2016	High Tide (ft)	6.4
S3	18 Oct 2016	High Tide Time	1048
S3	18 Oct 2016	Low Tide (ft)	1.1
S3	18 Oct 2016	Low Tide Time	442
S3	18 Oct 2016	Comments	Kelp; Seagrass; Algae; 8 Persons; 2 Surfers; Water clear; No discharge from stormdrain
S3	25 Oct 2016	Arrive Time	950
S3	25 Oct 2016	Weather	Sunny
S3	25 Oct 2016	Wind Speed (kts)	1.5
S3	25 Oct 2016	Wind Dir	NW
S3	25 Oct 2016	Animal Life	5 Shorebirds
S3	25 Oct 2016	Floatables	None
S3	25 Oct 2016	Water Color	Green
S3	25 Oct 2016	Current Direction	N
S3	25 Oct 2016	Water Temp (C)	17.5
S3	25 Oct 2016	Wave Height Low (ft)	3
S3	25 Oct 2016	High Tide (ft)	4.9
S3	25 Oct 2016	High Tide Time	701
S3	25 Oct 2016	Low Tide (ft)	1.5
S3	25 Oct 2016	Low Tide Time	1304
S3	25 Oct 2016	Comments	Algae; 10 Persons; 2 Surfers; Water clear; No flow from storm drain
S4	04 Oct 2016	Arrive Time	1316
S4	04 Oct 2016	Weather	Partly Cloudy
S4	04 Oct 2016	Wind Speed (kts)	4.8
S4	04 Oct 2016	Wind Dir	W
S4	04 Oct 2016	Animal Life	None
S4	04 Oct 2016	Floatables	None
S4	04 Oct 2016	Water Color	Green
S4	04 Oct 2016	Current Direction	N
S4	04 Oct 2016	Water Temp (C)	18.8
S4	04 Oct 2016	Wave Height Low (ft)	3
S4	04 Oct 2016	High Tide (ft)	5.1
S4	04 Oct 2016	High Tide Time	1104
S4	04 Oct 2016	Low Tide (ft)	0.8
S4	04 Oct 2016	Low Tide Time	1759
S4	04 Oct 2016	Comments	Water clear

Station	Date	Parameter	Value
S4	11 Oct 2016	Arrive Time	842
S4	11 Oct 2016	Weather	Cloudy
S4	11 Oct 2016	Wind Speed (kts)	2.7
S4	11 Oct 2016	Wind Dir	NW
S4	11 Oct 2016	Animal Life	None
S4	11 Oct 2016	Floatables	None
S4	11 Oct 2016	Water Color	Green
S4	11 Oct 2016	Current Direction	N
S4	11 Oct 2016	Water Temp (C)	17.8
S4	11 Oct 2016	Wave Height Low (ft)	2
S4	11 Oct 2016	High Tide (ft)	4.3
S4	11 Oct 2016	High Tide Time	648
S4	11 Oct 2016	Low Tide (ft)	2.1
S4	11 Oct 2016	Low Tide Time	1228
S4	11 Oct 2016	Comments	Water clear; Brown foam on beach
S4	18 Oct 2016	Arrive Time	1230
S4	18 Oct 2016	Weather	Sunny
S4	18 Oct 2016	Wind Speed (kts)	4
S4	18 Oct 2016	Wind Dir	W
S4	18 Oct 2016	Animal Life	None
S4	18 Oct 2016	Floatables	None
S4	18 Oct 2016	Water Color	Green
S4	18 Oct 2016	Current Direction	W
S4	18 Oct 2016	Water Temp (C)	18
S4	18 Oct 2016	Wave Height Low (ft)	3
S4	18 Oct 2016	High Tide (ft)	6.4
S4	18 Oct 2016	High Tide Time	1048
S4	18 Oct 2016	Low Tide (ft)	-0.6
S4	18 Oct 2016	Low Tide Time	1747
S4	18 Oct 2016	Comments	Kelp; Seagrass; Water clear
S4	25 Oct 2016	Arrive Time	901
S4	25 Oct 2016	Weather	Partly Cloudy
S4	25 Oct 2016	Wind Speed (kts)	1.7
S4	25 Oct 2016	Wind Dir	NE
S4	25 Oct 2016	Animal Life	None
S4	25 Oct 2016	Floatables	None
S4	25 Oct 2016	Water Color	Green
S4	25 Oct 2016	Current Direction	NE
S4	25 Oct 2016	Water Temp (C)	17.9
S4	25 Oct 2016	Wave Height Low (ft)	2
S4	25 Oct 2016	High Tide (ft)	4.9
S4	25 Oct 2016	High Tide Time	701
S4	25 Oct 2016	Low Tide (ft)	1.5
S4	25 Oct 2016	Low Tide Time	1304
S4	25 Oct 2016	Comments	Seagrass; Water clear
S5	04 Oct 2016	Arrive Time	1111
S5	04 Oct 2016	Weather	Sunny
S5	04 Oct 2016	Wind Speed (kts)	4.2
S5	04 Oct 2016	Wind Dir	W
S5	04 Oct 2016	Animal Life	None
S5	04 Oct 2016	Floatables	None
S5	04 Oct 2016	Water Color	Green

Station	Date	Parameter	Value
S5	04 Oct 2016	Current Direction	N
S5	04 Oct 2016	Water Temp (C)	18.4
S5	04 Oct 2016	Wave Height Low (ft)	3
S5	04 Oct 2016	High Tide (ft)	5.1
S5	04 Oct 2016	High Tide Time	1104
S5	04 Oct 2016	Low Tide (ft)	1.7
S5	04 Oct 2016	Low Tide Time	457
S5	04 Oct 2016	Comments	Water clear
S5	11 Oct 2016	Arrive Time	1011
S5	11 Oct 2016	Weather	Cloudy
S5	11 Oct 2016	Wind Speed (kts)	4.8
S5	11 Oct 2016	Wind Dir	N
S5	11 Oct 2016	Animal Life	None
S5	11 Oct 2016	Floatables	None
S5	11 Oct 2016	Water Color	Green
S5	11 Oct 2016	Current Direction	N
S5	11 Oct 2016	Water Temp (C)	19.2
S5	11 Oct 2016	Wave Height Low (ft)	2
S5	11 Oct 2016	High Tide (ft)	4.3
S5	11 Oct 2016	High Tide Time	648
S5	11 Oct 2016	Low Tide (ft)	2.1
S5	11 Oct 2016	Low Tide Time	1228
S5	11 Oct 2016	Comments	Water clear
S5	18 Oct 2016	Arrive Time	1038
S5	18 Oct 2016	Weather	Sunny
S5	18 Oct 2016	Wind Speed (kts)	5
S5	18 Oct 2016	Wind Dir	W
S5	18 Oct 2016	Animal Life	None
S5	18 Oct 2016	Floatables	None
S5	18 Oct 2016	Water Color	Green
S5	18 Oct 2016	Current Direction	N
S5	18 Oct 2016	Water Temp (C)	17.4
S5	18 Oct 2016	Wave Height Low (ft)	4
S5	18 Oct 2016	High Tide (ft)	6.4
S5	18 Oct 2016	High Tide Time	1048
S5	18 Oct 2016	Low Tide (ft)	1.1
S5	18 Oct 2016	Low Tide Time	442
S5	18 Oct 2016	Comments	Kelp; Seagrass; Water clear
S5	25 Oct 2016	Arrive Time	1039
S5	25 Oct 2016	Weather	Sunny
S5	25 Oct 2016	Wind Speed (kts)	1.1
S5	25 Oct 2016	Wind Dir	N
S5	25 Oct 2016	Animal Life	None
S5	25 Oct 2016	Floatables	None
S5	25 Oct 2016	Water Color	Green
S5	25 Oct 2016	Current Direction	N
S5	25 Oct 2016	Water Temp (C)	18.8
S5	25 Oct 2016	Wave Height Low (ft)	1
S5	25 Oct 2016	High Tide (ft)	4.9
S5	25 Oct 2016	High Tide Time	701
S5	25 Oct 2016	Low Tide (ft)	1.5
S5	25 Oct 2016	Low Tide Time	1304

Station	Date	Parameter	Value
S5	25 Oct 2016	Comments	Water clear
S6	04 Oct 2016	Arrive Time	1055
S6	04 Oct 2016	Weather	Sunny
S6	04 Oct 2016	Wind Speed (kts)	1.1
S6	04 Oct 2016	Wind Dir	W
S6	04 Oct 2016	Animal Life	None
S6	04 Oct 2016	Floatables	None
S6	04 Oct 2016	Water Color	Green
S6	04 Oct 2016	Current Direction	N
S6	04 Oct 2016	Water Temp (C)	19
S6	04 Oct 2016	Wave Height Low (ft)	4
S6	04 Oct 2016	High Tide (ft)	5.1
S6	04 Oct 2016	High Tide Time	1104
S6	04 Oct 2016	Low Tide (ft)	1.7
S6	04 Oct 2016	Low Tide Time	457
S6	04 Oct 2016	Comments	Water clear
S6	11 Oct 2016	Arrive Time	1001
S6	11 Oct 2016	Weather	Cloudy
S6	11 Oct 2016	Wind Speed (kts)	4.4
S6	11 Oct 2016	Wind Dir	NW
S6	11 Oct 2016	Animal Life	None
S6	11 Oct 2016	Floatables	None
S6	11 Oct 2016	Water Color	Green
S6	11 Oct 2016	Current Direction	N
S6	11 Oct 2016	Water Temp (C)	18.4
S6	11 Oct 2016	Wave Height Low (ft)	2
S6	11 Oct 2016	High Tide (ft)	4.3
S6	11 Oct 2016	High Tide Time	648
S6	11 Oct 2016	Low Tide (ft)	2.1
S6	11 Oct 2016	Low Tide Time	1228
S6	11 Oct 2016	Comments	Water clear
S6	18 Oct 2016	Arrive Time	1021
S6	18 Oct 2016	Weather	Sunny
S6	18 Oct 2016	Wind Speed (kts)	4.4
S6	18 Oct 2016	Wind Dir	W
S6	18 Oct 2016	Animal Life	None
S6	18 Oct 2016	Floatables	None
S6	18 Oct 2016	Water Color	Green
S6	18 Oct 2016	Current Direction	N
S6	18 Oct 2016	Water Temp (C)	15.8
S6	18 Oct 2016	Wave Height Low (ft)	5
S6	18 Oct 2016	High Tide (ft)	6.4
S6	18 Oct 2016	High Tide Time	1048
S6	18 Oct 2016	Low Tide (ft)	1.1
S6	18 Oct 2016	Low Tide Time	442
S6	18 Oct 2016	Comments	Kelp; Seagrass; Water clear
S6	25 Oct 2016	Arrive Time	1028
S6	25 Oct 2016	Weather	Sunny
S6	25 Oct 2016	Wind Speed (kts)	3.4
S6	25 Oct 2016	Wind Dir	N
S6	25 Oct 2016	Animal Life	None

Station	Date	Parameter	Value
S6	25 Oct 2016	Floatables	None
S6	25 Oct 2016	Water Color	Green
S6	25 Oct 2016	Current Direction	N
S6	25 Oct 2016	Water Temp (C)	17.8
S6	25 Oct 2016	Wave Height Low (ft)	2
S6	25 Oct 2016	High Tide (ft)	4.9
S6	25 Oct 2016	High Tide Time	701
S6	25 Oct 2016	Low Tide (ft)	1.5
S6	25 Oct 2016	Low Tide Time	1304
S6	25 Oct 2016	Comments	Water clear
S8	04 Oct 2016	Arrive Time	949
S8	04 Oct 2016	Weather	Sunny
S8	04 Oct 2016	Wind Speed (kts)	1.9
S8	04 Oct 2016	Wind Dir	W
S8	04 Oct 2016	Animal Life	None
S8	04 Oct 2016	Floatables	None
S8	04 Oct 2016	Water Color	Green
S8	04 Oct 2016	Current Direction	N
S8	04 Oct 2016	Water Temp (C)	17.8
S8	04 Oct 2016	Wave Height Low (ft)	3
S8	04 Oct 2016	High Tide (ft)	5.1
S8	04 Oct 2016	High Tide Time	1104
S8	04 Oct 2016	Low Tide (ft)	1.7
S8	04 Oct 2016	Low Tide Time	457
S8	04 Oct 2016	Comments	Water clear; Dead seal in water
S8	11 Oct 2016	Arrive Time	1202
S8	11 Oct 2016	Weather	Cloudy
S8	11 Oct 2016	Wind Speed (kts)	5
S8	11 Oct 2016	Wind Dir	N
S8	11 Oct 2016	Animal Life	None
S8	11 Oct 2016	Floatables	None
S8	11 Oct 2016	Water Color	Green
S8	11 Oct 2016	Current Direction	N
S8	11 Oct 2016	Water Temp (C)	19.6
S8	11 Oct 2016	Wave Height Low (ft)	2
S8	11 Oct 2016	High Tide (ft)	4.3
S8	11 Oct 2016	High Tide Time	648
S8	11 Oct 2016	Low Tide (ft)	2.1
S8	11 Oct 2016	Low Tide Time	1228
S8	11 Oct 2016	Comments	5 Persons; Water clear
S8	18 Oct 2016	Arrive Time	936
S8	18 Oct 2016	Weather	Sunny
S8	18 Oct 2016	Wind Speed (kts)	3.1
S8	18 Oct 2016	Wind Dir	W
S8	18 Oct 2016	Animal Life	None
S8	18 Oct 2016	Floatables	None
S8	18 Oct 2016	Water Color	Green
S8	18 Oct 2016	Current Direction	N
S8	18 Oct 2016	Water Temp (C)	17.4
S8	18 Oct 2016	Wave Height Low (ft)	3
S8	18 Oct 2016	High Tide (ft)	6.4
S8	18 Oct 2016	High Tide Time	1048

Station	Date	Parameter	Value
S8	18 Oct 2016	Low Tide (ft)	1.1
S8	18 Oct 2016	Low Tide Time	442
S8	18 Oct 2016	Comments	Kelp; Seagrass; 9 Persons; Water clear
S8	25 Oct 2016	Arrive Time	1222
S8	25 Oct 2016	Weather	Sunny
S8	25 Oct 2016	Wind Speed (kts)	7.5
S8	25 Oct 2016	Wind Dir	N
S8	25 Oct 2016	Animal Life	None
S8	25 Oct 2016	Floatables	None
S8	25 Oct 2016	Water Color	Green
S8	25 Oct 2016	Current Direction	N
S8	25 Oct 2016	Water Temp (C)	19
S8	25 Oct 2016	Wave Height Low (ft)	2
S8	25 Oct 2016	High Tide (ft)	4.9
S8	25 Oct 2016	High Tide Time	701
S8	25 Oct 2016	Low Tide (ft)	1.5
S8	25 Oct 2016	Low Tide Time	1304
S8	25 Oct 2016	Comments	3 Persons; Water clear
S9	04 Oct 2016	Arrive Time	913
S9	04 Oct 2016	Weather	Sunny
S9	04 Oct 2016	Wind Speed (kts)	1.6
S9	04 Oct 2016	Wind Dir	W
S9	04 Oct 2016	Animal Life	None
S9	04 Oct 2016	Floatables	None
S9	04 Oct 2016	Water Color	Green
S9	04 Oct 2016	Current Direction	N
S9	04 Oct 2016	Water Temp (C)	17.6
S9	04 Oct 2016	Wave Height Low (ft)	2
S9	04 Oct 2016	High Tide (ft)	5.1
S9	04 Oct 2016	High Tide Time	1104
S9	04 Oct 2016	Low Tide (ft)	1.7
S9	04 Oct 2016	Low Tide Time	457
S9	04 Oct 2016	Comments	2 Surfers; Water clear
S9	11 Oct 2016	Arrive Time	1239
S9	11 Oct 2016	Weather	Partly Cloudy
S9	11 Oct 2016	Wind Speed (kts)	5.2
S9	11 Oct 2016	Wind Dir	N
S9	11 Oct 2016	Animal Life	None
S9	11 Oct 2016	Floatables	None
S9	11 Oct 2016	Water Color	Green
S9	11 Oct 2016	Current Direction	N
S9	11 Oct 2016	Water Temp (C)	19.6
S9	11 Oct 2016	Wave Height Low (ft)	1
S9	11 Oct 2016	High Tide (ft)	4.9
S9	11 Oct 2016	High Tide Time	1814
S9	11 Oct 2016	Low Tide (ft)	2.1
S9	11 Oct 2016	Low Tide Time	1228
S9	11 Oct 2016	Comments	16 Persons; Water clear
S9	18 Oct 2016	Arrive Time	913
S9	18 Oct 2016	Weather	Sunny
S9	18 Oct 2016	Wind Speed (kts)	3.3

Station	Date	Parameter	Value
S9	18 Oct 2016	Wind Dir	W
S9	18 Oct 2016	Animal Life	None
S9	18 Oct 2016	Floatables	None
S9	18 Oct 2016	Water Color	Green
S9	18 Oct 2016	Current Direction	N
S9	18 Oct 2016	Water Temp (C)	17
S9	18 Oct 2016	Wave Height Low (ft)	3
S9	18 Oct 2016	High Tide (ft)	6.4
S9	18 Oct 2016	High Tide Time	1048
S9	18 Oct 2016	Low Tide (ft)	1.1
S9	18 Oct 2016	Low Tide Time	442
S9	18 Oct 2016	Comments	Kelp; Seagrass; Water clear
S9	25 Oct 2016	Arrive Time	1251
S9	25 Oct 2016	Weather	Sunny
S9	25 Oct 2016	Wind Speed (kts)	8.3
S9	25 Oct 2016	Wind Dir	N
S9	25 Oct 2016	Animal Life	None
S9	25 Oct 2016	Floatables	None
S9	25 Oct 2016	Water Color	Green
S9	25 Oct 2016	Current Direction	N
S9	25 Oct 2016	Water Temp (C)	20.4
S9	25 Oct 2016	Wave Height Low (ft)	1
S9	25 Oct 2016	High Tide (ft)	4.9
S9	25 Oct 2016	High Tide Time	701
S9	25 Oct 2016	Low Tide (ft)	1.5
S9	25 Oct 2016	Low Tide Time	1304
S9	25 Oct 2016	Comments	10 Persons; Water clear
S10	04 Oct 2016	Arrive Time	1308
S10	04 Oct 2016	Weather	Partly Cloudy
S10	04 Oct 2016	Wind Speed (kts)	7.9
S10	04 Oct 2016	Wind Dir	W
S10	04 Oct 2016	Animal Life	None
S10	04 Oct 2016	Floatables	None
S10	04 Oct 2016	Water Color	Green
S10	04 Oct 2016	Current Direction	N
S10	04 Oct 2016	Water Temp (C)	20.2
S10	04 Oct 2016	Wave Height Low (ft)	4
S10	04 Oct 2016	High Tide (ft)	5.1
S10	04 Oct 2016	High Tide Time	1104
S10	04 Oct 2016	Low Tide (ft)	0.8
S10	04 Oct 2016	Low Tide Time	1759
S10	04 Oct 2016	Comments	Water clear
S10	11 Oct 2016	Arrive Time	835
S10	11 Oct 2016	Weather	Cloudy
S10	11 Oct 2016	Wind Speed (kts)	4.8
S10	11 Oct 2016	Wind Dir	W
S10	11 Oct 2016	Animal Life	None
S10	11 Oct 2016	Floatables	None
S10	11 Oct 2016	Water Color	Green
S10	11 Oct 2016	Current Direction	N
S10	11 Oct 2016	Water Temp (C)	18
S10	11 Oct 2016	Wave Height Low (ft)	2

Station	Date	Parameter	Value
S10	11 Oct 2016	High Tide (ft)	4.3
S10	11 Oct 2016	High Tide Time	648
S10	11 Oct 2016	Low Tide (ft)	2.1
S10	11 Oct 2016	Low Tide Time	1228
S10	11 Oct 2016	Comments	Seagrass; Water clear
S10	18 Oct 2016	Arrive Time	1237
S10	18 Oct 2016	Weather	Sunny
S10	18 Oct 2016	Wind Speed (kts)	5.2
S10	18 Oct 2016	Wind Dir	W
S10	18 Oct 2016	Animal Life	None
S10	18 Oct 2016	Floatables	None
S10	18 Oct 2016	Water Color	Green
S10	18 Oct 2016	Current Direction	N
S10	18 Oct 2016	Water Temp (C)	17.6
S10	18 Oct 2016	Wave Height Low (ft)	3
S10	18 Oct 2016	High Tide (ft)	6.4
S10	18 Oct 2016	High Tide Time	1048
S10	18 Oct 2016	Low Tide (ft)	-0.6
S10	18 Oct 2016	Low Tide Time	1747
S10	18 Oct 2016	Comments	Kelp; Seagrass; Water clear
S10	25 Oct 2016	Arrive Time	854
S10	25 Oct 2016	Weather	Partly Cloudy
S10	25 Oct 2016	Wind Speed (kts)	2.9
S10	25 Oct 2016	Wind Dir	N
S10	25 Oct 2016	Animal Life	None
S10	25 Oct 2016	Floatables	None
S10	25 Oct 2016	Water Color	Green
S10	25 Oct 2016	Current Direction	N
S10	25 Oct 2016	Water Temp (C)	17.8
S10	25 Oct 2016	Wave Height Low (ft)	2
S10	25 Oct 2016	High Tide (ft)	4.9
S10	25 Oct 2016	High Tide Time	701
S10	25 Oct 2016	Low Tide (ft)	1.5
S10	25 Oct 2016	Low Tide Time	1304
S10	25 Oct 2016	Comments	Seagrass; Water clear
S11	04 Oct 2016	Arrive Time	1101
S11	04 Oct 2016	Weather	Sunny
S11	04 Oct 2016	Wind Speed (kts)	2.9
S11	04 Oct 2016	Wind Dir	W
S11	04 Oct 2016	Animal Life	None
S11	04 Oct 2016	Floatables	None
S11	04 Oct 2016	Water Color	Green
S11	04 Oct 2016	Current Direction	N
S11	04 Oct 2016	Water Temp (C)	19.2
S11	04 Oct 2016	Wave Height Low (ft)	3
S11	04 Oct 2016	High Tide (ft)	5.1
S11	04 Oct 2016	High Tide Time	1104
S11	04 Oct 2016	Low Tide (ft)	1.7
S11	04 Oct 2016	Low Tide Time	457
S11	04 Oct 2016	Comments	Water clear
S11	11 Oct 2016	Arrive Time	1006

Station	Date	Parameter	Value
S11	11 Oct 2016	Weather	Cloudy
S11	11 Oct 2016	Wind Speed (kts)	5.2
S11	11 Oct 2016	Wind Dir	N
S11	11 Oct 2016	Animal Life	None
S11	11 Oct 2016	Floatables	None
S11	11 Oct 2016	Water Color	Green
S11	11 Oct 2016	Current Direction	N
S11	11 Oct 2016	Water Temp (C)	18.2
S11	11 Oct 2016	Wave Height Low (ft)	1
S11	11 Oct 2016	High Tide (ft)	4.3
S11	11 Oct 2016	High Tide Time	648
S11	11 Oct 2016	Low Tide (ft)	2.1
S11	11 Oct 2016	Low Tide Time	1228
S11	11 Oct 2016	Comments	Water clear
S11	18 Oct 2016	Arrive Time	1028
S11	18 Oct 2016	Weather	Sunny
S11	18 Oct 2016	Wind Speed (kts)	4.8
S11	18 Oct 2016	Wind Dir	W
S11	18 Oct 2016	Animal Life	None
S11	18 Oct 2016	Floatables	None
S11	18 Oct 2016	Water Color	Green
S11	18 Oct 2016	Current Direction	N
S11	18 Oct 2016	Water Temp (C)	16
S11	18 Oct 2016	Wave Height Low (ft)	5
S11	18 Oct 2016	High Tide (ft)	6.4
S11	18 Oct 2016	High Tide Time	1048
S11	18 Oct 2016	Low Tide (ft)	1.1
S11	18 Oct 2016	Low Tide Time	442
S11	18 Oct 2016	Comments	Kelp; Seagrass; Water clear
S11	25 Oct 2016	Arrive Time	1033
S11	25 Oct 2016	Weather	Sunny
S11	25 Oct 2016	Wind Speed (kts)	3.6
S11	25 Oct 2016	Wind Dir	N
S11	25 Oct 2016	Animal Life	None
S11	25 Oct 2016	Floatables	None
S11	25 Oct 2016	Water Color	Green
S11	25 Oct 2016	Current Direction	N
S11	25 Oct 2016	Water Temp (C)	19
S11	25 Oct 2016	Wave Height Low (ft)	3
S11	25 Oct 2016	High Tide (ft)	4.9
S11	25 Oct 2016	High Tide Time	701
S11	25 Oct 2016	Low Tide (ft)	1.5
S11	25 Oct 2016	Low Tide Time	1304
S11	25 Oct 2016	Comments	Water clear
S12	04 Oct 2016	Arrive Time	1044
S12	04 Oct 2016	Weather	Sunny
S12	04 Oct 2016	Wind Speed (kts)	1.7
S12	04 Oct 2016	Wind Dir	W
S12	04 Oct 2016	Animal Life	None
S12	04 Oct 2016	Floatables	None
S12	04 Oct 2016	Water Color	Green
S12	04 Oct 2016	Current Direction	N

Station	Date	Parameter	Value
S12	04 Oct 2016	Water Temp (C)	20.6
S12	04 Oct 2016	Wave Height Low (ft)	3
S12	04 Oct 2016	High Tide (ft)	5.1
S12	04 Oct 2016	High Tide Time	1104
S12	04 Oct 2016	Low Tide (ft)	1.7
S12	04 Oct 2016	Low Tide Time	457
S12	04 Oct 2016	Comments	Water clear
S12	11 Oct 2016	Arrive Time	949
S12	11 Oct 2016	Weather	Cloudy
S12	11 Oct 2016	Wind Speed (kts)	4.2
S12	11 Oct 2016	Wind Dir	NW
S12	11 Oct 2016	Animal Life	None
S12	11 Oct 2016	Floatables	None
S12	11 Oct 2016	Water Color	Green
S12	11 Oct 2016	Current Direction	N
S12	11 Oct 2016	Water Temp (C)	19.2
S12	11 Oct 2016	Wave Height Low (ft)	1
S12	11 Oct 2016	High Tide (ft)	4.3
S12	11 Oct 2016	High Tide Time	648
S12	11 Oct 2016	Low Tide (ft)	2.1
S12	11 Oct 2016	Low Tide Time	1228
S12	11 Oct 2016	Comments	2 Persons; Water clear
S12	18 Oct 2016	Arrive Time	1010
S12	18 Oct 2016	Weather	Sunny
S12	18 Oct 2016	Wind Speed (kts)	3.3
S12	18 Oct 2016	Wind Dir	W
S12	18 Oct 2016	Animal Life	1 Dog
S12	18 Oct 2016	Floatables	None
S12	18 Oct 2016	Water Color	Green
S12	18 Oct 2016	Current Direction	N
S12	18 Oct 2016	Water Temp (C)	18.2
S12	18 Oct 2016	Wave Height Low (ft)	4
S12	18 Oct 2016	High Tide (ft)	6.4
S12	18 Oct 2016	High Tide Time	1048
S12	18 Oct 2016	Low Tide (ft)	1.1
S12	18 Oct 2016	Low Tide Time	442
S12	18 Oct 2016	Comments	Kelp; Seagrass; 10 Persons; Water clear
S12	25 Oct 2016	Arrive Time	1013
S12	25 Oct 2016	Weather	Sunny
S12	25 Oct 2016	Wind Speed (kts)	1.5
S12	25 Oct 2016	Wind Dir	N
S12	25 Oct 2016	Animal Life	None
S12	25 Oct 2016	Floatables	None
S12	25 Oct 2016	Water Color	Green
S12	25 Oct 2016	Current Direction	N
S12	25 Oct 2016	Water Temp (C)	18.4
S12	25 Oct 2016	Wave Height Low (ft)	1
S12	25 Oct 2016	High Tide (ft)	4.9
S12	25 Oct 2016	High Tide Time	701
S12	25 Oct 2016	Low Tide (ft)	1.5
S12	25 Oct 2016	Low Tide Time	1304
S12	25 Oct 2016	Comments	Water clear

Kelp Stations

Table 3.1

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

Date	I19	I24	I25	I26	I32	I39	I40
01 Oct 2016	4*	3*	3*	3*	4*	2*	3*
02 Oct 2016	4*	3*	3*	3*	4*	2*	3*
03 Oct 2016	4*	3*	3*	3*	4*	2*	3*
04 Oct 2016	4*	3*	3*	3*	4*	2*	3*
05 Oct 2016	4*	3*	3*	3*	4*	2*	3*
06 Oct 2016	3*	3*	3*	4*	4*	3*	3*
07 Oct 2016	3*	3*	3*	4*	4*	3*	3*
08 Oct 2016	3*	3*	3*	4*	4*	2*	3*
09 Oct 2016	3*	3*	3*	4*	4*	2*	3*
10 Oct 2016	3*	3*	3*	4*	4*	2*	3*
11 Oct 2016	3*	3*	3*	4*	4*	2*	3*
12 Oct 2016	3*	3*	3*	4*	4*	2*	3*
13 Oct 2016	3*	3*	3*	4*	4*	2*	3*
14 Oct 2016	3*	3*	3*	4*	4*	2*	4*
15 Oct 2016	3*	3*	3*	4*	4*	2*	4*
16 Oct 2016	3*	3*	3*	4*	4*	2*	4*
17 Oct 2016	3*	3*	3*	4*	4*	2*	4*
18 Oct 2016	3*	3*	3*	4*	4*	2*	4*
19 Oct 2016	3*	2*	4*	5*	5*	3*	6*
20 Oct 2016	3*	2*	3*	4*	4*	2*	4*
21 Oct 2016	3*	2*	3*	4*	4*	2*	4*
22 Oct 2016	3*	2*	3*	4*	4*	2*	4*
23 Oct 2016	3*	2*	3*	4*	4*	2*	4*
24 Oct 2016	3*	2*	3*	4*	4*	2*	4*
25 Oct 2016	2*	2*	2*	3*	3*	2*	4*
26 Oct 2016	3*	3*	3*	3*	3*	2*	5*
27 Oct 2016	3*	3*	3*	3*	3*	2*	5*
28 Oct 2016	3*	3*	3*	3*	3*	2*	5*
29 Oct 2016	3*	3*	3*	3*	3*	2*	5*
30 Oct 2016	3*	3*	3*	3*	3*	2*	5*
31 Oct 2016	3	3	3	3	2	2	4

* Geometric mean calculated using n<5

Table 3.2

Summary of compliance with the Ocean Plan's 30-day Geometric Mean standard for fecal coliform bacteria at the 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 Oct 2016	2*	2*	2*	2*	3*	2*	2*
02 Oct 2016	2*	2*	2*	2*	3*	2*	2*
03 Oct 2016	2*	2*	2*	2*	3*	2*	2*
04 Oct 2016	2*	2*	2*	2*	3*	2*	2*
05 Oct 2016	2*	2*	2*	2*	3*	2*	2*
06 Oct 2016	2*	2*	2*	2*	3*	2*	2*
07 Oct 2016	2*	2*	2*	2*	3*	2*	2*
08 Oct 2016	2*	2*	2*	2*	3*	2*	2*
09 Oct 2016	2*	2*	2*	2*	3*	2*	2*
10 Oct 2016	2*	2*	2*	2*	3*	2*	2*
11 Oct 2016	2*	2*	2*	2*	3*	2*	2*
12 Oct 2016	2*	2*	2*	2*	3*	2*	2*
13 Oct 2016	2*	2*	2*	2*	3*	2*	2*
14 Oct 2016	2*	2*	2*	2*	3*	2*	2*
15 Oct 2016	2*	2*	2*	2*	3*	2*	2*
16 Oct 2016	2*	2*	2*	2*	3*	2*	2*
17 Oct 2016	2*	2*	2*	2*	3*	2*	2*
18 Oct 2016	2*	2*	2*	2*	3*	2*	2*
19 Oct 2016	2*	2*	2*	2*	3*	2*	2*
20 Oct 2016	2*	2*	2*	2*	3*	2*	2*
21 Oct 2016	2*	2*	2*	2*	3*	2*	2*
22 Oct 2016	2*	2*	2*	2*	3*	2*	2*
23 Oct 2016	2*	2*	2*	2*	3*	2*	2*
24 Oct 2016	2*	2*	2*	2*	3*	2*	2*
25 Oct 2016	2*	2*	2*	2*	2*	2*	2*
26 Oct 2016	2*	2*	2*	2*	2*	2*	2*
27 Oct 2016	2*	2*	2*	2*	2*	2*	2*
28 Oct 2016	2*	2*	2*	2*	2*	2*	2*
29 Oct 2016	2*	2*	2*	2*	2*	2*	2*
30 Oct 2016	2*	2*	2*	2*	2*	2*	2*
31 Oct 2016	2	2	2	2	2	2	2

* Geometric mean calculated using n<5

Table 3.3

Summary of compliance with the Ocean Plan's 30-day Geometric Mean standard for *Enterococcus* at the 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 Oct 2016	2*	2*	2*	2*	2*	2*	2*
02 Oct 2016	2*	2*	2*	2*	2*	2*	2*
03 Oct 2016	2*	2*	2*	2*	2*	2*	2*
04 Oct 2016	2*	2*	2*	2*	2*	2*	2*
05 Oct 2016	2*	2*	2*	2*	2*	2*	2*
06 Oct 2016	2*	2*	2*	2*	2*	2*	2*
07 Oct 2016	2*	2*	2*	2*	2*	2*	2*
08 Oct 2016	2*	2*	2*	2*	2*	2*	2*
09 Oct 2016	2*	2*	2*	2*	2*	2*	2*
10 Oct 2016	2*	2*	2*	2*	2*	2*	2*
11 Oct 2016	2*	2*	2*	2*	2*	2*	2*
12 Oct 2016	2*	2*	2*	2*	2*	2*	2*
13 Oct 2016	2*	2*	2*	2*	2*	2*	2*
14 Oct 2016	2*	2*	2*	2*	2*	2*	2*
15 Oct 2016	2*	2*	2*	2*	2*	2*	2*
16 Oct 2016	2*	2*	2*	2*	2*	2*	2*
17 Oct 2016	2*	2*	2*	2*	2*	2*	2*
18 Oct 2016	2*	2*	2*	2*	2*	2*	2*
19 Oct 2016	2*	2*	2*	2*	2*	2*	2*
20 Oct 2016	2*	2*	2*	2*	2*	2*	2*
21 Oct 2016	2*	2*	2*	2*	2*	2*	2*
22 Oct 2016	2*	2*	2*	2*	2*	2*	2*
23 Oct 2016	2*	2*	2*	2*	2*	2*	2*
24 Oct 2016	2*	2*	2*	2*	2*	2*	2*
25 Oct 2016	2*	2*	2*	2*	2*	2*	2*
26 Oct 2016	2*	2*	2*	2*	2*	2*	2*
27 Oct 2016	2*	2*	2*	2*	2*	2*	2*
28 Oct 2016	2*	2*	2*	2*	2*	2*	2*
29 Oct 2016	2*	2*	2*	2*	2*	2*	2*
30 Oct 2016	2*	2*	2*	2*	2*	2*	2*
31 Oct 2016	2	2	2	2	2	2	2

* 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
08 Oct 2016	IC						
14 Oct 2016	IC						
20 Oct 2016	IC						
26 Oct 2016	IC						
31 Oct 2016	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
08 Oct 2016	IC						
14 Oct 2016	IC						
20 Oct 2016	IC						
26 Oct 2016	IC						
31 Oct 2016	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
08 Oct 2016	IC						
14 Oct 2016	IC						
20 Oct 2016	IC						
26 Oct 2016	IC						
31 Oct 2016	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
08 Oct 2016	IC						
14 Oct 2016	IC						
20 Oct 2016	IC						
26 Oct 2016	IC						
31 Oct 2016	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* (Enter) bacteria are reported as CFU/100 mL; the fecal:total coliform ratio (F:T) is unitless; values for temperature (Temp, °C), transmissivity (XMS, %), dissolved oxygen (DO, mg/L), salinity (Sal, ppt) and pH were extracted from CTD profile data for depths closest to those at which the bacteriological samples were collected; 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	Enter	F:T	Temp	XMS	DO	Sal	pH	OG	SUSO
I19	08 Oct 2016	1114	2	<2	<2	<2	1.0	17.8	79.09	7.9	33.31	8.2	ns	ns
I19	08 Oct 2016	1114	6	2e	<2	<2	1.0	15.8	73.10	7.8	33.24	8.2	ns	ns
I19	08 Oct 2016	1114	11	<2	<2	<2	1.0	15.1	68.62	7.5	33.25	8.1	ns	ns
I19	14 Oct 2016	1034	2	<2	<2	<2	1.0	15.9	72.10	7.6	33.27	8.1	ns	ns
I19	14 Oct 2016	1034	6	<2	<2	<2	1.0	15.3	74.82	7.2	33.27	8.1	ns	ns
I19	14 Oct 2016	1034	11	<2	<2	<2	1.0	15.0	66.38	7.1	33.27	8.1	ns	ns
I19	20 Oct 2016	1134	2	<2	<2	<2	1.0	16.6	73.67	8.3	33.31	8.2	ns	ns
I19	20 Oct 2016	1134	6	<2	<2	<2	1.0	15.5	71.30	8.0	33.29	8.2	ns	ns
I19	20 Oct 2016	1134	11	<2	<2	<2	1.0	15.1	60.46	7.8	33.28	8.1	ns	ns
I19	26 Oct 2016	1048	2	<2	<2	<2	1.0	16.6	67.22	8.0	33.27	8.2	ns	ns
I19	26 Oct 2016	1048	6	14e	<2	<2	0.1	15.9	67.87	7.6	33.26	8.2	ns	ns
I19	26 Oct 2016	1048	11	20e	<2	<2	0.1	15.6	64.17	7.7	33.27	8.2	ns	ns
I19	31 Oct 2016	1103	2	<2	<2	<2	1.0	16.1	62.37	7.8	33.32	8.1	ns	ns
I19	31 Oct 2016	1103	6	<2	<2	<2	1.0	15.6	61.69	7.4	33.31	8.1	ns	ns
I19	31 Oct 2016	1103	11	<2	<2	<2	1.0	15.2	65.69	6.8	33.40	8.0	ns	ns
I24	08 Oct 2016	1137	2	<2	<2	<2	1.0	17.8	78.43	8.2	33.31	8.2	ns	ns
I24	08 Oct 2016	1137	6	<2	<2	<2	1.0	16.1	77.63	7.7	33.27	8.1	ns	ns
I24	08 Oct 2016	1137	11	2e	<2	<2	1.0	15.0	67.86	7.2	33.26	8.1	ns	ns
I24	14 Oct 2016	1055	2	<2	<2	<2	1.0	16.9	77.03	7.6	33.29	8.1	ns	ns
I24	14 Oct 2016	1055	6	<2	<2	<2	1.0	16.6	75.41	7.2	33.29	8.1	ns	ns
I24	14 Oct 2016	1055	11	2e	<2	<2	1.0	15.2	71.15	6.7	33.27	8.1	ns	ns
I24	20 Oct 2016	1157	2	<2	<2	<2	1.0	17.2	75.03	8.3	33.31	8.2	ns	ns
I24	20 Oct 2016	1157	6	<2	<2	<2	1.0	15.3	76.77	8.0	33.27	8.2	ns	ns
I24	20 Oct 2016	1157	11	<2	<2	<2	1.0	14.3	70.80	7.3	33.27	8.1	ns	ns
I24	26 Oct 2016	1109	2	8e	<2	<2	0.2	16.9	68.24	8.5	33.27	8.2	ns	ns
I24	26 Oct 2016	1109	6	14e	<2	<2	0.1	15.8	75.96	7.6	33.27	8.2	ns	ns
I24	26 Oct 2016	1109	11	16e	<2	<2	0.1	15.5	68.67	7.5	33.27	8.1	ns	ns
I24	31 Oct 2016	1127	2	<2	<2	<2	1.0	16.9	82.50	8.7	33.29	8.2	ns	ns
I24	31 Oct 2016	1127	6	<2	<2	<2	1.0	16.5	81.78	7.4	33.28	8.2	ns	ns
I24	31 Oct 2016	1127	11	6e	<2	<2	0.3	14.8	73.08	6.4	33.27	8.0	ns	ns
I25	08 Oct 2016	1114	2	<2	<2	<2	1.0	18.0	79.60	8.1	33.31	8.1	ns	ns
I25	08 Oct 2016	1114	6	<2	<2	<2	1.0	15.7	75.44	7.0	33.26	8.1	ns	ns
I25	08 Oct 2016	1114	9	6e	<2	<2	0.3	15.0	77.72	7.3	33.26	8.0	ns	ns
I25	14 Oct 2016	1103	2	<2	<2	<2	1.0	17.0	77.15	7.7	33.30	8.1	ns	ns
I25	14 Oct 2016	1103	6	<2	<2	<2	1.0	16.4	74.83	7.1	33.27	8.1	ns	ns

Station	Date	Time	Depth	Total	Fecal	Enteric	F:T	Temp	XMS	DO	Sal	pH	OG	SUSO
I25	14 Oct 2016	1103	9	<2	<2	<2	1.0	15.1	76.24	7.2	33.27	8.1	ns	ns
I25	20 Oct 2016	1204	2	<2	<2	<2	1.0	17.1	78.18	8.5	33.32	8.2	ns	ns
I25	20 Oct 2016	1204	6	<2	<2	<2	1.0	16.0	75.15	7.5	33.29	8.2	ns	ns
I25	20 Oct 2016	1204	9	<2	<2	<2	1.0	14.5	70.15	7.4	33.27	8.1	ns	ns
I25	26 Oct 2016	1117	2	<2	<2	<2	1.0	17.2	69.93	8.2	33.26	8.2	ns	ns
I25	26 Oct 2016	1117	6	8e	<2	<2	0.2	15.8	75.51	7.8	33.26	8.2	ns	ns
I25	26 Oct 2016	1117	9	8e	<2	<2	0.2	15.7	75.71	7.5	33.26	8.2	ns	ns
I25	31 Oct 2016	1137	2	<2	<2	<2	1.0	17.1	82.69	8.6	33.28	8.2	ns	ns
I25	31 Oct 2016	1137	6	<2	<2	<2	1.0	16.1	80.53	6.1	33.27	8.2	ns	ns
I25	31 Oct 2016	1137	9	<2	<2	<2	1.0	15.2	77.23	6.6	33.26	8.0	ns	ns
I26	08 Oct 2016	1155	2	<2	<2	<2	1.0	17.6	79.25	8.2	33.31	8.2	ns	ns
I26	08 Oct 2016	1155	6	6e	<2	<2	0.3	16.4	79.21	7.4	33.28	8.1	ns	ns
I26	08 Oct 2016	1155	9	4e	<2	<2	0.5	15.4	78.51	7.7	33.26	8.1	ns	ns
I26	14 Oct 2016	1114	2	2e	<2	<2	1.0	16.6	75.54	7.8	33.29	8.1	ns	ns
I26	14 Oct 2016	1114	6	<2	2e	<2	1.0	15.7	74.97	6.6	33.26	8.1	ns	ns
I26	14 Oct 2016	1114	9	<2	<2	<2	1.0	15.0	76.67	6.9	33.27	8.0	ns	ns
I26	20 Oct 2016	1216	2	<2	<2	<2	1.0	17.3	78.33	8.5	33.33	8.2	ns	ns
I26	20 Oct 2016	1216	6	<2	<2	<2	1.0	16.3	71.46	8.2	33.32	8.2	ns	ns
I26	20 Oct 2016	1216	9	<2	<2	<2	1.0	14.9	63.45	7.1	33.25	8.2	ns	ns
I26	26 Oct 2016	1128	2	<2	<2	<2	1.0	17.4	74.43	8.6	33.28	8.3	ns	ns
I26	26 Oct 2016	1128	6	6e	<2	2e	0.3	16.1	69.43	7.6	33.27	8.2	ns	ns
I26	26 Oct 2016	1128	9	<2	<2	<2	1.0	15.6	74.97	7.8	33.26	8.1	ns	ns
I26	31 Oct 2016	1147	2	<2	<2	2e	1.0	17.1	81.65	8.6	33.30	8.2	ns	ns
I26	31 Oct 2016	1147	6	<2	<2	<2	1.0	16.1	80.63	7.8	33.28	8.2	ns	ns
I26	31 Oct 2016	1147	9	<2	<2	<2	1.0	15.2	78.54	6.9	33.27	8.1	ns	ns
I32	08 Oct 2016	1209	2	<2	<2	2e	1.0	16.9	74.73	8.0	33.28	8.1	ns	ns
I32	08 Oct 2016	1209	6	2e	<2	<2	1.0	15.9	71.46	7.7	33.27	8.1	ns	ns
I32	08 Oct 2016	1209	9	8e	<2	<2	0.2	15.1	70.24	7.4	33.27	8.1	ns	ns
I32	14 Oct 2016	1126	2	<2	<2	<2	1.0	15.9	68.36	6.7	33.28	8.1	ns	ns
I32	14 Oct 2016	1126	6	<2	<2	<2	1.0	15.2	67.14	6.3	33.27	8.0	ns	ns
I32	14 Oct 2016	1126	9	<2	<2	<2	1.0	15.1	66.25	6.3	33.27	8.0	ns	ns
I32	20 Oct 2016	1229	2	<2	<2	<2	1.0	17.4	74.62	8.4	33.31	8.2	ns	ns
I32	20 Oct 2016	1229	6	<2	<2	<2	1.0	16.2	66.15	8.7	33.29	8.2	ns	ns
I32	20 Oct 2016	1229	9	2e	<2	2e	1.0	15.2	62.80	7.1	33.26	8.2	ns	ns
I32	26 Oct 2016	1140	2	<2	<2	<2	1.0	16.7	66.19	8.5	33.28	8.2	ns	ns
I32	26 Oct 2016	1140	6	<2	<2	<2	1.0	16.2	61.38	6.8	33.26	8.2	ns	ns
I32	26 Oct 2016	1140	9	4e	<2	<2	0.5	15.5	68.50	7.1	33.27	8.1	ns	ns
I32	31 Oct 2016	1200	2	<2	<2	<2	1.0	16.4	70.64	7.9	33.28	8.1	ns	ns
I32	31 Oct 2016	1200	6	<2	<2	<2	1.0	15.8	67.36	6.7	33.26	8.1	ns	ns
I32	31 Oct 2016	1200	9	<2	<2	<2	1.0	15.1	68.67	6.9	33.27	8.0	ns	ns
I39	08 Oct 2016	1038	2	<2	<2	<2	1.0	18.1	80.14	8.3	33.33	8.2	ns	ns

Station	Date	Time	Depth	Total	Fecal	Enteric	F:T	Temp	XMS	DO	Sal	pH	OG	SUSO
I39	08 Oct 2016	1038	12	<2	<2	<2	1.0	15.2	76.87	7.5	33.23	8.1	ns	ns
I39	08 Oct 2016	1038	18	2e	2e	<2	1.0	14.0	84.28	6.8	33.25	8.0	ns	ns
I39	14 Oct 2016	1016	2	2e	<2	<2	1.0	17.3	81.77	8.5	33.30	8.2	ns	ns
I39	14 Oct 2016	1016	12	<2	<2	<2	1.0	15.3	81.34	8.1	33.26	8.1	ns	ns
I39	14 Oct 2016	1016	18	<2	<2	<2	1.0	14.7	80.47	7.0	33.26	8.1	ns	ns
I39	20 Oct 2016	1108	2	<2	<2	<2	1.0	17.2	80.66	8.3	33.33	8.2	ns	ns
I39	20 Oct 2016	1108	12	<2	<2	<2	1.0	14.3	76.36	6.5	33.26	8.1	ns	ns
I39	20 Oct 2016	1108	18	<2	<2	<2	1.0	13.9	74.55	6.5	33.27	8.0	ns	ns
I39	26 Oct 2016	1026	2	<2	<2	<2	1.0	17.3	76.27	9.5	33.28	8.3	ns	ns
I39	26 Oct 2016	1026	12	4e	<2	<2	0.5	16.9	79.22	8.7	33.28	8.2	ns	ns
I39	26 Oct 2016	1026	18	2e	<2	<2	1.0	15.5	79.00	7.9	33.26	8.2	ns	ns
I39	31 Oct 2016	1041	2	<2	<2	<2	1.0	17.0	84.15	8.7	33.24	8.2	ns	ns
I39	31 Oct 2016	1041	12	<2	<2	<2	1.0	15.1	81.84	7.1	33.26	8.1	ns	ns
I39	31 Oct 2016	1041	18	<2	<2	<2	1.0	14.6	81.06	6.6	33.27	8.0	ns	ns
I40	08 Oct 2016	1128	2	<2	<2	<2	1.0	17.6	79.01	8.3	33.32	8.2	ns	ns
I40	08 Oct 2016	1128	6	<2	<2	2e	1.0	16.5	74.94	7.4	33.29	8.1	ns	ns
I40	08 Oct 2016	1128	9	<2	<2	<2	1.0	15.6	68.59	6.9	33.27	8.1	ns	ns
I40	14 Oct 2016	1044	2	16e	6e	2e	0.4	16.4	65.04	7.8	33.26	8.1	ns	ns
I40	14 Oct 2016	1044	6	<2	<2	2e	1.0	15.6	77.41	7.5	33.27	8.1	ns	ns
I40	14 Oct 2016	1044	9	<20	<2	<2	0.1	15.3	70.02	7.0	33.27	8.1	ns	ns
I40	20 Oct 2016	1146	2	<2	<2	<2	1.0	17.0	75.55	8.2	33.31	8.2	ns	ns
I40	20 Oct 2016	1146	6	<2	<2	<2	1.0	16.1	70.91	8.6	33.29	8.2	ns	ns
I40	20 Oct 2016	1146	9	<2	<2	<2	1.0	14.9	69.74	6.8	33.25	8.2	ns	ns
I40	26 Oct 2016	1100	2	<2	<2	<2	1.0	16.9	67.64	8.2	33.26	8.2	ns	ns
I40	26 Oct 2016	1100	6	20e	<2	2e	0.1	16.0	72.10	7.3	33.26	8.2	ns	ns
I40	26 Oct 2016	1100	9	8e	<2	<2	0.2	15.6	61.56	7.5	33.25	8.1	ns	ns
I40	31 Oct 2016	1117	2	<2	<2	<2	1.0	16.9	80.55	7.9	33.28	8.2	ns	ns
I40	31 Oct 2016	1117	6	2e	<2	<2	1.0	15.9	71.69	6.6	33.27	8.1	ns	ns
I40	31 Oct 2016	1117	9	<2	<2	<2	1.0	15.0	70.12	6.0	33.27	8.0	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	08 Oct 2016	Depth (m)	11
I19	08 Oct 2016	Arrive Time	1114
I19	08 Oct 2016	Depart Time	1119
I19	08 Oct 2016	Air Temp (C)	19
I19	08 Oct 2016	Weather	Clear
I19	08 Oct 2016	Visibility (mi)	10
I19	08 Oct 2016	Wind Speed (kts)	3
I19	08 Oct 2016	Wind Dir	S
I19	08 Oct 2016	Water Color	Green
I19	08 Oct 2016	Wave Ht Low (ft)	4
I19	08 Oct 2016	Wave Period (sec)	16
I19	08 Oct 2016	Sea State	Wind ripples
I19	08 Oct 2016	High Tide (ft)	4.18
I19	08 Oct 2016	High Tide Time	1420
I19	08 Oct 2016	Low Tide (ft)	3.1
I19	08 Oct 2016	Low Tide Time	750
I19	08 Oct 2016	Comments	
I19	14 Oct 2016	Depth (m)	11
I19	14 Oct 2016	Arrive Time	1034
I19	14 Oct 2016	Depart Time	1036
I19	14 Oct 2016	Air Temp (C)	18
I19	14 Oct 2016	Weather	Clear
I19	14 Oct 2016	Visibility (mi)	5
I19	14 Oct 2016	Wind Speed (kts)	7
I19	14 Oct 2016	Wind Dir	SE
I19	14 Oct 2016	Water Color	Greenish-Blue
I19	14 Oct 2016	Wave Ht Low (ft)	4
I19	14 Oct 2016	Wave Period (sec)	11
I19	14 Oct 2016	Sea State	Light chop
I19	14 Oct 2016	High Tide (ft)	5.73
I19	14 Oct 2016	High Tide Time	819
I19	14 Oct 2016	Low Tide (ft)	0.18
I19	14 Oct 2016	Low Tide Time	1437
I19	14 Oct 2016	Comments	
I19	20 Oct 2016	Depth (m)	11
I19	20 Oct 2016	Arrive Time	1134
I19	20 Oct 2016	Depart Time	1136
I19	20 Oct 2016	Air Temp (C)	20
I19	20 Oct 2016	Weather	Clear
I19	20 Oct 2016	Visibility (mi)	9
I19	20 Oct 2016	Wind Speed (kts)	7
I19	20 Oct 2016	Wind Dir	NE
I19	20 Oct 2016	Water Color	Green
I19	20 Oct 2016	Wave Ht Low (ft)	4
I19	20 Oct 2016	Wave Period (sec)	11
I19	20 Oct 2016	Sea State	Calm
I19	20 Oct 2016	High Tide (ft)	5.62
I19	20 Oct 2016	High Tide Time	1228
I19	20 Oct 2016	Low Tide (ft)	2.16

Station	Date	Parameter	Value
I19	20 Oct 2016	Low Tide Time	619
I19	20 Oct 2016	Comments	
I19	26 Oct 2016	Depth (m)	10
I19	26 Oct 2016	Arrive Time	1048
I19	26 Oct 2016	Depart Time	1052
I19	26 Oct 2016	Air Temp (C)	18
I19	26 Oct 2016	Weather	Haze
I19	26 Oct 2016	Visibility (mi)	6
I19	26 Oct 2016	Wind Speed (kts)	6
I19	26 Oct 2016	Wind Dir	NE
I19	26 Oct 2016	Water Color	Brownish-Green
I19	26 Oct 2016	Wave Ht Low (ft)	3
I19	26 Oct 2016	Wave Period (sec)	9
I19	26 Oct 2016	Sea State	Calm
I19	26 Oct 2016	High Tide (ft)	5.15
I19	26 Oct 2016	High Tide Time	732
I19	26 Oct 2016	Low Tide (ft)	1.05
I19	26 Oct 2016	Low Tide Time	1346
I19	26 Oct 2016	Comments	
I19	31 Oct 2016	Depth (m)	10
I19	31 Oct 2016	Arrive Time	1103
I19	31 Oct 2016	Depart Time	1109
I19	31 Oct 2016	Air Temp (C)	18
I19	31 Oct 2016	Weather	Partly Cloudy
I19	31 Oct 2016	Visibility (mi)	11
I19	31 Oct 2016	Wind Speed (kts)	3
I19	31 Oct 2016	Wind Dir	N
I19	31 Oct 2016	Water Color	Bluish-Green
I19	31 Oct 2016	Wave Ht Low (ft)	5
I19	31 Oct 2016	Wave Period (sec)	13
I19	31 Oct 2016	Sea State	Light chop
I19	31 Oct 2016	High Tide (ft)	5.65
I19	31 Oct 2016	High Tide Time	936
I19	31 Oct 2016	Low Tide (ft)	0.05
I19	31 Oct 2016	Low Tide Time	1628
I19	31 Oct 2016	Comments	Many birds (greebes) on station; Kelp debris
I24	08 Oct 2016	Depth (m)	9
I24	08 Oct 2016	Arrive Time	1137
I24	08 Oct 2016	Depart Time	1141
I24	08 Oct 2016	Air Temp (C)	20
I24	08 Oct 2016	Weather	Clear
I24	08 Oct 2016	Visibility (mi)	10
I24	08 Oct 2016	Wind Speed (kts)	2
I24	08 Oct 2016	Wind Dir	E
I24	08 Oct 2016	Water Color	Green
I24	08 Oct 2016	Wave Ht Low (ft)	4
I24	08 Oct 2016	Wave Period (sec)	16
I24	08 Oct 2016	Sea State	Wind ripples
I24	08 Oct 2016	High Tide (ft)	4.18
I24	08 Oct 2016	High Tide Time	1420
I24	08 Oct 2016	Low Tide (ft)	3.1
I24	08 Oct 2016	Low Tide Time	750

Station	Date	Parameter	Value
I24	08 Oct 2016	Comments	
I24	14 Oct 2016	Depth (m)	11
I24	14 Oct 2016	Arrive Time	1055
I24	14 Oct 2016	Depart Time	1058
I24	14 Oct 2016	Air Temp (C)	18
I24	14 Oct 2016	Weather	Clear
I24	14 Oct 2016	Visibility (mi)	5
I24	14 Oct 2016	Wind Speed (kts)	6
I24	14 Oct 2016	Wind Dir	N
I24	14 Oct 2016	Water Color	Greenish-Blue
I24	14 Oct 2016	Wave Ht Low (ft)	4
I24	14 Oct 2016	Wave Period (sec)	11
I24	14 Oct 2016	Sea State	Light chop
I24	14 Oct 2016	High Tide (ft)	5.73
I24	14 Oct 2016	High Tide Time	819
I24	14 Oct 2016	Low Tide (ft)	0.18
I24	14 Oct 2016	Low Tide Time	1437
I24	14 Oct 2016	Comments	
I24	20 Oct 2016	Depth (m)	11
I24	20 Oct 2016	Arrive Time	1157
I24	20 Oct 2016	Depart Time	1159
I24	20 Oct 2016	Air Temp (C)	20
I24	20 Oct 2016	Weather	Clear
I24	20 Oct 2016	Visibility (mi)	9
I24	20 Oct 2016	Wind Speed (kts)	7
I24	20 Oct 2016	Wind Dir	SW
I24	20 Oct 2016	Water Color	Green
I24	20 Oct 2016	Wave Ht Low (ft)	5
I24	20 Oct 2016	Wave Period (sec)	11
I24	20 Oct 2016	Sea State	Calm
I24	20 Oct 2016	High Tide (ft)	5.62
I24	20 Oct 2016	High Tide Time	1228
I24	20 Oct 2016	Low Tide (ft)	2.16
I24	20 Oct 2016	Low Tide Time	619
I24	20 Oct 2016	Comments	
I24	26 Oct 2016	Depth (m)	10
I24	26 Oct 2016	Arrive Time	1109
I24	26 Oct 2016	Depart Time	1113
I24	26 Oct 2016	Air Temp (C)	18
I24	26 Oct 2016	Weather	Haze
I24	26 Oct 2016	Visibility (mi)	6
I24	26 Oct 2016	Wind Speed (kts)	6
I24	26 Oct 2016	Wind Dir	N
I24	26 Oct 2016	Water Color	Brownish-Green
I24	26 Oct 2016	Wave Ht Low (ft)	3
I24	26 Oct 2016	Wave Period (sec)	9
I24	26 Oct 2016	Sea State	Calm
I24	26 Oct 2016	High Tide (ft)	5.15
I24	26 Oct 2016	High Tide Time	732
I24	26 Oct 2016	Low Tide (ft)	1.05
I24	26 Oct 2016	Low Tide Time	1346
I24	26 Oct 2016	Comments	

Station	Date	Parameter	Value
I24	31 Oct 2016	Depth (m)	9
I24	31 Oct 2016	Arrive Time	1127
I24	31 Oct 2016	Depart Time	1132
I24	31 Oct 2016	Air Temp (C)	18
I24	31 Oct 2016	Weather	Partly Cloudy
I24	31 Oct 2016	Visibility (mi)	11
I24	31 Oct 2016	Wind Speed (kts)	4
I24	31 Oct 2016	Wind Dir	N
I24	31 Oct 2016	Water Color	Bluish-Green
I24	31 Oct 2016	Wave Ht Low (ft)	5
I24	31 Oct 2016	Wave Period (sec)	13
I24	31 Oct 2016	Sea State	Light chop
I24	31 Oct 2016	High Tide (ft)	5.65
I24	31 Oct 2016	High Tide Time	936
I24	31 Oct 2016	Low Tide (ft)	0.05
I24	31 Oct 2016	Low Tide Time	1628
I24	31 Oct 2016	Comments	Kelp debris
I25	08 Oct 2016	Depth (m)	9
I25	08 Oct 2016	Arrive Time	1144
I25	08 Oct 2016	Depart Time	1149
I25	08 Oct 2016	Air Temp (C)	19
I25	08 Oct 2016	Weather	Clear
I25	08 Oct 2016	Visibility (mi)	10
I25	08 Oct 2016	Wind Speed (kts)	5
I25	08 Oct 2016	Wind Dir	SE
I25	08 Oct 2016	Water Color	Green
I25	08 Oct 2016	Wave Ht Low (ft)	4
I25	08 Oct 2016	Wave Period (sec)	16
I25	08 Oct 2016	Sea State	Wind ripples
I25	08 Oct 2016	High Tide (ft)	4.18
I25	08 Oct 2016	High Tide Time	1420
I25	08 Oct 2016	Low Tide (ft)	3.1
I25	08 Oct 2016	Low Tide Time	750
I25	08 Oct 2016	Comments	
I25	14 Oct 2016	Depth (m)	9
I25	14 Oct 2016	Arrive Time	1103
I25	14 Oct 2016	Depart Time	1107
I25	14 Oct 2016	Air Temp (C)	18
I25	14 Oct 2016	Weather	Clear
I25	14 Oct 2016	Visibility (mi)	5
I25	14 Oct 2016	Wind Speed (kts)	5
I25	14 Oct 2016	Wind Dir	NE
I25	14 Oct 2016	Water Color	Greenish-Blue
I25	14 Oct 2016	Wave Ht Low (ft)	4
I25	14 Oct 2016	Wave Period (sec)	11
I25	14 Oct 2016	Sea State	Light chop
I25	14 Oct 2016	High Tide (ft)	5.73
I25	14 Oct 2016	High Tide Time	819
I25	14 Oct 2016	Low Tide (ft)	0.18
I25	14 Oct 2016	Low Tide Time	1437
I25	14 Oct 2016	Comments	

Station	Date	Parameter	Value
I25	20 Oct 2016	Depth (m)	10
I25	20 Oct 2016	Arrive Time	1204
I25	20 Oct 2016	Depart Time	1207
I25	20 Oct 2016	Air Temp (C)	21
I25	20 Oct 2016	Weather	Clear
I25	20 Oct 2016	Visibility (mi)	9
I25	20 Oct 2016	Wind Speed (kts)	9
I25	20 Oct 2016	Wind Dir	W
I25	20 Oct 2016	Water Color	Green
I25	20 Oct 2016	Wave Ht Low (ft)	5
I25	20 Oct 2016	Wave Period (sec)	11
I25	20 Oct 2016	Sea State	Light chop
I25	20 Oct 2016	High Tide (ft)	5.62
I25	20 Oct 2016	High Tide Time	1228
I25	20 Oct 2016	Low Tide (ft)	2.16
I25	20 Oct 2016	Low Tide Time	619
I25	20 Oct 2016	Comments	
I25	26 Oct 2016	Depth (m)	9
I25	26 Oct 2016	Arrive Time	1117
I25	26 Oct 2016	Depart Time	1121
I25	26 Oct 2016	Air Temp (C)	18
I25	26 Oct 2016	Weather	Haze
I25	26 Oct 2016	Visibility (mi)	6
I25	26 Oct 2016	Wind Speed (kts)	7
I25	26 Oct 2016	Wind Dir	E
I25	26 Oct 2016	Water Color	Brownish-Green
I25	26 Oct 2016	Wave Ht Low (ft)	3
I25	26 Oct 2016	Wave Period (sec)	9
I25	26 Oct 2016	Sea State	Calm
I25	26 Oct 2016	High Tide (ft)	5.15
I25	26 Oct 2016	High Tide Time	732
I25	26 Oct 2016	Low Tide (ft)	1.05
I25	26 Oct 2016	Low Tide Time	1346
I25	26 Oct 2016	Comments	
I25	31 Oct 2016	Depth (m)	9
I25	31 Oct 2016	Arrive Time	1137
I25	31 Oct 2016	Depart Time	1142
I25	31 Oct 2016	Air Temp (C)	18
I25	31 Oct 2016	Weather	Partly Cloudy
I25	31 Oct 2016	Visibility (mi)	11
I25	31 Oct 2016	Wind Speed (kts)	1
I25	31 Oct 2016	Wind Dir	W
I25	31 Oct 2016	Water Color	Bluish-Green
I25	31 Oct 2016	Wave Ht Low (ft)	5
I25	31 Oct 2016	Wave Period (sec)	13
I25	31 Oct 2016	Sea State	Light chop
I25	31 Oct 2016	High Tide (ft)	5.65
I25	31 Oct 2016	High Tide Time	936
I25	31 Oct 2016	Low Tide (ft)	0.05
I25	31 Oct 2016	Low Tide Time	1628
I25	31 Oct 2016	Comments	
I26	08 Oct 2016	Depth (m)	9

Station	Date	Parameter	Value
I26	08 Oct 2016	Arrive Time	1155
I26	08 Oct 2016	Depart Time	1159
I26	08 Oct 2016	Air Temp (C)	20
I26	08 Oct 2016	Weather	Clear
I26	08 Oct 2016	Visibility (mi)	10
I26	08 Oct 2016	Wind Speed (kts)	7
I26	08 Oct 2016	Wind Dir	S
I26	08 Oct 2016	Water Color	Green
I26	08 Oct 2016	Wave Ht Low (ft)	4
I26	08 Oct 2016	Wave Period (sec)	16
I26	08 Oct 2016	Sea State	Wind ripples
I26	08 Oct 2016	High Tide (ft)	4.18
I26	08 Oct 2016	High Tide Time	1420
I26	08 Oct 2016	Low Tide (ft)	3.1
I26	08 Oct 2016	Low Tide Time	750
I26	08 Oct 2016	Comments	
I26	14 Oct 2016	Depth (m)	9
I26	14 Oct 2016	Arrive Time	1114
I26	14 Oct 2016	Depart Time	1117
I26	14 Oct 2016	Air Temp (C)	18
I26	14 Oct 2016	Weather	Clear
I26	14 Oct 2016	Visibility (mi)	5
I26	14 Oct 2016	Wind Speed (kts)	6
I26	14 Oct 2016	Wind Dir	NW
I26	14 Oct 2016	Water Color	Greenish-Blue
I26	14 Oct 2016	Wave Ht Low (ft)	4
I26	14 Oct 2016	Wave Period (sec)	11
I26	14 Oct 2016	Sea State	Light chop
I26	14 Oct 2016	High Tide (ft)	5.73
I26	14 Oct 2016	High Tide Time	819
I26	14 Oct 2016	Low Tide (ft)	0.18
I26	14 Oct 2016	Low Tide Time	1437
I26	14 Oct 2016	Comments	
I26	20 Oct 2016	Depth (m)	10
I26	20 Oct 2016	Arrive Time	1216
I26	20 Oct 2016	Depart Time	1218
I26	20 Oct 2016	Air Temp (C)	21
I26	20 Oct 2016	Weather	Clear
I26	20 Oct 2016	Visibility (mi)	9
I26	20 Oct 2016	Wind Speed (kts)	8
I26	20 Oct 2016	Wind Dir	S
I26	20 Oct 2016	Water Color	Green
I26	20 Oct 2016	Wave Ht Low (ft)	5
I26	20 Oct 2016	Wave Period (sec)	11
I26	20 Oct 2016	Sea State	Light chop
I26	20 Oct 2016	High Tide (ft)	5.62
I26	20 Oct 2016	High Tide Time	1228
I26	20 Oct 2016	Low Tide (ft)	2.16
I26	20 Oct 2016	Low Tide Time	619
I26	20 Oct 2016	Comments	
I26	26 Oct 2016	Depth (m)	9
I26	26 Oct 2016	Arrive Time	1128

Station	Date	Parameter	Value
I26	26 Oct 2016	Depart Time	1131
I26	26 Oct 2016	Air Temp (C)	18
I26	26 Oct 2016	Weather	Haze
I26	26 Oct 2016	Visibility (mi)	6
I26	26 Oct 2016	Wind Speed (kts)	10
I26	26 Oct 2016	Wind Dir	S
I26	26 Oct 2016	Water Color	Brownish-Green
I26	26 Oct 2016	Wave Ht Low (ft)	3
I26	26 Oct 2016	Wave Period (sec)	9
I26	26 Oct 2016	Sea State	Calm
I26	26 Oct 2016	High Tide (ft)	5.15
I26	26 Oct 2016	High Tide Time	732
I26	26 Oct 2016	Low Tide (ft)	1.05
I26	26 Oct 2016	Low Tide Time	1346
I26	26 Oct 2016	Comments	
I26	31 Oct 2016	Depth (m)	10
I26	31 Oct 2016	Arrive Time	1147
I26	31 Oct 2016	Depart Time	1153
I26	31 Oct 2016	Air Temp (C)	18
I26	31 Oct 2016	Weather	Partly Cloudy
I26	31 Oct 2016	Visibility (mi)	11
I26	31 Oct 2016	Wind Speed (kts)	4
I26	31 Oct 2016	Wind Dir	S
I26	31 Oct 2016	Water Color	Bluish-Green
I26	31 Oct 2016	Wave Ht Low (ft)	5
I26	31 Oct 2016	Wave Period (sec)	13
I26	31 Oct 2016	Sea State	Light chop
I26	31 Oct 2016	High Tide (ft)	5.65
I26	31 Oct 2016	High Tide Time	936
I26	31 Oct 2016	Low Tide (ft)	0.05
I26	31 Oct 2016	Low Tide Time	1628
I26	31 Oct 2016	Comments	
I32	08 Oct 2016	Depth (m)	10
I32	08 Oct 2016	Arrive Time	1209
I32	08 Oct 2016	Depart Time	1214
I32	08 Oct 2016	Air Temp (C)	20
I32	08 Oct 2016	Weather	Clear
I32	08 Oct 2016	Visibility (mi)	10
I32	08 Oct 2016	Wind Speed (kts)	8
I32	08 Oct 2016	Wind Dir	W
I32	08 Oct 2016	Water Color	Green
I32	08 Oct 2016	Wave Ht Low (ft)	4
I32	08 Oct 2016	Wave Period (sec)	16
I32	08 Oct 2016	Sea State	Wind ripples
I32	08 Oct 2016	High Tide (ft)	4.18
I32	08 Oct 2016	High Tide Time	1420
I32	08 Oct 2016	Low Tide (ft)	3.1
I32	08 Oct 2016	Low Tide Time	750
I32	08 Oct 2016	Comments	
I32	14 Oct 2016	Depth (m)	9
I32	14 Oct 2016	Arrive Time	1126
I32	14 Oct 2016	Depart Time	1128

Station	Date	Parameter	Value
I32	14 Oct 2016	Air Temp (C)	18
I32	14 Oct 2016	Weather	Clear
I32	14 Oct 2016	Visibility (mi)	5
I32	14 Oct 2016	Wind Speed (kts)	4
I32	14 Oct 2016	Wind Dir	N
I32	14 Oct 2016	Water Color	Greenish-Blue
I32	14 Oct 2016	Wave Ht Low (ft)	4
I32	14 Oct 2016	Wave Period (sec)	11
I32	14 Oct 2016	Sea State	Light chop
I32	14 Oct 2016	High Tide (ft)	5.73
I32	14 Oct 2016	High Tide Time	819
I32	14 Oct 2016	Low Tide (ft)	0.18
I32	14 Oct 2016	Low Tide Time	1437
I32	14 Oct 2016	Comments	
I32	20 Oct 2016	Depth (m)	11
I32	20 Oct 2016	Arrive Time	1229
I32	20 Oct 2016	Depart Time	1232
I32	20 Oct 2016	Air Temp (C)	22
I32	20 Oct 2016	Weather	Clear
I32	20 Oct 2016	Visibility (mi)	9
I32	20 Oct 2016	Wind Speed (kts)	10
I32	20 Oct 2016	Wind Dir	SW
I32	20 Oct 2016	Water Color	Green
I32	20 Oct 2016	Wave Ht Low (ft)	5
I32	20 Oct 2016	Wave Period (sec)	11
I32	20 Oct 2016	Sea State	Light chop
I32	20 Oct 2016	High Tide (ft)	5.62
I32	20 Oct 2016	High Tide Time	1228
I32	20 Oct 2016	Low Tide (ft)	2.16
I32	20 Oct 2016	Low Tide Time	619
I32	20 Oct 2016	Comments	
I32	26 Oct 2016	Depth (m)	9
I32	26 Oct 2016	Arrive Time	1140
I32	26 Oct 2016	Depart Time	1143
I32	26 Oct 2016	Air Temp (C)	18
I32	26 Oct 2016	Weather	Haze
I32	26 Oct 2016	Visibility (mi)	6
I32	26 Oct 2016	Wind Speed (kts)	8
I32	26 Oct 2016	Wind Dir	E
I32	26 Oct 2016	Water Color	Brownish-Green
I32	26 Oct 2016	Wave Ht Low (ft)	3
I32	26 Oct 2016	Wave Period (sec)	9
I32	26 Oct 2016	Sea State	Calm
I32	26 Oct 2016	High Tide (ft)	5.15
I32	26 Oct 2016	High Tide Time	732
I32	26 Oct 2016	Low Tide (ft)	1.05
I32	26 Oct 2016	Low Tide Time	1346
I32	26 Oct 2016	Comments	none
I32	31 Oct 2016	Depth (m)	10
I32	31 Oct 2016	Arrive Time	1200
I32	31 Oct 2016	Depart Time	1205
I32	31 Oct 2016	Air Temp (C)	18

Station	Date	Parameter	Value
I32	31 Oct 2016	Weather	Partly Cloudy
I32	31 Oct 2016	Visibility (mi)	11
I32	31 Oct 2016	Wind Speed (kts)	5
I32	31 Oct 2016	Wind Dir	SW
I32	31 Oct 2016	Water Color	Bluish-Green
I32	31 Oct 2016	Wave Ht Low (ft)	5
I32	31 Oct 2016	Wave Period (sec)	13
I32	31 Oct 2016	Sea State	Light chop
I32	31 Oct 2016	High Tide (ft)	5.65
I32	31 Oct 2016	High Tide Time	936
I32	31 Oct 2016	Low Tide (ft)	0.05
I32	31 Oct 2016	Low Tide Time	1628
I32	31 Oct 2016	Comments	Navy SEALS on station
I39	08 Oct 2016	Depth (m)	19
I39	08 Oct 2016	Arrive Time	1038
I39	08 Oct 2016	Depart Time	1041
I39	08 Oct 2016	Air Temp (C)	20
I39	08 Oct 2016	Weather	Clear
I39	08 Oct 2016	Visibility (mi)	10
I39	08 Oct 2016	Wind Speed (kts)	7
I39	08 Oct 2016	Wind Dir	NE
I39	08 Oct 2016	Water Color	Green
I39	08 Oct 2016	Wave Ht Low (ft)	4
I39	08 Oct 2016	Wave Period (sec)	16
I39	08 Oct 2016	Sea State	Wind ripples
I39	08 Oct 2016	High Tide (ft)	4.18
I39	08 Oct 2016	High Tide Time	1420
I39	08 Oct 2016	Low Tide (ft)	3.1
I39	08 Oct 2016	Low Tide Time	750
I39	08 Oct 2016	Comments	Kelp debris
I39	14 Oct 2016	Depth (m)	18
I39	14 Oct 2016	Arrive Time	1016
I39	14 Oct 2016	Depart Time	1020
I39	14 Oct 2016	Air Temp (C)	18
I39	14 Oct 2016	Weather	Partly Cloudy
I39	14 Oct 2016	Visibility (mi)	5
I39	14 Oct 2016	Wind Speed (kts)	1
I39	14 Oct 2016	Wind Dir	SW
I39	14 Oct 2016	Water Color	Greenish-Blue
I39	14 Oct 2016	Wave Ht Low (ft)	4
I39	14 Oct 2016	Wave Period (sec)	11
I39	14 Oct 2016	Sea State	Light chop
I39	14 Oct 2016	High Tide (ft)	5.73
I39	14 Oct 2016	High Tide Time	819
I39	14 Oct 2016	Low Tide (ft)	0.18
I39	14 Oct 2016	Low Tide Time	1437
I39	14 Oct 2016	Comments	
I39	20 Oct 2016	Depth (m)	19
I39	20 Oct 2016	Arrive Time	1108
I39	20 Oct 2016	Depart Time	1112
I39	20 Oct 2016	Air Temp (C)	20
I39	20 Oct 2016	Weather	Clear

Station	Date	Parameter	Value
I39	20 Oct 2016	Visibility (mi)	9
I39	20 Oct 2016	Wind Speed (kts)	8
I39	20 Oct 2016	Wind Dir	SE
I39	20 Oct 2016	Water Color	Green
I39	20 Oct 2016	Wave Ht Low (ft)	4
I39	20 Oct 2016	Wave Period (sec)	11
I39	20 Oct 2016	Sea State	Calm
I39	20 Oct 2016	High Tide (ft)	5.62
I39	20 Oct 2016	High Tide Time	1228
I39	20 Oct 2016	Low Tide (ft)	2.16
I39	20 Oct 2016	Low Tide Time	619
I39	20 Oct 2016	Comments	
I39	26 Oct 2016	Depth (m)	18
I39	26 Oct 2016	Arrive Time	1026
I39	26 Oct 2016	Depart Time	1030
I39	26 Oct 2016	Air Temp (C)	18
I39	26 Oct 2016	Weather	Haze
I39	26 Oct 2016	Visibility (mi)	6
I39	26 Oct 2016	Wind Speed (kts)	1
I39	26 Oct 2016	Wind Dir	E
I39	26 Oct 2016	Water Color	Brownish-Green
I39	26 Oct 2016	Wave Ht Low (ft)	3
I39	26 Oct 2016	Wave Period (sec)	9
I39	26 Oct 2016	Sea State	Calm
I39	26 Oct 2016	High Tide (ft)	5.15
I39	26 Oct 2016	High Tide Time	732
I39	26 Oct 2016	Low Tide (ft)	1.05
I39	26 Oct 2016	Low Tide Time	1346
I39	26 Oct 2016	Comments	Lobster floats; Boats
I39	31 Oct 2016	Depth (m)	19
I39	31 Oct 2016	Arrive Time	1041
I39	31 Oct 2016	Depart Time	1047
I39	31 Oct 2016	Air Temp (C)	18
I39	31 Oct 2016	Weather	Partly Cloudy
I39	31 Oct 2016	Visibility (mi)	11
I39	31 Oct 2016	Wind Speed (kts)	1
I39	31 Oct 2016	Wind Dir	SW
I39	31 Oct 2016	Water Color	Bluish-Green
I39	31 Oct 2016	Wave Ht Low (ft)	5
I39	31 Oct 2016	Wave Period (sec)	13
I39	31 Oct 2016	Sea State	Light chop
I39	31 Oct 2016	High Tide (ft)	5.65
I39	31 Oct 2016	High Tide Time	936
I39	31 Oct 2016	Low Tide (ft)	0.05
I39	31 Oct 2016	Low Tide Time	1628
I39	31 Oct 2016	Comments	Kelp
I40	08 Oct 2016	Depth (m)	10
I40	08 Oct 2016	Arrive Time	1128
I40	08 Oct 2016	Depart Time	1132
I40	08 Oct 2016	Air Temp (C)	20
I40	08 Oct 2016	Weather	Clear
I40	08 Oct 2016	Visibility (mi)	10

Station	Date	Parameter	Value
I40	08 Oct 2016	Wind Speed (kts)	2
I40	08 Oct 2016	Wind Dir	S
I40	08 Oct 2016	Water Color	Green
I40	08 Oct 2016	Wave Ht Low (ft)	4
I40	08 Oct 2016	Wave Period (sec)	16
I40	08 Oct 2016	Sea State	Wind ripples
I40	08 Oct 2016	High Tide (ft)	4.18
I40	08 Oct 2016	High Tide Time	1420
I40	08 Oct 2016	Low Tide (ft)	3.1
I40	08 Oct 2016	Low Tide Time	750
I40	08 Oct 2016	Comments	
I40	14 Oct 2016	Depth (m)	9
I40	14 Oct 2016	Arrive Time	1044
I40	14 Oct 2016	Depart Time	1049
I40	14 Oct 2016	Air Temp (C)	18
I40	14 Oct 2016	Weather	Clear
I40	14 Oct 2016	Visibility (mi)	5
I40	14 Oct 2016	Wind Speed (kts)	6
I40	14 Oct 2016	Wind Dir	W
I40	14 Oct 2016	Water Color	Greenish-Blue
I40	14 Oct 2016	Wave Ht Low (ft)	4
I40	14 Oct 2016	Wave Period (sec)	11
I40	14 Oct 2016	Sea State	Light chop
I40	14 Oct 2016	High Tide (ft)	5.73
I40	14 Oct 2016	High Tide Time	819
I40	14 Oct 2016	Low Tide (ft)	0.18
I40	14 Oct 2016	Low Tide Time	1437
I40	14 Oct 2016	Comments	
I40	20 Oct 2016	Depth (m)	11
I40	20 Oct 2016	Arrive Time	1146
I40	20 Oct 2016	Depart Time	1149
I40	20 Oct 2016	Air Temp (C)	20
I40	20 Oct 2016	Weather	Clear
I40	20 Oct 2016	Visibility (mi)	9
I40	20 Oct 2016	Wind Speed (kts)	6
I40	20 Oct 2016	Wind Dir	SE
I40	20 Oct 2016	Water Color	Green
I40	20 Oct 2016	Wave Ht Low (ft)	4
I40	20 Oct 2016	Wave Period (sec)	11
I40	20 Oct 2016	Sea State	Calm
I40	20 Oct 2016	High Tide (ft)	5.62
I40	20 Oct 2016	High Tide Time	1228
I40	20 Oct 2016	Low Tide (ft)	2.16
I40	20 Oct 2016	Low Tide Time	619
I40	20 Oct 2016	Comments	
I40	26 Oct 2016	Depth (m)	9
I40	26 Oct 2016	Arrive Time	1100
I40	26 Oct 2016	Depart Time	1104
I40	26 Oct 2016	Air Temp (C)	18
I40	26 Oct 2016	Weather	Haze
I40	26 Oct 2016	Visibility (mi)	6
I40	26 Oct 2016	Wind Speed (kts)	7

Station	Date	Parameter	Value
I40	26 Oct 2016	Wind Dir	NW
I40	26 Oct 2016	Water Color	Brownish-Green
I40	26 Oct 2016	Wave Ht Low (ft)	3
I40	26 Oct 2016	Wave Period (sec)	9
I40	26 Oct 2016	Sea State	Calm
I40	26 Oct 2016	High Tide (ft)	5.15
I40	26 Oct 2016	High Tide Time	732
I40	26 Oct 2016	Low Tide (ft)	1.05
I40	26 Oct 2016	Low Tide Time	1346
I40	26 Oct 2016	Comments	
I40	31 Oct 2016	Depth (m)	11
I40	31 Oct 2016	Arrive Time	1117
I40	31 Oct 2016	Depart Time	1122
I40	31 Oct 2016	Air Temp (C)	18
I40	31 Oct 2016	Weather	Partly Cloudy
I40	31 Oct 2016	Visibility (mi)	11
I40	31 Oct 2016	Wind Speed (kts)	3
I40	31 Oct 2016	Wind Dir	SE
I40	31 Oct 2016	Water Color	Bluish-Green
I40	31 Oct 2016	Wave Ht Low (ft)	5
I40	31 Oct 2016	Wave Period (sec)	13
I40	31 Oct 2016	Sea State	Light chop
I40	31 Oct 2016	High Tide (ft)	5.65
I40	31 Oct 2016	High Tide Time	936
I40	31 Oct 2016	Low Tide (ft)	0.05
I40	31 Oct 2016	Low Tide Time	1628
I40	31 Oct 2016	Comments	Kelp

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 ($\sigma\text{-t}$)	Chlor ($\mu\text{g/L}$)
I19	08 Oct 2016	1	17.86	79.14	8.1	33.32	8.2	24.0	1.39
I19	08 Oct 2016	2	17.75	79.09	7.9	33.31	8.2	24.0	1.88
I19	08 Oct 2016	3	17.16	78.50	8.2	33.30	8.2	24.2	2.31
I19	08 Oct 2016	4	16.73	76.18	8.5	33.28	8.1	24.3	3.18
I19	08 Oct 2016	5	16.43	71.55	8.3	33.27	8.1	24.3	4.39
I19	08 Oct 2016	6	15.83	73.10	7.8	33.24	8.2	24.4	5.74
I19	08 Oct 2016	7	15.30	75.23	7.5	33.25	8.1	24.6	7.38
I19	08 Oct 2016	8	15.14	74.70	7.4	33.25	8.1	24.6	7.96
I19	08 Oct 2016	9	15.08	72.70	7.4	33.25	8.1	24.6	7.93
I19	08 Oct 2016	10	15.05	68.62	7.5	33.25	8.1	24.6	7.88
I19	14 Oct 2016	1	16.06	72.00	7.8	33.28	8.1	24.4	3.72
I19	14 Oct 2016	2	15.87	72.10	7.6	33.27	8.1	24.4	4.02
I19	14 Oct 2016	3	15.69	67.31	7.6	33.28	8.1	24.5	4.25
I19	14 Oct 2016	4	15.54	64.91	7.6	33.27	8.1	24.5	4.71
I19	14 Oct 2016	5	15.45	71.00	7.4	33.27	8.1	24.5	5.17
I19	14 Oct 2016	6	15.35	74.82	7.2	33.27	8.1	24.6	5.42
I19	14 Oct 2016	7	15.31	73.67	7.1	33.27	8.1	24.6	5.60
I19	14 Oct 2016	8	15.21	70.98	7.1	33.27	8.1	24.6	5.56
I19	14 Oct 2016	9	15.11	68.29	7.2	33.27	8.1	24.6	5.89
I19	14 Oct 2016	10	15.00	66.38	7.1	33.27	8.1	24.6	5.67
I19	20 Oct 2016	1	16.66	73.82	8.4	33.31	8.2	24.3	1.90
I19	20 Oct 2016	2	16.59	73.67	8.3	33.31	8.2	24.3	2.28
I19	20 Oct 2016	3	16.30	73.06	8.4	33.30	8.2	24.4	3.67
I19	20 Oct 2016	4	15.94	72.29	8.4	33.30	8.2	24.5	4.84
I19	20 Oct 2016	5	15.71	72.25	8.2	33.29	8.2	24.5	5.57
I19	20 Oct 2016	6	15.50	71.30	8.0	33.29	8.2	24.5	6.05
I19	20 Oct 2016	7	15.36	68.74	8.0	33.28	8.2	24.6	6.17
I19	20 Oct 2016	8	15.16	64.42	8.0	33.28	8.1	24.6	6.32
I19	20 Oct 2016	9	15.11	61.41	7.9	33.28	8.1	24.6	6.32
I19	20 Oct 2016	10	15.05	60.46	7.8	33.28	8.1	24.6	6.12
I19	26 Oct 2016	1	16.73	70.10	8.3	33.27	8.2	24.3	5.40
I19	26 Oct 2016	2	16.61	67.22	8.0	33.27	8.2	24.3	5.19
I19	26 Oct 2016	3	16.26	65.11	7.8	33.28	8.2	24.4	3.75
I19	26 Oct 2016	4	16.20	68.12	7.6	33.27	8.2	24.4	3.17
I19	26 Oct 2016	5	16.00	66.90	7.5	33.27	8.2	24.4	3.05
I19	26 Oct 2016	6	15.89	67.87	7.6	33.26	8.2	24.4	2.94
I19	26 Oct 2016	7	15.79	69.68	7.7	33.27	8.2	24.5	2.82
I19	26 Oct 2016	8	15.72	70.71	7.7	33.26	8.2	24.5	3.02
I19	26 Oct 2016	9	15.58	69.75	7.6	33.27	8.2	24.5	3.17
I19	26 Oct 2016	10	15.57	64.17	7.7	33.27	8.2	24.5	3.04
I19	31 Oct 2016	1	16.13	63.12	7.7	33.27	8.1	24.4	0.51
I19	31 Oct 2016	2	16.07	62.37	7.8	33.32	8.1	24.4	0.62
I19	31 Oct 2016	3	15.96	61.77	7.8	33.33	8.1	24.5	0.56
I19	31 Oct 2016	4	15.71	57.46	7.7	33.37	8.1	24.6	1.24
I19	31 Oct 2016	5	15.62	60.68	7.6	33.32	8.1	24.5	4.67
I19	31 Oct 2016	6	15.59	61.69	7.4	33.31	8.1	24.5	5.23
I19	31 Oct 2016	7	15.49	61.76	7.0	33.33	8.1	24.6	6.15

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ($\sigma\text{-t}$)	Chlor ($\mu\text{g/L}$)
I19	31 Oct 2016	8	15.35	61.54	7.0	33.33	8.0	24.6	6.77
I19	31 Oct 2016	9	15.32	62.34	6.9	33.34	8.0	24.6	7.80
I19	31 Oct 2016	10	15.17	65.69	6.8	33.40	8.0	24.7	7.98
I24	08 Oct 2016	1	17.91	78.89	8.3	33.31	8.2	24.0	0.82
I24	08 Oct 2016	2	17.82	78.43	8.2	33.31	8.2	24.0	1.03
I24	08 Oct 2016	3	17.68	78.25	8.1	33.31	8.2	24.1	1.40
I24	08 Oct 2016	4	17.13	78.51	8.0	33.28	8.2	24.2	1.95
I24	08 Oct 2016	5	16.39	79.05	7.9	33.28	8.1	24.3	3.59
I24	08 Oct 2016	6	16.09	77.63	7.7	33.27	8.1	24.4	5.48
I24	08 Oct 2016	7	15.68	76.02	7.6	33.26	8.1	24.5	7.13
I24	08 Oct 2016	8	15.43	71.12	7.2	33.26	8.1	24.5	5.77
I24	08 Oct 2016	9	15.29	68.98	7.0	33.25	8.1	24.6	4.57
I24	08 Oct 2016	10	15.01	67.86	7.2	33.26	8.1	24.6	5.42
I24	14 Oct 2016	1	17.03	77.37	7.6	33.29	8.1	24.2	1.13
I24	14 Oct 2016	2	16.89	77.03	7.6	33.29	8.1	24.2	1.40
I24	14 Oct 2016	3	16.77	76.16	7.7	33.29	8.1	24.3	1.79
I24	14 Oct 2016	4	16.68	75.64	7.7	33.29	8.1	24.3	2.10
I24	14 Oct 2016	5	16.64	75.74	7.6	33.29	8.1	24.3	2.66
I24	14 Oct 2016	6	16.63	75.41	7.2	33.29	8.1	24.3	3.35
I24	14 Oct 2016	7	16.48	75.41	6.9	33.26	8.1	24.3	2.92
I24	14 Oct 2016	8	15.58	74.74	6.8	33.27	8.1	24.5	2.45
I24	14 Oct 2016	9	15.72	76.14	6.7	33.26	8.1	24.5	2.17
I24	14 Oct 2016	10	15.28	73.20	6.7	33.28	8.1	24.6	2.04
I24	14 Oct 2016	11	15.23	71.15	6.7	33.27	8.1	24.6	2.02
I24	20 Oct 2016	1	17.25	75.32	8.3	33.31	8.2	24.2	1.59
I24	20 Oct 2016	2	17.17	75.03	8.3	33.31	8.2	24.2	2.53
I24	20 Oct 2016	3	17.10	74.99	8.3	33.31	8.2	24.2	3.25
I24	20 Oct 2016	4	16.52	74.63	8.6	33.27	8.2	24.3	3.65
I24	20 Oct 2016	5	15.56	74.47	8.6	33.26	8.2	24.5	4.71
I24	20 Oct 2016	6	15.26	76.77	8.0	33.27	8.2	24.6	5.34
I24	20 Oct 2016	7	15.10	75.75	7.7	33.26	8.2	24.6	5.37
I24	20 Oct 2016	8	14.86	74.14	7.5	33.26	8.2	24.7	5.28
I24	20 Oct 2016	9	14.68	71.79	7.2	33.27	8.1	24.7	4.93
I24	20 Oct 2016	10	14.42	71.28	7.1	33.26	8.1	24.8	4.61
I24	20 Oct 2016	11	14.34	70.80	7.3	33.27	8.1	24.8	4.56
I24	26 Oct 2016	1	16.85	68.77	8.7	33.27	8.2	24.2	4.98
I24	26 Oct 2016	2	16.92	68.24	8.5	33.27	8.2	24.2	5.35
I24	26 Oct 2016	3	16.75	67.72	8.0	33.28	8.2	24.3	5.22
I24	26 Oct 2016	4	16.53	70.30	7.7	33.26	8.2	24.3	4.56
I24	26 Oct 2016	5	15.94	74.40	7.6	33.28	8.2	24.4	3.83
I24	26 Oct 2016	6	15.83	75.96	7.6	33.27	8.2	24.5	3.39
I24	26 Oct 2016	7	15.66	74.57	7.6	33.27	8.2	24.5	2.87
I24	26 Oct 2016	8	15.56	76.78	7.5	33.27	8.2	24.5	2.53
I24	26 Oct 2016	9	15.48	75.13	7.4	33.27	8.2	24.5	2.45
I24	26 Oct 2016	10	15.47	68.67	7.5	33.27	8.1	24.5	2.60
I24	31 Oct 2016	1	16.92	82.61	8.7	33.29	8.2	24.2	1.40
I24	31 Oct 2016	2	16.87	82.50	8.7	33.29	8.2	24.2	1.57
I24	31 Oct 2016	3	16.68	82.42	8.7	33.29	8.2	24.3	1.89
I24	31 Oct 2016	4	16.61	82.15	8.6	33.29	8.2	24.3	3.07
I24	31 Oct 2016	5	16.57	82.00	8.1	33.29	8.2	24.3	4.13

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ($\sigma\text{-t}$)	Chlor ($\mu\text{g/L}$)
I24	31 Oct 2016	6	16.52	81.78	7.4	33.28	8.2	24.3	3.66
I24	31 Oct 2016	7	16.14	80.52	6.9	33.26	8.2	24.4	2.92
I24	31 Oct 2016	8	15.93	74.68	6.2	33.26	8.1	24.4	2.10
I24	31 Oct 2016	9	15.30	77.15	6.1	33.26	8.1	24.6	1.47
I24	31 Oct 2016	10	14.93	75.90	6.2	33.26	8.0	24.6	1.37
I24	31 Oct 2016	11	14.78	73.08	6.4	33.27	8.0	24.7	1.33
I25	08 Oct 2016	1	18.09	79.80	8.1	33.32	8.1	24.0	0.77
I25	08 Oct 2016	2	17.98	79.60	8.1	33.31	8.1	24.0	1.14
I25	08 Oct 2016	3	17.19	79.34	8.2	33.27	8.1	24.1	1.91
I25	08 Oct 2016	4	16.10	79.84	8.1	33.26	8.1	24.4	2.88
I25	08 Oct 2016	5	15.81	78.04	7.5	33.26	8.1	24.4	3.49
I25	08 Oct 2016	6	15.73	75.44	7.0	33.26	8.1	24.5	3.13
I25	08 Oct 2016	7	15.26	74.28	7.1	33.25	8.1	24.6	3.11
I25	08 Oct 2016	8	15.02	75.53	7.2	33.26	8.0	24.6	3.01
I25	08 Oct 2016	9	15.00	77.72	7.3	33.26	8.0	24.6	2.99
I25	14 Oct 2016	1	17.05	77.07	7.7	33.30	8.1	24.2	1.19
I25	14 Oct 2016	2	17.01	77.15	7.7	33.30	8.1	24.2	1.77
I25	14 Oct 2016	3	16.90	77.27	7.8	33.29	8.1	24.2	2.32
I25	14 Oct 2016	4	16.79	76.93	7.8	33.29	8.1	24.3	2.86
I25	14 Oct 2016	5	16.72	75.69	7.5	33.29	8.1	24.3	3.47
I25	14 Oct 2016	6	16.41	74.83	7.1	33.27	8.1	24.3	3.41
I25	14 Oct 2016	7	16.01	74.07	6.8	33.27	8.1	24.4	3.03
I25	14 Oct 2016	8	15.33	74.15	6.8	33.26	8.1	24.6	2.79
I25	14 Oct 2016	9	15.07	76.24	7.2	33.27	8.1	24.6	2.81
I25	20 Oct 2016	1	17.21	78.28	8.5	33.32	8.2	24.2	1.28
I25	20 Oct 2016	2	17.14	78.18	8.5	33.32	8.2	24.2	1.79
I25	20 Oct 2016	3	17.03	76.96	8.6	33.31	8.2	24.2	2.73
I25	20 Oct 2016	4	16.81	76.44	8.5	33.31	8.2	24.3	3.65
I25	20 Oct 2016	5	16.47	75.53	8.2	33.29	8.2	24.3	4.67
I25	20 Oct 2016	6	15.97	75.15	7.5	33.29	8.2	24.4	3.97
I25	20 Oct 2016	7	15.60	74.36	6.8	33.25	8.2	24.5	3.45
I25	20 Oct 2016	8	14.81	69.77	6.8	33.24	8.2	24.7	3.59
I25	20 Oct 2016	9	14.49	70.15	7.4	33.27	8.1	24.8	3.96
I25	26 Oct 2016	1	17.35	70.24	8.5	33.27	8.3	24.1	3.79
I25	26 Oct 2016	2	17.19	69.93	8.2	33.26	8.2	24.1	4.73
I25	26 Oct 2016	3	16.57	69.59	8.1	33.26	8.2	24.3	4.76
I25	26 Oct 2016	4	16.16	71.63	8.0	33.26	8.2	24.4	4.91
I25	26 Oct 2016	5	15.90	73.22	7.8	33.27	8.2	24.4	4.29
I25	26 Oct 2016	6	15.81	75.51	7.8	33.26	8.2	24.5	3.55
I25	26 Oct 2016	7	15.75	76.13	7.6	33.26	8.2	24.5	2.73
I25	26 Oct 2016	8	15.72	76.93	7.3	33.26	8.2	24.5	2.41
I25	26 Oct 2016	9	15.71	75.71	7.5	33.26	8.2	24.5	2.61
I25	31 Oct 2016	1	17.28	78.91	8.7	33.28	8.2	24.1	0.91
I25	31 Oct 2016	2	17.11	82.69	8.6	33.28	8.2	24.2	1.70
I25	31 Oct 2016	3	16.89	83.16	8.4	33.28	8.2	24.2	3.53
I25	31 Oct 2016	4	16.66	82.78	8.0	33.27	8.2	24.3	5.16
I25	31 Oct 2016	5	16.29	81.14	7.1	33.27	8.2	24.4	3.45
I25	31 Oct 2016	6	16.08	80.53	6.1	33.27	8.2	24.4	1.74
I25	31 Oct 2016	7	15.65	77.27	6.0	33.24	8.1	24.5	1.34
I25	31 Oct 2016	8	15.25	76.92	6.4	33.26	8.0	24.6	1.25

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ($\sigma\text{-t}$)	Chlor ($\mu\text{g/L}$)
I25	31 Oct 2016	9	15.20	77.23	6.6	33.26	8.0	24.6	1.21
I26	08 Oct 2016	1	17.82	79.40	8.3	33.32	8.2	24.0	0.83
I26	08 Oct 2016	2	17.65	79.25	8.2	33.31	8.2	24.1	1.00
I26	08 Oct 2016	3	17.45	79.00	8.1	33.32	8.2	24.1	1.37
I26	08 Oct 2016	4	17.28	79.01	8.1	33.29	8.2	24.1	1.76
I26	08 Oct 2016	5	16.56	79.14	7.8	33.28	8.2	24.3	2.56
I26	08 Oct 2016	6	16.36	79.21	7.4	33.28	8.1	24.3	2.90
I26	08 Oct 2016	7	16.18	78.88	7.3	33.25	8.1	24.4	2.75
I26	08 Oct 2016	8	15.42	77.87	7.6	33.26	8.1	24.5	2.66
I26	08 Oct 2016	9	15.37	78.51	7.7	33.26	8.1	24.6	2.71
I26	14 Oct 2016	1	16.91	75.27	7.8	33.29	8.1	24.2	1.92
I26	14 Oct 2016	2	16.64	75.54	7.8	33.29	8.1	24.3	2.54
I26	14 Oct 2016	3	16.28	75.20	7.8	33.26	8.1	24.3	3.02
I26	14 Oct 2016	4	16.05	74.29	7.5	33.28	8.1	24.4	3.38
I26	14 Oct 2016	5	15.82	74.74	7.0	33.27	8.1	24.5	3.52
I26	14 Oct 2016	6	15.66	74.97	6.6	33.26	8.1	24.5	3.16
I26	14 Oct 2016	7	15.14	75.36	6.6	33.26	8.1	24.6	2.75
I26	14 Oct 2016	8	14.98	77.04	6.7	33.27	8.1	24.6	2.78
I26	14 Oct 2016	9	14.96	76.67	6.9	33.27	8.0	24.6	2.88
I26	20 Oct 2016	1	17.28	78.54	8.4	33.33	8.2	24.2	1.52
I26	20 Oct 2016	2	17.28	78.33	8.5	33.33	8.2	24.2	3.31
I26	20 Oct 2016	3	17.21	78.52	8.6	33.32	8.2	24.2	5.36
I26	20 Oct 2016	4	16.84	77.49	8.6	33.30	8.2	24.2	6.94
I26	20 Oct 2016	5	16.40	74.90	8.6	33.31	8.2	24.4	10.23
I26	20 Oct 2016	6	16.28	71.46	8.2	33.32	8.2	24.4	9.50
I26	20 Oct 2016	7	16.18	69.68	7.4	33.30	8.2	24.4	6.00
I26	20 Oct 2016	8	15.65	67.95	6.9	33.28	8.2	24.5	5.95
I26	20 Oct 2016	9	14.87	63.45	7.1	33.25	8.2	24.7	5.05
I26	26 Oct 2016	1	17.61	74.60	9.0	33.28	8.3	24.0	3.06
I26	26 Oct 2016	2	17.43	74.43	8.6	33.28	8.3	24.1	5.79
I26	26 Oct 2016	3	16.78	72.07	8.2	33.29	8.3	24.3	7.32
I26	26 Oct 2016	4	16.53	68.13	7.8	33.27	8.2	24.3	7.22
I26	26 Oct 2016	5	16.32	67.63	7.8	33.27	8.2	24.3	6.09
I26	26 Oct 2016	6	16.15	69.43	7.6	33.27	8.2	24.4	5.42
I26	26 Oct 2016	7	15.94	73.29	7.2	33.27	8.2	24.4	3.92
I26	26 Oct 2016	8	15.65	75.00	7.3	33.27	8.1	24.5	3.62
I26	26 Oct 2016	9	15.56	74.97	7.8	33.26	8.1	24.5	4.91
I26	31 Oct 2016	1	17.35	81.58	8.6	33.30	8.2	24.1	0.81
I26	31 Oct 2016	2	17.15	81.65	8.6	33.30	8.2	24.2	1.17
I26	31 Oct 2016	3	16.85	81.97	8.6	33.31	8.2	24.2	1.79
I26	31 Oct 2016	4	16.60	81.26	8.5	33.30	8.2	24.3	2.25
I26	31 Oct 2016	5	16.45	80.91	8.1	33.29	8.2	24.3	3.01
I26	31 Oct 2016	6	16.15	80.63	7.8	33.28	8.2	24.4	3.30
I26	31 Oct 2016	7	15.72	80.03	7.5	33.28	8.2	24.5	3.62
I26	31 Oct 2016	8	15.51	80.31	7.0	33.27	8.1	24.5	2.59
I26	31 Oct 2016	9	15.24	78.54	6.9	33.27	8.1	24.6	2.01
I32	08 Oct 2016	1	17.28	75.28	7.9	33.31	8.1	24.1	1.93
I32	08 Oct 2016	2	16.95	74.73	8.0	33.28	8.1	24.2	2.42
I32	08 Oct 2016	3	16.22	73.13	8.1	33.29	8.1	24.4	2.94

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ($\sigma\text{-t}$)	Chlor ($\mu\text{g/L}$)
I32	08 Oct 2016	4	16.05	71.79	8.1	33.29	8.1	24.4	3.67
I32	08 Oct 2016	5	16.02	70.91	8.0	33.29	8.1	24.4	4.76
I32	08 Oct 2016	6	15.92	71.46	7.7	33.27	8.1	24.4	6.16
I32	08 Oct 2016	7	15.62	73.30	7.4	33.27	8.1	24.5	7.40
I32	08 Oct 2016	8	15.31	72.20	7.3	33.26	8.1	24.6	7.74
I32	08 Oct 2016	9	15.14	70.24	7.4	33.27	8.1	24.6	7.30
I32	08 Oct 2016	10	15.12	68.03	7.6	33.27	8.1	24.6	6.42
I32	14 Oct 2016	1	16.05	68.97	7.0	33.28	8.1	24.4	3.48
I32	14 Oct 2016	2	15.95	68.36	6.7	33.28	8.1	24.4	4.63
I32	14 Oct 2016	3	15.66	68.31	6.6	33.28	8.1	24.5	5.37
I32	14 Oct 2016	4	15.54	67.51	6.4	33.27	8.1	24.5	5.95
I32	14 Oct 2016	5	15.34	67.84	6.3	33.28	8.0	24.6	6.37
I32	14 Oct 2016	6	15.25	67.14	6.3	33.27	8.0	24.6	6.57
I32	14 Oct 2016	7	15.20	68.14	6.3	33.27	8.0	24.6	6.69
I32	14 Oct 2016	8	15.15	67.94	6.3	33.27	8.0	24.6	6.80
I32	14 Oct 2016	9	15.14	66.25	6.3	33.27	8.0	24.6	6.55
I32	14 Oct 2016	10	15.14	63.74	6.4	33.28	8.0	24.6	6.28
I32	20 Oct 2016	1	17.49	74.84	8.4	33.32	8.2	24.1	1.56
I32	20 Oct 2016	2	17.37	74.62	8.4	33.31	8.2	24.1	2.94
I32	20 Oct 2016	3	17.07	73.95	8.5	33.31	8.2	24.2	4.97
I32	20 Oct 2016	4	16.86	72.43	8.8	33.28	8.2	24.2	7.09
I32	20 Oct 2016	5	16.34	68.89	9.0	33.29	8.2	24.4	7.46
I32	20 Oct 2016	6	16.21	66.15	8.7	33.29	8.2	24.4	6.30
I32	20 Oct 2016	7	16.05	63.32	7.9	33.28	8.2	24.4	5.84
I32	20 Oct 2016	8	15.86	62.94	7.3	33.27	8.2	24.4	5.55
I32	20 Oct 2016	9	15.25	62.80	7.1	33.26	8.2	24.6	4.97
I32	20 Oct 2016	10	15.09	63.48	6.7	33.27	8.1	24.6	4.98
I32	26 Oct 2016	1	16.71	65.68	8.7	33.28	8.2	24.3	3.80
I32	26 Oct 2016	2	16.74	66.19	8.5	33.28	8.2	24.3	5.87
I32	26 Oct 2016	3	16.71	66.89	8.1	33.27	8.2	24.3	8.15
I32	26 Oct 2016	4	16.51	64.47	7.8	33.28	8.2	24.3	7.04
I32	26 Oct 2016	5	16.39	62.31	7.3	33.27	8.2	24.3	4.75
I32	26 Oct 2016	6	16.25	61.38	6.8	33.26	8.2	24.4	3.74
I32	26 Oct 2016	7	15.83	66.72	6.9	33.25	8.1	24.4	3.36
I32	26 Oct 2016	8	15.54	70.29	7.0	33.27	8.1	24.5	3.26
I32	26 Oct 2016	9	15.49	68.50	7.1	33.27	8.1	24.5	3.46
I32	31 Oct 2016	1	16.47	71.20	7.9	33.28	8.1	24.3	2.63
I32	31 Oct 2016	2	16.36	70.64	7.9	33.28	8.1	24.3	3.59
I32	31 Oct 2016	3	16.30	69.32	7.9	33.28	8.1	24.4	4.95
I32	31 Oct 2016	4	16.24	68.28	7.8	33.28	8.1	24.4	5.99
I32	31 Oct 2016	5	16.12	67.89	7.5	33.27	8.1	24.4	4.96
I32	31 Oct 2016	6	15.84	67.36	6.7	33.26	8.1	24.4	3.79
I32	31 Oct 2016	7	15.39	70.92	6.3	33.26	8.1	24.5	3.21
I32	31 Oct 2016	8	15.12	71.19	6.6	33.27	8.0	24.6	2.95
I32	31 Oct 2016	9	15.08	68.67	6.9	33.27	8.0	24.6	2.76
I32	31 Oct 2016	10	14.99	71.98	6.9	33.27	8.0	24.6	3.03
I39	08 Oct 2016	1	18.08	80.39	8.3	33.33	8.2	24.0	0.91
I39	08 Oct 2016	2	18.10	80.14	8.3	33.33	8.2	24.0	1.22
I39	08 Oct 2016	3	18.01	80.06	8.3	33.32	8.2	24.0	1.85
I39	08 Oct 2016	4	17.86	79.92	8.4	33.31	8.2	24.0	2.43

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ($\sigma\text{-t}$)	Chlor ($\mu\text{g/L}$)
I39	08 Oct 2016	5	17.44	79.84	8.3	33.28	8.2	24.1	3.10
I39	08 Oct 2016	6	16.95	79.37	8.3	33.27	8.2	24.2	3.89
I39	08 Oct 2016	7	16.48	78.72	8.3	33.24	8.2	24.3	4.75
I39	08 Oct 2016	8	15.97	78.22	8.3	33.24	8.1	24.4	5.35
I39	08 Oct 2016	9	15.76	77.15	8.2	33.23	8.1	24.4	5.67
I39	08 Oct 2016	10	15.53	76.29	8.1	33.22	8.1	24.5	5.83
I39	08 Oct 2016	11	15.30	76.65	8.0	33.22	8.1	24.5	6.10
I39	08 Oct 2016	12	15.22	76.87	7.5	33.23	8.1	24.6	5.39
I39	08 Oct 2016	13	15.14	77.17	7.2	33.22	8.1	24.6	4.09
I39	08 Oct 2016	14	14.90	76.53	6.9	33.21	8.1	24.6	2.64
I39	08 Oct 2016	15	14.62	78.40	6.6	33.24	8.1	24.7	1.84
I39	08 Oct 2016	16	14.52	81.91	6.5	33.21	8.1	24.7	1.61
I39	08 Oct 2016	17	14.05	83.68	6.7	33.25	8.0	24.8	1.64
I39	08 Oct 2016	18	14.02	84.28	6.8	33.25	8.0	24.8	1.67
I39	14 Oct 2016	1	17.36	82.01	8.4	33.30	8.2	24.1	1.11
I39	14 Oct 2016	2	17.33	81.77	8.5	33.30	8.2	24.1	1.37
I39	14 Oct 2016	3	17.29	81.91	8.5	33.30	8.2	24.1	1.65
I39	14 Oct 2016	4	17.27	81.75	8.5	33.30	8.2	24.1	1.96
I39	14 Oct 2016	5	17.23	81.52	8.4	33.30	8.2	24.2	2.39
I39	14 Oct 2016	6	17.17	81.28	8.3	33.29	8.2	24.2	2.75
I39	14 Oct 2016	7	16.68	81.42	8.3	33.24	8.2	24.2	2.98
I39	14 Oct 2016	8	15.63	81.91	8.3	33.26	8.2	24.5	3.25
I39	14 Oct 2016	9	15.41	81.89	8.2	33.26	8.2	24.5	3.21
I39	14 Oct 2016	10	15.35	81.67	8.2	33.25	8.2	24.5	3.30
I39	14 Oct 2016	11	15.32	81.42	8.1	33.26	8.1	24.6	3.31
I39	14 Oct 2016	12	15.30	81.34	8.1	33.26	8.1	24.6	3.30
I39	14 Oct 2016	13	15.27	81.24	8.0	33.26	8.1	24.6	3.38
I39	14 Oct 2016	14	15.23	81.05	7.9	33.26	8.1	24.6	3.27
I39	14 Oct 2016	15	15.18	81.19	7.4	33.26	8.1	24.6	2.65
I39	14 Oct 2016	16	15.09	80.87	6.8	33.25	8.1	24.6	2.38
I39	14 Oct 2016	17	14.75	80.81	6.9	33.26	8.1	24.7	2.14
I39	14 Oct 2016	18	14.66	80.47	7.0	33.26	8.1	24.7	2.13
I39	20 Oct 2016	1	17.28	80.84	8.4	33.33	8.2	24.2	0.97
I39	20 Oct 2016	2	17.19	80.66	8.3	33.33	8.2	24.2	1.66
I39	20 Oct 2016	3	17.03	80.38	8.2	33.31	8.2	24.2	3.19
I39	20 Oct 2016	4	16.42	79.92	8.0	33.28	8.2	24.3	4.36
I39	20 Oct 2016	5	15.85	78.96	8.0	33.29	8.2	24.5	5.40
I39	20 Oct 2016	6	15.46	75.55	8.0	33.28	8.2	24.6	7.02
I39	20 Oct 2016	7	15.26	74.85	7.9	33.28	8.2	24.6	7.86
I39	20 Oct 2016	8	15.14	74.11	7.6	33.27	8.2	24.6	7.27
I39	20 Oct 2016	9	14.86	72.99	7.3	33.25	8.2	24.7	6.01
I39	20 Oct 2016	10	14.57	72.86	6.9	33.26	8.1	24.7	4.55
I39	20 Oct 2016	11	14.41	73.85	6.6	33.26	8.1	24.8	4.10
I39	20 Oct 2016	12	14.28	76.36	6.5	33.26	8.1	24.8	4.14
I39	20 Oct 2016	13	14.06	77.08	6.5	33.26	8.1	24.8	3.84
I39	20 Oct 2016	14	14.04	76.69	6.5	33.27	8.1	24.8	3.13
I39	20 Oct 2016	15	14.00	76.08	6.5	33.26	8.1	24.8	2.82
I39	20 Oct 2016	16	13.93	75.85	6.6	33.26	8.0	24.9	2.63
I39	20 Oct 2016	17	13.90	75.56	6.6	33.27	8.0	24.9	2.35
I39	20 Oct 2016	18	13.90	74.55	6.5	33.27	8.0	24.9	2.07
I39	26 Oct 2016	1	17.33	76.29	9.4	33.28	8.3	24.1	2.69
I39	26 Oct 2016	2	17.29	76.27	9.5	33.28	8.3	24.1	3.20

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ($\sigma\text{-t}$)	Chlor ($\mu\text{g/L}$)
I39	26 Oct 2016	3	17.22	75.41	9.5	33.28	8.3	24.1	3.82
I39	26 Oct 2016	4	17.22	75.08	9.4	33.28	8.3	24.1	4.22
I39	26 Oct 2016	5	17.21	75.30	9.4	33.28	8.3	24.1	4.22
I39	26 Oct 2016	6	17.19	75.23	9.3	33.28	8.3	24.1	3.92
I39	26 Oct 2016	7	17.18	75.40	9.2	33.28	8.3	24.1	3.41
I39	26 Oct 2016	8	17.18	75.62	9.0	33.28	8.3	24.2	3.25
I39	26 Oct 2016	9	17.12	76.53	8.9	33.28	8.3	24.2	3.35
I39	26 Oct 2016	10	16.99	77.61	8.8	33.28	8.3	24.2	3.50
I39	26 Oct 2016	11	16.92	78.88	8.8	33.28	8.3	24.2	3.61
I39	26 Oct 2016	12	16.86	79.22	8.7	33.28	8.2	24.2	3.64
I39	26 Oct 2016	13	16.74	78.88	8.6	33.28	8.2	24.3	3.80
I39	26 Oct 2016	14	16.67	78.95	8.5	33.27	8.2	24.3	3.85
I39	26 Oct 2016	15	16.59	78.83	8.1	33.27	8.2	24.3	3.18
I39	26 Oct 2016	16	16.38	78.31	7.7	33.26	8.2	24.3	2.68
I39	26 Oct 2016	17	15.82	77.80	7.7	33.25	8.2	24.4	2.46
I39	26 Oct 2016	18	15.47	79.00	7.9	33.26	8.2	24.5	2.39
I39	31 Oct 2016	1	16.89	84.06	8.3	33.30	8.2	24.2	0.97
I39	31 Oct 2016	2	16.99	84.15	8.7	33.24	8.2	24.2	0.99
I39	31 Oct 2016	3	17.10	84.26	8.3	33.27	8.2	24.2	1.24
I39	31 Oct 2016	4	16.65	83.69	7.9	33.35	8.2	24.3	1.87
I39	31 Oct 2016	5	15.96	82.19	7.6	33.33	8.2	24.5	2.33
I39	31 Oct 2016	6	15.75	81.00	7.4	33.30	8.1	24.5	2.69
I39	31 Oct 2016	7	15.51	80.76	7.3	33.30	8.1	24.5	3.05
I39	31 Oct 2016	8	15.21	81.05	7.4	33.28	8.1	24.6	3.17
I39	31 Oct 2016	9	15.17	81.24	7.5	33.27	8.1	24.6	3.32
I39	31 Oct 2016	10	15.16	81.22	7.5	33.26	8.1	24.6	3.30
I39	31 Oct 2016	11	15.14	81.41	7.4	33.26	8.1	24.6	2.80
I39	31 Oct 2016	12	15.14	81.84	7.1	33.26	8.1	24.6	1.96
I39	31 Oct 2016	13	15.07	82.28	6.9	33.26	8.1	24.6	1.63
I39	31 Oct 2016	14	14.84	82.89	6.8	33.27	8.1	24.7	1.40
I39	31 Oct 2016	15	14.76	83.21	6.7	33.27	8.1	24.7	1.21
I39	31 Oct 2016	16	14.63	83.12	6.7	33.27	8.0	24.7	1.14
I39	31 Oct 2016	17	14.59	81.41	6.7	33.27	8.0	24.7	1.13
I39	31 Oct 2016	18	14.59	81.06	6.6	33.27	8.0	24.7	1.07
I40	08 Oct 2016	1	17.58	79.04	8.4	33.32	8.2	24.1	0.74
I40	08 Oct 2016	2	17.65	79.01	8.3	33.32	8.2	24.1	0.96
I40	08 Oct 2016	3	17.43	78.72	8.3	33.30	8.2	24.1	1.45
I40	08 Oct 2016	4	16.88	78.06	8.1	33.30	8.2	24.2	2.84
I40	08 Oct 2016	5	16.68	77.60	7.6	33.30	8.2	24.3	4.39
I40	08 Oct 2016	6	16.53	74.94	7.4	33.29	8.1	24.3	4.95
I40	08 Oct 2016	7	16.09	72.04	7.3	33.27	8.1	24.4	4.57
I40	08 Oct 2016	8	15.74	69.43	7.0	33.28	8.1	24.5	4.12
I40	08 Oct 2016	9	15.65	68.59	6.9	33.27	8.1	24.5	4.06
I40	08 Oct 2016	10	15.40	69.09	7.2	33.27	8.1	24.6	4.27
I40	14 Oct 2016	1	16.51	59.26	8.0	33.19	8.1	24.2	2.25
I40	14 Oct 2016	2	16.44	65.04	7.8	33.26	8.1	24.3	3.51
I40	14 Oct 2016	3	16.32	66.46	7.4	33.27	8.1	24.3	3.93
I40	14 Oct 2016	4	16.05	70.32	7.5	33.27	8.1	24.4	3.93
I40	14 Oct 2016	5	15.67	76.32	7.6	33.28	8.1	24.5	4.08
I40	14 Oct 2016	6	15.61	77.41	7.5	33.27	8.1	24.5	4.20
I40	14 Oct 2016	7	15.43	77.52	7.4	33.27	8.1	24.5	4.39
I40	14 Oct 2016	8	15.35	75.97	7.2	33.27	8.1	24.6	4.24

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ($\sigma\text{-t}$)	Chlor ($\mu\text{g/L}$)
I40	14 Oct 2016	9	15.26	70.02	7.0	33.27	8.1	24.6	4.08
I40	14 Oct 2016	10	15.05	58.88	7.2	33.27	8.1	24.6	4.13
I40	20 Oct 2016	1	17.10	75.68	8.3	33.32	8.2	24.2	1.53
I40	20 Oct 2016	2	17.01	75.55	8.2	33.31	8.2	24.2	2.00
I40	20 Oct 2016	3	16.58	74.38	8.2	33.30	8.2	24.3	3.02
I40	20 Oct 2016	4	16.35	73.51	8.3	33.31	8.2	24.4	4.12
I40	20 Oct 2016	5	16.25	72.33	8.4	33.30	8.2	24.4	4.83
I40	20 Oct 2016	6	16.06	70.91	8.6	33.29	8.2	24.4	4.85
I40	20 Oct 2016	7	15.80	69.61	8.4	33.27	8.2	24.5	5.60
I40	20 Oct 2016	8	15.38	71.95	7.5	33.29	8.2	24.6	5.82
I40	20 Oct 2016	9	14.94	69.74	6.8	33.25	8.2	24.6	5.28
I40	20 Oct 2016	10	14.51	51.78	6.8	33.27	8.1	24.7	5.20
I40	26 Oct 2016	1	16.97	68.29	8.6	33.26	8.2	24.2	6.65
I40	26 Oct 2016	2	16.93	67.64	8.2	33.26	8.2	24.2	8.07
I40	26 Oct 2016	3	16.49	63.66	7.8	33.24	8.2	24.3	4.55
I40	26 Oct 2016	4	16.23	61.81	7.6	33.26	8.2	24.4	3.54
I40	26 Oct 2016	5	16.11	69.79	7.5	33.25	8.2	24.4	3.18
I40	26 Oct 2016	6	16.04	72.10	7.3	33.26	8.2	24.4	3.00
I40	26 Oct 2016	7	15.91	70.83	7.2	33.25	8.2	24.4	2.86
I40	26 Oct 2016	8	15.77	67.49	7.3	33.26	8.1	24.5	2.83
I40	26 Oct 2016	9	15.60	61.56	7.5	33.25	8.1	24.5	2.81
I40	26 Oct 2016	10	15.47	56.31	7.5	33.27	8.1	24.5	2.86
I40	31 Oct 2016	1	16.98	79.95	8.5	33.28	8.2	24.2	2.03
I40	31 Oct 2016	2	16.94	80.55	7.9	33.28	8.2	24.2	2.77
I40	31 Oct 2016	3	16.46	78.89	7.6	33.26	8.2	24.3	3.19
I40	31 Oct 2016	4	16.16	73.68	7.5	33.28	8.1	24.4	3.49
I40	31 Oct 2016	5	16.11	72.08	7.2	33.27	8.1	24.4	3.36
I40	31 Oct 2016	6	15.93	71.69	6.6	33.27	8.1	24.4	3.48
I40	31 Oct 2016	7	15.79	71.88	6.0	33.25	8.1	24.4	3.63
I40	31 Oct 2016	8	15.09	74.63	6.0	33.26	8.0	24.6	3.41
I40	31 Oct 2016	9	14.97	70.12	6.0	33.27	8.0	24.6	2.77
I40	31 Oct 2016	10	14.83	65.02	6.0	33.26	8.0	24.7	3.06

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* (Enter) are reported as CFU/100 mL.

Station	Date	Depth	Analyst	Procedure	Total	Fecal	Enter
I19	08 Oct 2016	6	LMA	LAB DUPLICATE	<2	<2	<2
I19	14 Oct 2016	6	JT	LAB DUPLICATE	<2	<2	<2
I19	20 Oct 2016	6	ZV	LAB DUPLICATE	4e	<2	<2
I19	26 Oct 2016	6	JT	LAB DUPLICATE	16e	<2	<2
I19	31 Oct 2016	6	AR	LAB DUPLICATE	<2	<2	2e
I40	08 Oct 2016	6	LMA	LAB DUPLICATE	<2	<2	<2
I40	14 Oct 2016	6	JT	LAB DUPLICATE	<2	<2	<2
I40	20 Oct 2016	6	JT	LAB DUPLICATE	<2	<2	<2
I40	26 Oct 2016	6	JT	LAB DUPLICATE	14e	<2	<2
I40	31 Oct 2016	6	AR	LAB DUPLICATE	6e	<2	<2
S12	04 Oct 2016		ZV	FIELD DUPLICATE	<2	<2	<2
S12	04 Oct 2016		ZV	LAB DUPLICATE	<200	<2	<2
S12	11 Oct 2016		LMA	FIELD DUPLICATE	<20	<2	<2
S12	11 Oct 2016		LMA	LAB DUPLICATE	<200	<2	<2
S12	18 Oct 2016		LMA	FIELD DUPLICATE	<20	<2	2e
S12	18 Oct 2016		LMA	LAB DUPLICATE	<20	<2	<2
S12	25 Oct 2016		ZV	FIELD DUPLICATE	10e	<2	320e
S12	25 Oct 2016		ZV	LAB DUPLICATE	2e	<2	2e

ns = not sampled

ND = no data

