



# **MONTHLY RECEIVING WATERS MONITORING REPORT FOR THE SOUTH BAY OCEAN OUTFALL**

(SOUTH BAY WATER RECLAMATION PLANT)  
NPDES PERMIT No. CA 0109045

## **JUNE 2016**

CITY OF SAN DIEGO  
OCEAN MONITORING PROGRAM  
PUBLIC UTILITIES DEPARTMENT  
ENVIRONMENTAL MONITORING AND TECHNICAL SERVICES DIVISION





**THE CITY OF SAN DIEGO**

July 31, 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 June 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,

A handwritten signature in blue ink, appearing to read "Peter S. Vroom".

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

TDS/asb

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

**Public Utilities Department**

9192 Topaz Way • San Diego, CA 92123

(858) 292-6401





## 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)<sup>[1]</sup>. 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.

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<sup>[1]</sup>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 June, one of the eight shore stations located north of the border was out of compliance with California Ocean Plan (Ocean Plan) water contact standards (see below); these standards do not apply to stations located in Mexican waters.
  - The 30-day geometric mean standard for *Enterococcus* was exceeded at station S5 on multiple days during the month.
- Although the Ocean Plan standards do not apply to this station, bacteria densities exceeded one or more benchmark levels (i.e., total coliforms >10,000 CFU/100mL; fecal

coliforms >400 CFU/100 mL; *Enterococcus* >104 CFU/100 mL; total >1000 CFU/100 mL & F:T ratio >0.1) in the seawater sample collected at station S0 on June 21.

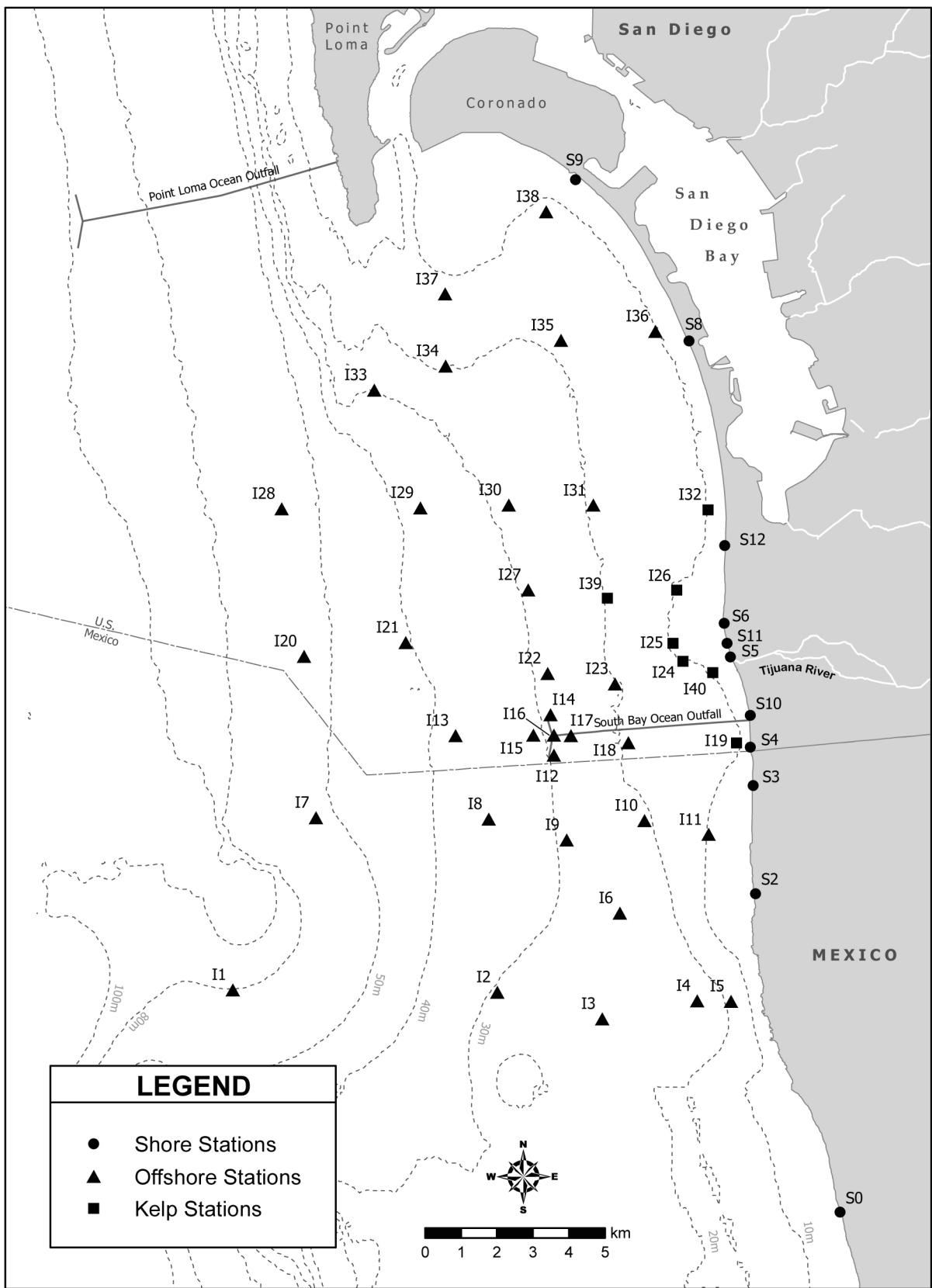
- Historical analyses of Ocean Plan compliance rates for the South Bay outfall shoreline monitoring stations, combined with the results of satellite imagery data, suggest that outflows from the Tijuana River and Los Buenos Creek, as well as surface runoff during or after rain events (storms), are likely 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>).
- No notable visual observations were recorded for June at any of the shore stations.

➤ **Kelp Bed Water Quality Sampling**

- The seven kelp bed water quality stations (I19, I24, I25, I26, I32, I39, I40) were sampled five times during June (i.e. June 4, 16, 20, 22, 27).
- During June, one of the seven stations was out of compliance with California Ocean Plan (Ocean Plan) water contact standards (see below).
  - The SSM standard for *Enterococcus* was exceeded at station I19 on June 4.
- Water column temperatures ranged from 11.01 to 20.56°C. The difference between surface and bottom waters ranged from approximately 0.94 to 7.12°C, indicating the water column was stratified at some of these sites during the month.
- Chlorophyll *a* concentrations ranged from 0.77 to 30.5 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 June at the offshore stations. The next quarterly sampling is scheduled for August 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 Jun 2016	12	164	34	6	9	17	38	25
02 Jun 2016	19*	308	60	8*	13*	28*	69	39*
03 Jun 2016	19*	308	60	8*	13*	28*	69	39*
04 Jun 2016	19*	308	60	8*	13*	28*	69	39*
05 Jun 2016	19*	308	60	8*	13*	28*	69	39*
06 Jun 2016	19*	308	60	8*	13*	28*	69	39*
07 Jun 2016	19	219	50	9	14	26	56	34
08 Jun 2016	19	219	50	9	14	26	56	34
09 Jun 2016	19*	118	16	11*	11*	28*	18	30*
10 Jun 2016	19*	118	16	11*	11*	28*	18	30*
11 Jun 2016	19*	52	11*	11*	11*	28*	18	30*
12 Jun 2016	19*	17	11*	11*	11*	28*	18	30*
13 Jun 2016	19*	17	11*	11*	11*	28*	18	30*
14 Jun 2016	19	17	13	13	13	24	11	28
15 Jun 2016	19	17	13	13	13	24	11	28
16 Jun 2016	19*	13*	11*	11*	11*	25*	8	30*
17 Jun 2016	19*	13*	11*	11*	11*	25*	8	30*
18 Jun 2016	19*	13*	11*	11*	11*	25*	8	30*
19 Jun 2016	19*	13*	11*	11*	11*	25*	8	30*
20 Jun 2016	19*	13*	11*	11*	11*	25*	8	30*
21 Jun 2016	16	11	11	13	13	19	6	22
22 Jun 2016	16	11	11	13	13	19	6	22
23 Jun 2016	27*	16*	18*	20*	20*	18*	8	22*
24 Jun 2016	27*	16*	18*	20*	20*	18*	8	22*
25 Jun 2016	27*	16*	18*	20*	20*	18*	8	22*
26 Jun 2016	27*	16*	18*	20*	20*	18*	8	22*
27 Jun 2016	27*	16*	18*	20*	20*	18*	8	22*
28 Jun 2016	18	17	18	20	25	19	10	19
29 Jun 2016	18	17	18	20	25	19	10	19
30 Jun 2016	11*	13*	18*	20*	26*	13*	6	12*

\* 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 Jun 2016	3	52	8	2	2	2	11	4
02 Jun 2016	4*	82	10	2*	2*	3*	16	4*
03 Jun 2016	4*	82	10	2*	2*	3*	16	4*
04 Jun 2016	4*	82	10	2*	2*	3*	16	4*
05 Jun 2016	4*	82	10	2*	2*	3*	16	4*
06 Jun 2016	4*	82	10	2*	2*	3*	16	4*
07 Jun 2016	3	52	8	2	2	2	11	7
08 Jun 2016	3	52	8	2	2	2	11	7
09 Jun 2016	4*	24	3	2*	2*	3*	3	6*
10 Jun 2016	4*	24	3	2*	2*	3*	3	6*
11 Jun 2016	4*	9	2*	2*	2*	3*	3	6*
12 Jun 2016	4*	2	2*	2*	2*	3*	3	6*
13 Jun 2016	4*	2	2*	2*	2*	3*	3	6*
14 Jun 2016	3	3	2	2	2	2	2	6
15 Jun 2016	3	3	2	2	2	2	2	6
16 Jun 2016	4*	3*	2*	2*	2*	2*	3	8*
17 Jun 2016	4*	3*	2*	2*	2*	2*	3	8*
18 Jun 2016	4*	3*	2*	2*	2*	2*	3	8*
19 Jun 2016	4*	3*	2*	2*	2*	2*	3	8*
20 Jun 2016	4*	3*	2*	2*	2*	2*	3	8*
21 Jun 2016	3	3	2	2	2	2	2	6
22 Jun 2016	3	3	2	2	2	2	2	6
23 Jun 2016	4*	3*	2*	2*	2*	2*	3	8*
24 Jun 2016	4*	3*	2*	2*	2*	2*	3	8*
25 Jun 2016	4*	3*	2*	2*	2*	2*	3	8*
26 Jun 2016	4*	3*	2*	2*	2*	2*	3	8*
27 Jun 2016	4*	3*	2*	2*	2*	2*	3	8*
28 Jun 2016	3	3	2	2	3	2	2	8
29 Jun 2016	3	3	2	2	3	2	2	8
30 Jun 2016	2*	3*	2*	2*	4*	2*	2	8*

\* 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 Jun 2016	6	104	13	3	2	4	17	3
02 Jun 2016	6*	184	19	3*	2*	5*	25	4*
03 Jun 2016	6*	184	19	3*	2*	5*	25	4*
04 Jun 2016	6*	184	19	3*	2*	5*	25	4*
05 Jun 2016	6*	184	19	3*	2*	5*	25	4*
06 Jun 2016	6*	184	19	3*	2*	5*	25	4*
07 Jun 2016	6	120	13	3	3	6	24	6
08 Jun 2016	6	120	13	3	3	6	24	6
09 Jun 2016	7*	62	6	2*	4*	6*	7	5*
10 Jun 2016	7*	62	6	2*	4*	6*	7	5*
11 Jun 2016	7*	27	3*	2*	4*	6*	8	5*
12 Jun 2016	7*	12	3*	2*	4*	6*	8	5*
13 Jun 2016	7*	12	3*	2*	4*	6*	8	5*
14 Jun 2016	7	6	3	2	3	6	6	7
15 Jun 2016	7	6	3	2	3	6	6	7
16 Jun 2016	7*	4*	3*	2*	4*	6*	5	8*
17 Jun 2016	7*	4*	3*	2*	4*	6*	5	8*
18 Jun 2016	7*	4*	3*	2*	4*	6*	5	8*
19 Jun 2016	7*	4*	3*	2*	4*	6*	5	8*
20 Jun 2016	7*	4*	3*	2*	4*	6*	5	8*
21 Jun 2016	7	5	3	2	3	5	4	6
22 Jun 2016	7	5	3	2	3	5	4	6
23 Jun 2016	10*	6*	3*	2*	4*	6*	5	8*
24 Jun 2016	10*	6*	3*	2*	4*	6*	5	8*
25 Jun 2016	10*	6*	3*	2*	4*	6*	5	8*
26 Jun 2016	10*	6*	3*	2*	4*	6*	5	8*
27 Jun 2016	10*	6*	3*	2*	4*	6*	5	8*
28 Jun 2016	9	5	3	2	4	5	4	7
29 Jun 2016	9	5	3	2	4	5	4	7
30 Jun 2016	7*	3*	2*	2*	5*	4*	4	8*

\* 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
07 Jun 2016	IC	IC	IC	IC	IC	IC	IC	IC
08 Jun 2016	ns	ns	ns	ns	ns	ns	ns	ns
14 Jun 2016	IC	IC	IC	IC	IC	IC	IC	IC
21 Jun 2016	IC	IC	IC	IC	IC	IC	IC	IC
28 Jun 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
07 Jun 2016	IC	IC	IC	IC	IC	IC	IC	IC
08 Jun 2016	ns	ns	ns	ns	ns	ns	ns	ns
14 Jun 2016	IC	IC	IC	IC	IC	IC	IC	IC
21 Jun 2016	IC	IC	IC	IC	IC	IC	IC	IC
28 Jun 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
07 Jun 2016	IC	IC	IC	IC	IC	IC	IC	IC
08 Jun 2016	ns	ns	ns	ns	ns	ns	ns	ns
14 Jun 2016	IC	IC	IC	IC	IC	IC	IC	IC
21 Jun 2016	IC	IC	IC	IC	IC	IC	IC	IC
28 Jun 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
07 Jun 2016	IC	IC	IC	IC	IC	IC	IC	IC
14 Jun 2016	IC	IC	IC	IC	IC	IC	IC	IC
21 Jun 2016	IC	IC	IC	IC	IC	IC	IC	IC
28 Jun 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.

<b>Station</b>	<b>Date</b>	<b>Time</b>	<b>Total</b>	<b>Fecal</b>	<b>Enter</b>	<b>F:T</b>
S0	07 Jun 2016	1100	400	16e	88	0.04
S0	14 Jun 2016	1120	50	<2	<2	0.04
S0	21 Jun 2016	1040	320e	100e	240e	0.31
S0	28 Jun 2016	1115	220e	66	26e	0.30
S2	07 Jun 2016	1000	40e	<2	<2	0.05
S2	14 Jun 2016	1025	2e	10e	2e	5.00
S2	21 Jun 2016	955	36e	2e	10e	0.06
S2	28 Jun 2016	1022	<20	2e	<2	0.10
S2	29 Jun 2016	1022	ns	ns	ns	ns
S3	07 Jun 2016	920	100e	12e	12e	0.12
S3	14 Jun 2016	955	10e	<2	24e	0.20
S3	21 Jun 2016	920	6e	<2	2e	0.33
S3	28 Jun 2016	946	<2	<2	2e	1.00
S4	07 Jun 2016	822	20e	<2	6e	0.10
S4	14 Jun 2016	853	<20	<2	8e	0.10
S4	21 Jun 2016	848	8e	<2	12e	0.25
S4	28 Jun 2016	953	4e	2e	4e	0.50
S5	07 Jun 2016	948	20e	<2	6e	0.10
S5	14 Jun 2016	1017	<20	8e	2e	0.40
S5	21 Jun 2016	1010	4e	<2	6e	0.50
S5	28 Jun 2016	1130	<20	2e	<2	0.10
S6	07 Jun 2016	927	20e	<2	<2	0.10
S6	14 Jun 2016	1048	<20	<2	2e	0.10
S6	21 Jun 2016	956	12e	<2	4e	0.17
S6	28 Jun 2016	1118	<20	<2	2e	0.10
S8	07 Jun 2016	1112	<20	<2	<2	0.10
S8	14 Jun 2016	1159	<20	<2	<2	0.10
S8	21 Jun 2016	1135	<20	<2	<2	0.10
S8	28 Jun 2016	1252	<20	2e	<2	0.10
S9	07 Jun 2016	1145	20e	<2	20e	0.10
S9	14 Jun 2016	1226	<20	<2	<2	0.10
S9	21 Jun 2016	1212	<20	<2	<2	0.10
S9	28 Jun 2016	1319	60e	24e	10e	0.40
S10	07 Jun 2016	827	<20	<2	<20	0.10
S10	14 Jun 2016	835	12e	<2	4e	0.17
S10	21 Jun 2016	852	6e	<2	<2	0.33
S10	28 Jun 2016	1000	<20	<2	<2	0.10
S11	07 Jun 2016	940	20e	<2	<20	0.10
S11	08 Jun 2016	940	ns	ns	ns	ns
S11	14 Jun 2016	1037	<2	2e	<2	1.00

<b>Station</b>	<b>Date</b>	<b>Time</b>	<b>Total</b>	<b>Fecal</b>	<b>Enteric</b>	<b>F:T</b>
S11	21 Jun 2016	1001	2e	<2	<2	1.00
S11	28 Jun 2016	1123	<20	<2	<2	0.10
S12	07 Jun 2016	910	<20	40e	20e	2.00
S12	14 Jun 2016	930	<20	6e	26e	0.30
S12	21 Jun 2016	934	6e	<2	<2	0.33
S12	28 Jun 2016	1056	10e	8e	4e	0.80

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	07 Jun 2016	Arrive Time	1100
S0	07 Jun 2016	Weather	Cloudy
S0	07 Jun 2016	Wind Speed (kts)	0.7
S0	07 Jun 2016	Wind Dir	NE
S0	07 Jun 2016	Animal Life	5 Seagulls
S0	07 Jun 2016	Floatables	None
S0	07 Jun 2016	Water Color	Green
S0	07 Jun 2016	Current Direction	NE
S0	07 Jun 2016	Water Temp (C)	0.7
S0	07 Jun 2016	Wave Height Low (ft)	2
S0	07 Jun 2016	High Tide (ft)	4
S0	07 Jun 2016	High Tide Time	1216
S0	07 Jun 2016	Low Tide (ft)	-1.2
S0	07 Jun 2016	Low Tide Time	550
S0	07 Jun 2016	Comments	Kelp; Water clear; Stormdrain flow 0.5 L/sec
S0	14 Jun 2016	Arrive Time	1120
S0	14 Jun 2016	Weather	Cloudy
S0	14 Jun 2016	Wind Speed (kts)	2.6
S0	14 Jun 2016	Wind Dir	SE
S0	14 Jun 2016	Animal Life	None
S0	14 Jun 2016	Floatables	None
S0	14 Jun 2016	Water Color	Green
S0	14 Jun 2016	Current Direction	SE
S0	14 Jun 2016	Water Temp (C)	18
S0	14 Jun 2016	Wave Height Low (ft)	3
S0	14 Jun 2016	High Tide (ft)	3.3
S0	14 Jun 2016	High Tide Time	606
S0	14 Jun 2016	Low Tide (ft)	1.4
S0	14 Jun 2016	Low Tide Time	1151
S0	14 Jun 2016	Comments	Kelp; 3 Persons; Water clear; Flow from stormdrain 0.5 L/sec
S0	21 Jun 2016	Arrive Time	1040
S0	21 Jun 2016	Weather	Cloudy
S0	21 Jun 2016	Wind Speed (kts)	3.6
S0	21 Jun 2016	Wind Dir	SW
S0	21 Jun 2016	Animal Life	5 Shorebirds; 1 Dog
S0	21 Jun 2016	Floatables	None
S0	21 Jun 2016	Water Color	Green
S0	21 Jun 2016	Current Direction	SW
S0	21 Jun 2016	Water Temp (C)	18
S0	21 Jun 2016	Wave Height Low (ft)	4
S0	21 Jun 2016	High Tide (ft)	3.8
S0	21 Jun 2016	High Tide Time	1107
S0	21 Jun 2016	Low Tide (ft)	2
S0	21 Jun 2016	Low Tide Time	1604
S0	21 Jun 2016	Comments	Kelp; Seagrass; 6 Persons; Water clear; Flow from stormdrain 0.5 L/sec
S0	28 Jun 2016	Arrive Time	1115
S0	28 Jun 2016	Weather	Cloudy

Station	Date	Parameter	Value
S0	28 Jun 2016	Wind Speed (kts)	4
S0	28 Jun 2016	Wind Dir	SE
S0	28 Jun 2016	Animal Life	1 Dog; 10 Seagulls
S0	28 Jun 2016	Floatables	None
S0	28 Jun 2016	Water Color	Green
S0	28 Jun 2016	Current Direction	N
S0	28 Jun 2016	Water Temp (C)	21.5
S0	28 Jun 2016	Wave Height Low (ft)	3
S0	28 Jun 2016	High Tide (ft)	5.1
S0	28 Jun 2016	High Tide Time	1659
S0	28 Jun 2016	Low Tide (ft)	0.9
S0	28 Jun 2016	Low Tide Time	1017
S0	28 Jun 2016	Comments	Kelp; 2 Persons; Water clear; Storm drain run off 0.5 L per sec
S2	07 Jun 2016	Arrive Time	1000
S2	07 Jun 2016	Weather	Cloudy
S2	07 Jun 2016	Wind Speed (kts)	1.3
S2	07 Jun 2016	Wind Dir	NE
S2	07 Jun 2016	Animal Life	5 Dogs; 10 Dolphins; 5 Pelicans; 5 Seagulls
S2	07 Jun 2016	Floatables	None
S2	07 Jun 2016	Water Color	Green
S2	07 Jun 2016	Current Direction	S
S2	07 Jun 2016	Water Temp (C)	15
S2	07 Jun 2016	Wave Height Low (ft)	2.5
S2	07 Jun 2016	High Tide (ft)	4
S2	07 Jun 2016	High Tide Time	1216
S2	07 Jun 2016	Low Tide (ft)	-1.2
S2	07 Jun 2016	Low Tide Time	550
S2	07 Jun 2016	Comments	Kelp; Water clear; No stormdrain flow
S2	14 Jun 2016	Arrive Time	1025
S2	14 Jun 2016	Weather	Cloudy
S2	14 Jun 2016	Wind Speed (kts)	3.9
S2	14 Jun 2016	Wind Dir	SE
S2	14 Jun 2016	Animal Life	5 Shorebirds
S2	14 Jun 2016	Floatables	None
S2	14 Jun 2016	Water Color	Green
S2	14 Jun 2016	Current Direction	SE
S2	14 Jun 2016	Water Temp (C)	18
S2	14 Jun 2016	Wave Height Low (ft)	2
S2	14 Jun 2016	High Tide (ft)	3.3
S2	14 Jun 2016	High Tide Time	606
S2	14 Jun 2016	Low Tide (ft)	1.4
S2	14 Jun 2016	Low Tide Time	1151
S2	14 Jun 2016	Comments	Kelp; 2 Persons; Water clear; No flow from stormdrain
S2	21 Jun 2016	Arrive Time	955
S2	21 Jun 2016	Weather	Cloudy
S2	21 Jun 2016	Wind Speed (kts)	4.7
S2	21 Jun 2016	Wind Dir	SW
S2	21 Jun 2016	Animal Life	5 Shorebirds; 2 Dogs
S2	21 Jun 2016	Floatables	None
S2	21 Jun 2016	Water Color	Green
S2	21 Jun 2016	Current Direction	SW
S2	21 Jun 2016	Water Temp (C)	18

Station	Date	Parameter	Value
S2	21 Jun 2016	Wave Height Low (ft)	4
S2	21 Jun 2016	High Tide (ft)	3.8
S2	21 Jun 2016	High Tide Time	1107
S2	21 Jun 2016	Low Tide (ft)	-0.7
S2	21 Jun 2016	Low Tide Time	449
S2	21 Jun 2016	Comments	Kelp; Seagrass; Water clear; No flow from stormdrain
S2	28 Jun 2016	Arrive Time	1022
S2	28 Jun 2016	Weather	Cloudy
S2	28 Jun 2016	Wind Speed (kts)	2.7
S2	28 Jun 2016	Wind Dir	SE
S2	28 Jun 2016	Animal Life	2 Dogs; 20 Seagulls
S2	28 Jun 2016	Floatables	None
S2	28 Jun 2016	Water Color	Green
S2	28 Jun 2016	Current Direction	N
S2	28 Jun 2016	Water Temp (C)	21
S2	28 Jun 2016	Wave Height Low (ft)	3
S2	28 Jun 2016	High Tide (ft)	3.6
S2	28 Jun 2016	High Tide Time	403
S2	28 Jun 2016	Low Tide (ft)	0.9
S2	28 Jun 2016	Low Tide Time	1017
S2	28 Jun 2016	Comments	Kelp; 10 Persons; Water clear; No storm drain runoff
S2	29 Jun 2016	Arrive Time	1022
S2	29 Jun 2016	Weather	Cloudy
S2	29 Jun 2016	Wind Speed (kts)	2.7
S2	29 Jun 2016	Wind Dir	SE
S2	29 Jun 2016	Animal Life	2 Dogs; 20 Seagulls
S2	29 Jun 2016	Floatables	None
S2	29 Jun 2016	Water Color	Green
S2	29 Jun 2016	Current Direction	SE
S2	29 Jun 2016	Water Temp (C)	21
S2	29 Jun 2016	Wave Height Low (ft)	3
S2	29 Jun 2016	High Tide (ft)	3.5
S2	29 Jun 2016	High Tide Time	534
S2	29 Jun 2016	Low Tide (ft)	1.2
S2	29 Jun 2016	Low Tide Time	1117
S2	29 Jun 2016	Comments	Kelp; 10 Persons; Water clear; No storm drain runoff
S3	07 Jun 2016	Arrive Time	920
S3	07 Jun 2016	Weather	Cloudy
S3	07 Jun 2016	Wind Speed (kts)	0.9
S3	07 Jun 2016	Wind Dir	NE
S3	07 Jun 2016	Animal Life	5 Seagulls
S3	07 Jun 2016	Floatables	None
S3	07 Jun 2016	Water Color	Green
S3	07 Jun 2016	Current Direction	S
S3	07 Jun 2016	Water Temp (C)	15.5
S3	07 Jun 2016	Wave Height Low (ft)	2.5
S3	07 Jun 2016	High Tide (ft)	4
S3	07 Jun 2016	High Tide Time	1216
S3	07 Jun 2016	Low Tide (ft)	-1.2
S3	07 Jun 2016	Low Tide Time	550
S3	07 Jun 2016	Comments	Kelp; 5 Persons; Water clear; No stormdrain flow

Station	Date	Parameter	Value
S3	14 Jun 2016	Arrive Time	955
S3	14 Jun 2016	Weather	Cloudy
S3	14 Jun 2016	Wind Speed (kts)	1.9
S3	14 Jun 2016	Wind Dir	NE
S3	14 Jun 2016	Animal Life	5 Shorebirds
S3	14 Jun 2016	Floatables	None
S3	14 Jun 2016	Water Color	Green
S3	14 Jun 2016	Current Direction	NE
S3	14 Jun 2016	Water Temp (C)	18
S3	14 Jun 2016	Wave Height Low (ft)	2
S3	14 Jun 2016	High Tide (ft)	3.3
S3	14 Jun 2016	High Tide Time	606
S3	14 Jun 2016	Low Tide (ft)	1.4
S3	14 Jun 2016	Low Tide Time	1151
S3	14 Jun 2016	Comments	Kelp; 2 Surfers; Water clear; No flow from stormdrain
S3	21 Jun 2016	Arrive Time	920
S3	21 Jun 2016	Weather	Cloudy
S3	21 Jun 2016	Wind Speed (kts)	5.2
S3	21 Jun 2016	Wind Dir	SW
S3	21 Jun 2016	Animal Life	5 Shorebirds
S3	21 Jun 2016	Floatables	None
S3	21 Jun 2016	Water Color	Green
S3	21 Jun 2016	Current Direction	SW
S3	21 Jun 2016	Water Temp (C)	18
S3	21 Jun 2016	Wave Height Low (ft)	3
S3	21 Jun 2016	High Tide (ft)	3.8
S3	21 Jun 2016	High Tide Time	1107
S3	21 Jun 2016	Low Tide (ft)	-0.7
S3	21 Jun 2016	Low Tide Time	449
S3	21 Jun 2016	Comments	Kelp; Seagrass; 3 Surfers; Water clear; No flow from stormdrain
S3	28 Jun 2016	Arrive Time	946
S3	28 Jun 2016	Weather	Cloudy
S3	28 Jun 2016	Wind Speed (kts)	3.6
S3	28 Jun 2016	Wind Dir	SE
S3	28 Jun 2016	Animal Life	5 Birds; 2 Dogs
S3	28 Jun 2016	Floatables	None
S3	28 Jun 2016	Water Color	Green
S3	28 Jun 2016	Current Direction	N
S3	28 Jun 2016	Water Temp (C)	21
S3	28 Jun 2016	Wave Height Low (ft)	3
S3	28 Jun 2016	High Tide (ft)	3.6
S3	28 Jun 2016	High Tide Time	403
S3	28 Jun 2016	Low Tide (ft)	0.9
S3	28 Jun 2016	Low Tide Time	1017
S3	28 Jun 2016	Comments	Kelp; 6 Persons; Water clear; No storm drain runoff
S4	07 Jun 2016	Arrive Time	822
S4	07 Jun 2016	Weather	Cloudy
S4	07 Jun 2016	Wind Speed (kts)	0.7
S4	07 Jun 2016	Wind Dir	W
S4	07 Jun 2016	Animal Life	None
S4	07 Jun 2016	Floatables	None
S4	07 Jun 2016	Water Color	Green

Station	Date	Parameter	Value
S4	07 Jun 2016	Current Direction	W
S4	07 Jun 2016	Water Temp (C)	16
S4	07 Jun 2016	Wave Height Low (ft)	2
S4	07 Jun 2016	High Tide (ft)	4
S4	07 Jun 2016	High Tide Time	1216
S4	07 Jun 2016	Low Tide (ft)	-1.2
S4	07 Jun 2016	Low Tide Time	550
S4	07 Jun 2016	Comments	Kelp; Seagrass; Water clear
S4	14 Jun 2016	Arrive Time	853
S4	14 Jun 2016	Weather	Cloudy
S4	14 Jun 2016	Wind Speed (kts)	5
S4	14 Jun 2016	Wind Dir	SW
S4	14 Jun 2016	Animal Life	None
S4	14 Jun 2016	Floatables	None
S4	14 Jun 2016	Water Color	Green
S4	14 Jun 2016	Current Direction	SW
S4	14 Jun 2016	Water Temp (C)	17.6
S4	14 Jun 2016	Wave Height Low (ft)	3
S4	14 Jun 2016	High Tide (ft)	3.3
S4	14 Jun 2016	High Tide Time	606
S4	14 Jun 2016	Low Tide (ft)	1.4
S4	14 Jun 2016	Low Tide Time	1151
S4	14 Jun 2016	Comments	Kelp; Seagrass; Water clear
S4	21 Jun 2016	Arrive Time	848
S4	21 Jun 2016	Weather	Cloudy
S4	21 Jun 2016	Wind Speed (kts)	9.7
S4	21 Jun 2016	Wind Dir	SW
S4	21 Jun 2016	Animal Life	None
S4	21 Jun 2016	Floatables	None
S4	21 Jun 2016	Water Color	Green
S4	21 Jun 2016	Current Direction	SW
S4	21 Jun 2016	Water Temp (C)	18
S4	21 Jun 2016	Wave Height Low (ft)	3
S4	21 Jun 2016	High Tide (ft)	3.8
S4	21 Jun 2016	High Tide Time	1107
S4	21 Jun 2016	Low Tide (ft)	-0.7
S4	21 Jun 2016	Low Tide Time	449
S4	21 Jun 2016	Comments	Kelp; Seagrass; Water clear
S4	28 Jun 2016	Arrive Time	953
S4	28 Jun 2016	Weather	Cloudy
S4	28 Jun 2016	Wind Speed (kts)	7.1
S4	28 Jun 2016	Wind Dir	SW
S4	28 Jun 2016	Animal Life	None
S4	28 Jun 2016	Floatables	None
S4	28 Jun 2016	Water Color	Green
S4	28 Jun 2016	Current Direction	S
S4	28 Jun 2016	Water Temp (C)	20
S4	28 Jun 2016	Wave Height Low (ft)	3
S4	28 Jun 2016	High Tide (ft)	3.6
S4	28 Jun 2016	High Tide Time	403
S4	28 Jun 2016	Low Tide (ft)	0.9
S4	28 Jun 2016	Low Tide Time	1017

Station	Date	Parameter	Value
S4	28 Jun 2016	Comments	Seagrass; Water clear
S5	07 Jun 2016	Arrive Time	948
S5	07 Jun 2016	Weather	Cloudy
S5	07 Jun 2016	Wind Speed (kts)	2.3
S5	07 Jun 2016	Wind Dir	W
S5	07 Jun 2016	Animal Life	None
S5	07 Jun 2016	Floatables	None
S5	07 Jun 2016	Water Color	Green
S5	07 Jun 2016	Current Direction	S
S5	07 Jun 2016	Water Temp (C)	16.6
S5	07 Jun 2016	Wave Height Low (ft)	2
S5	07 Jun 2016	High Tide (ft)	4
S5	07 Jun 2016	High Tide Time	1216
S5	07 Jun 2016	Low Tide (ft)	-1.2
S5	07 Jun 2016	Low Tide Time	550
S5	07 Jun 2016	Comments	Kelp; Seagrass; Water clear
S5	14 Jun 2016	Arrive Time	1017
S5	14 Jun 2016	Weather	Cloudy
S5	14 Jun 2016	Wind Speed (kts)	4
S5	14 Jun 2016	Wind Dir	SW
S5	14 Jun 2016	Animal Life	None
S5	14 Jun 2016	Floatables	None
S5	14 Jun 2016	Water Color	Green
S5	14 Jun 2016	Current Direction	SW
S5	14 Jun 2016	Water Temp (C)	18.8
S5	14 Jun 2016	Wave Height Low (ft)	3
S5	14 Jun 2016	High Tide (ft)	3.3
S5	14 Jun 2016	High Tide Time	606
S5	14 Jun 2016	Low Tide (ft)	1.4
S5	14 Jun 2016	Low Tide Time	1151
S5	14 Jun 2016	Comments	Kelp; Seagrass; Water clear
S5	21 Jun 2016	Arrive Time	1010
S5	21 Jun 2016	Weather	Cloudy
S5	21 Jun 2016	Wind Speed (kts)	13.2
S5	21 Jun 2016	Wind Dir	SW
S5	21 Jun 2016	Animal Life	None
S5	21 Jun 2016	Floatables	None
S5	21 Jun 2016	Water Color	Green
S5	21 Jun 2016	Current Direction	SW
S5	21 Jun 2016	Water Temp (C)	18.8
S5	21 Jun 2016	Wave Height Low (ft)	3
S5	21 Jun 2016	High Tide (ft)	3.8
S5	21 Jun 2016	High Tide Time	1107
S5	21 Jun 2016	Low Tide (ft)	-0.7
S5	21 Jun 2016	Low Tide Time	449
S5	21 Jun 2016	Comments	Kelp; Seagrass; Water clear
S5	28 Jun 2016	Arrive Time	1130
S5	28 Jun 2016	Weather	Cloudy
S5	28 Jun 2016	Wind Speed (kts)	5
S5	28 Jun 2016	Wind Dir	W
S5	28 Jun 2016	Animal Life	None

Station	Date	Parameter	Value
S5	28 Jun 2016	Floatables	None
S5	28 Jun 2016	Water Color	Green
S5	28 Jun 2016	Current Direction	S
S5	28 Jun 2016	Water Temp (C)	22
S5	28 Jun 2016	Wave Height Low (ft)	2
S5	28 Jun 2016	High Tide (ft)	5.1
S5	28 Jun 2016	High Tide Time	1659
S5	28 Jun 2016	Low Tide (ft)	0.9
S5	28 Jun 2016	Low Tide Time	1017
S5	28 Jun 2016	Comments	Seagrass; Water clear
S6	07 Jun 2016	Arrive Time	927
S6	07 Jun 2016	Weather	Cloudy
S6	07 Jun 2016	Wind Speed (kts)	2.9
S6	07 Jun 2016	Wind Dir	SW
S6	07 Jun 2016	Animal Life	None
S6	07 Jun 2016	Floatables	None
S6	07 Jun 2016	Water Color	Green
S6	07 Jun 2016	Current Direction	SW
S6	07 Jun 2016	Water Temp (C)	16.4
S6	07 Jun 2016	Wave Height Low (ft)	2
S6	07 Jun 2016	High Tide (ft)	4
S6	07 Jun 2016	High Tide Time	1216
S6	07 Jun 2016	Low Tide (ft)	-1.2
S6	07 Jun 2016	Low Tide Time	550
S6	07 Jun 2016	Comments	Kelp; Seagrass; Water clear
S6	14 Jun 2016	Arrive Time	1048
S6	14 Jun 2016	Weather	Cloudy
S6	14 Jun 2016	Wind Speed (kts)	7.7
S6	14 Jun 2016	Wind Dir	SW
S6	14 Jun 2016	Animal Life	None
S6	14 Jun 2016	Floatables	None
S6	14 Jun 2016	Water Color	Green
S6	14 Jun 2016	Current Direction	SW
S6	14 Jun 2016	Water Temp (C)	18
S6	14 Jun 2016	Wave Height Low (ft)	4
S6	14 Jun 2016	High Tide (ft)	3.3
S6	14 Jun 2016	High Tide Time	606
S6	14 Jun 2016	Low Tide (ft)	1.4
S6	14 Jun 2016	Low Tide Time	1151
S6	14 Jun 2016	Comments	Kelp; Seagrass; Water clear
S6	21 Jun 2016	Arrive Time	956
S6	21 Jun 2016	Weather	Cloudy
S6	21 Jun 2016	Wind Speed (kts)	10.1
S6	21 Jun 2016	Wind Dir	SW
S6	21 Jun 2016	Animal Life	None
S6	21 Jun 2016	Floatables	None
S6	21 Jun 2016	Water Color	Green
S6	21 Jun 2016	Current Direction	SW
S6	21 Jun 2016	Water Temp (C)	18.6
S6	21 Jun 2016	Wave Height Low (ft)	4
S6	21 Jun 2016	High Tide (ft)	3.8
S6	21 Jun 2016	High Tide Time	1107

Station	Date	Parameter	Value
S6	21 Jun 2016	Low Tide (ft)	-0.7
S6	21 Jun 2016	Low Tide Time	449
S6	21 Jun 2016	Comments	Kelp; Seagrass; Water clear
S6	28 Jun 2016	Arrive Time	1118
S6	28 Jun 2016	Weather	Partly Cloudy
S6	28 Jun 2016	Wind Speed (kts)	2.7
S6	28 Jun 2016	Wind Dir	W
S6	28 Jun 2016	Animal Life	None
S6	28 Jun 2016	Floatables	None
S6	28 Jun 2016	Water Color	Green
S6	28 Jun 2016	Current Direction	S
S6	28 Jun 2016	Water Temp (C)	22.5
S6	28 Jun 2016	Wave Height Low (ft)	3
S6	28 Jun 2016	High Tide (ft)	5.1
S6	28 Jun 2016	High Tide Time	1659
S6	28 Jun 2016	Low Tide (ft)	0.9
S6	28 Jun 2016	Low Tide Time	1017
S6	28 Jun 2016	Comments	2 Persons; 1 Surfer; Water clear
S8	07 Jun 2016	Arrive Time	1112
S8	07 Jun 2016	Weather	Cloudy
S8	07 Jun 2016	Wind Speed (kts)	2.9
S8	07 Jun 2016	Wind Dir	W
S8	07 Jun 2016	Animal Life	None
S8	07 Jun 2016	Floatables	None
S8	07 Jun 2016	Water Color	Green
S8	07 Jun 2016	Current Direction	S
S8	07 Jun 2016	Water Temp (C)	17.4
S8	07 Jun 2016	Wave Height Low (ft)	2
S8	07 Jun 2016	High Tide (ft)	4
S8	07 Jun 2016	High Tide Time	1216
S8	07 Jun 2016	Low Tide (ft)	-1.2
S8	07 Jun 2016	Low Tide Time	550
S8	07 Jun 2016	Comments	Kelp; Seagrass; Water clear
S8	14 Jun 2016	Arrive Time	1159
S8	14 Jun 2016	Weather	Cloudy
S8	14 Jun 2016	Wind Speed (kts)	7.2
S8	14 Jun 2016	Wind Dir	SW
S8	14 Jun 2016	Animal Life	None
S8	14 Jun 2016	Floatables	None
S8	14 Jun 2016	Water Color	Green
S8	14 Jun 2016	Current Direction	SW
S8	14 Jun 2016	Water Temp (C)	18.6
S8	14 Jun 2016	Wave Height Low (ft)	2
S8	14 Jun 2016	High Tide (ft)	3.3
S8	14 Jun 2016	High Tide Time	606
S8	14 Jun 2016	Low Tide (ft)	1.4
S8	14 Jun 2016	Low Tide Time	1151
S8	14 Jun 2016	Comments	Kelp; Seagrass; 20 Persons; 13 Swimmers; Water clear
S8	21 Jun 2016	Arrive Time	1135
S8	21 Jun 2016	Weather	Cloudy
S8	21 Jun 2016	Wind Speed (kts)	8.3

Station	Date	Parameter	Value
S8	21 Jun 2016	Wind Dir	SW
S8	21 Jun 2016	Animal Life	None
S8	21 Jun 2016	Floatables	None
S8	21 Jun 2016	Water Color	Green
S8	21 Jun 2016	Current Direction	SW
S8	21 Jun 2016	Water Temp (C)	18.8
S8	21 Jun 2016	Wave Height Low (ft)	3
S8	21 Jun 2016	High Tide (ft)	3.8
S8	21 Jun 2016	High Tide Time	1107
S8	21 Jun 2016	Low Tide (ft)	2
S8	21 Jun 2016	Low Tide Time	1604
S8	21 Jun 2016	Comments	Kelp; Seagrass; Water clear
S8	28 Jun 2016	Arrive Time	1252
S8	28 Jun 2016	Weather	Partly Cloudy
S8	28 Jun 2016	Wind Speed (kts)	6.9
S8	28 Jun 2016	Wind Dir	W
S8	28 Jun 2016	Animal Life	None
S8	28 Jun 2016	Floatables	None
S8	28 Jun 2016	Water Color	Green
S8	28 Jun 2016	Current Direction	S
S8	28 Jun 2016	Water Temp (C)	22.6
S8	28 Jun 2016	Wave Height Low (ft)	3
S8	28 Jun 2016	High Tide (ft)	5.1
S8	28 Jun 2016	High Tide Time	1659
S8	28 Jun 2016	Low Tide (ft)	0.9
S8	28 Jun 2016	Low Tide Time	1017
S8	28 Jun 2016	Comments	15 Persons; Water clear
S9	07 Jun 2016	Arrive Time	1145
S9	07 Jun 2016	Weather	Partly Cloudy
S9	07 Jun 2016	Wind Speed (kts)	2.9
S9	07 Jun 2016	Wind Dir	W
S9	07 Jun 2016	Animal Life	None
S9	07 Jun 2016	Floatables	None
S9	07 Jun 2016	Water Color	Green
S9	07 Jun 2016	Current Direction	S
S9	07 Jun 2016	Water Temp (C)	17.8
S9	07 Jun 2016	Wave Height Low (ft)	2
S9	07 Jun 2016	High Tide (ft)	4
S9	07 Jun 2016	High Tide Time	1216
S9	07 Jun 2016	Low Tide (ft)	1.9
S9	07 Jun 2016	Low Tide Time	1723
S9	07 Jun 2016	Comments	Kelp; Seagrass; 10 Persons; Water clear
S9	14 Jun 2016	Arrive Time	1226
S9	14 Jun 2016	Weather	Cloudy
S9	14 Jun 2016	Wind Speed (kts)	5.4
S9	14 Jun 2016	Wind Dir	SW
S9	14 Jun 2016	Animal Life	None
S9	14 Jun 2016	Floatables	None
S9	14 Jun 2016	Water Color	Green
S9	14 Jun 2016	Current Direction	SW
S9	14 Jun 2016	Water Temp (C)	19.6
S9	14 Jun 2016	Wave Height Low (ft)	2

Station	Date	Parameter	Value
S9	14 Jun 2016	High Tide (ft)	4.9
S9	14 Jun 2016	High Tide Time	1826
S9	14 Jun 2016	Low Tide (ft)	1.4
S9	14 Jun 2016	Low Tide Time	1151
S9	14 Jun 2016	Comments	Kelp; Seagrass; 23 Persons; 9 Surfers; 10 Swimmers; Water clear
S9	21 Jun 2016	Arrive Time	1212
S9	21 Jun 2016	Weather	Cloudy
S9	21 Jun 2016	Wind Speed (kts)	3.8
S9	21 Jun 2016	Wind Dir	SW
S9	21 Jun 2016	Animal Life	None
S9	21 Jun 2016	Floatables	None
S9	21 Jun 2016	Water Color	Green
S9	21 Jun 2016	Current Direction	SW
S9	21 Jun 2016	Water Temp (C)	18.6
S9	21 Jun 2016	Wave Height Low (ft)	2
S9	21 Jun 2016	High Tide (ft)	3.8
S9	21 Jun 2016	High Tide Time	1107
S9	21 Jun 2016	Low Tide (ft)	2
S9	21 Jun 2016	Low Tide Time	1604
S9	21 Jun 2016	Comments	Kelp; Seagrass; 7 Joggers; 41 Persons; 18 Surfers; 7 Swimmers; Water clear
S9	28 Jun 2016	Arrive Time	1319
S9	28 Jun 2016	Weather	Sunny
S9	28 Jun 2016	Wind Speed (kts)	4.4
S9	28 Jun 2016	Wind Dir	W
S9	28 Jun 2016	Animal Life	None
S9	28 Jun 2016	Floatables	None
S9	28 Jun 2016	Water Color	Green
S9	28 Jun 2016	Current Direction	S
S9	28 Jun 2016	Water Temp (C)	23.4
S9	28 Jun 2016	Wave Height Low (ft)	2
S9	28 Jun 2016	High Tide (ft)	5.1
S9	28 Jun 2016	High Tide Time	1659
S9	28 Jun 2016	Low Tide (ft)	0.9
S9	28 Jun 2016	Low Tide Time	1017
S9	28 Jun 2016	Comments	Kelp; Seagrass; Water clear
S10	07 Jun 2016	Arrive Time	827
S10	07 Jun 2016	Weather	Cloudy
S10	07 Jun 2016	Wind Speed (kts)	3.3
S10	07 Jun 2016	Wind Dir	W
S10	07 Jun 2016	Animal Life	None
S10	07 Jun 2016	Floatables	None
S10	07 Jun 2016	Water Color	Green
S10	07 Jun 2016	Current Direction	W
S10	07 Jun 2016	Water Temp (C)	15.4
S10	07 Jun 2016	Wave Height Low (ft)	2
S10	07 Jun 2016	High Tide (ft)	4
S10	07 Jun 2016	High Tide Time	1216
S10	07 Jun 2016	Low Tide (ft)	-1.2
S10	07 Jun 2016	Low Tide Time	550
S10	07 Jun 2016	Comments	Kelp; Seagrass; Water clear

Station	Date	Parameter	Value
S10	14 Jun 2016	Arrive Time	835
S10	14 Jun 2016	Weather	Cloudy
S10	14 Jun 2016	Wind Speed (kts)	6.4
S10	14 Jun 2016	Wind Dir	SW
S10	14 Jun 2016	Animal Life	None
S10	14 Jun 2016	Floatables	None
S10	14 Jun 2016	Water Color	Green
S10	14 Jun 2016	Current Direction	SW
S10	14 Jun 2016	Water Temp (C)	17.8
S10	14 Jun 2016	Wave Height Low (ft)	3
S10	14 Jun 2016	High Tide (ft)	3.3
S10	14 Jun 2016	High Tide Time	606
S10	14 Jun 2016	Low Tide (ft)	1.4
S10	14 Jun 2016	Low Tide Time	1151
S10	14 Jun 2016	Comments	Kelp; Seagrass; Water clear
S10	21 Jun 2016	Arrive Time	852
S10	21 Jun 2016	Weather	Cloudy
S10	21 Jun 2016	Wind Speed (kts)	9.5
S10	21 Jun 2016	Wind Dir	SW
S10	21 Jun 2016	Animal Life	None
S10	21 Jun 2016	Floatables	None
S10	21 Jun 2016	Water Color	Green
S10	21 Jun 2016	Current Direction	SW
S10	21 Jun 2016	Water Temp (C)	18.2
S10	21 Jun 2016	Wave Height Low (ft)	3
S10	21 Jun 2016	High Tide (ft)	3.8
S10	21 Jun 2016	High Tide Time	1107
S10	21 Jun 2016	Low Tide (ft)	-0.7
S10	21 Jun 2016	Low Tide Time	449
S10	21 Jun 2016	Comments	Kelp; Seagrass; Water clear
S10	28 Jun 2016	Arrive Time	1000
S10	28 Jun 2016	Weather	Cloudy
S10	28 Jun 2016	Wind Speed (kts)	6.8
S10	28 Jun 2016	Wind Dir	W
S10	28 Jun 2016	Animal Life	None
S10	28 Jun 2016	Floatables	None
S10	28 Jun 2016	Water Color	Green
S10	28 Jun 2016	Current Direction	S
S10	28 Jun 2016	Water Temp (C)	20.5
S10	28 Jun 2016	Wave Height Low (ft)	3
S10	28 Jun 2016	High Tide (ft)	3.6
S10	28 Jun 2016	High Tide Time	403
S10	28 Jun 2016	Low Tide (ft)	0.9
S10	28 Jun 2016	Low Tide Time	1017
S10	28 Jun 2016	Comments	Seagrass; Water clear
S11	07 Jun 2016	Arrive Time	940
S11	07 Jun 2016	Weather	Cloudy
S11	07 Jun 2016	Wind Speed (kts)	2.8
S11	07 Jun 2016	Wind Dir	W
S11	07 Jun 2016	Animal Life	None
S11	07 Jun 2016	Floatables	None
S11	07 Jun 2016	Water Color	Green

Station	Date	Parameter	Value
S11	07 Jun 2016	Current Direction	W
S11	07 Jun 2016	Water Temp (C)	16.6
S11	07 Jun 2016	Wave Height Low (ft)	2
S11	07 Jun 2016	High Tide (ft)	4
S11	07 Jun 2016	High Tide Time	1216
S11	07 Jun 2016	Low Tide (ft)	-1.2
S11	07 Jun 2016	Low Tide Time	550
S11	07 Jun 2016	Comments	Kelp; Seagrass; Water clear
S11	08 Jun 2016	Arrive Time	940
S11	08 Jun 2016	Weather	Cloudy
S11	08 Jun 2016	Wind Speed (kts)	2.8
S11	08 Jun 2016	Wind Dir	W
S11	08 Jun 2016	Animal Life	None
S11	08 Jun 2016	Floatables	None
S11	08 Jun 2016	Water Color	Green
S11	08 Jun 2016	Current Direction	W
S11	08 Jun 2016	Water Temp (C)	16.6
S11	08 Jun 2016	Wave Height Low (ft)	2
S11	08 Jun 2016	High Tide (ft)	3.9
S11	08 Jun 2016	High Tide Time	1313
S11	08 Jun 2016	Low Tide (ft)	-0.8
S11	08 Jun 2016	Low Tide Time	638
S11	08 Jun 2016	Comments	Kelp; Seagrass; Water clear
S11	14 Jun 2016	Arrive Time	1037
S11	14 Jun 2016	Weather	Cloudy
S11	14 Jun 2016	Wind Speed (kts)	5.8
S11	14 Jun 2016	Wind Dir	SW
S11	14 Jun 2016	Animal Life	None
S11	14 Jun 2016	Floatables	None
S11	14 Jun 2016	Water Color	Green
S11	14 Jun 2016	Current Direction	SW
S11	14 Jun 2016	Water Temp (C)	18.4
S11	14 Jun 2016	Wave Height Low (ft)	3
S11	14 Jun 2016	High Tide (ft)	3.3
S11	14 Jun 2016	High Tide Time	606
S11	14 Jun 2016	Low Tide (ft)	1.4
S11	14 Jun 2016	Low Tide Time	1151
S11	14 Jun 2016	Comments	Kelp; Seagrass; Water clear
S11	21 Jun 2016	Arrive Time	1001
S11	21 Jun 2016	Weather	Cloudy
S11	21 Jun 2016	Wind Speed (kts)	11.2
S11	21 Jun 2016	Wind Dir	SW
S11	21 Jun 2016	Animal Life	None
S11	21 Jun 2016	Floatables	None
S11	21 Jun 2016	Water Color	Green
S11	21 Jun 2016	Current Direction	SW
S11	21 Jun 2016	Water Temp (C)	18
S11	21 Jun 2016	Wave Height Low (ft)	3
S11	21 Jun 2016	High Tide (ft)	3.8
S11	21 Jun 2016	High Tide Time	1107
S11	21 Jun 2016	Low Tide (ft)	-0.7
S11	21 Jun 2016	Low Tide Time	449

Station	Date	Parameter	Value
S11	21 Jun 2016	Comments	Kelp; Seagrass; Water clear
S11	28 Jun 2016	Arrive Time	1123
S11	28 Jun 2016	Weather	Partly Cloudy
S11	28 Jun 2016	Wind Speed (kts)	4.4
S11	28 Jun 2016	Wind Dir	W
S11	28 Jun 2016	Animal Life	None
S11	28 Jun 2016	Floatables	None
S11	28 Jun 2016	Water Color	Green
S11	28 Jun 2016	Current Direction	S
S11	28 Jun 2016	Water Temp (C)	22
S11	28 Jun 2016	Wave Height Low (ft)	3
S11	28 Jun 2016	High Tide (ft)	5.1
S11	28 Jun 2016	High Tide Time	1659
S11	28 Jun 2016	Low Tide (ft)	0.9
S11	28 Jun 2016	Low Tide Time	1017
S11	28 Jun 2016	Comments	Kelp; Water clear
S12	07 Jun 2016	Arrive Time	910
S12	07 Jun 2016	Weather	Cloudy
S12	07 Jun 2016	Wind Speed (kts)	2.9
S12	07 Jun 2016	Wind Dir	W
S12	07 Jun 2016	Animal Life	None
S12	07 Jun 2016	Floatables	None
S12	07 Jun 2016	Water Color	Green
S12	07 Jun 2016	Current Direction	W
S12	07 Jun 2016	Water Temp (C)	16.4
S12	07 Jun 2016	Wave Height Low (ft)	2
S12	07 Jun 2016	High Tide (ft)	4
S12	07 Jun 2016	High Tide Time	1216
S12	07 Jun 2016	Low Tide (ft)	-1.2
S12	07 Jun 2016	Low Tide Time	550
S12	07 Jun 2016	Comments	Kelp; Seagrass; Water clear
S12	14 Jun 2016	Arrive Time	930
S12	14 Jun 2016	Weather	Cloudy
S12	14 Jun 2016	Wind Speed (kts)	5.2
S12	14 Jun 2016	Wind Dir	SW
S12	14 Jun 2016	Animal Life	None
S12	14 Jun 2016	Floatables	None
S12	14 Jun 2016	Water Color	Green
S12	14 Jun 2016	Current Direction	SW
S12	14 Jun 2016	Water Temp (C)	18.4
S12	14 Jun 2016	Wave Height Low (ft)	2
S12	14 Jun 2016	High Tide (ft)	3.3
S12	14 Jun 2016	High Tide Time	606
S12	14 Jun 2016	Low Tide (ft)	1.4
S12	14 Jun 2016	Low Tide Time	1151
S12	14 Jun 2016	Comments	Kelp; Seagrass; Water clear; Tuna crabs present
S12	21 Jun 2016	Arrive Time	934
S12	21 Jun 2016	Weather	Cloudy
S12	21 Jun 2016	Wind Speed (kts)	9.3
S12	21 Jun 2016	Wind Dir	SW
S12	21 Jun 2016	Animal Life	4 Dogs

Station	Date	Parameter	Value
S12	21 Jun 2016	Floatables	None
S12	21 Jun 2016	Water Color	Green
S12	21 Jun 2016	Current Direction	SW
S12	21 Jun 2016	Water Temp (C)	18.2
S12	21 Jun 2016	Wave Height Low (ft)	3
S12	21 Jun 2016	High Tide (ft)	3.8
S12	21 Jun 2016	High Tide Time	1107
S12	21 Jun 2016	Low Tide (ft)	-0.7
S12	21 Jun 2016	Low Tide Time	449
S12	21 Jun 2016	Comments	Kelp; Seagrass; 5 Persons; Water clear
S12	28 Jun 2016	Arrive Time	1056
S12	28 Jun 2016	Weather	Cloudy
S12	28 Jun 2016	Wind Speed (kts)	6.8
S12	28 Jun 2016	Wind Dir	S
S12	28 Jun 2016	Animal Life	None
S12	28 Jun 2016	Floatables	None
S12	28 Jun 2016	Water Color	Green
S12	28 Jun 2016	Current Direction	S
S12	28 Jun 2016	Water Temp (C)	22
S12	28 Jun 2016	Wave Height Low (ft)	3
S12	28 Jun 2016	High Tide (ft)	5.1
S12	28 Jun 2016	High Tide Time	1659
S12	28 Jun 2016	Low Tide (ft)	0.9
S12	28 Jun 2016	Low Tide Time	1017
S12	28 Jun 2016	Comments	10 Persons; 8 Swimmers; 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 Jun 2016	12	18	5	3	5	5	15
02 Jun 2016	12	18	5	3	5	5	15
03 Jun 2016	12	18	5	3	5	5	15
04 Jun 2016	28	39	13	5	9	8	30
05 Jun 2016	28	39	13	5	9	8	30
06 Jun 2016	28	39	13	5	9	8	30
07 Jun 2016	28	39	13	5	9	8	30
08 Jun 2016	28	39	13	5	9	8	30
09 Jun 2016	28*	17*	9*	4*	9	7*	23*
10 Jun 2016	28*	17*	9*	4*	7*	7*	23*
11 Jun 2016	28*	17*	9*	4*	7*	7*	23*
12 Jun 2016	28*	17*	9*	4*	7*	7*	23*
13 Jun 2016	28*	17*	9*	4*	7*	7*	23*
14 Jun 2016	28*	17*	9*	4*	7*	7*	23*
15 Jun 2016	40*	35*	15*	5*	6*	4*	53*
16 Jun 2016	27*	28*	15*	6*	7*	3*	41*
17 Jun 2016	27*	28*	15*	6*	7*	3*	41*
18 Jun 2016	27*	28*	15*	6*	7*	3*	41*
19 Jun 2016	27*	28*	15*	6*	7*	3*	41*
20 Jun 2016	16	16	10	5	5	4	23
21 Jun 2016	27*	28*	15*	6*	7*	5*	29*
22 Jun 2016	31	40	19	9	6	7	31
23 Jun 2016	31	40	19	9	6	7	31
24 Jun 2016	31	40	19	9	6	7	31
25 Jun 2016	31	40	19	9	6	7	31
26 Jun 2016	31	40	19	9	6	7	31
27 Jun 2016	23	24	15	8	6	6	20
28 Jun 2016	23	24	15	8	6	6	20
29 Jun 2016	23	24	15	8	6	6	20
30 Jun 2016	19	20	17	10	6	7	16

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

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

\* 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
04 Jun 2016	IC						
16 Jun 2016	IC						
20 Jun 2016	IC						
22 Jun 2016	IC						
27 Jun 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
04 Jun 2016	IC						
16 Jun 2016	IC						
20 Jun 2016	IC						
22 Jun 2016	IC						
27 Jun 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
04 Jun 2016	E	IC	IC	IC	IC	IC	IC
16 Jun 2016	IC						
20 Jun 2016	IC						
22 Jun 2016	IC						
27 Jun 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
04 Jun 2016	IC						
16 Jun 2016	IC						
20 Jun 2016	IC						
22 Jun 2016	IC						
27 Jun 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* (Entero) bacteria are reported as CFU/100 mL; the fecal:total coliform ratio (F:T) is unitless; values for temperature (Temp, °C), transmissivity (XMS, %), dissolved oxygen (DO, mg/L), salinity (Sal, ppt) and pH were extracted from CTD profile data for depths closest to those at which the bacteriological samples were collected; oil and grease samples (OG) and suspended solids (SUSO) data are reported as mg/L. Duplicates are indicated by \*. Comments follow the data summary.

Station	Date	Time	Depth	Total	Fecal	Entero	F:T	Temp	XMS	DO	Sal	pH	OG	SUSO
I19	04 Jun 2016	1108	2	20e	2e	4e	0.10	16.6	58.70	8.2	33.49	8.2	ns	ns
I19	04 Jun 2016	1108	6	660	54	120e	0.08	14.4	55.41	7.8	33.48	8.2	ns	ns
I19	04 Jun 2016	1108	11	800	60	44	0.07	14.1	57.99	7.1	33.49	8.1	ns	ns
I19	16 Jun 2016	1139	2	<2	<2	<2	1.00	18.9	70.78	7.9	33.55	8.2	ns	ns
I19	16 Jun 2016	1139	6	<2	<2	<2	1.00	17.9	55.17	6.7	33.45	8.2	ns	ns
I19	16 Jun 2016	1139	11	<20	<2	<2	0.10	15.8	42.23	6.8	33.48	8.1	ns	ns
I19	20 Jun 2016	1120	2	2e	<2	<2	1.00	12.8	68.97	4.8	33.49	7.9	ns	ns
I19	20 Jun 2016	1120	6	<2	<2	<2	1.00	12.2	77.39	4.4	33.52	7.9	ns	ns
I19	20 Jun 2016	1120	11	<2	<2	<2	1.00	12.0	46.72	4.1	33.53	7.8	ns	ns
I19	22 Jun 2016	1034	2	<20	6e	34e	0.30	18.0	62.96	8.1	33.42	8.1	ns	ns
I19	22 Jun 2016	1034	6	100e	<2	50	0.02	17.6	64.62	7.8	33.50	8.1	ns	ns
I19	22 Jun 2016	1034	11	50	6e	50	0.12	17.0	66.12	6.7	33.48	8.1	ns	ns
I19	27 Jun 2016	1025	2	10e	<2	<2	0.20	20.1	73.11	7.4	33.56	8.2	ns	ns
I19	27 Jun 2016	1025	6	4e	<2	<2	0.50	19.3	73.32	7.2	33.50	8.2	ns	ns
I19	27 Jun 2016	1025	11	<2	<2	<2	1.00	16.2	64.73	7.8	33.45	8.1	ns	ns
I24	04 Jun 2016	1129	2	14e	<2	<2	0.14	17.5	64.10	8.6	33.50	8.3	ns	ns
I24	04 Jun 2016	1129	6	540	30e	62	0.06	14.0	59.89	8.0	33.47	8.2	ns	ns
I24	04 Jun 2016	1129	11	600	36e	34e	0.06	13.3	54.19	5.2	33.49	8.1	ns	ns
I24	16 Jun 2016	1208	2	<2	<2	<2	1.00	19.7	67.67	7.8	33.57	8.2	ns	ns
I24	16 Jun 2016	1208	6	<20	<2	<2	0.10	18.0	50.54	7.6	33.51	8.2	ns	ns
I24	16 Jun 2016	1208	11	<20	<2	<2	0.10	15.7	46.27	6.6	33.49	8.2	ns	ns
I24	20 Jun 2016	1144	2	<2	<2	<2	1.00	18.1	66.14	7.7	33.52	8.2	ns	ns
I24	20 Jun 2016	1144	6	<2	<2	<2	1.00	14.5	60.07	4.1	33.31	8.1	ns	ns
I24	20 Jun 2016	1144	11	<2	<2	<2	1.00	11.9	70.76	4.1	33.45	7.9	ns	ns
I24	22 Jun 2016	1053	2	<2	<2	<2	1.00	17.6	73.42	8.2	33.53	8.2	ns	ns
I24	22 Jun 2016	1053	6	160e	6e	18e	0.04	16.7	65.50	7.8	33.48	8.1	ns	ns
I24	22 Jun 2016	1053	11	320e	30e	42	0.09	16.1	57.15	7.3	33.49	8.1	ns	ns
I24	27 Jun 2016	1043	2	<2	<2	<2	1.00	20.4	75.56	7.4	33.57	8.2	ns	ns
I24	27 Jun 2016	1043	6	<2	<2	<2	1.00	20.1	75.59	6.4	33.58	8.1	ns	ns
I24	27 Jun 2016	1043	11	2e	<2	<2	1.00	15.8	68.94	7.0	33.44	8.1	ns	ns
I25	04 Jun 2016	1137	2	20e	<2	<2	0.10	18.0	66.60	9.0	33.51	8.3	ns	ns
I25	04 Jun 2016	1137	6	240e	8e	16e	0.03	14.2	59.27	8.1	33.48	8.2	ns	ns
I25	04 Jun 2016	1137	9	380e	62	56	0.16	13.8	65.02	6.8	33.48	8.2	ns	ns
I25	16 Jun 2016	1229	2	<2	<2	<2	1.00	19.3	65.20	8.2	33.57	8.2	ns	ns
I25	16 Jun 2016	1229	6	<20	<2	<2	0.10	18.1	64.39	4.7	33.49	8.2	ns	ns

Station	Date	Time	Depth	Total	Fecal	Enter	F:T	Temp	XMS	DO	Sal	pH	OG	SUSO
I25	16 Jun 2016	1229	9	<20	<2	<2	0.10	16.4	38.69	6.3	33.50	8.1	ns	ns
I25	20 Jun 2016	1153	2	<2	<2	<2	1.00	18.1	68.93	8.0	33.53	8.2	ns	ns
I25	20 Jun 2016	1153	6	<2	<2	<2	1.00	14.8	59.51	4.0	33.42	8.2	ns	ns
I25	20 Jun 2016	1153	9	<2	<2	<2	1.00	12.0	75.08	4.6	33.46	8.0	ns	ns
I25	22 Jun 2016	1101	2	<2	<2	2e	1.00	18.1	75.43	8.0	33.52	8.2	ns	ns
I25	22 Jun 2016	1101	6	40e	2e	4e	0.05	17.2	70.20	7.6	33.49	8.2	ns	ns
I25	22 Jun 2016	1101	9	120e	4e	6e	0.03	16.3	63.38	7.8	33.49	8.1	ns	ns
I25	27 Jun 2016	1048	2	<4	<4	<2	1.00	20.4	77.02	7.9	33.58	8.2	ns	ns
I25	27 Jun 2016	1048	6	<4	<4	<2	1.00	20.1	77.91	7.2	33.58	8.2	ns	ns
I25	27 Jun 2016	1048	9	4e	<4	<2	1.00	18.9	73.40	6.3	33.52	8.1	ns	ns
I26	04 Jun 2016	1147	2	<20	<2	<2	0.10	17.9	68.42	8.7	33.51	8.3	ns	ns
I26	04 Jun 2016	1147	6	40e	2e	2e	0.05	15.5	53.30	7.4	33.50	8.2	ns	ns
I26	04 Jun 2016	1147	9	20e	<2	2e	0.10	14.0	65.99	5.5	33.49	8.1	ns	ns
I26	16 Jun 2016	1241	2	<2	<2	<2	1.00	19.4	68.53	8.4	33.57	8.2	ns	ns
I26	16 Jun 2016	1241	6	<20	<2	<2	0.10	18.4	64.45	7.0	33.43	8.2	ns	ns
I26	16 Jun 2016	1241	9	<20	<2	<2	0.10	16.0	60.76	6.5	33.44	8.2	ns	ns
I26	20 Jun 2016	1202	2	<2	<2	<2	1.00	17.7	65.46	8.0	33.49	8.1	ns	ns
I26	20 Jun 2016	1202	6	<2	<2	<2	1.00	14.1	59.21	3.4	33.41	8.1	ns	ns
I26	20 Jun 2016	1202	9	<2	<2	<2	1.00	12.8	69.43	4.7	33.45	7.9	ns	ns
I26	22 Jun 2016	1109	2	<2	<2	2e	1.00	18.2	74.17	8.0	33.53	8.2	ns	ns
I26	22 Jun 2016	1109	6	60	<2	6e	0.03	17.0	67.98	8.0	33.50	8.2	ns	ns
I26	22 Jun 2016	1109	9	60e	2e	6e	0.03	16.9	65.80	7.7	33.50	8.1	ns	ns
I26	27 Jun 2016	1104	2	<4	<4	<2	1.00	20.3	78.96	8.0	33.58	8.2	ns	ns
I26	27 Jun 2016	1104	6	<4	<4	<2	1.00	19.9	79.43	7.1	33.57	8.2	ns	ns
I26	27 Jun 2016	1104	9	<4	<4	<2	1.00	18.0	66.92	7.6	33.48	8.1	ns	ns
I32	04 Jun 2016	1204	2	<20	<2	<2	0.10	18.0	46.82	10.3	33.52	8.4	ns	ns
I32	04 Jun 2016	1204	6	40e	2e	2e	0.05	15.3	63.28	8.0	33.50	8.2	ns	ns
I32	04 Jun 2016	1204	9	<20	<2	2e	0.10	14.7	67.32	6.8	33.50	8.2	ns	ns
I32	16 Jun 2016	1257	2	<2	<2	<2	1.00	19.7	63.00	8.2	33.58	8.3	ns	ns
I32	16 Jun 2016	1257	6	<2	<2	<2	1.00	19.2	59.00	7.7	33.55	8.2	ns	ns
I32	16 Jun 2016	1257	9	<20	<2	<2	0.10	18.0	56.06	6.2	33.43	8.2	ns	ns
I32	20 Jun 2016	1215	2	<2	<2	<2	1.00	17.5	57.47	7.5	33.51	8.1	ns	ns
I32	20 Jun 2016	1215	6	<2	<2	<2	1.00	14.5	52.20	5.2	33.42	8.1	ns	ns
I32	20 Jun 2016	1215	9	<2	<2	<2	1.00	12.9	56.26	4.3	33.44	8.0	ns	ns
I32	22 Jun 2016	1120	2	<2	<2	<2	1.00	18.2	63.53	8.0	33.51	8.2	ns	ns
I32	22 Jun 2016	1120	6	4e	<2	<2	0.50	17.4	60.13	8.0	33.49	8.2	ns	ns
I32	22 Jun 2016	1120	9	2e	2e	<2	1.00	17.3	65.12	7.8	33.50	8.1	ns	ns
I32	27 Jun 2016	1116	2	<2	<2	<2	1.00	20.5	70.05	7.7	33.57	8.2	ns	ns
I32	27 Jun 2016	1116	6	<2	<2	<2	1.00	20.1	68.47	6.3	33.56	8.2	ns	ns
I32	27 Jun 2016	1116	9	<20	<2	<2	0.10	16.7	59.70	6.4	33.41	8.1	ns	ns
I39	04 Jun 2016	1045	2	2e	<2	<2	1.00	16.8	71.55	8.8	33.51	8.2	ns	ns

Station	Date	Time	Depth	Total	Fecal	Enter	F:T	Temp	XMS	DO	Sal	pH	OG	SUSO
I39	04 Jun 2016	1045	12	14e	<2	<2	0.14	12.4	72.50	4.9	33.49	8.1	ns	ns
I39	04 Jun 2016	1045	18	30e	<2	<2	0.07	12.2	74.90	4.5	33.51	8.0	ns	ns
I39	16 Jun 2016	1109	2	<2	<2	<2	1.00	18.9	69.78	8.6	33.56	8.3	ns	ns
I39	16 Jun 2016	1109	12	2e	<2	<2	1.00	16.5	67.76	7.8	33.49	8.2	ns	ns
I39	16 Jun 2016	1109	18	2e	<2	<2	1.00	15.4	71.38	7.2	33.48	8.1	ns	ns
I39	20 Jun 2016	1059	2	<2	<2	<2	1.00	17.9	71.98	7.5	33.52	8.1	ns	ns
I39	20 Jun 2016	1059	12	10e	<2	<2	0.20	12.0	81.97	3.7	33.44	7.9	ns	ns
I39	20 Jun 2016	1059	18	28e	<2	<2	0.07	11.0	84.62	4.0	33.52	7.8	ns	ns
I39	22 Jun 2016	1013	2	<2	<2	<2	1.00	19.0	79.25	7.8	33.56	8.2	ns	ns
I39	22 Jun 2016	1013	12	10e	<2	2e	0.20	17.0	66.07	7.7	33.50	8.1	ns	ns
I39	22 Jun 2016	1013	18	60e	4e	4e	0.07	12.6	78.25	5.3	33.47	7.9	ns	ns
I39	27 Jun 2016	1005	2	<2	<2	<2	1.00	20.1	80.81	8.0	33.57	8.2	ns	ns
I39	27 Jun 2016	1005	12	<2	<2	2e	1.00	15.8	80.36	5.7	33.37	8.1	ns	ns
I39	27 Jun 2016	1005	18	<2	<2	<2	1.00	13.5	70.02	6.0	33.40	8.0	ns	ns
I40	04 Jun 2016	1120	2	60e	6e	8e	0.10	16.0	53.98	8.3	33.49	8.2	ns	ns
I40	04 Jun 2016	1120	6	200e	6e	8e	0.03	14.5	57.97	8.2	33.49	8.2	ns	ns
I40	04 Jun 2016	1120	9	480	54	24e	0.11	14.1	55.16	7.2	33.49	8.1	ns	ns
I40	16 Jun 2016	1154	2	<20	<2	<2	0.10	18.4	57.62	8.0	33.54	8.2	ns	ns
I40	16 Jun 2016	1154	6	<20	<2	<2	0.10	17.4	55.48	5.9	33.48	8.2	ns	ns
I40	16 Jun 2016	1154	9	<20	<2	<2	0.10	15.6	35.12	6.7	33.49	8.1	ns	ns
I40	20 Jun 2016	1134	2	<2	<2	<2	1.00	16.5	63.08	6.8	33.49	8.1	ns	ns
I40	20 Jun 2016	1134	6	<2	<2	<2	1.00	12.5	66.24	4.5	33.47	7.9	ns	ns
I40	20 Jun 2016	1134	9	<2	<2	<2	1.00	12.2	63.47	3.9	33.47	7.9	ns	ns
I40	22 Jun 2016	1045	2	<20	<2	6e	0.10	17.7	59.95	8.3	33.46	8.2	ns	ns
I40	22 Jun 2016	1045	6	20e	16e	6e	0.80	17.2	54.63	8.0	33.47	8.1	ns	ns
I40	22 Jun 2016	1045	9	68	<2	12e	0.03	16.9	65.93	7.7	33.49	8.1	ns	ns
I40	27 Jun 2016	1035	2	<2	<2	<2	1.00	20.4	75.67	7.3	33.57	8.2	ns	ns
I40	27 Jun 2016	1035	6	4e	<2	<2	0.50	19.7	76.48	6.7	33.53	8.1	ns	ns
I40	27 Jun 2016	1035	9	2e	<2	<2	1.00	16.8	58.04	7.0	33.46	8.1	ns	ns

ns = not sampled

ND = no data

**Table 3.9**

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

Station	Date	Parameter	Value
I19	04 Jun 2016	Depth (m)	10
I19	04 Jun 2016	Arrive Time	1108
I19	04 Jun 2016	Depart Time	1115
I19	04 Jun 2016	Air Temp (C)	16
I19	04 Jun 2016	Weather	Fog
I19	04 Jun 2016	Visibility (mi)	6
I19	04 Jun 2016	Wind Speed (kts)	2
I19	04 Jun 2016	Wind Dir	N
I19	04 Jun 2016	Water Color	Green
I19	04 Jun 2016	Wave Ht Low (ft)	4
I19	04 Jun 2016	Wave Period (sec)	13
I19	04 Jun 2016	Sea State	Wind ripples
I19	04 Jun 2016	High Tide (ft)	4.24
I19	04 Jun 2016	High Tide Time	940
I19	04 Jun 2016	Low Tide (ft)	1.1
I19	04 Jun 2016	Low Tide Time	1501
I19	04 Jun 2016	Comments	
I19	16 Jun 2016	Depth (m)	9
I19	16 Jun 2016	Arrive Time	1139
I19	16 Jun 2016	Depart Time	1143
I19	16 Jun 2016	Air Temp (C)	17
I19	16 Jun 2016	Weather	Partly Cloudy
I19	16 Jun 2016	Visibility (mi)	8
I19	16 Jun 2016	Wind Speed (kts)	7
I19	16 Jun 2016	Wind Dir	W
I19	16 Jun 2016	Water Color	Green
I19	16 Jun 2016	Wave Ht Low (ft)	5
I19	16 Jun 2016	Wave Period (sec)	13
I19	16 Jun 2016	Sea State	Calm
I19	16 Jun 2016	High Tide (ft)	3.42
I19	16 Jun 2016	High Tide Time	755
I19	16 Jun 2016	Low Tide (ft)	1.63
I19	16 Jun 2016	Low Tide Time	1310
I19	16 Jun 2016	Comments	
I19	20 Jun 2016	Depth (m)	9
I19	20 Jun 2016	Arrive Time	1120
I19	20 Jun 2016	Depart Time	1123
I19	20 Jun 2016	Air Temp (C)	18
I19	20 Jun 2016	Weather	Clear
I19	20 Jun 2016	Visibility (mi)	15
I19	20 Jun 2016	Wind Speed (kts)	14
I19	20 Jun 2016	Wind Dir	S
I19	20 Jun 2016	Water Color	Brownish-Green
I19	20 Jun 2016	Wave Ht Low (ft)	3
I19	20 Jun 2016	Wave Period (sec)	7
I19	20 Jun 2016	Sea State	Confused swell
I19	20 Jun 2016	High Tide (ft)	3.76
I19	20 Jun 2016	High Tide Time	1028
I19	20 Jun 2016	Low Tide (ft)	1.87

Station	Date	Parameter	Value
I19	20 Jun 2016	Low Tide Time	1528
I19	20 Jun 2016	Comments	
I19	22 Jun 2016	Depth (m)	12
I19	22 Jun 2016	Arrive Time	1034
I19	22 Jun 2016	Depart Time	1039
I19	22 Jun 2016	Air Temp (C)	19
I19	22 Jun 2016	Weather	Partly Cloudy
I19	22 Jun 2016	Visibility (mi)	12
I19	22 Jun 2016	Wind Speed (kts)	2
I19	22 Jun 2016	Wind Dir	SW
I19	22 Jun 2016	Water Color	Green
I19	22 Jun 2016	Wave Ht Low (ft)	4
I19	22 Jun 2016	Wave Period (sec)	19
I19	22 Jun 2016	Sea State	Wind ripples
I19	22 Jun 2016	High Tide (ft)	3.82
I19	22 Jun 2016	High Tide Time	1147
I19	22 Jun 2016	Low Tide (ft)	-0.66
I19	22 Jun 2016	Low Tide Time	526
I19	22 Jun 2016	Comments	
I19	27 Jun 2016	Depth (m)	11
I19	27 Jun 2016	Arrive Time	1025
I19	27 Jun 2016	Depart Time	1029
I19	27 Jun 2016	Air Temp (C)	18
I19	27 Jun 2016	Weather	Fog
I19	27 Jun 2016	Visibility (mi)	1
I19	27 Jun 2016	Wind Speed (kts)	9
I19	27 Jun 2016	Wind Dir	SE
I19	27 Jun 2016	Water Color	Green
I19	27 Jun 2016	Wave Ht Low (ft)	3
I19	27 Jun 2016	Wave Period (sec)	9
I19	27 Jun 2016	Sea State	Light chop
I19	27 Jun 2016	High Tide (ft)	4.69
I19	27 Jun 2016	High Tide Time	1604
I19	27 Jun 2016	Low Tide (ft)	0.63
I19	27 Jun 2016	Low Tide Time	917
I19	27 Jun 2016	Comments	
I24	04 Jun 2016	Depth (m)	10
I24	04 Jun 2016	Arrive Time	1129
I24	04 Jun 2016	Depart Time	1135
I24	04 Jun 2016	Air Temp (C)	17
I24	04 Jun 2016	Weather	Fog
I24	04 Jun 2016	Visibility (mi)	6
I24	04 Jun 2016	Wind Speed (kts)	3
I24	04 Jun 2016	Wind Dir	N
I24	04 Jun 2016	Water Color	Green
I24	04 Jun 2016	Wave Ht Low (ft)	4
I24	04 Jun 2016	Wave Period (sec)	13
I24	04 Jun 2016	Sea State	Wind ripples
I24	04 Jun 2016	High Tide (ft)	4.24
I24	04 Jun 2016	High Tide Time	940
I24	04 Jun 2016	Low Tide (ft)	1.1
I24	04 Jun 2016	Low Tide Time	1501

Station	Date	Parameter	Value
I24	04 Jun 2016	Comments	
I24	16 Jun 2016	Depth (m)	10
I24	16 Jun 2016	Arrive Time	1208
I24	16 Jun 2016	Depart Time	1215
I24	16 Jun 2016	Air Temp (C)	17
I24	16 Jun 2016	Weather	Partly Cloudy
I24	16 Jun 2016	Visibility (mi)	8
I24	16 Jun 2016	Wind Speed (kts)	8
I24	16 Jun 2016	Wind Dir	W
I24	16 Jun 2016	Water Color	Green
I24	16 Jun 2016	Wave Ht Low (ft)	5
I24	16 Jun 2016	Wave Period (sec)	13
I24	16 Jun 2016	Sea State	Calm
I24	16 Jun 2016	High Tide (ft)	3.42
I24	16 Jun 2016	High Tide Time	755
I24	16 Jun 2016	Low Tide (ft)	1.63
I24	16 Jun 2016	Low Tide Time	1310
I24	16 Jun 2016	Comments	
I24	20 Jun 2016	Depth (m)	5
I24	20 Jun 2016	Arrive Time	1144
I24	20 Jun 2016	Depart Time	1148
I24	20 Jun 2016	Air Temp (C)	18
I24	20 Jun 2016	Weather	Clear
I24	20 Jun 2016	Visibility (mi)	15
I24	20 Jun 2016	Wind Speed (kts)	12
I24	20 Jun 2016	Wind Dir	NE
I24	20 Jun 2016	Water Color	Brownish-Green
I24	20 Jun 2016	Wave Ht Low (ft)	3
I24	20 Jun 2016	Wave Period (sec)	7
I24	20 Jun 2016	Sea State	Heavy chop
I24	20 Jun 2016	High Tide (ft)	3.76
I24	20 Jun 2016	High Tide Time	1028
I24	20 Jun 2016	Low Tide (ft)	1.87
I24	20 Jun 2016	Low Tide Time	1528
I24	20 Jun 2016	Comments	
I24	22 Jun 2016	Depth (m)	10
I24	22 Jun 2016	Arrive Time	1053
I24	22 Jun 2016	Depart Time	1058
I24	22 Jun 2016	Air Temp (C)	19
I24	22 Jun 2016	Weather	Partly Cloudy
I24	22 Jun 2016	Visibility (mi)	12
I24	22 Jun 2016	Wind Speed (kts)	5
I24	22 Jun 2016	Wind Dir	N
I24	22 Jun 2016	Water Color	Bluish-Green
I24	22 Jun 2016	Wave Ht Low (ft)	4
I24	22 Jun 2016	Wave Period (sec)	19
I24	22 Jun 2016	Sea State	Wind ripples
I24	22 Jun 2016	High Tide (ft)	3.82
I24	22 Jun 2016	High Tide Time	1147
I24	22 Jun 2016	Low Tide (ft)	-0.66
I24	22 Jun 2016	Low Tide Time	526
I24	22 Jun 2016	Comments	

Station	Date	Parameter	Value
I24	27 Jun 2016	Depth (m)	10
I24	27 Jun 2016	Arrive Time	1043
I24	27 Jun 2016	Depart Time	1045
I24	27 Jun 2016	Air Temp (C)	18
I24	27 Jun 2016	Weather	Fog
I24	27 Jun 2016	Visibility (mi)	1
I24	27 Jun 2016	Wind Speed (kts)	9
I24	27 Jun 2016	Wind Dir	SE
I24	27 Jun 2016	Water Color	Green
I24	27 Jun 2016	Wave Ht Low (ft)	3
I24	27 Jun 2016	Wave Period (sec)	9
I24	27 Jun 2016	Sea State	Light chop
I24	27 Jun 2016	High Tide (ft)	4.69
I24	27 Jun 2016	High Tide Time	1604
I24	27 Jun 2016	Low Tide (ft)	0.63
I24	27 Jun 2016	Low Tide Time	917
I24	27 Jun 2016	Comments	Kelp
I25	04 Jun 2016	Depth (m)	9
I25	04 Jun 2016	Arrive Time	1137
I25	04 Jun 2016	Depart Time	1143
I25	04 Jun 2016	Air Temp (C)	17
I25	04 Jun 2016	Weather	Fog
I25	04 Jun 2016	Visibility (mi)	6
I25	04 Jun 2016	Wind Speed (kts)	4
I25	04 Jun 2016	Wind Dir	SW
I25	04 Jun 2016	Water Color	Green
I25	04 Jun 2016	Wave Ht Low (ft)	4
I25	04 Jun 2016	Wave Period (sec)	13
I25	04 Jun 2016	Sea State	Wind ripples
I25	04 Jun 2016	High Tide (ft)	4.24
I25	04 Jun 2016	High Tide Time	940
I25	04 Jun 2016	Low Tide (ft)	1.1
I25	04 Jun 2016	Low Tide Time	1501
I25	04 Jun 2016	Comments	
I25	16 Jun 2016	Depth (m)	9
I25	16 Jun 2016	Arrive Time	1229
I25	16 Jun 2016	Depart Time	1235
I25	16 Jun 2016	Air Temp (C)	17
I25	16 Jun 2016	Weather	Partly Cloudy
I25	16 Jun 2016	Visibility (mi)	8
I25	16 Jun 2016	Wind Speed (kts)	8
I25	16 Jun 2016	Wind Dir	W
I25	16 Jun 2016	Water Color	Green
I25	16 Jun 2016	Wave Ht Low (ft)	5
I25	16 Jun 2016	Wave Period (sec)	13
I25	16 Jun 2016	Sea State	Calm
I25	16 Jun 2016	High Tide (ft)	3.42
I25	16 Jun 2016	High Tide Time	755
I25	16 Jun 2016	Low Tide (ft)	1.63
I25	16 Jun 2016	Low Tide Time	1310
I25	16 Jun 2016	Comments	

Station	Date	Parameter	Value
I25	20 Jun 2016	Depth (m)	9
I25	20 Jun 2016	Arrive Time	1153
I25	20 Jun 2016	Depart Time	1156
I25	20 Jun 2016	Air Temp (C)	18
I25	20 Jun 2016	Weather	Clear
I25	20 Jun 2016	Visibility (mi)	15
I25	20 Jun 2016	Wind Speed (kts)	15
I25	20 Jun 2016	Wind Dir	NE
I25	20 Jun 2016	Water Color	Brownish-Green
I25	20 Jun 2016	Wave Ht Low (ft)	3
I25	20 Jun 2016	Wave Period (sec)	7
I25	20 Jun 2016	Sea State	Heavy chop
I25	20 Jun 2016	High Tide (ft)	3.76
I25	20 Jun 2016	High Tide Time	1028
I25	20 Jun 2016	Low Tide (ft)	1.87
I25	20 Jun 2016	Low Tide Time	1528
I25	20 Jun 2016	Comments	
I25	22 Jun 2016	Depth (m)	10
I25	22 Jun 2016	Arrive Time	1101
I25	22 Jun 2016	Depart Time	1106
I25	22 Jun 2016	Air Temp (C)	20
I25	22 Jun 2016	Weather	Partly Cloudy
I25	22 Jun 2016	Visibility (mi)	12
I25	22 Jun 2016	Wind Speed (kts)	4
I25	22 Jun 2016	Wind Dir	W
I25	22 Jun 2016	Water Color	Bluish-Green
I25	22 Jun 2016	Wave Ht Low (ft)	4
I25	22 Jun 2016	Wave Period (sec)	19
I25	22 Jun 2016	Sea State	Wind ripples
I25	22 Jun 2016	High Tide (ft)	3.82
I25	22 Jun 2016	High Tide Time	1147
I25	22 Jun 2016	Low Tide (ft)	-0.66
I25	22 Jun 2016	Low Tide Time	526
I25	22 Jun 2016	Comments	
I25	27 Jun 2016	Depth (m)	9
I25	27 Jun 2016	Arrive Time	1048
I25	27 Jun 2016	Depart Time	1057
I25	27 Jun 2016	Air Temp (C)	18
I25	27 Jun 2016	Weather	Fog
I25	27 Jun 2016	Visibility (mi)	1
I25	27 Jun 2016	Wind Speed (kts)	7
I25	27 Jun 2016	Wind Dir	SE
I25	27 Jun 2016	Water Color	Green
I25	27 Jun 2016	Wave Ht Low (ft)	3
I25	27 Jun 2016	Wave Period (sec)	9
I25	27 Jun 2016	Sea State	Light chop
I25	27 Jun 2016	High Tide (ft)	4.69
I25	27 Jun 2016	High Tide Time	1604
I25	27 Jun 2016	Low Tide (ft)	0.63
I25	27 Jun 2016	Low Tide Time	917
I25	27 Jun 2016	Comments	
I26	04 Jun 2016	Depth (m)	9

Station	Date	Parameter	Value
I26	04 Jun 2016	Arrive Time	1147
I26	04 Jun 2016	Depart Time	1157
I26	04 Jun 2016	Air Temp (C)	17
I26	04 Jun 2016	Weather	Fog
I26	04 Jun 2016	Visibility (mi)	6
I26	04 Jun 2016	Wind Speed (kts)	4
I26	04 Jun 2016	Wind Dir	NE
I26	04 Jun 2016	Water Color	Green
I26	04 Jun 2016	Wave Ht Low (ft)	4
I26	04 Jun 2016	Wave Period (sec)	13
I26	04 Jun 2016	Sea State	Wind ripples
I26	04 Jun 2016	High Tide (ft)	4.24
I26	04 Jun 2016	High Tide Time	940
I26	04 Jun 2016	Low Tide (ft)	1.1
I26	04 Jun 2016	Low Tide Time	1501
I26	04 Jun 2016	Comments	
I26	16 Jun 2016	Depth (m)	8
I26	16 Jun 2016	Arrive Time	1241
I26	16 Jun 2016	Depart Time	1248
I26	16 Jun 2016	Air Temp (C)	17
I26	16 Jun 2016	Weather	Partly Cloudy
I26	16 Jun 2016	Visibility (mi)	8
I26	16 Jun 2016	Wind Speed (kts)	9
I26	16 Jun 2016	Wind Dir	E
I26	16 Jun 2016	Water Color	Green
I26	16 Jun 2016	Wave Ht Low (ft)	5
I26	16 Jun 2016	Wave Period (sec)	13
I26	16 Jun 2016	Sea State	Calm
I26	16 Jun 2016	High Tide (ft)	3.42
I26	16 Jun 2016	High Tide Time	755
I26	16 Jun 2016	Low Tide (ft)	1.63
I26	16 Jun 2016	Low Tide Time	1310
I26	16 Jun 2016	Comments	
I26	20 Jun 2016	Depth (m)	10
I26	20 Jun 2016	Arrive Time	1202
I26	20 Jun 2016	Depart Time	1206
I26	20 Jun 2016	Air Temp (C)	19
I26	20 Jun 2016	Weather	Clear
I26	20 Jun 2016	Visibility (mi)	15
I26	20 Jun 2016	Wind Speed (kts)	17
I26	20 Jun 2016	Wind Dir	SW
I26	20 Jun 2016	Water Color	Brownish-Green
I26	20 Jun 2016	Wave Ht Low (ft)	3
I26	20 Jun 2016	Wave Period (sec)	7
I26	20 Jun 2016	Sea State	Heavy chop
I26	20 Jun 2016	High Tide (ft)	3.76
I26	20 Jun 2016	High Tide Time	1028
I26	20 Jun 2016	Low Tide (ft)	1.87
I26	20 Jun 2016	Low Tide Time	1528
I26	20 Jun 2016	Comments	
I26	22 Jun 2016	Depth (m)	10
I26	22 Jun 2016	Arrive Time	1109

Station	Date	Parameter	Value
I26	22 Jun 2016	Depart Time	1113
I26	22 Jun 2016	Air Temp (C)	20
I26	22 Jun 2016	Weather	Partly Cloudy
I26	22 Jun 2016	Visibility (mi)	12
I26	22 Jun 2016	Wind Speed (kts)	6
I26	22 Jun 2016	Wind Dir	N
I26	22 Jun 2016	Water Color	Green
I26	22 Jun 2016	Wave Ht Low (ft)	4
I26	22 Jun 2016	Wave Period (sec)	19
I26	22 Jun 2016	Sea State	Wind ripples
I26	22 Jun 2016	High Tide (ft)	3.82
I26	22 Jun 2016	High Tide Time	1147
I26	22 Jun 2016	Low Tide (ft)	-0.66
I26	22 Jun 2016	Low Tide Time	526
I26	22 Jun 2016	Comments	
I26	27 Jun 2016	Depth (m)	9
I26	27 Jun 2016	Arrive Time	1104
I26	27 Jun 2016	Depart Time	1107
I26	27 Jun 2016	Air Temp (C)	18
I26	27 Jun 2016	Weather	Fog
I26	27 Jun 2016	Visibility (mi)	1
I26	27 Jun 2016	Wind Speed (kts)	6
I26	27 Jun 2016	Wind Dir	W
I26	27 Jun 2016	Water Color	Green
I26	27 Jun 2016	Wave Ht Low (ft)	3
I26	27 Jun 2016	Wave Period (sec)	9
I26	27 Jun 2016	Sea State	Light chop
I26	27 Jun 2016	High Tide (ft)	4.69
I26	27 Jun 2016	High Tide Time	1604
I26	27 Jun 2016	Low Tide (ft)	0.63
I26	27 Jun 2016	Low Tide Time	917
I26	27 Jun 2016	Comments	
I32	04 Jun 2016	Depth (m)	10
I32	04 Jun 2016	Arrive Time	1204
I32	04 Jun 2016	Depart Time	1210
I32	04 Jun 2016	Air Temp (C)	17
I32	04 Jun 2016	Weather	Fog
I32	04 Jun 2016	Visibility (mi)	10
I32	04 Jun 2016	Wind Speed (kts)	3
I32	04 Jun 2016	Wind Dir	NW
I32	04 Jun 2016	Water Color	Brownish-Green
I32	04 Jun 2016	Wave Ht Low (ft)	4
I32	04 Jun 2016	Wave Period (sec)	13
I32	04 Jun 2016	Sea State	Wind ripples
I32	04 Jun 2016	High Tide (ft)	4.24
I32	04 Jun 2016	High Tide Time	940
I32	04 Jun 2016	Low Tide (ft)	1.1
I32	04 Jun 2016	Low Tide Time	1501
I32	04 Jun 2016	Comments	
I32	16 Jun 2016	Depth (m)	10
I32	16 Jun 2016	Arrive Time	1257
I32	16 Jun 2016	Depart Time	1302

Station	Date	Parameter	Value
I32	16 Jun 2016	Air Temp (C)	17
I32	16 Jun 2016	Weather	Partly Cloudy
I32	16 Jun 2016	Visibility (mi)	8
I32	16 Jun 2016	Wind Speed (kts)	8
I32	16 Jun 2016	Wind Dir	E
I32	16 Jun 2016	Water Color	Green
I32	16 Jun 2016	Wave Ht Low (ft)	5
I32	16 Jun 2016	Wave Period (sec)	13
I32	16 Jun 2016	Sea State	Calm
I32	16 Jun 2016	High Tide (ft)	3.42
I32	16 Jun 2016	High Tide Time	755
I32	16 Jun 2016	Low Tide (ft)	1.63
I32	16 Jun 2016	Low Tide Time	1310
I32	16 Jun 2016	Comments	
I32	20 Jun 2016	Depth (m)	11
I32	20 Jun 2016	Arrive Time	1215
I32	20 Jun 2016	Depart Time	1217
I32	20 Jun 2016	Air Temp (C)	19
I32	20 Jun 2016	Weather	Clear
I32	20 Jun 2016	Visibility (mi)	15
I32	20 Jun 2016	Wind Speed (kts)	13
I32	20 Jun 2016	Wind Dir	SE
I32	20 Jun 2016	Water Color	Brownish-Green
I32	20 Jun 2016	Wave Ht Low (ft)	3
I32	20 Jun 2016	Wave Period (sec)	7
I32	20 Jun 2016	Sea State	Heavy chop
I32	20 Jun 2016	High Tide (ft)	3.76
I32	20 Jun 2016	High Tide Time	1028
I32	20 Jun 2016	Low Tide (ft)	1.87
I32	20 Jun 2016	Low Tide Time	1528
I32	20 Jun 2016	Comments	
I32	22 Jun 2016	Depth (m)	10
I32	22 Jun 2016	Arrive Time	1120
I32	22 Jun 2016	Depart Time	1128
I32	22 Jun 2016	Air Temp (C)	19
I32	22 Jun 2016	Weather	Partly Cloudy
I32	22 Jun 2016	Visibility (mi)	12
I32	22 Jun 2016	Wind Speed (kts)	5
I32	22 Jun 2016	Wind Dir	NW
I32	22 Jun 2016	Water Color	Green
I32	22 Jun 2016	Wave Ht Low (ft)	4
I32	22 Jun 2016	Wave Period (sec)	19
I32	22 Jun 2016	Sea State	Wind ripples
I32	22 Jun 2016	High Tide (ft)	3.82
I32	22 Jun 2016	High Tide Time	1147
I32	22 Jun 2016	Low Tide (ft)	-0.66
I32	22 Jun 2016	Low Tide Time	526
I32	22 Jun 2016	Comments	
I32	27 Jun 2016	Depth (m)	10
I32	27 Jun 2016	Arrive Time	1116
I32	27 Jun 2016	Depart Time	1118
I32	27 Jun 2016	Air Temp (C)	18

Station	Date	Parameter	Value
I32	27 Jun 2016	Weather	Fog
I32	27 Jun 2016	Visibility (mi)	1
I32	27 Jun 2016	Wind Speed (kts)	6
I32	27 Jun 2016	Wind Dir	S
I32	27 Jun 2016	Water Color	Greenish-Brown
I32	27 Jun 2016	Wave Ht Low (ft)	3
I32	27 Jun 2016	Wave Period (sec)	9
I32	27 Jun 2016	Sea State	Light chop
I32	27 Jun 2016	High Tide (ft)	4.69
I32	27 Jun 2016	High Tide Time	1604
I32	27 Jun 2016	Low Tide (ft)	0.63
I32	27 Jun 2016	Low Tide Time	917
I32	27 Jun 2016	Comments	
I39	04 Jun 2016	Depth (m)	19
I39	04 Jun 2016	Arrive Time	1045
I39	04 Jun 2016	Depart Time	1049
I39	04 Jun 2016	Air Temp (C)	16
I39	04 Jun 2016	Weather	Fog
I39	04 Jun 2016	Visibility (mi)	4
I39	04 Jun 2016	Wind Speed (kts)	6
I39	04 Jun 2016	Wind Dir	SW
I39	04 Jun 2016	Water Color	Green
I39	04 Jun 2016	Wave Ht Low (ft)	4
I39	04 Jun 2016	Wave Period (sec)	13
I39	04 Jun 2016	Sea State	Wind ripples
I39	04 Jun 2016	High Tide (ft)	4.24
I39	04 Jun 2016	High Tide Time	940
I39	04 Jun 2016	Low Tide (ft)	1.1
I39	04 Jun 2016	Low Tide Time	1501
I39	04 Jun 2016	Comments	
I39	16 Jun 2016	Depth (m)	18
I39	16 Jun 2016	Arrive Time	1109
I39	16 Jun 2016	Depart Time	1116
I39	16 Jun 2016	Air Temp (C)	18
I39	16 Jun 2016	Weather	Partly Cloudy
I39	16 Jun 2016	Visibility (mi)	8
I39	16 Jun 2016	Wind Speed (kts)	6
I39	16 Jun 2016	Wind Dir	N
I39	16 Jun 2016	Water Color	Green
I39	16 Jun 2016	Wave Ht Low (ft)	5
I39	16 Jun 2016	Wave Period (sec)	13
I39	16 Jun 2016	Sea State	Calm
I39	16 Jun 2016	High Tide (ft)	3.42
I39	16 Jun 2016	High Tide Time	755
I39	16 Jun 2016	Low Tide (ft)	1.63
I39	16 Jun 2016	Low Tide Time	1310
I39	16 Jun 2016	Comments	
I39	20 Jun 2016	Depth (m)	20
I39	20 Jun 2016	Arrive Time	1059
I39	20 Jun 2016	Depart Time	1103
I39	20 Jun 2016	Air Temp (C)	20
I39	20 Jun 2016	Weather	Clear

Station	Date	Parameter	Value
I39	20 Jun 2016	Visibility (mi)	15
I39	20 Jun 2016	Wind Speed (kts)	4
I39	20 Jun 2016	Wind Dir	W
I39	20 Jun 2016	Water Color	Brownish-Green
I39	20 Jun 2016	Wave Ht Low (ft)	3
I39	20 Jun 2016	Wave Period (sec)	7
I39	20 Jun 2016	Sea State	Confused swell
I39	20 Jun 2016	High Tide (ft)	3.76
I39	20 Jun 2016	High Tide Time	1028
I39	20 Jun 2016	Low Tide (ft)	1.87
I39	20 Jun 2016	Low Tide Time	1528
I39	20 Jun 2016	Comments	
I39	22 Jun 2016	Depth (m)	19
I39	22 Jun 2016	Arrive Time	1013
I39	22 Jun 2016	Depart Time	1019
I39	22 Jun 2016	Air Temp (C)	19
I39	22 Jun 2016	Weather	Partly Cloudy
I39	22 Jun 2016	Visibility (mi)	11
I39	22 Jun 2016	Wind Speed (kts)	6
I39	22 Jun 2016	Wind Dir	SE
I39	22 Jun 2016	Water Color	Bluish-Green
I39	22 Jun 2016	Wave Ht Low (ft)	4
I39	22 Jun 2016	Wave Period (sec)	19
I39	22 Jun 2016	Sea State	Wind ripples
I39	22 Jun 2016	High Tide (ft)	3.82
I39	22 Jun 2016	High Tide Time	1147
I39	22 Jun 2016	Low Tide (ft)	-0.66
I39	22 Jun 2016	Low Tide Time	526
I39	22 Jun 2016	Comments	
I39	27 Jun 2016	Depth (m)	19
I39	27 Jun 2016	Arrive Time	1005
I39	27 Jun 2016	Depart Time	1007
I39	27 Jun 2016	Air Temp (C)	18
I39	27 Jun 2016	Weather	Fog
I39	27 Jun 2016	Visibility (mi)	1
I39	27 Jun 2016	Wind Speed (kts)	7
I39	27 Jun 2016	Wind Dir	SE
I39	27 Jun 2016	Water Color	Green
I39	27 Jun 2016	Wave Ht Low (ft)	3
I39	27 Jun 2016	Wave Period (sec)	9
I39	27 Jun 2016	Sea State	Calm
I39	27 Jun 2016	High Tide (ft)	4.69
I39	27 Jun 2016	High Tide Time	1604
I39	27 Jun 2016	Low Tide (ft)	0.63
I39	27 Jun 2016	Low Tide Time	917
I39	27 Jun 2016	Comments	
I40	04 Jun 2016	Depth (m)	10
I40	04 Jun 2016	Arrive Time	1120
I40	04 Jun 2016	Depart Time	1126
I40	04 Jun 2016	Air Temp (C)	17
I40	04 Jun 2016	Weather	Fog
I40	04 Jun 2016	Visibility (mi)	6

Station	Date	Parameter	Value
I40	04 Jun 2016	Wind Speed (kts)	4
I40	04 Jun 2016	Wind Dir	S
I40	04 Jun 2016	Water Color	Green
I40	04 Jun 2016	Wave Ht Low (ft)	4
I40	04 Jun 2016	Wave Period (sec)	13
I40	04 Jun 2016	Sea State	Wind ripples
I40	04 Jun 2016	High Tide (ft)	4.24
I40	04 Jun 2016	High Tide Time	940
I40	04 Jun 2016	Low Tide (ft)	1.1
I40	04 Jun 2016	Low Tide Time	1501
I40	04 Jun 2016	Comments	
I40	16 Jun 2016	Depth (m)	9
I40	16 Jun 2016	Arrive Time	1154
I40	16 Jun 2016	Depart Time	1159
I40	16 Jun 2016	Air Temp (C)	18
I40	16 Jun 2016	Weather	Partly Cloudy
I40	16 Jun 2016	Visibility (mi)	8
I40	16 Jun 2016	Wind Speed (kts)	6
I40	16 Jun 2016	Wind Dir	W
I40	16 Jun 2016	Water Color	Green
I40	16 Jun 2016	Wave Ht Low (ft)	5
I40	16 Jun 2016	Wave Period (sec)	13
I40	16 Jun 2016	Sea State	Calm
I40	16 Jun 2016	High Tide (ft)	3.42
I40	16 Jun 2016	High Tide Time	755
I40	16 Jun 2016	Low Tide (ft)	1.63
I40	16 Jun 2016	Low Tide Time	1310
I40	16 Jun 2016	Comments	
I40	20 Jun 2016	Depth (m)	11
I40	20 Jun 2016	Arrive Time	1134
I40	20 Jun 2016	Depart Time	1138
I40	20 Jun 2016	Air Temp (C)	18
I40	20 Jun 2016	Weather	Clear
I40	20 Jun 2016	Visibility (mi)	15
I40	20 Jun 2016	Wind Speed (kts)	13
I40	20 Jun 2016	Wind Dir	NE
I40	20 Jun 2016	Water Color	Brownish-Green
I40	20 Jun 2016	Wave Ht Low (ft)	3
I40	20 Jun 2016	Wave Period (sec)	7
I40	20 Jun 2016	Sea State	Confused swell
I40	20 Jun 2016	High Tide (ft)	3.76
I40	20 Jun 2016	High Tide Time	1028
I40	20 Jun 2016	Low Tide (ft)	1.87
I40	20 Jun 2016	Low Tide Time	1528
I40	20 Jun 2016	Comments	
I40	22 Jun 2016	Depth (m)	11
I40	22 Jun 2016	Arrive Time	1045
I40	22 Jun 2016	Depart Time	1051
I40	22 Jun 2016	Air Temp (C)	19
I40	22 Jun 2016	Weather	Partly Cloudy
I40	22 Jun 2016	Visibility (mi)	12
I40	22 Jun 2016	Wind Speed (kts)	3

Station	Date	Parameter	Value
I40	22 Jun 2016	Wind Dir	S
I40	22 Jun 2016	Water Color	Green
I40	22 Jun 2016	Wave Ht Low (ft)	4
I40	22 Jun 2016	Wave Period (sec)	19
I40	22 Jun 2016	Sea State	Wind ripples
I40	22 Jun 2016	High Tide (ft)	3.82
I40	22 Jun 2016	High Tide Time	1147
I40	22 Jun 2016	Low Tide (ft)	-0.66
I40	22 Jun 2016	Low Tide Time	526
I40	22 Jun 2016	Comments	
I40	27 Jun 2016	Depth (m)	6
I40	27 Jun 2016	Arrive Time	1035
I40	27 Jun 2016	Depart Time	1037
I40	27 Jun 2016	Air Temp (C)	18
I40	27 Jun 2016	Weather	Fog
I40	27 Jun 2016	Visibility (mi)	1
I40	27 Jun 2016	Wind Speed (kts)	8
I40	27 Jun 2016	Wind Dir	W
I40	27 Jun 2016	Water Color	Green
I40	27 Jun 2016	Wave Ht Low (ft)	3
I40	27 Jun 2016	Wave Period (sec)	9
I40	27 Jun 2016	Sea State	Light chop
I40	27 Jun 2016	High Tide (ft)	4.69
I40	27 Jun 2016	High Tide Time	1604
I40	27 Jun 2016	Low Tide (ft)	0.63
I40	27 Jun 2016	Low Tide Time	917
I40	27 Jun 2016	Comments	

**Table 3.10**

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

<b>Station</b>	<b>Date</b>	<b>Depth (m)</b>	<b>Temp (°C)</b>	<b>XMS (%)</b>	<b>DO (mg/L)</b>	<b>Sal (ppt)</b>	<b>pH</b>	<b>Dens (<math>\sigma\text{-t}</math>)</b>	<b>Chlor (<math>\mu\text{g/L}</math>)</b>
I19	04 Jun 2016	1	16.72	59.15	8.4	33.49	8.2	24.4	4.31
I19	04 Jun 2016	2	16.60	58.70	8.2	33.49	8.2	24.4	5.14
I19	04 Jun 2016	3	15.76	54.59	8.0	33.49	8.2	24.6	7.94
I19	04 Jun 2016	4	14.93	52.03	8.0	33.49	8.2	24.8	10.77
I19	04 Jun 2016	5	14.59	53.54	7.9	33.48	8.2	24.9	12.35
I19	04 Jun 2016	6	14.39	55.41	7.8	33.48	8.2	24.9	12.58
I19	04 Jun 2016	7	14.30	56.89	7.6	33.48	8.2	24.9	11.77
I19	04 Jun 2016	8	14.27	57.18	7.5	33.48	8.1	25.0	11.14
I19	04 Jun 2016	9	14.21	57.73	7.4	33.48	8.1	25.0	10.67
I19	04 Jun 2016	10	14.09	57.99	7.1	33.49	8.1	25.0	9.61
I19	16 Jun 2016	1	18.83	70.68	8.1	33.55	8.2	24.0	1.96
I19	16 Jun 2016	2	18.85	70.78	7.9	33.55	8.2	24.0	3.27
I19	16 Jun 2016	3	18.64	70.78	7.8	33.51	8.2	24.0	4.00
I19	16 Jun 2016	4	18.15	65.04	7.6	33.51	8.2	24.1	4.50
I19	16 Jun 2016	5	17.97	57.35	7.0	33.52	8.2	24.1	4.80
I19	16 Jun 2016	6	17.88	55.17	6.7	33.45	8.2	24.1	5.12
I19	16 Jun 2016	7	16.51	54.76	6.8	33.46	8.2	24.4	5.35
I19	16 Jun 2016	8	16.30	58.34	6.5	33.49	8.2	24.5	5.38
I19	16 Jun 2016	9	15.95	47.72	6.7	33.47	8.1	24.6	5.16
I19	16 Jun 2016	10	15.83	42.23	6.8	33.48	8.1	24.6	5.19
I19	20 Jun 2016	1	12.97	68.10	5.4	33.52	8.0	25.2	2.16
I19	20 Jun 2016	2	12.81	68.97	4.8	33.49	7.9	25.3	1.99
I19	20 Jun 2016	3	12.36	76.29	4.6	33.50	7.9	25.4	2.06
I19	20 Jun 2016	4	12.27	77.66	4.6	33.51	7.9	25.4	2.12
I19	20 Jun 2016	5	12.26	77.33	4.6	33.51	7.9	25.4	2.23
I19	20 Jun 2016	6	12.24	77.39	4.4	33.52	7.9	25.4	2.59
I19	20 Jun 2016	7	12.22	77.38	4.0	33.51	7.9	25.4	3.24
I19	20 Jun 2016	8	12.11	72.57	3.8	33.52	7.9	25.4	3.66
I19	20 Jun 2016	9	12.03	55.57	3.9	33.53	7.8	25.4	3.66
I19	20 Jun 2016	10	12.03	46.72	4.1	33.53	7.8	25.4	3.35
I19	22 Jun 2016	1	18.19	63.09	7.9	33.43	8.1	24.0	6.90
I19	22 Jun 2016	2	17.98	62.96	8.1	33.42	8.1	24.1	8.52
I19	22 Jun 2016	3	17.71	62.48	8.2	33.44	8.1	24.1	8.40
I19	22 Jun 2016	4	17.65	60.00	8.1	33.47	8.1	24.2	7.96
I19	22 Jun 2016	5	17.63	62.49	8.1	33.49	8.1	24.2	7.66
I19	22 Jun 2016	6	17.62	64.62	7.8	33.50	8.1	24.2	7.12
I19	22 Jun 2016	7	17.56	65.20	7.6	33.49	8.1	24.2	7.05
I19	22 Jun 2016	8	17.31	67.08	7.7	33.48	8.1	24.3	7.31
I19	22 Jun 2016	9	17.08	67.15	7.5	33.48	8.1	24.3	8.87
I19	22 Jun 2016	10	17.03	66.12	6.7	33.48	8.1	24.3	10.32
I19	27 Jun 2016	1	20.21	73.23	7.6	33.56	8.2	23.6	3.17
I19	27 Jun 2016	2	20.08	73.11	7.4	33.56	8.2	23.6	3.48
I19	27 Jun 2016	3	19.88	75.16	7.4	33.56	8.2	23.7	3.60
I19	27 Jun 2016	4	19.81	72.80	7.3	33.55	8.2	23.7	3.96
I19	27 Jun 2016	5	19.67	71.24	7.2	33.55	8.2	23.7	4.96
I19	27 Jun 2016	6	19.26	73.32	7.2	33.50	8.2	23.8	5.56
I19	27 Jun 2016	7	17.62	66.00	7.6	33.45	8.2	24.2	6.34

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ( $\sigma\text{-t}$ )	Chlor ( $\mu\text{g/L}$ )
I19	27 Jun 2016	8	16.96	64.10	7.6	33.47	8.1	24.3	6.88
I19	27 Jun 2016	9	16.36	65.90	7.7	33.44	8.1	24.5	6.70
I19	27 Jun 2016	10	16.22	64.73	7.8	33.45	8.1	24.5	6.31
I24	04 Jun 2016	1	17.97	64.98	8.8	33.51	8.3	24.1	3.17
I24	04 Jun 2016	2	17.50	64.10	8.6	33.50	8.3	24.2	3.92
I24	04 Jun 2016	3	16.21	61.25	8.5	33.50	8.2	24.5	5.81
I24	04 Jun 2016	4	15.38	56.00	8.4	33.47	8.2	24.7	8.77
I24	04 Jun 2016	5	14.31	55.77	8.3	33.50	8.2	25.0	11.02
I24	04 Jun 2016	6	14.03	59.89	8.0	33.47	8.2	25.0	11.72
I24	04 Jun 2016	7	13.90	62.69	7.7	33.47	8.2	25.0	11.30
I24	04 Jun 2016	8	13.81	63.83	7.4	33.47	8.2	25.0	10.39
I24	04 Jun 2016	9	13.73	63.25	6.8	33.48	8.2	25.1	9.10
I24	04 Jun 2016	10	13.49	56.62	5.8	33.49	8.1	25.1	7.36
I24	04 Jun 2016	11	13.32	54.19	5.2	33.49	8.1	25.2	5.81
I24	16 Jun 2016	1	19.66	68.29	8.0	33.58	8.2	23.8	1.94
I24	16 Jun 2016	2	19.66	67.67	7.8	33.57	8.2	23.8	3.19
I24	16 Jun 2016	3	19.34	66.77	7.8	33.52	8.2	23.8	5.46
I24	16 Jun 2016	4	18.84	63.50	7.6	33.55	8.2	23.9	7.09
I24	16 Jun 2016	5	18.58	59.26	7.6	33.50	8.2	24.0	8.15
I24	16 Jun 2016	6	18.04	50.54	7.6	33.51	8.2	24.1	8.52
I24	16 Jun 2016	7	17.72	54.80	7.2	33.50	8.2	24.2	7.96
I24	16 Jun 2016	8	17.24	62.75	6.4	33.51	8.2	24.3	5.57
I24	16 Jun 2016	9	17.03	64.54	5.9	33.44	8.2	24.3	5.36
I24	16 Jun 2016	10	15.89	59.68	6.3	33.46	8.2	24.6	5.39
I24	16 Jun 2016	11	15.71	46.27	6.6	33.49	8.2	24.6	5.08
I24	20 Jun 2016	1	18.13	55.88	8.0	33.53	8.2	24.1	2.02
I24	20 Jun 2016	2	18.10	66.14	7.7	33.52	8.2	24.1	6.74
I24	20 Jun 2016	3	17.67	67.09	7.5	33.47	8.2	24.2	8.22
I24	20 Jun 2016	4	16.66	64.31	6.8	33.42	8.2	24.4	7.84
I24	20 Jun 2016	5	15.56	59.15	5.3	33.46	8.1	24.7	5.57
I24	20 Jun 2016	6	14.49	60.07	4.1	33.31	8.1	24.8	3.95
I24	20 Jun 2016	7	12.57	64.58	3.9	33.42	8.0	25.3	2.56
I24	20 Jun 2016	8	12.40	63.48	3.5	33.42	8.0	25.3	1.97
I24	20 Jun 2016	9	11.98	72.98	3.6	33.45	8.0	25.4	1.85
I24	20 Jun 2016	10	11.93	70.76	4.1	33.45	7.9	25.4	1.90
I24	22 Jun 2016	1	17.69	74.40	8.1	33.53	8.2	24.2	2.05
I24	22 Jun 2016	2	17.61	73.42	8.2	33.53	8.2	24.2	2.64
I24	22 Jun 2016	3	17.43	71.97	8.2	33.52	8.2	24.3	3.18
I24	22 Jun 2016	4	17.36	70.65	8.0	33.53	8.2	24.3	6.78
I24	22 Jun 2016	5	17.33	70.10	7.8	33.51	8.2	24.3	8.65
I24	22 Jun 2016	6	16.73	65.50	7.8	33.48	8.1	24.4	8.42
I24	22 Jun 2016	7	16.65	60.81	7.5	33.50	8.1	24.4	8.00
I24	22 Jun 2016	8	16.44	63.70	7.3	33.49	8.1	24.5	7.48
I24	22 Jun 2016	9	16.32	60.39	7.1	33.49	8.1	24.5	6.92
I24	22 Jun 2016	10	16.06	57.15	7.3	33.49	8.1	24.6	6.85
I24	27 Jun 2016	1	20.53	75.81	7.7	33.58	8.2	23.5	2.24
I24	27 Jun 2016	2	20.36	75.56	7.4	33.57	8.2	23.6	2.11
I24	27 Jun 2016	3	20.20	74.42	7.0	33.57	8.2	23.6	2.12
I24	27 Jun 2016	4	20.19	74.89	6.8	33.57	8.2	23.6	1.95
I24	27 Jun 2016	5	20.17	74.96	6.8	33.57	8.2	23.6	1.66

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ( $\sigma\text{-t}$ )	Chlor ( $\mu\text{g/L}$ )
I24	27 Jun 2016	6	20.13	75.59	6.4	33.58	8.1	23.6	1.58
I24	27 Jun 2016	7	20.03	77.33	6.0	33.57	8.1	23.7	1.80
I24	27 Jun 2016	8	18.29	76.99	6.5	33.39	8.1	24.0	1.89
I24	27 Jun 2016	9	15.99	73.92	6.8	33.46	8.1	24.6	1.83
I24	27 Jun 2016	10	15.80	68.94	7.0	33.44	8.1	24.6	1.78
I25	04 Jun 2016	1	18.03	67.30	9.1	33.50	8.3	24.1	2.60
I25	04 Jun 2016	2	17.98	66.60	9.0	33.51	8.3	24.1	2.85
I25	04 Jun 2016	3	17.75	66.54	8.7	33.50	8.3	24.2	3.54
I25	04 Jun 2016	4	16.40	62.90	8.6	33.49	8.3	24.5	6.16
I25	04 Jun 2016	5	14.81	58.53	8.4	33.49	8.2	24.8	8.96
I25	04 Jun 2016	6	14.21	59.27	8.1	33.48	8.2	25.0	11.36
I25	04 Jun 2016	7	14.01	60.66	7.4	33.48	8.2	25.0	10.89
I25	04 Jun 2016	8	13.85	63.17	7.0	33.48	8.2	25.0	9.02
I25	04 Jun 2016	9	13.83	65.02	6.8	33.48	8.2	25.0	8.01
I25	16 Jun 2016	1	19.32	67.45	8.4	33.57	8.2	23.9	1.63
I25	16 Jun 2016	2	19.34	65.20	8.2	33.57	8.2	23.8	2.10
I25	16 Jun 2016	3	19.31	67.67	7.7	33.56	8.2	23.8	3.01
I25	16 Jun 2016	4	19.02	67.56	7.0	33.55	8.2	23.9	3.58
I25	16 Jun 2016	5	18.63	66.12	5.7	33.54	8.2	24.0	2.79
I25	16 Jun 2016	6	18.08	64.39	4.7	33.49	8.2	24.1	2.66
I25	16 Jun 2016	7	16.82	60.53	5.2	33.47	8.2	24.4	2.63
I25	16 Jun 2016	8	16.26	43.92	6.0	33.50	8.1	24.5	2.65
I25	16 Jun 2016	9	16.40	38.69	6.3	33.50	8.1	24.5	2.64
I25	20 Jun 2016	1	18.05	68.39	8.0	33.53	8.2	24.1	1.29
I25	20 Jun 2016	2	18.06	68.93	8.0	33.53	8.2	24.1	2.91
I25	20 Jun 2016	3	17.89	68.04	7.9	33.51	8.2	24.2	6.52
I25	20 Jun 2016	4	17.30	62.70	7.2	33.50	8.2	24.3	8.56
I25	20 Jun 2016	5	16.45	60.24	5.5	33.44	8.2	24.4	7.55
I25	20 Jun 2016	6	14.75	59.51	4.0	33.42	8.2	24.8	4.12
I25	20 Jun 2016	7	13.17	62.94	3.4	33.42	8.1	25.1	2.76
I25	20 Jun 2016	8	12.18	71.41	3.8	33.45	8.0	25.3	3.02
I25	20 Jun 2016	9	12.00	75.08	4.6	33.46	8.0	25.4	3.48
I25	22 Jun 2016	1	18.27	75.49	7.9	33.53	8.2	24.1	1.19
I25	22 Jun 2016	2	18.14	75.43	8.0	33.52	8.2	24.1	1.38
I25	22 Jun 2016	3	17.86	74.87	8.1	33.52	8.2	24.2	1.67
I25	22 Jun 2016	4	17.53	73.54	8.1	33.52	8.2	24.2	2.41
I25	22 Jun 2016	5	17.39	72.13	7.9	33.52	8.2	24.3	4.97
I25	22 Jun 2016	6	17.18	70.20	7.6	33.49	8.2	24.3	6.57
I25	22 Jun 2016	7	16.54	63.81	7.5	33.49	8.1	24.5	6.92
I25	22 Jun 2016	8	16.36	62.55	7.6	33.49	8.1	24.5	6.81
I25	22 Jun 2016	9	16.33	63.38	7.8	33.49	8.1	24.5	6.32
I25	27 Jun 2016	1	20.39	77.02	7.9	33.58	8.2	23.6	1.83
I25	27 Jun 2016	2	20.37	77.02	7.9	33.58	8.2	23.6	1.99
I25	27 Jun 2016	3	20.26	77.51	7.8	33.58	8.2	23.6	2.25
I25	27 Jun 2016	4	20.16	78.55	7.8	33.58	8.2	23.6	2.56
I25	27 Jun 2016	5	20.13	78.23	7.5	33.58	8.2	23.6	2.79
I25	27 Jun 2016	6	20.10	77.91	7.2	33.58	8.2	23.7	2.62
I25	27 Jun 2016	7	20.03	76.34	6.5	33.58	8.2	23.7	1.62
I25	27 Jun 2016	8	19.76	76.14	5.9	33.55	8.2	23.7	1.35
I25	27 Jun 2016	9	18.90	73.40	6.3	33.52	8.1	23.9	1.35

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ( $\sigma\text{-t}$ )	Chlor ( $\mu\text{g/L}$ )
I26	04 Jun 2016	1	18.11	68.68	8.9	33.51	8.3	24.1	1.95
I26	04 Jun 2016	2	17.95	68.42	8.7	33.51	8.3	24.1	2.21
I26	04 Jun 2016	3	16.88	64.03	8.4	33.52	8.3	24.4	3.44
I26	04 Jun 2016	4	16.53	56.82	8.0	33.50	8.2	24.5	5.74
I26	04 Jun 2016	5	16.01	58.39	8.0	33.49	8.2	24.6	7.49
I26	04 Jun 2016	6	15.48	53.30	7.4	33.50	8.2	24.7	8.72
I26	04 Jun 2016	7	14.63	59.67	6.3	33.51	8.2	24.9	7.27
I26	04 Jun 2016	8	14.40	66.93	5.8	33.49	8.1	24.9	4.81
I26	04 Jun 2016	9	14.00	65.99	5.5	33.49	8.1	25.0	3.82
I26	16 Jun 2016	1	19.38	67.18	8.7	33.57	8.2	23.8	1.76
I26	16 Jun 2016	2	19.37	68.53	8.4	33.57	8.2	23.8	2.78
I26	16 Jun 2016	3	19.34	65.44	8.0	33.56	8.2	23.8	3.44
I26	16 Jun 2016	4	18.91	66.88	7.6	33.53	8.2	23.9	7.26
I26	16 Jun 2016	5	18.65	64.66	7.1	33.55	8.2	24.0	12.36
I26	16 Jun 2016	6	18.41	64.45	7.0	33.43	8.2	24.0	9.89
I26	16 Jun 2016	7	16.38	61.84	7.1	33.45	8.2	24.5	7.41
I26	16 Jun 2016	8	16.62	59.25	6.3	33.50	8.2	24.5	6.71
I26	16 Jun 2016	9	15.98	60.76	6.5	33.44	8.2	24.6	6.68
I26	20 Jun 2016	1	17.84	65.56	7.9	33.53	8.1	24.2	4.34
I26	20 Jun 2016	2	17.72	65.46	8.0	33.49	8.1	24.2	5.96
I26	20 Jun 2016	3	16.24	57.95	8.2	33.49	8.2	24.5	12.55
I26	20 Jun 2016	4	16.30	51.06	7.9	33.47	8.2	24.5	19.01
I26	20 Jun 2016	5	15.09	52.81	6.1	33.47	8.2	24.8	8.34
I26	20 Jun 2016	6	14.08	59.21	3.4	33.41	8.1	24.9	3.26
I26	20 Jun 2016	7	12.84	69.35	3.9	33.46	8.0	25.2	2.61
I26	20 Jun 2016	8	12.80	70.40	4.5	33.45	8.0	25.2	2.53
I26	20 Jun 2016	9	12.79	69.43	4.7	33.45	7.9	25.2	2.67
I26	22 Jun 2016	1	18.27	73.44	8.0	33.54	8.2	24.1	1.25
I26	22 Jun 2016	2	18.16	74.17	8.0	33.53	8.2	24.1	1.29
I26	22 Jun 2016	3	18.21	74.61	7.9	33.54	8.2	24.1	1.59
I26	22 Jun 2016	4	17.92	74.76	8.0	33.51	8.2	24.2	2.94
I26	22 Jun 2016	5	17.63	73.42	7.9	33.51	8.2	24.2	4.35
I26	22 Jun 2016	6	17.02	67.98	8.0	33.50	8.2	24.4	5.49
I26	22 Jun 2016	7	16.96	66.14	8.0	33.50	8.1	24.4	5.91
I26	22 Jun 2016	8	16.89	65.91	7.9	33.50	8.1	24.4	5.84
I26	22 Jun 2016	9	16.85	65.80	7.7	33.50	8.1	24.4	5.30
I26	27 Jun 2016	1	20.30	78.81	8.0	33.58	8.2	23.6	1.79
I26	27 Jun 2016	2	20.26	78.96	8.0	33.58	8.2	23.6	1.98
I26	27 Jun 2016	3	20.20	79.18	7.9	33.58	8.2	23.6	2.74
I26	27 Jun 2016	4	20.05	79.47	7.8	33.58	8.2	23.7	4.17
I26	27 Jun 2016	5	20.01	79.79	7.4	33.58	8.2	23.7	5.26
I26	27 Jun 2016	6	19.94	79.43	7.1	33.57	8.2	23.7	6.01
I26	27 Jun 2016	7	19.53	77.33	6.8	33.52	8.2	23.8	4.45
I26	27 Jun 2016	8	18.91	72.64	6.6	33.51	8.2	23.9	4.27
I26	27 Jun 2016	9	18.02	66.92	7.6	33.48	8.1	24.1	4.56
I32	04 Jun 2016	1	18.10	47.13	10.7	33.51	8.4	24.1	17.42
I32	04 Jun 2016	2	17.98	46.82	10.3	33.52	8.4	24.1	16.94
I32	04 Jun 2016	3	17.05	33.37	8.9	33.51	8.3	24.4	30.50
I32	04 Jun 2016	4	16.12	49.12	8.0	33.51	8.3	24.6	25.59

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ( $\sigma\text{-t}$ )	Chlor ( $\mu\text{g/L}$ )
I32	04 Jun 2016	5	15.78	61.19	7.9	33.50	8.2	24.6	14.85
I32	04 Jun 2016	6	15.32	63.28	8.0	33.50	8.2	24.7	11.36
I32	04 Jun 2016	7	15.13	64.18	7.5	33.50	8.2	24.8	9.63
I32	04 Jun 2016	8	14.85	66.64	7.0	33.50	8.2	24.8	8.11
I32	04 Jun 2016	9	14.71	67.32	6.8	33.50	8.2	24.9	6.20
I32	04 Jun 2016	10	14.53	67.16	6.4	33.50	8.1	24.9	4.72
I32	16 Jun 2016	1	19.69	63.16	8.5	33.58	8.3	23.8	2.06
I32	16 Jun 2016	2	19.67	63.00	8.2	33.58	8.3	23.8	2.98
I32	16 Jun 2016	3	19.56	62.04	8.2	33.57	8.3	23.8	3.55
I32	16 Jun 2016	4	19.45	60.62	8.1	33.57	8.3	23.8	3.94
I32	16 Jun 2016	5	19.44	59.80	7.9	33.56	8.3	23.8	4.42
I32	16 Jun 2016	6	19.25	59.00	7.7	33.55	8.2	23.9	4.99
I32	16 Jun 2016	7	19.00	58.18	7.1	33.55	8.2	23.9	6.45
I32	16 Jun 2016	8	18.84	57.49	6.2	33.54	8.2	23.9	7.35
I32	16 Jun 2016	9	17.98	56.06	6.2	33.43	8.2	24.1	7.46
I32	16 Jun 2016	10	16.31	43.54	6.8	33.52	8.2	24.5	7.39
I32	20 Jun 2016	1	17.49	57.92	7.6	33.51	8.1	24.3	1.84
I32	20 Jun 2016	2	17.51	57.47	7.5	33.51	8.1	24.2	2.48
I32	20 Jun 2016	3	17.44	58.75	7.2	33.51	8.1	24.3	7.84
I32	20 Jun 2016	4	17.29	57.95	6.9	33.47	8.1	24.3	10.88
I32	20 Jun 2016	5	15.34	52.17	6.2	33.45	8.1	24.7	9.78
I32	20 Jun 2016	6	14.48	52.20	5.2	33.42	8.1	24.9	6.49
I32	20 Jun 2016	7	13.62	67.15	4.6	33.46	8.0	25.1	4.34
I32	20 Jun 2016	8	13.16	61.74	4.3	33.44	8.0	25.2	3.70
I32	20 Jun 2016	9	12.95	56.26	4.3	33.44	8.0	25.2	3.62
I32	20 Jun 2016	10	12.71	41.91	4.5	33.46	7.9	25.3	3.57
I32	22 Jun 2016	1	18.48	65.31	8.0	33.51	8.2	24.0	3.66
I32	22 Jun 2016	2	18.23	63.53	8.0	33.51	8.2	24.1	5.27
I32	22 Jun 2016	3	17.74	59.01	8.1	33.51	8.2	24.2	6.61
I32	22 Jun 2016	4	17.60	60.83	8.1	33.50	8.2	24.2	7.91
I32	22 Jun 2016	5	17.53	60.90	8.1	33.50	8.2	24.2	8.57
I32	22 Jun 2016	6	17.43	60.13	8.0	33.49	8.2	24.3	8.17
I32	22 Jun 2016	7	17.31	61.79	8.0	33.50	8.1	24.3	8.08
I32	22 Jun 2016	8	17.29	64.41	8.0	33.50	8.1	24.3	8.05
I32	22 Jun 2016	9	17.29	65.12	7.8	33.50	8.1	24.3	8.05
I32	22 Jun 2016	10	17.27	65.08	7.9	33.50	8.1	24.3	7.67
I32	27 Jun 2016	1	20.56	70.22	7.9	33.58	8.2	23.5	3.56
I32	27 Jun 2016	2	20.52	70.05	7.7	33.57	8.2	23.5	4.42
I32	27 Jun 2016	3	20.38	69.51	7.5	33.56	8.2	23.6	4.96
I32	27 Jun 2016	4	20.26	68.29	7.3	33.57	8.2	23.6	4.39
I32	27 Jun 2016	5	20.18	68.09	6.9	33.57	8.2	23.6	4.20
I32	27 Jun 2016	6	20.09	68.47	6.3	33.56	8.2	23.6	5.54
I32	27 Jun 2016	7	19.66	69.75	5.8	33.52	8.2	23.7	5.64
I32	27 Jun 2016	8	18.74	67.62	6.0	33.45	8.2	23.9	5.67
I32	27 Jun 2016	9	16.66	59.70	6.4	33.41	8.1	24.4	5.64
I32	27 Jun 2016	10	16.32	54.98	6.6	33.46	8.1	24.5	5.53
I39	04 Jun 2016	1	17.82	71.04	8.9	33.50	8.2	24.2	2.28
I39	04 Jun 2016	2	16.84	71.55	8.8	33.51	8.2	24.4	2.49
I39	04 Jun 2016	3	15.80	72.24	8.8	33.51	8.2	24.6	3.34
I39	04 Jun 2016	4	15.64	72.70	8.6	33.49	8.2	24.7	3.82

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ( $\sigma\text{-t}$ )	Chlor ( $\mu\text{g/L}$ )
I39	04 Jun 2016	5	15.16	72.85	7.7	33.48	8.2	24.8	4.11
I39	04 Jun 2016	6	14.35	70.27	6.8	33.49	8.2	24.9	4.23
I39	04 Jun 2016	7	13.82	70.05	6.2	33.49	8.2	25.1	4.34
I39	04 Jun 2016	8	13.27	70.39	6.0	33.49	8.1	25.2	4.81
I39	04 Jun 2016	9	12.96	70.12	6.1	33.48	8.1	25.2	5.61
I39	04 Jun 2016	10	12.71	69.08	6.0	33.48	8.1	25.3	6.12
I39	04 Jun 2016	11	12.55	70.63	5.4	33.48	8.1	25.3	5.50
I39	04 Jun 2016	12	12.41	72.50	4.9	33.49	8.1	25.3	4.58
I39	04 Jun 2016	13	12.33	73.51	4.7	33.49	8.0	25.4	3.87
I39	04 Jun 2016	14	12.31	74.50	4.7	33.49	8.0	25.4	3.39
I39	04 Jun 2016	15	12.27	75.34	4.6	33.50	8.0	25.4	3.09
I39	04 Jun 2016	16	12.23	75.52	4.6	33.50	8.0	25.4	2.84
I39	04 Jun 2016	17	12.21	75.52	4.6	33.51	8.0	25.4	2.67
I39	04 Jun 2016	18	12.19	74.90	4.5	33.51	8.0	25.4	2.59
I39	16 Jun 2016	1	19.09	70.11	8.6	33.57	8.3	23.9	1.76
I39	16 Jun 2016	2	18.93	69.78	8.6	33.56	8.3	23.9	2.06
I39	16 Jun 2016	3	18.81	69.50	8.6	33.56	8.3	24.0	2.27
I39	16 Jun 2016	4	18.75	69.83	8.4	33.56	8.3	24.0	2.50
I39	16 Jun 2016	5	18.68	70.35	8.0	33.56	8.3	24.0	3.30
I39	16 Jun 2016	6	18.51	70.59	7.6	33.55	8.3	24.0	5.09
I39	16 Jun 2016	7	17.88	70.19	7.6	33.48	8.2	24.1	5.85
I39	16 Jun 2016	8	16.84	69.50	7.8	33.49	8.2	24.4	6.55
I39	16 Jun 2016	9	16.64	68.98	7.8	33.51	8.2	24.5	7.37
I39	16 Jun 2016	10	16.67	68.71	7.8	33.49	8.2	24.4	8.20
I39	16 Jun 2016	11	16.57	68.34	7.8	33.50	8.2	24.5	9.12
I39	16 Jun 2016	12	16.52	67.76	7.8	33.49	8.2	24.5	9.50
I39	16 Jun 2016	13	16.39	67.51	7.7	33.48	8.2	24.5	9.84
I39	16 Jun 2016	14	16.30	67.06	7.3	33.49	8.2	24.5	8.58
I39	16 Jun 2016	15	16.00	67.15	6.8	33.47	8.2	24.6	6.79
I39	16 Jun 2016	16	15.59	68.38	6.8	33.47	8.2	24.7	6.82
I39	16 Jun 2016	17	15.37	70.99	7.1	33.48	8.1	24.7	7.44
I39	16 Jun 2016	18	15.39	71.38	7.2	33.48	8.1	24.7	7.01
I39	20 Jun 2016	1	18.13	72.12	7.9	33.52	8.1	24.1	1.51
I39	20 Jun 2016	2	17.92	71.98	7.5	33.52	8.1	24.2	3.01
I39	20 Jun 2016	3	17.67	71.72	7.1	33.50	8.1	24.2	3.66
I39	20 Jun 2016	4	16.48	69.65	7.0	33.42	8.1	24.4	4.62
I39	20 Jun 2016	5	15.91	67.19	6.4	33.51	8.1	24.6	5.25
I39	20 Jun 2016	6	14.96	66.90	6.1	33.41	8.1	24.8	5.61
I39	20 Jun 2016	7	14.16	68.12	5.7	33.46	8.1	25.0	4.46
I39	20 Jun 2016	8	13.97	68.79	4.8	33.44	8.1	25.0	3.28
I39	20 Jun 2016	9	13.62	70.02	4.2	33.41	8.0	25.0	2.81
I39	20 Jun 2016	10	12.66	76.89	4.0	33.43	8.0	25.2	2.03
I39	20 Jun 2016	11	12.25	80.27	3.9	33.45	7.9	25.3	1.33
I39	20 Jun 2016	12	12.04	81.97	3.7	33.44	7.9	25.4	1.05
I39	20 Jun 2016	13	11.51	83.42	3.8	33.47	7.9	25.5	0.93
I39	20 Jun 2016	14	11.38	84.04	3.8	33.48	7.9	25.5	0.85
I39	20 Jun 2016	15	11.26	84.69	3.8	33.49	7.9	25.6	0.80
I39	20 Jun 2016	16	11.14	84.64	3.8	33.50	7.8	25.6	0.77
I39	20 Jun 2016	17	11.03	84.75	3.9	33.52	7.8	25.6	0.78
I39	20 Jun 2016	18	11.01	84.62	4.0	33.52	7.8	25.6	0.80
I39	22 Jun 2016	1	19.12	79.54	7.7	33.57	8.2	23.9	1.18
I39	22 Jun 2016	2	19.00	79.25	7.8	33.56	8.2	23.9	1.31

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ( $\sigma\text{-t}$ )	Chlor ( $\mu\text{g/L}$ )
I39	22 Jun 2016	3	18.69	78.12	7.9	33.56	8.2	24.0	1.58
I39	22 Jun 2016	4	18.41	76.64	8.0	33.52	8.2	24.0	1.82
I39	22 Jun 2016	5	18.09	75.57	8.0	33.54	8.2	24.1	2.11
I39	22 Jun 2016	6	18.01	75.19	8.0	33.53	8.2	24.1	2.53
I39	22 Jun 2016	7	17.82	74.08	8.0	33.52	8.2	24.2	3.50
I39	22 Jun 2016	8	17.56	72.13	8.0	33.51	8.2	24.2	4.11
I39	22 Jun 2016	9	17.38	71.04	8.0	33.52	8.2	24.3	5.07
I39	22 Jun 2016	10	17.35	70.41	8.0	33.51	8.2	24.3	6.65
I39	22 Jun 2016	11	17.20	69.05	8.0	33.50	8.2	24.3	8.93
I39	22 Jun 2016	12	16.97	66.07	7.7	33.50	8.1	24.4	11.69
I39	22 Jun 2016	13	16.66	61.25	7.0	33.47	8.1	24.4	10.08
I39	22 Jun 2016	14	15.82	59.29	5.6	33.45	8.1	24.6	6.08
I39	22 Jun 2016	15	14.81	65.25	4.2	33.42	8.1	24.8	3.71
I39	22 Jun 2016	16	13.39	75.64	3.8	33.42	8.0	25.1	2.91
I39	22 Jun 2016	17	12.62	78.66	4.5	33.46	8.0	25.3	3.24
I39	22 Jun 2016	18	12.56	78.25	5.3	33.47	7.9	25.3	4.05
I39	27 Jun 2016	1	20.21	80.78	7.9	33.58	8.2	23.6	1.83
I39	27 Jun 2016	2	20.12	80.81	8.0	33.57	8.2	23.6	2.05
I39	27 Jun 2016	3	19.94	80.48	7.8	33.57	8.2	23.7	2.36
I39	27 Jun 2016	4	19.87	79.56	7.6	33.56	8.2	23.7	2.54
I39	27 Jun 2016	5	19.67	79.46	7.6	33.53	8.2	23.7	2.66
I39	27 Jun 2016	6	18.88	80.04	7.7	33.49	8.2	23.9	2.61
I39	27 Jun 2016	7	18.14	80.29	7.8	33.49	8.2	24.1	2.51
I39	27 Jun 2016	8	17.78	80.83	7.8	33.48	8.2	24.2	2.75
I39	27 Jun 2016	9	17.27	81.39	7.7	33.46	8.2	24.3	3.10
I39	27 Jun 2016	10	16.90	81.68	7.1	33.46	8.2	24.4	2.93
I39	27 Jun 2016	11	16.72	81.50	6.2	33.45	8.2	24.4	2.35
I39	27 Jun 2016	12	15.83	80.36	5.7	33.37	8.1	24.5	2.06
I39	27 Jun 2016	13	14.99	77.87	5.5	33.41	8.1	24.8	1.80
I39	27 Jun 2016	14	14.48	77.94	5.5	33.38	8.1	24.8	1.79
I39	27 Jun 2016	15	13.80	76.61	5.7	33.39	8.0	25.0	1.71
I39	27 Jun 2016	16	13.51	74.38	5.8	33.39	8.0	25.0	1.68
I39	27 Jun 2016	17	13.48	71.94	5.9	33.39	8.0	25.1	1.70
I39	27 Jun 2016	18	13.49	70.02	6.0	33.40	8.0	25.1	1.66
I40	04 Jun 2016	1	16.35	54.55	8.3	33.49	8.2	24.5	5.45
I40	04 Jun 2016	2	16.01	53.98	8.3	33.49	8.2	24.6	6.57
I40	04 Jun 2016	3	15.40	53.71	8.5	33.49	8.2	24.7	9.08
I40	04 Jun 2016	4	15.16	54.19	8.5	33.48	8.2	24.8	11.66
I40	04 Jun 2016	5	14.74	54.68	8.5	33.50	8.2	24.9	12.86
I40	04 Jun 2016	6	14.52	57.97	8.2	33.49	8.2	24.9	12.77
I40	04 Jun 2016	7	14.22	58.64	7.7	33.49	8.2	25.0	12.13
I40	04 Jun 2016	8	14.14	59.11	7.5	33.49	8.2	25.0	10.91
I40	04 Jun 2016	9	14.11	55.16	7.2	33.49	8.1	25.0	9.68
I40	04 Jun 2016	10	14.10	47.30	7.1	33.49	8.1	25.0	9.03
I40	16 Jun 2016	1	18.39	57.11	8.1	33.54	8.2	24.1	2.58
I40	16 Jun 2016	2	18.38	57.62	8.0	33.54	8.2	24.1	2.94
I40	16 Jun 2016	3	18.36	57.44	7.8	33.54	8.2	24.1	3.81
I40	16 Jun 2016	4	18.27	56.59	7.5	33.53	8.2	24.1	5.28
I40	16 Jun 2016	5	18.19	53.58	6.7	33.53	8.2	24.1	5.43
I40	16 Jun 2016	6	17.42	55.48	5.9	33.48	8.2	24.2	4.78
I40	16 Jun 2016	7	16.35	41.80	6.0	33.48	8.2	24.5	4.42
I40	16 Jun 2016	8	15.98	37.03	6.4	33.48	8.1	24.6	4.64

<b>Station</b>	<b>Date</b>	<b>Depth (m)</b>	<b>Temp (°C)</b>	<b>XMS (%)</b>	<b>DO (mg/L)</b>	<b>Sal (ppt)</b>	<b>pH</b>	<b>Dens (<math>\sigma\text{-t}</math>)</b>	<b>Chlor (<math>\mu\text{g/L}</math>)</b>
I40	16 Jun 2016	9	15.62	35.12	6.7	33.49	8.1	24.7	5.74
I40	20 Jun 2016	1	16.85	65.96	7.1	33.51	8.1	24.4	1.29
I40	20 Jun 2016	2	16.53	63.08	6.8	33.49	8.1	24.5	3.93
I40	20 Jun 2016	3	15.38	56.03	6.0	33.45	8.0	24.7	7.68
I40	20 Jun 2016	4	14.43	50.94	4.3	33.42	8.0	24.9	5.33
I40	20 Jun 2016	5	12.93	56.33	4.1	33.43	8.0	25.2	5.24
I40	20 Jun 2016	6	12.54	66.24	4.5	33.47	7.9	25.3	4.68
I40	20 Jun 2016	7	12.41	71.05	4.3	33.44	7.9	25.3	3.45
I40	20 Jun 2016	8	12.30	73.66	4.0	33.46	7.9	25.3	3.20
I40	20 Jun 2016	9	12.16	63.47	3.9	33.47	7.9	25.4	3.24
I40	20 Jun 2016	10	12.17	39.20	4.2	33.48	7.8	25.4	3.23
I40	22 Jun 2016	1	17.98	63.21	8.3	33.49	8.2	24.1	8.25
I40	22 Jun 2016	2	17.69	59.95	8.3	33.46	8.2	24.2	10.99
I40	22 Jun 2016	3	17.56	54.81	8.2	33.46	8.2	24.2	11.85
I40	22 Jun 2016	4	17.47	53.29	8.1	33.47	8.2	24.2	11.29
I40	22 Jun 2016	5	17.36	53.50	7.9	33.47	8.2	24.3	10.20
I40	22 Jun 2016	6	17.20	54.63	8.0	33.47	8.1	24.3	8.88
I40	22 Jun 2016	7	17.06	59.50	7.9	33.49	8.1	24.3	8.32
I40	22 Jun 2016	8	16.96	64.31	7.8	33.50	8.1	24.4	8.21
I40	22 Jun 2016	9	16.94	65.93	7.7	33.49	8.1	24.4	8.23
I40	22 Jun 2016	10	16.73	59.69	7.9	33.49	8.1	24.4	8.08
I40	27 Jun 2016	1	20.47	75.08	7.2	33.57	8.2	23.5	2.01
I40	27 Jun 2016	2	20.35	75.67	7.3	33.57	8.2	23.6	2.40
I40	27 Jun 2016	3	20.23	75.59	7.1	33.57	8.2	23.6	2.66
I40	27 Jun 2016	4	20.10	77.23	6.7	33.58	8.2	23.6	3.14
I40	27 Jun 2016	5	20.01	77.36	6.5	33.57	8.2	23.7	4.39
I40	27 Jun 2016	6	19.74	76.48	6.7	33.53	8.1	23.7	5.06
I40	27 Jun 2016	7	18.43	72.86	7.0	33.41	8.1	24.0	4.81
I40	27 Jun 2016	8	17.11	67.10	7.0	33.48	8.1	24.3	4.46
I40	27 Jun 2016	9	16.83	58.04	7.0	33.46	8.1	24.4	4.21
I40	27 Jun 2016	10	16.60	51.32	7.2	33.46	8.1	24.4	4.14

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.

<b>Station</b>	<b>Date</b>	<b>Depth</b>	<b>Analyst</b>	<b>Procedure</b>	<b>Total</b>	<b>Fecal</b>	<b>Enter</b>
I19	04 Jun 2016	6	JT	LAB DUPLICATE	740	48	100
I19	16 Jun 2016	6	LMA	LAB DUPLICATE	<2	<2	<2
I19	20 Jun 2016	6	AR	LAB DUPLICATE	2e	<2	<2
I19	22 Jun 2016	6	SR	LAB DUPLICATE	60e	<2	56
I19	27 Jun 2016	6	LMA	LAB DUPLICATE	<2	ns	<2
I19	27 Jun 2016	6	ZV	LAB DUPLICATE	ns	<2	ns
I40	04 Jun 2016	6	JT	LAB DUPLICATE	60e	8e	12e
I40	16 Jun 2016	6	LMA	LAB DUPLICATE	<20	<2	<2
I40	20 Jun 2016	6	AR	LAB DUPLICATE	<2	<2	<2
I40	22 Jun 2016	6	SR	LAB DUPLICATE	20e	<2	4e
I40	27 Jun 2016	6	LMA	LAB DUPLICATE	4e	ns	<2
I40	27 Jun 2016	6	ZV	LAB DUPLICATE	ns	<2	ns
S12	07 Jun 2016		LMA	FIELD DUPLICATE	80e	20e	<2
S12	07 Jun 2016		LMA	LAB DUPLICATE	60e	20e	<20
S12	14 Jun 2016		SR	FIELD DUPLICATE	<20	4e	220e
S12	14 Jun 2016		SR	LAB DUPLICATE	20e	2e	ns
S12	21 Jun 2016		JT	FIELD DUPLICATE	20e	16e	6e
S12	21 Jun 2016		JT	LAB DUPLICATE	6e	6e	<2
S12	28 Jun 2016		AR	FIELD DUPLICATE	<200	10e	<2
S12	28 Jun 2016		AR	LAB DUPLICATE	<20	6e	2e

ns = not sampled

ND = no data

