



MONTHLY RECEIVING WATERS MONITORING REPORT FOR THE SOUTH BAY OCEAN OUTFALL

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

JULY 2016

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



THE CITY OF SAN DIEGO

August 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 July 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

Environmental Monitoring and Technical Services Division • Public Utilities

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INTRODUCTION

Monthly reports of water quality and ocean conditions from Playa Blanco, Mexico to Coronado, USA are submitted to the San Diego Regional Water Quality Control Board and U.S. EPA Region 9 in accordance with Order No. R9-2013-0006, NPDES Permit No. CA0109045, for the South Bay Water Reclamation Plant (SBWRP), South Bay Ocean Outfall (SBOO). Order No. R9-2013-0006 superseded Order No. R9-2006-0067 effective April 4, 2013. This report includes receiving waters monitoring data collected from all shore, kelp and offshore stations specified in the above order. Data for influent and effluent monitoring activities for the SBWRP are presented in separate reports.

MATERIALS AND METHODS

Shore Stations

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

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

Kelp Bed Stations

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

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

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

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

Offshore Stations

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

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

Bacteriological Reporting and Quality Assurance

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

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

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

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

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

Single Sample Maximums:

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

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

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

SUMMARY OF RESULTS

➤ **Shoreline Water Quality Sampling**

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

- Historical analyses of Ocean Plan compliance rates for the South Bay outfall shoreline monitoring stations, combined with the results of satellite imagery data, suggest that outflows from the Tijuana River and Los Buenos Creek, as well as surface runoff during or after rain events (storms), are likely to be the cause of impacted water quality along the shore and in near shore recreational waters in the South Bay region. See the City of San Diego's most recent *South Bay Ocean Outfall Annual Receiving Waters Monitoring and Assessment Report* for details (<http://www.sandiego.gov/mwwd/environment/oceanmonitor/reports/index.shtml>).
 - Notable visual observations for July included: storm drain run-off at station S0 on multiple days during the month.
- **Kelp Bed Water Quality Sampling**
- The seven kelp bed water quality stations (I19, I24, I25, I26, I32, I39, I40) were sampled five times during July (i.e. July 7, 13, 19, 25, 31).
 - During July, all seven stations were in compliance with all California Ocean Plan (Ocean Plan) water contact standards.
 - Water column temperatures ranged from 13.76 to 22.83°C. The difference between surface and bottom waters ranged from approximately 1.07 to 9.02°C, indicating the water column was stratified during the month.
 - Chlorophyll *a* concentrations ranged from 1.09 to 9.34 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 July at the offshore stations. The next quarterly sampling is scheduled for August 2016.

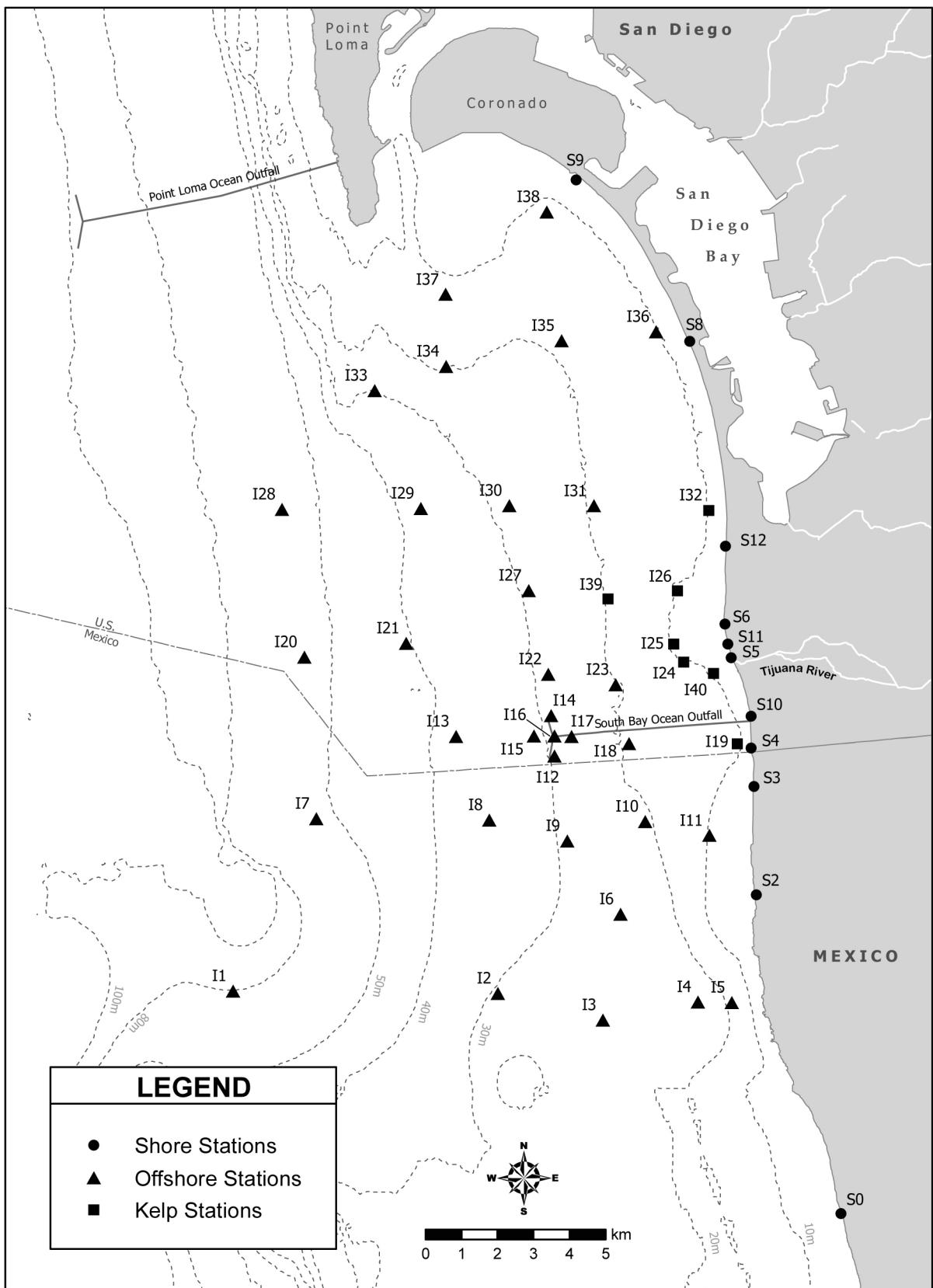


Figure 1.1 Station Map

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 Jul 2016	11*	13*	18*	20*	26*	13*	6*	12*
02 Jul 2016	11*	13*	18*	20*	26*	13*	6*	12*
03 Jul 2016	11*	13*	18*	20*	26*	13*	6*	12*
04 Jul 2016	11*	13*	18*	20*	26*	13*	6*	12*
05 Jul 2016	9	11	11	13	39	10	5	14
06 Jul 2016	9	11	11	13	39	10	5	14
07 Jul 2016	8*	9*	10*	11*	47*	9*	4*	12*
08 Jul 2016	8*	9*	10*	11*	47*	9*	4*	12*
09 Jul 2016	8*	9*	10*	11*	47*	9*	4*	12*
10 Jul 2016	8*	9*	10*	11*	47*	9*	4*	12*
11 Jul 2016	8*	9*	10*	11*	47*	9*	4*	12*
12 Jul 2016	6	11	8	9	39	6	3	9
13 Jul 2016	6	11	8	9	39	6	3	9
14 Jul 2016	4*	9*	7*	8*	47*	6*	4*	7*
15 Jul 2016	4*	9*	7*	8*	47*	6*	4*	7*
16 Jul 2016	4*	9*	7*	8*	47*	6*	4*	7*
17 Jul 2016	4*	9*	7*	8*	47*	6*	4*	7*
18 Jul 2016	4*	9*	7*	8*	47*	6*	4*	7*
19 Jul 2016	6	7	5	9	39	5	5	9
20 Jul 2016	6	7	5	9	39	5	5	9
21 Jul 2016	6*	8*	4*	8*	47*	5*	6*	9*
22 Jul 2016	6*	8*	4*	8*	47*	5*	6*	9*
23 Jul 2016	6*	8*	4*	8*	47*	5*	6*	9*
24 Jul 2016	6*	8*	4*	8*	47*	5*	6*	9*
25 Jul 2016	6*	8*	4*	8*	47*	5*	6*	9*
26 Jul 2016	5	9	5	9	39	7	8	11
27 Jul 2016	5	9	5	9	39	7	8	11
28 Jul 2016	6*	8*	3*	8*	36*	5*	6*	11*
29 Jul 2016	6*	8*	3*	8*	36*	5*	6*	11*
30 Jul 2016	6*	8*	3*	8*	36*	5*	6*	11*
31 Jul 2016	6*	8*	3*	8*	36*	5*	6*	11*

* Geometric mean calculated using n<5

Table 2.2

Summary of compliance with the Ocean Plan's 30-day Geometric Mean standard for fecal coliform bacteria at the SBOO shore stations. Data are based on the geometric mean of the five most recent samples from each site over the previous 30 days unless otherwise noted (*). Values >200 CFU/100 mL exceed the standard.

Date	S4	S5	S6	S8	S9	S10	S11	S12
01 Jul 2016	2*	3*	2*	2*	4*	2*	2*	8*
02 Jul 2016	2*	3*	2*	2*	4*	2*	2*	8*
03 Jul 2016	2*	3*	2*	2*	4*	2*	2*	8*
04 Jul 2016	2*	3*	2*	2*	4*	2*	2*	8*
05 Jul 2016	2	3	2	2	3	2	2	7
06 Jul 2016	2	3	2	2	3	2	2	7
07 Jul 2016	2*	3*	2*	2*	4*	2*	2*	4*
08 Jul 2016	2*	3*	2*	2*	4*	2*	2*	4*
09 Jul 2016	2*	3*	2*	2*	4*	2*	2*	4*
10 Jul 2016	2*	3*	2*	2*	4*	2*	2*	4*
11 Jul 2016	2*	3*	2*	2*	4*	2*	2*	4*
12 Jul 2016	2	3	2	2	3	2	2	4
13 Jul 2016	2	3	2	2	3	2	2	4
14 Jul 2016	2*	2*	2*	2*	4*	2*	2*	3*
15 Jul 2016	2*	2*	2*	2*	4*	2*	2*	3*
16 Jul 2016	2*	2*	2*	2*	4*	2*	2*	3*
17 Jul 2016	2*	2*	2*	2*	4*	2*	2*	3*
18 Jul 2016	2*	2*	2*	2*	4*	2*	2*	3*
19 Jul 2016	2	2	2	2	3	2	2	3
20 Jul 2016	2	2	2	2	3	2	2	3
21 Jul 2016	2*	2*	2*	2*	4*	2*	2*	3*
22 Jul 2016	2*	2*	2*	2*	4*	2*	2*	3*
23 Jul 2016	2*	2*	2*	2*	4*	2*	2*	3*
24 Jul 2016	2*	2*	2*	2*	4*	2*	2*	3*
25 Jul 2016	2*	2*	2*	2*	4*	2*	2*	3*
26 Jul 2016	2	2	2	2	3	2	2	5
27 Jul 2016	2	2	2	2	3	2	2	5
28 Jul 2016	2*	2*	2*	2*	2*	2*	2*	4*
29 Jul 2016	2*	2*	2*	2*	2*	2*	2*	4*
30 Jul 2016	2*	2*	2*	2*	2*	2*	2*	4*
31 Jul 2016	2*	2*	2*	2*	2*	2*	2*	4*

* Geometric mean calculated using n<5

Table 2.3

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

Date	S4	S5	S6	S8	S9	S10	S11	S12
01 Jul 2016	7*	3*	2*	2*	5*	4*	4*	8*
02 Jul 2016	7*	3*	2*	2*	5*	4*	4*	8*
03 Jul 2016	7*	3*	2*	2*	5*	4*	4*	8*
04 Jul 2016	7*	3*	2*	2*	5*	4*	4*	8*
05 Jul 2016	5	3	2	2	5	4	3	7
06 Jul 2016	5	3	2	2	5	4	3	7
07 Jul 2016	5*	3*	2*	2*	4*	2*	2*	5*
08 Jul 2016	5*	3*	2*	2*	4*	2*	2*	5*
09 Jul 2016	5*	3*	2*	2*	4*	2*	2*	5*
10 Jul 2016	5*	3*	2*	2*	4*	2*	2*	5*
11 Jul 2016	5*	3*	2*	2*	4*	2*	2*	5*
12 Jul 2016	4	2	2	2	3	2	2	4
13 Jul 2016	4	2	2	2	3	2	2	4
14 Jul 2016	4*	3*	2*	2*	4*	2*	2*	3*
15 Jul 2016	4*	3*	2*	2*	4*	2*	2*	3*
16 Jul 2016	4*	3*	2*	2*	4*	2*	2*	3*
17 Jul 2016	4*	3*	2*	2*	4*	2*	2*	3*
18 Jul 2016	4*	3*	2*	2*	4*	2*	2*	3*
19 Jul 2016	3	2	2	2	3	2	2	3
20 Jul 2016	3	2	2	2	3	2	2	3
21 Jul 2016	2*	2*	2*	2*	4*	2*	2*	4*
22 Jul 2016	2*	2*	2*	2*	4*	2*	2*	4*
23 Jul 2016	2*	2*	2*	2*	4*	2*	2*	4*
24 Jul 2016	2*	2*	2*	2*	4*	2*	2*	4*
25 Jul 2016	2*	2*	2*	2*	4*	2*	2*	4*
26 Jul 2016	2	2	2	2	3	2	2	3
27 Jul 2016	2	2	2	2	3	2	2	3
28 Jul 2016	2*	2*	2*	2*	2*	2*	2*	3*
29 Jul 2016	2*	2*	2*	2*	2*	2*	2*	3*
30 Jul 2016	2*	2*	2*	2*	2*	2*	2*	3*
31 Jul 2016	2*	2*	2*	2*	2*	2*	2*	3*

* Geometric mean calculated using n<5

Table 2.4

Summary of compliance at the SBOO shore stations with the Ocean Plan's Single Sample Maximum standard for total coliform bacteria, which states that total coliform density shall not exceed 10,000 CFU/100 mL.

Date	S4	S5	S6	S8	S9	S10	S11	S12
05 Jul 2016	IC	IC	IC	IC	IC	IC	IC	IC
12 Jul 2016	IC	IC	IC	IC	IC	IC	IC	IC
19 Jul 2016	IC	IC	IC	IC	IC	IC	IC	IC
26 Jul 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
05 Jul 2016	IC	IC	IC	IC	IC	IC	IC	IC
12 Jul 2016	IC	IC	IC	IC	IC	IC	IC	IC
19 Jul 2016	IC	IC	IC	IC	IC	IC	IC	IC
26 Jul 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
05 Jul 2016	IC	IC	IC	IC	IC	IC	IC	IC
12 Jul 2016	IC	IC	IC	IC	IC	IC	IC	IC
19 Jul 2016	IC	IC	IC	IC	IC	IC	IC	IC
26 Jul 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
05 Jul 2016	IC	IC	IC	IC	IC	IC	IC	IC
12 Jul 2016	IC	IC	IC	IC	IC	IC	IC	IC
19 Jul 2016	IC	IC	IC	IC	IC	IC	IC	IC
26 Jul 2016	IC	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

Table 2.8

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

Station	Date	Time	Total	Fecal	Enter	F:T
S0	05 Jul 2016	1200	16000e	2400e	4000	0.15
S0	12 Jul 2016	1050	56	4e	<2	0.07
S0	19 Jul 2016	1050	32e	2e	14e	0.06
S0	26 Jul 2016	1050	2e	2e	4e	1.00
S2	05 Jul 2016	1110	<2	<2	6e	1.00
S2	12 Jul 2016	950	4e	<2	<2	0.50
S2	19 Jul 2016	955	64	32e	340e	0.50
S2	26 Jul 2016	950	2e	<2	<2	1.00
S3	05 Jul 2016	1000	6e	2e	<2	0.33
S3	12 Jul 2016	915	<2	<2	<2	1.00
S3	19 Jul 2016	915	2e	2e	260e	1.00
S3	26 Jul 2016	910	4e	<2	<2	0.50
S4	05 Jul 2016	832	6e	<2	<2	0.33
S4	12 Jul 2016	1202	2e	<2	<2	1.00
S4	19 Jul 2016	910	20e	2e	2e	0.10
S4	26 Jul 2016	956	4e	<2	<2	0.50
S5	05 Jul 2016	958	4e	<2	2e	0.50
S5	12 Jul 2016	1031	<20	<2	<2	0.10
S5	19 Jul 2016	1052	2e	<2	<2	1.00
S5	26 Jul 2016	1138	<20	<2	<2	0.10
S6	05 Jul 2016	944	2e	<2	2e	1.00
S6	12 Jul 2016	1018	4e	<2	<2	0.50
S6	19 Jul 2016	1035	2e	<2	<2	1.00
S6	26 Jul 2016	1124	6e	<2	<2	0.33
S8	05 Jul 2016	1143	<2	<2	<2	1.00
S8	12 Jul 2016	942	4e	<2	2e	0.50
S8	19 Jul 2016	1221	<20	<2	<2	0.10
S8	26 Jul 2016	1232	<20	2e	<2	0.10
S9	05 Jul 2016	1218	<200	<2	4e	0.01
S9	12 Jul 2016	919	<20	<2	<2	0.10
S9	19 Jul 2016	1303	<20	<2	<2	0.10
S9	26 Jul 2016	1315	<20	<2	<2	0.10
S10	05 Jul 2016	836	4e	2e	2e	0.50
S10	12 Jul 2016	1209	<2	<2	<2	1.00
S10	19 Jul 2016	857	4e	<2	<2	0.50
S10	26 Jul 2016	951	<20	<2	2e	0.10
S11	05 Jul 2016	950	<2	2e	<2	1.00
S11	12 Jul 2016	1024	2e	<2	<2	1.00
S11	19 Jul 2016	1043	20e	2e	2e	0.10
S11	26 Jul 2016	1130	<20	<2	2e	0.10

Station	Date	Time	Total	Fecal	Enterο	F:T
S12	05 Jul 2016	923	<20	4e	4e	0.20
S12	12 Jul 2016	1008	<2	<2	<2	1.00
S12	19 Jul 2016	1001	<20	<2	6e	0.10
S12	26 Jul 2016	1109	<20	<20	<2	1.00

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	05 Jul 2016	Arrive Time	1200
S0	05 Jul 2016	Weather	Sunny
S0	05 Jul 2016	Wind Speed (kts)	8.6
S0	05 Jul 2016	Wind Dir	W
S0	05 Jul 2016	Animal Life	>20 Seagulls
S0	05 Jul 2016	Floatables	None
S0	05 Jul 2016	Water Color	Green
S0	05 Jul 2016	Current Direction	W
S0	05 Jul 2016	Water Temp (C)	20
S0	05 Jul 2016	Wave Height Low (ft)	2
S0	05 Jul 2016	High Tide (ft)	4.3
S0	05 Jul 2016	High Tide Time	1107
S0	05 Jul 2016	Low Tide (ft)	1.6
S0	05 Jul 2016	Low Tide Time	1621
S0	05 Jul 2016	Comments	Kelp; Water turbid; Flow from stormdrain 0.5 L/sec
S0	12 Jul 2016	Arrive Time	1050
S0	12 Jul 2016	Weather	Sunny
S0	12 Jul 2016	Wind Speed (kts)	1.7
S0	12 Jul 2016	Wind Dir	NE
S0	12 Jul 2016	Animal Life	5 Shorebirds
S0	12 Jul 2016	Floatables	None
S0	12 Jul 2016	Water Color	Green
S0	12 Jul 2016	Current Direction	N
S0	12 Jul 2016	Water Temp (C)	21
S0	12 Jul 2016	Wave Height Low (ft)	3
S0	12 Jul 2016	High Tide (ft)	4.5
S0	12 Jul 2016	High Tide Time	1650
S0	12 Jul 2016	Low Tide (ft)	1.7
S0	12 Jul 2016	Low Tide Time	954
S0	12 Jul 2016	Comments	Kelp; 4 Persons; Water clear; Flow from stormdrain 0.5 L/sec
S0	19 Jul 2016	Arrive Time	1050
S0	19 Jul 2016	Weather	Sunny
S0	19 Jul 2016	Wind Speed (kts)	2
S0	19 Jul 2016	Wind Dir	SW
S0	19 Jul 2016	Animal Life	10 Seagulls
S0	19 Jul 2016	Floatables	None
S0	19 Jul 2016	Water Color	Green
S0	19 Jul 2016	Current Direction	N
S0	19 Jul 2016	Water Temp (C)	22
S0	19 Jul 2016	Wave Height Low (ft)	2
S0	19 Jul 2016	High Tide (ft)	4.1
S0	19 Jul 2016	High Tide Time	1006
S0	19 Jul 2016	Low Tide (ft)	1.8
S0	19 Jul 2016	Low Tide Time	1515
S0	19 Jul 2016	Comments	Kelp; Water turbid; No flow from stormdrain
S0	26 Jul 2016	Arrive Time	1050
S0	26 Jul 2016	Weather	Sunny
S0	26 Jul 2016	Wind Speed (kts)	2.3

Station	Date	Parameter	Value
S0	26 Jul 2016	Wind Dir	NE
S0	26 Jul 2016	Animal Life	10 Birds
S0	26 Jul 2016	Floatables	None
S0	26 Jul 2016	Water Color	Green
S0	26 Jul 2016	Current Direction	N
S0	26 Jul 2016	Water Temp (C)	22
S0	26 Jul 2016	Wave Height Low (ft)	2
S0	26 Jul 2016	High Tide (ft)	5
S0	26 Jul 2016	High Tide Time	1520
S0	26 Jul 2016	Low Tide (ft)	1.1
S0	26 Jul 2016	Low Tide Time	838
S0	26 Jul 2016	Comments	Kelp; 5 Persons; Water clear; Flow from stormdrain 0.5 L/sec.
S2	05 Jul 2016	Arrive Time	1110
S2	05 Jul 2016	Weather	Sunny
S2	05 Jul 2016	Wind Speed (kts)	2.6
S2	05 Jul 2016	Wind Dir	W
S2	05 Jul 2016	Animal Life	2 Dogs; >20 Seagulls
S2	05 Jul 2016	Floatables	None
S2	05 Jul 2016	Water Color	Green
S2	05 Jul 2016	Current Direction	W
S2	05 Jul 2016	Water Temp (C)	21
S2	05 Jul 2016	Wave Height Low (ft)	2
S2	05 Jul 2016	High Tide (ft)	4.3
S2	05 Jul 2016	High Tide Time	1107
S2	05 Jul 2016	Low Tide (ft)	1.6
S2	05 Jul 2016	Low Tide Time	1621
S2	05 Jul 2016	Comments	Kelp; Water turbid; No flow from stormdrain
S2	12 Jul 2016	Arrive Time	950
S2	12 Jul 2016	Weather	Sunny
S2	12 Jul 2016	Wind Speed (kts)	1.9
S2	12 Jul 2016	Wind Dir	NE
S2	12 Jul 2016	Animal Life	5 Shorebirds
S2	12 Jul 2016	Floatables	None
S2	12 Jul 2016	Water Color	Green
S2	12 Jul 2016	Current Direction	N
S2	12 Jul 2016	Water Temp (C)	21
S2	12 Jul 2016	Wave Height Low (ft)	3
S2	12 Jul 2016	High Tide (ft)	3.1
S2	12 Jul 2016	High Tide Time	356
S2	12 Jul 2016	Low Tide (ft)	1.7
S2	12 Jul 2016	Low Tide Time	954
S2	12 Jul 2016	Comments	Kelp; 7 Persons; 1 Boat; 1 Fisherman; Water clear; No flow from stormdrain
S2	19 Jul 2016	Arrive Time	955
S2	19 Jul 2016	Weather	Sunny
S2	19 Jul 2016	Wind Speed (kts)	2.2
S2	19 Jul 2016	Wind Dir	SW
S2	19 Jul 2016	Animal Life	>20 Shorebirds; 1 Dog
S2	19 Jul 2016	Floatables	None
S2	19 Jul 2016	Water Color	Green
S2	19 Jul 2016	Current Direction	N
S2	19 Jul 2016	Water Temp (C)	22

Station	Date	Parameter	Value
S2	19 Jul 2016	Wave Height Low (ft)	2
S2	19 Jul 2016	High Tide (ft)	4.1
S2	19 Jul 2016	High Tide Time	1006
S2	19 Jul 2016	Low Tide (ft)	1.8
S2	19 Jul 2016	Low Tide Time	1515
S2	19 Jul 2016	Comments	Kelp; Water turbid; No flow from stormdrain
S2	26 Jul 2016	Arrive Time	950
S2	26 Jul 2016	Weather	Sunny
S2	26 Jul 2016	Wind Speed (kts)	1.9
S2	26 Jul 2016	Wind Dir	NE
S2	26 Jul 2016	Animal Life	10 Birds
S2	26 Jul 2016	Floatables	None
S2	26 Jul 2016	Water Color	Green
S2	26 Jul 2016	Current Direction	N
S2	26 Jul 2016	Water Temp (C)	22
S2	26 Jul 2016	Wave Height Low (ft)	2
S2	26 Jul 2016	High Tide (ft)	5
S2	26 Jul 2016	High Tide Time	1520
S2	26 Jul 2016	Low Tide (ft)	1.1
S2	26 Jul 2016	Low Tide Time	838
S2	26 Jul 2016	Comments	Kelp; 10 Persons; Water clear; No flow from stormdrain.
S3	05 Jul 2016	Arrive Time	1000
S3	05 Jul 2016	Weather	Sunny
S3	05 Jul 2016	Wind Speed (kts)	8.3
S3	05 Jul 2016	Wind Dir	W
S3	05 Jul 2016	Animal Life	2 Dogs
S3	05 Jul 2016	Floatables	None
S3	05 Jul 2016	Water Color	Green
S3	05 Jul 2016	Current Direction	W
S3	05 Jul 2016	Water Temp (C)	21.1
S3	05 Jul 2016	Wave Height Low (ft)	2
S3	05 Jul 2016	High Tide (ft)	4.3
S3	05 Jul 2016	High Tide Time	1107
S3	05 Jul 2016	Low Tide (ft)	-1.2
S3	05 Jul 2016	Low Tide Time	448
S3	05 Jul 2016	Comments	Kelp; Water turbid; No flow from stormdrain
S3	12 Jul 2016	Arrive Time	915
S3	12 Jul 2016	Weather	Sunny
S3	12 Jul 2016	Wind Speed (kts)	1.8
S3	12 Jul 2016	Wind Dir	NE
S3	12 Jul 2016	Animal Life	5 Shorebirds; 1 Dog
S3	12 Jul 2016	Floatables	None
S3	12 Jul 2016	Water Color	Green
S3	12 Jul 2016	Current Direction	N
S3	12 Jul 2016	Water Temp (C)	21
S3	12 Jul 2016	Wave Height Low (ft)	3
S3	12 Jul 2016	High Tide (ft)	3.1
S3	12 Jul 2016	High Tide Time	356
S3	12 Jul 2016	Low Tide (ft)	1.7
S3	12 Jul 2016	Low Tide Time	954
S3	12 Jul 2016	Comments	Kelp; 9 Persons; 5 Surfers; Water clear; No flow from stormdrain

Station	Date	Parameter	Value
S3	19 Jul 2016	Arrive Time	915
S3	19 Jul 2016	Weather	Sunny
S3	19 Jul 2016	Wind Speed (kts)	2
S3	19 Jul 2016	Wind Dir	SW
S3	19 Jul 2016	Animal Life	2 Dogs; 3 Seagulls
S3	19 Jul 2016	Floatables	None
S3	19 Jul 2016	Water Color	Green
S3	19 Jul 2016	Current Direction	N
S3	19 Jul 2016	Water Temp (C)	22.5
S3	19 Jul 2016	Wave Height Low (ft)	2
S3	19 Jul 2016	High Tide (ft)	4.1
S3	19 Jul 2016	High Tide Time	1006
S3	19 Jul 2016	Low Tide (ft)	-0.6
S3	19 Jul 2016	Low Tide Time	354
S3	19 Jul 2016	Comments	Kelp; Water turbid; No flow from stormdrain
S3	26 Jul 2016	Arrive Time	910
S3	26 Jul 2016	Weather	Sunny
S3	26 Jul 2016	Wind Speed (kts)	1.9
S3	26 Jul 2016	Wind Dir	NE
S3	26 Jul 2016	Animal Life	5 Birds
S3	26 Jul 2016	Floatables	None
S3	26 Jul 2016	Water Color	Green
S3	26 Jul 2016	Current Direction	N
S3	26 Jul 2016	Water Temp (C)	22
S3	26 Jul 2016	Wave Height Low (ft)	2
S3	26 Jul 2016	High Tide (ft)	5
S3	26 Jul 2016	High Tide Time	1520
S3	26 Jul 2016	Low Tide (ft)	1.1
S3	26 Jul 2016	Low Tide Time	838
S3	26 Jul 2016	Comments	Kelp; 10 Persons; Water clear; No flow from stormdrain.
S4	05 Jul 2016	Arrive Time	832
S4	05 Jul 2016	Weather	Partly Cloudy
S4	05 Jul 2016	Wind Speed (kts)	7.1
S4	05 Jul 2016	Wind Dir	W
S4	05 Jul 2016	Animal Life	None
S4	05 Jul 2016	Floatables	None
S4	05 Jul 2016	Water Color	Green
S4	05 Jul 2016	Current Direction	S
S4	05 Jul 2016	Water Temp (C)	20.4
S4	05 Jul 2016	Wave Height Low (ft)	3
S4	05 Jul 2016	High Tide (ft)	4.3
S4	05 Jul 2016	High Tide Time	1107
S4	05 Jul 2016	Low Tide (ft)	-1.2
S4	05 Jul 2016	Low Tide Time	448
S4	05 Jul 2016	Comments	Seagrass; Water clear
S4	12 Jul 2016	Arrive Time	1202
S4	12 Jul 2016	Weather	Partly Cloudy
S4	12 Jul 2016	Wind Speed (kts)	6.9
S4	12 Jul 2016	Wind Dir	W
S4	12 Jul 2016	Animal Life	None
S4	12 Jul 2016	Floatables	None
S4	12 Jul 2016	Water Color	Green

Station	Date	Parameter	Value
S4	12 Jul 2016	Current Direction	W
S4	12 Jul 2016	Water Temp (C)	23.4
S4	12 Jul 2016	Wave Height Low (ft)	3
S4	12 Jul 2016	High Tide (ft)	4.5
S4	12 Jul 2016	High Tide Time	1650
S4	12 Jul 2016	Low Tide (ft)	1.7
S4	12 Jul 2016	Low Tide Time	954
S4	12 Jul 2016	Comments	Water clear
S4	19 Jul 2016	Arrive Time	910
S4	19 Jul 2016	Weather	Partly Cloudy
S4	19 Jul 2016	Wind Speed (kts)	4.6
S4	19 Jul 2016	Wind Dir	SW
S4	19 Jul 2016	Animal Life	None
S4	19 Jul 2016	Floatables	None
S4	19 Jul 2016	Water Color	Green
S4	19 Jul 2016	Current Direction	N
S4	19 Jul 2016	Water Temp (C)	22
S4	19 Jul 2016	Wave Height Low (ft)	3
S4	19 Jul 2016	High Tide (ft)	4.1
S4	19 Jul 2016	High Tide Time	1006
S4	19 Jul 2016	Low Tide (ft)	-0.6
S4	19 Jul 2016	Low Tide Time	354
S4	19 Jul 2016	Comments	Kelp; Seagrass; Water clear
S4	26 Jul 2016	Arrive Time	956
S4	26 Jul 2016	Weather	Sunny
S4	26 Jul 2016	Wind Speed (kts)	4.4
S4	26 Jul 2016	Wind Dir	W
S4	26 Jul 2016	Animal Life	None
S4	26 Jul 2016	Floatables	None
S4	26 Jul 2016	Water Color	Green
S4	26 Jul 2016	Current Direction	N
S4	26 Jul 2016	Water Temp (C)	22.6
S4	26 Jul 2016	Wave Height Low (ft)	2
S4	26 Jul 2016	High Tide (ft)	5
S4	26 Jul 2016	High Tide Time	1520
S4	26 Jul 2016	Low Tide (ft)	1.1
S4	26 Jul 2016	Low Tide Time	838
S4	26 Jul 2016	Comments	Kelp; Water clear
S5	05 Jul 2016	Arrive Time	958
S5	05 Jul 2016	Weather	Partly Cloudy
S5	05 Jul 2016	Wind Speed (kts)	8.7
S5	05 Jul 2016	Wind Dir	W
S5	05 Jul 2016	Animal Life	None
S5	05 Jul 2016	Floatables	None
S5	05 Jul 2016	Water Color	Green
S5	05 Jul 2016	Current Direction	S
S5	05 Jul 2016	Water Temp (C)	19.6
S5	05 Jul 2016	Wave Height Low (ft)	2
S5	05 Jul 2016	High Tide (ft)	4.3
S5	05 Jul 2016	High Tide Time	1107
S5	05 Jul 2016	Low Tide (ft)	-1.2
S5	05 Jul 2016	Low Tide Time	448

Station	Date	Parameter	Value
S5	05 Jul 2016	Comments	Kelp; Water clear
S5	12 Jul 2016	Arrive Time	1031
S5	12 Jul 2016	Weather	Hazy
S5	12 Jul 2016	Wind Speed (kts)	4.2
S5	12 Jul 2016	Wind Dir	W
S5	12 Jul 2016	Animal Life	None
S5	12 Jul 2016	Floatables	None
S5	12 Jul 2016	Water Color	Green
S5	12 Jul 2016	Current Direction	W
S5	12 Jul 2016	Water Temp (C)	22.4
S5	12 Jul 2016	Wave Height Low (ft)	3
S5	12 Jul 2016	High Tide (ft)	4.5
S5	12 Jul 2016	High Tide Time	1650
S5	12 Jul 2016	Low Tide (ft)	1.7
S5	12 Jul 2016	Low Tide Time	954
S5	12 Jul 2016	Comments	Water clear
S5	19 Jul 2016	Arrive Time	1052
S5	19 Jul 2016	Weather	Sunny
S5	19 Jul 2016	Wind Speed (kts)	6.2
S5	19 Jul 2016	Wind Dir	SW
S5	19 Jul 2016	Animal Life	None
S5	19 Jul 2016	Floatables	None
S5	19 Jul 2016	Water Color	Green
S5	19 Jul 2016	Current Direction	N
S5	19 Jul 2016	Water Temp (C)	24.6
S5	19 Jul 2016	Wave Height Low (ft)	3
S5	19 Jul 2016	High Tide (ft)	4.1
S5	19 Jul 2016	High Tide Time	1006
S5	19 Jul 2016	Low Tide (ft)	1.8
S5	19 Jul 2016	Low Tide Time	1515
S5	19 Jul 2016	Comments	Kelp; Seagrass; Water clear
S5	26 Jul 2016	Arrive Time	1138
S5	26 Jul 2016	Weather	Sunny
S5	26 Jul 2016	Wind Speed (kts)	4.4
S5	26 Jul 2016	Wind Dir	W
S5	26 Jul 2016	Animal Life	None
S5	26 Jul 2016	Floatables	None
S5	26 Jul 2016	Water Color	Green
S5	26 Jul 2016	Current Direction	N
S5	26 Jul 2016	Water Temp (C)	23
S5	26 Jul 2016	Wave Height Low (ft)	3
S5	26 Jul 2016	High Tide (ft)	5
S5	26 Jul 2016	High Tide Time	1520
S5	26 Jul 2016	Low Tide (ft)	1.1
S5	26 Jul 2016	Low Tide Time	838
S5	26 Jul 2016	Comments	Water clear
S6	05 Jul 2016	Arrive Time	944
S6	05 Jul 2016	Weather	Partly Cloudy
S6	05 Jul 2016	Wind Speed (kts)	7.5
S6	05 Jul 2016	Wind Dir	W
S6	05 Jul 2016	Animal Life	1 Dog

Station	Date	Parameter	Value
S6	05 Jul 2016	Floatables	None
S6	05 Jul 2016	Water Color	Green
S6	05 Jul 2016	Current Direction	S
S6	05 Jul 2016	Water Temp (C)	19.6
S6	05 Jul 2016	Wave Height Low (ft)	2
S6	05 Jul 2016	High Tide (ft)	4.3
S6	05 Jul 2016	High Tide Time	1107
S6	05 Jul 2016	Low Tide (ft)	-1.2
S6	05 Jul 2016	Low Tide Time	448
S6	05 Jul 2016	Comments	2 Persons; Water clear
S6	12 Jul 2016	Arrive Time	1018
S6	12 Jul 2016	Weather	Hazy
S6	12 Jul 2016	Wind Speed (kts)	7.1
S6	12 Jul 2016	Wind Dir	W
S6	12 Jul 2016	Animal Life	None
S6	12 Jul 2016	Floatables	None
S6	12 Jul 2016	Water Color	Green
S6	12 Jul 2016	Current Direction	W
S6	12 Jul 2016	Water Temp (C)	22
S6	12 Jul 2016	Wave Height Low (ft)	4
S6	12 Jul 2016	High Tide (ft)	3.1
S6	12 Jul 2016	High Tide Time	356
S6	12 Jul 2016	Low Tide (ft)	1.7
S6	12 Jul 2016	Low Tide Time	954
S6	12 Jul 2016	Comments	Water clear
S6	19 Jul 2016	Arrive Time	1035
S6	19 Jul 2016	Weather	Sunny
S6	19 Jul 2016	Wind Speed (kts)	6.6
S6	19 Jul 2016	Wind Dir	SW
S6	19 Jul 2016	Animal Life	None
S6	19 Jul 2016	Floatables	None
S6	19 Jul 2016	Water Color	Green
S6	19 Jul 2016	Current Direction	N
S6	19 Jul 2016	Water Temp (C)	22
S6	19 Jul 2016	Wave Height Low (ft)	4
S6	19 Jul 2016	High Tide (ft)	4.1
S6	19 Jul 2016	High Tide Time	1006
S6	19 Jul 2016	Low Tide (ft)	1.8
S6	19 Jul 2016	Low Tide Time	1515
S6	19 Jul 2016	Comments	Kelp; Seagrass; Water clear
S6	26 Jul 2016	Arrive Time	1124
S6	26 Jul 2016	Weather	Sunny
S6	26 Jul 2016	Wind Speed (kts)	8.3
S6	26 Jul 2016	Wind Dir	W
S6	26 Jul 2016	Animal Life	None
S6	26 Jul 2016	Floatables	None
S6	26 Jul 2016	Water Color	Green
S6	26 Jul 2016	Current Direction	N
S6	26 Jul 2016	Water Temp (C)	22.3
S6	26 Jul 2016	Wave Height Low (ft)	2
S6	26 Jul 2016	High Tide (ft)	5
S6	26 Jul 2016	High Tide Time	1520

Station	Date	Parameter	Value
S6	26 Jul 2016	Low Tide (ft)	1.1
S6	26 Jul 2016	Low Tide Time	838
S6	26 Jul 2016	Comments	Seagrass; Water clear
S8	05 Jul 2016	Arrive Time	1143
S8	05 Jul 2016	Weather	Sunny
S8	05 Jul 2016	Wind Speed (kts)	6.6
S8	05 Jul 2016	Wind Dir	W
S8	05 Jul 2016	Animal Life	None
S8	05 Jul 2016	Floatables	None
S8	05 Jul 2016	Water Color	Green
S8	05 Jul 2016	Current Direction	S
S8	05 Jul 2016	Water Temp (C)	20.6
S8	05 Jul 2016	Wave Height Low (ft)	2
S8	05 Jul 2016	High Tide (ft)	4.3
S8	05 Jul 2016	High Tide Time	1107
S8	05 Jul 2016	Low Tide (ft)	1.6
S8	05 Jul 2016	Low Tide Time	1621
S8	05 Jul 2016	Comments	Seagrass; Water clear
S8	12 Jul 2016	Arrive Time	942
S8	12 Jul 2016	Weather	Hazy
S8	12 Jul 2016	Wind Speed (kts)	4.6
S8	12 Jul 2016	Wind Dir	W
S8	12 Jul 2016	Animal Life	None
S8	12 Jul 2016	Floatables	None
S8	12 Jul 2016	Water Color	Green
S8	12 Jul 2016	Current Direction	W
S8	12 Jul 2016	Water Temp (C)	21.8
S8	12 Jul 2016	Wave Height Low (ft)	2
S8	12 Jul 2016	High Tide (ft)	3.1
S8	12 Jul 2016	High Tide Time	356
S8	12 Jul 2016	Low Tide (ft)	1.7
S8	12 Jul 2016	Low Tide Time	954
S8	12 Jul 2016	Comments	Water clear
S8	19 Jul 2016	Arrive Time	1221
S8	19 Jul 2016	Weather	Sunny
S8	19 Jul 2016	Wind Speed (kts)	10.4
S8	19 Jul 2016	Wind Dir	SW
S8	19 Jul 2016	Animal Life	None
S8	19 Jul 2016	Floatables	None
S8	19 Jul 2016	Water Color	Green
S8	19 Jul 2016	Current Direction	N
S8	19 Jul 2016	Water Temp (C)	22.4
S8	19 Jul 2016	Wave Height Low (ft)	4
S8	19 Jul 2016	High Tide (ft)	4.1
S8	19 Jul 2016	High Tide Time	1006
S8	19 Jul 2016	Low Tide (ft)	1.8
S8	19 Jul 2016	Low Tide Time	1515
S8	19 Jul 2016	Comments	Kelp; Seagrass; 20 Persons; 7 Surfers; 14 Swimmers; Water clear
S8	26 Jul 2016	Arrive Time	1232
S8	26 Jul 2016	Weather	Sunny
S8	26 Jul 2016	Wind Speed (kts)	9.7

Station	Date	Parameter	Value
S8	26 Jul 2016	Wind Dir	W
S8	26 Jul 2016	Animal Life	None
S8	26 Jul 2016	Floatables	None
S8	26 Jul 2016	Water Color	Green
S8	26 Jul 2016	Current Direction	N
S8	26 Jul 2016	Water Temp (C)	24.3
S8	26 Jul 2016	Wave Height Low (ft)	3
S8	26 Jul 2016	High Tide (ft)	5
S8	26 Jul 2016	High Tide Time	1520
S8	26 Jul 2016	Low Tide (ft)	1.1
S8	26 Jul 2016	Low Tide Time	838
S8	26 Jul 2016	Comments	Kelp; 6 Persons; 1 Fisherman; Water clear
S9	05 Jul 2016	Arrive Time	1218
S9	05 Jul 2016	Weather	Sunny
S9	05 Jul 2016	Wind Speed (kts)	6
S9	05 Jul 2016	Wind Dir	W
S9	05 Jul 2016	Animal Life	None
S9	05 Jul 2016	Floatables	None
S9	05 Jul 2016	Water Color	Green
S9	05 Jul 2016	Current Direction	S
S9	05 Jul 2016	Water Temp (C)	23.6
S9	05 Jul 2016	Wave Height Low (ft)	1
S9	05 Jul 2016	High Tide (ft)	4.3
S9	05 Jul 2016	High Tide Time	1107
S9	05 Jul 2016	Low Tide (ft)	1.6
S9	05 Jul 2016	Low Tide Time	1621
S9	05 Jul 2016	Comments	42 Persons; 22 Surfers; 6 Swimmers; Water clear
S9	12 Jul 2016	Arrive Time	919
S9	12 Jul 2016	Weather	Hazy
S9	12 Jul 2016	Wind Speed (kts)	3.1
S9	12 Jul 2016	Wind Dir	W
S9	12 Jul 2016	Animal Life	None
S9	12 Jul 2016	Floatables	None
S9	12 Jul 2016	Water Color	Green
S9	12 Jul 2016	Current Direction	W
S9	12 Jul 2016	Water Temp (C)	21.6
S9	12 Jul 2016	Wave Height Low (ft)	2
S9	12 Jul 2016	High Tide (ft)	3.1
S9	12 Jul 2016	High Tide Time	356
S9	12 Jul 2016	Low Tide (ft)	1.7
S9	12 Jul 2016	Low Tide Time	954
S9	12 Jul 2016	Comments	18 Surfers; Water clear
S9	19 Jul 2016	Arrive Time	1303
S9	19 Jul 2016	Weather	Sunny
S9	19 Jul 2016	Wind Speed (kts)	7.1
S9	19 Jul 2016	Wind Dir	W
S9	19 Jul 2016	Animal Life	None
S9	19 Jul 2016	Floatables	None
S9	19 Jul 2016	Water Color	Green
S9	19 Jul 2016	Current Direction	N
S9	19 Jul 2016	Water Temp (C)	24.8
S9	19 Jul 2016	Wave Height Low (ft)	2

Station	Date	Parameter	Value
S9	19 Jul 2016	High Tide (ft)	4.1
S9	19 Jul 2016	High Tide Time	1006
S9	19 Jul 2016	Low Tide (ft)	1.8
S9	19 Jul 2016	Low Tide Time	1515
S9	19 Jul 2016	Comments	Kelp; Seagrass; 2 Joggers; 50 Persons; 8 Surfers; 15 Swimmers; Water clear
S9	26 Jul 2016	Arrive Time	1315
S9	26 Jul 2016	Weather	Sunny
S9	26 Jul 2016	Wind Speed (kts)	5.4
S9	26 Jul 2016	Wind Dir	W
S9	26 Jul 2016	Animal Life	None
S9	26 Jul 2016	Floatables	None
S9	26 Jul 2016	Water Color	Green
S9	26 Jul 2016	Current Direction	N
S9	26 Jul 2016	Water Temp (C)	24.6
S9	26 Jul 2016	Wave Height Low (ft)	2
S9	26 Jul 2016	High Tide (ft)	5
S9	26 Jul 2016	High Tide Time	1520
S9	26 Jul 2016	Low Tide (ft)	1.1
S9	26 Jul 2016	Low Tide Time	838
S9	26 Jul 2016	Comments	Kelp; Seagrass; 16 Persons; 7 Surfers; 2 Swimmers; Water clear
S10	05 Jul 2016	Arrive Time	836
S10	05 Jul 2016	Weather	Partly Cloudy
S10	05 Jul 2016	Wind Speed (kts)	6.9
S10	05 Jul 2016	Wind Dir	W
S10	05 Jul 2016	Animal Life	None
S10	05 Jul 2016	Floatables	None
S10	05 Jul 2016	Water Color	Green
S10	05 Jul 2016	Current Direction	S
S10	05 Jul 2016	Water Temp (C)	18.8
S10	05 Jul 2016	Wave Height Low (ft)	2
S10	05 Jul 2016	High Tide (ft)	4.3
S10	05 Jul 2016	High Tide Time	1107
S10	05 Jul 2016	Low Tide (ft)	-1.2
S10	05 Jul 2016	Low Tide Time	448
S10	05 Jul 2016	Comments	Water clear
S10	12 Jul 2016	Arrive Time	1209
S10	12 Jul 2016	Weather	Partly Cloudy
S10	12 Jul 2016	Wind Speed (kts)	6
S10	12 Jul 2016	Wind Dir	W
S10	12 Jul 2016	Animal Life	None
S10	12 Jul 2016	Floatables	None
S10	12 Jul 2016	Water Color	Green
S10	12 Jul 2016	Current Direction	W
S10	12 Jul 2016	Water Temp (C)	21.4
S10	12 Jul 2016	Wave Height Low (ft)	3
S10	12 Jul 2016	High Tide (ft)	4.5
S10	12 Jul 2016	High Tide Time	1650
S10	12 Jul 2016	Low Tide (ft)	1.7
S10	12 Jul 2016	Low Tide Time	954
S10	12 Jul 2016	Comments	Water clear

Station	Date	Parameter	Value
S10	19 Jul 2016	Arrive Time	857
S10	19 Jul 2016	Weather	Partly Cloudy
S10	19 Jul 2016	Wind Speed (kts)	5.2
S10	19 Jul 2016	Wind Dir	SW
S10	19 Jul 2016	Animal Life	None
S10	19 Jul 2016	Floatables	None
S10	19 Jul 2016	Water Color	Green
S10	19 Jul 2016	Current Direction	N
S10	19 Jul 2016	Water Temp (C)	21.6
S10	19 Jul 2016	Wave Height Low (ft)	3
S10	19 Jul 2016	High Tide (ft)	4.1
S10	19 Jul 2016	High Tide Time	1006
S10	19 Jul 2016	Low Tide (ft)	-0.6
S10	19 Jul 2016	Low Tide Time	354
S10	19 Jul 2016	Comments	Kelp; Seagrass; Water clear
S10	26 Jul 2016	Arrive Time	951
S10	26 Jul 2016	Weather	Sunny
S10	26 Jul 2016	Wind Speed (kts)	5.5
S10	26 Jul 2016	Wind Dir	W
S10	26 Jul 2016	Animal Life	None
S10	26 Jul 2016	Floatables	None
S10	26 Jul 2016	Water Color	Green
S10	26 Jul 2016	Current Direction	N
S10	26 Jul 2016	Water Temp (C)	22.6
S10	26 Jul 2016	Wave Height Low (ft)	3
S10	26 Jul 2016	High Tide (ft)	5
S10	26 Jul 2016	High Tide Time	1520
S10	26 Jul 2016	Low Tide (ft)	1.1
S10	26 Jul 2016	Low Tide Time	838
S10	26 Jul 2016	Comments	Kelp; Water clear
S11	05 Jul 2016	Arrive Time	950
S11	05 Jul 2016	Weather	Partly Cloudy
S11	05 Jul 2016	Wind Speed (kts)	9.9
S11	05 Jul 2016	Wind Dir	W
S11	05 Jul 2016	Animal Life	None
S11	05 Jul 2016	Floatables	None
S11	05 Jul 2016	Water Color	Green
S11	05 Jul 2016	Current Direction	S
S11	05 Jul 2016	Water Temp (C)	19.6
S11	05 Jul 2016	Wave Height Low (ft)	3
S11	05 Jul 2016	High Tide (ft)	4.3
S11	05 Jul 2016	High Tide Time	1107
S11	05 Jul 2016	Low Tide (ft)	-1.2
S11	05 Jul 2016	Low Tide Time	448
S11	05 Jul 2016	Comments	Water clear
S11	12 Jul 2016	Arrive Time	1024
S11	12 Jul 2016	Weather	Hazy
S11	12 Jul 2016	Wind Speed (kts)	5.9
S11	12 Jul 2016	Wind Dir	W
S11	12 Jul 2016	Animal Life	None
S11	12 Jul 2016	Floatables	None
S11	12 Jul 2016	Water Color	Green

Station	Date	Parameter	Value
S11	12 Jul 2016	Current Direction	W
S11	12 Jul 2016	Water Temp (C)	21.6
S11	12 Jul 2016	Wave Height Low (ft)	4
S11	12 Jul 2016	High Tide (ft)	3.1
S11	12 Jul 2016	High Tide Time	356
S11	12 Jul 2016	Low Tide (ft)	1.7
S11	12 Jul 2016	Low Tide Time	954
S11	12 Jul 2016	Comments	Water clear
S11	19 Jul 2016	Arrive Time	1043
S11	19 Jul 2016	Weather	Sunny
S11	19 Jul 2016	Wind Speed (kts)	5.6
S11	19 Jul 2016	Wind Dir	SW
S11	19 Jul 2016	Animal Life	None
S11	19 Jul 2016	Floatables	None
S11	19 Jul 2016	Water Color	Green
S11	19 Jul 2016	Current Direction	N
S11	19 Jul 2016	Water Temp (C)	21.6
S11	19 Jul 2016	Wave Height Low (ft)	4
S11	19 Jul 2016	High Tide (ft)	4.1
S11	19 Jul 2016	High Tide Time	1006
S11	19 Jul 2016	Low Tide (ft)	1.8
S11	19 Jul 2016	Low Tide Time	1515
S11	19 Jul 2016	Comments	Kelp; Seagrass; 1 Person; Water clear
S11	26 Jul 2016	Arrive Time	1130
S11	26 Jul 2016	Weather	Sunny
S11	26 Jul 2016	Wind Speed (kts)	7.3
S11	26 Jul 2016	Wind Dir	W
S11	26 Jul 2016	Animal Life	None
S11	26 Jul 2016	Floatables	None
S11	26 Jul 2016	Water Color	Green
S11	26 Jul 2016	Current Direction	N
S11	26 Jul 2016	Water Temp (C)	23
S11	26 Jul 2016	Wave Height Low (ft)	2
S11	26 Jul 2016	High Tide (ft)	5
S11	26 Jul 2016	High Tide Time	1520
S11	26 Jul 2016	Low Tide (ft)	1.1
S11	26 Jul 2016	Low Tide Time	838
S11	26 Jul 2016	Comments	Water clear
S12	05 Jul 2016	Arrive Time	923
S12	05 Jul 2016	Weather	Partly Cloudy
S12	05 Jul 2016	Wind Speed (kts)	8.1
S12	05 Jul 2016	Wind Dir	W
S12	05 Jul 2016	Animal Life	None
S12	05 Jul 2016	Floatables	None
S12	05 Jul 2016	Water Color	Green
S12	05 Jul 2016	Current Direction	S
S12	05 Jul 2016	Water Temp (C)	20.2
S12	05 Jul 2016	Wave Height Low (ft)	2
S12	05 Jul 2016	High Tide (ft)	4.3
S12	05 Jul 2016	High Tide Time	1107
S12	05 Jul 2016	Low Tide (ft)	-1.2
S12	05 Jul 2016	Low Tide Time	448

Station	Date	Parameter	Value
S12	05 Jul 2016	Comments	Seagrass; Water clear
S12	12 Jul 2016	Arrive Time	1008
S12	12 Jul 2016	Weather	Hazy
S12	12 Jul 2016	Wind Speed (kts)	5.2
S12	12 Jul 2016	Wind Dir	W
S12	12 Jul 2016	Animal Life	None
S12	12 Jul 2016	Floatables	None
S12	12 Jul 2016	Water Color	Green
S12	12 Jul 2016	Current Direction	W
S12	12 Jul 2016	Water Temp (C)	22
S12	12 Jul 2016	Wave Height Low (ft)	2
S12	12 Jul 2016	High Tide (ft)	3.1
S12	12 Jul 2016	High Tide Time	356
S12	12 Jul 2016	Low Tide (ft)	1.7
S12	12 Jul 2016	Low Tide Time	954
S12	12 Jul 2016	Comments	Water clear
S12	19 Jul 2016	Arrive Time	1001
S12	19 Jul 2016	Weather	Partly Cloudy
S12	19 Jul 2016	Wind Speed (kts)	8.3
S12	19 Jul 2016	Wind Dir	SW
S12	19 Jul 2016	Animal Life	None
S12	19 Jul 2016	Floatables	None
S12	19 Jul 2016	Water Color	Green
S12	19 Jul 2016	Current Direction	N
S12	19 Jul 2016	Water Temp (C)	22.6
S12	19 Jul 2016	Wave Height Low (ft)	3
S12	19 Jul 2016	High Tide (ft)	4.1
S12	19 Jul 2016	High Tide Time	1006
S12	19 Jul 2016	Low Tide (ft)	1.8
S12	19 Jul 2016	Low Tide Time	1515
S12	19 Jul 2016	Comments	Kelp; Seagrass; 5 Persons; 3 Surfers; Water clear
S12	26 Jul 2016	Arrive Time	1109
S12	26 Jul 2016	Weather	Sunny
S12	26 Jul 2016	Wind Speed (kts)	8.1
S12	26 Jul 2016	Wind Dir	W
S12	26 Jul 2016	Animal Life	None
S12	26 Jul 2016	Floatables	None
S12	26 Jul 2016	Water Color	Green
S12	26 Jul 2016	Current Direction	N
S12	26 Jul 2016	Water Temp (C)	23.6
S12	26 Jul 2016	Wave Height Low (ft)	3
S12	26 Jul 2016	High Tide (ft)	5
S12	26 Jul 2016	High Tide Time	1520
S12	26 Jul 2016	Low Tide (ft)	1.1
S12	26 Jul 2016	Low Tide Time	838
S12	26 Jul 2016	Comments	3 Persons; 1 Swimmer; 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 Jul 2016	19	20	17	10	6	7	16
02 Jul 2016	19	20	17	10	6	7	16
03 Jul 2016	19	20	17	10	6	7	16
04 Jul 2016	8*	10*	9*	8*	4*	6*	8*
05 Jul 2016	8*	10*	9*	8*	4*	6*	8*
06 Jul 2016	8*	10*	9*	8*	4*	6*	8*
07 Jul 2016	6	7	7	6	4	5	6
08 Jul 2016	6	7	7	6	4	5	6
09 Jul 2016	6	7	7	6	4	5	6
10 Jul 2016	6	7	7	6	4	5	6
11 Jul 2016	6	7	7	6	4	5	6
12 Jul 2016	6	7	7	6	4	5	6
13 Jul 2016	7	6	5	5	4	4	5
14 Jul 2016	7	6	5	5	4	4	5
15 Jul 2016	7	6	5	5	4	4	5
16 Jul 2016	6	5	4	4	3	5	4
17 Jul 2016	6	5	4	4	3	5	4
18 Jul 2016	6	5	4	4	3	5	4
19 Jul 2016	5	4	4	4	3	4	3
20 Jul 2016	6	5	4	4	3	3	4
21 Jul 2016	6	5	4	4	3	3	4
22 Jul 2016	4*	2*	2*	2*	3*	2*	2*
23 Jul 2016	4*	2*	2*	2*	3*	2*	2*
24 Jul 2016	4*	2*	2*	2*	3*	2*	2*
25 Jul 2016	4	3	3	2	3	2	2
26 Jul 2016	4	3	3	2	3	2	2
27 Jul 2016	4*	3*	2*	2*	2*	2*	2*
28 Jul 2016	4*	3*	2*	2*	2*	2*	2*
29 Jul 2016	4*	3*	2*	2*	2*	2*	2*
30 Jul 2016	4*	3*	2*	2*	2*	2*	2*
31 Jul 2016	7	4	3	3	3	3	3

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

* Geometric mean calculated using n<5

Table 3.3

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

Date	I19	I24	I25	I26	I32	I39	I40
01 Jul 2016	7	6	4	2	2	2	4
02 Jul 2016	7	6	4	2	2	2	4
03 Jul 2016	7	6	4	2	2	2	4
04 Jul 2016	4*	4*	2*	2*	2*	2*	3*
05 Jul 2016	4*	4*	2*	2*	2*	2*	3*
06 Jul 2016	4*	4*	2*	2*	2*	2*	3*
07 Jul 2016	4	3	2	2	2	2	3
08 Jul 2016	4	3	2	2	2	2	3
09 Jul 2016	4	3	2	2	2	2	3
10 Jul 2016	4	3	2	2	2	2	3
11 Jul 2016	4	3	2	2	2	2	3
12 Jul 2016	4	3	2	2	2	2	3
13 Jul 2016	3	3	2	2	2	2	3
14 Jul 2016	3	3	2	2	2	2	3
15 Jul 2016	3	3	2	2	2	2	3
16 Jul 2016	4	3	2	2	2	2	3
17 Jul 2016	4	3	2	2	2	2	3
18 Jul 2016	4	3	2	2	2	2	3
19 Jul 2016	3	3	2	2	2	2	3
20 Jul 2016	4	3	2	3	2	2	3
21 Jul 2016	4	3	2	3	2	2	3
22 Jul 2016	2*	2*	2*	2*	2*	2*	2*
23 Jul 2016	2*	2*	2*	2*	2*	2*	2*
24 Jul 2016	2*	2*	2*	2*	2*	2*	2*
25 Jul 2016	2	2	2	2	2	2	2
26 Jul 2016	2	2	2	2	2	2	2
27 Jul 2016	2*	2*	2*	2*	2*	2*	2*
28 Jul 2016	2*	2*	2*	2*	2*	2*	2*
29 Jul 2016	2*	2*	2*	2*	2*	2*	2*
30 Jul 2016	2*	2*	2*	2*	2*	2*	2*
31 Jul 2016	4	3	2	2	2	2	2

* Geometric mean calculated using n<5

Table 3.4

Summary of compliance at the SBOO kelp stations with the Ocean Plan's Single Sample Maximum standard for total coliform bacteria, which states that total coliform density shall not exceed 10,000 CFU/100 mL.

Date	I19	I24	I25	I26	I32	I39	I40
07 Jul 2016	IC						
13 Jul 2016	IC						
19 Jul 2016	IC						
25 Jul 2016	IC						
31 Jul 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
07 Jul 2016	IC						
13 Jul 2016	IC						
19 Jul 2016	IC						
25 Jul 2016	IC						
31 Jul 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
07 Jul 2016	IC						
13 Jul 2016	IC						
19 Jul 2016	IC						
25 Jul 2016	IC						
31 Jul 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
07 Jul 2016	IC						
13 Jul 2016	IC						
19 Jul 2016	IC						
25 Jul 2016	IC						
31 Jul 2016	IC						

IC = In Compliance

E = Exceedance

ns = not sampled

Table 3.8

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

Station	Date	Time	Depth	Total	Fecal	Enter	F:T	Temp	XMS	DO	Sal	pH	OG	SUSO
I19	07 Jul 2016	1046	2	<2	<2	<2	1.00	19.3	73.24	7.6	33.51	8.2	ns	ns
I19	07 Jul 2016	1046	6	<2	<2	<2	1.00	16.7	79.23	7.7	33.43	8.2	ns	ns
I19	07 Jul 2016	1046	11	2e	<2	<2	1.00	15.9	72.81	7.8	33.43	8.1	ns	ns
I19	13 Jul 2016	1048	2	<2	<2	<2	1.00	22.1	73.84	7.2	33.61	8.3	ns	ns
I19	13 Jul 2016	1048	6	<2	<2	<2	1.00	21.7	75.85	6.9	33.65	8.3	ns	ns
I19	13 Jul 2016	1048	11	<20	<2	2e	0.10	21.0	72.21	6.5	33.91	8.3	ns	ns
I19	19 Jul 2016	1118	2	<2	<2	<2	1.00	22.2	78.39	8.7	33.65	8.4	ns	ns
I19	19 Jul 2016	1118	6	<2	<2	<2	1.00	21.5	72.59	7.1	33.59	8.3	ns	ns
I19	19 Jul 2016	1118	11	2e	<2	<2	1.00	16.5	62.07	8.0	33.54	8.1	ns	ns
I19	25 Jul 2016	1112	2	<2	<2	<2	1.00	21.1	68.37	7.7	33.50	8.2	ns	ns
I19	25 Jul 2016	1112	6	<20	<2	<2	0.10	20.2	69.61	7.4	33.48	8.2	ns	ns
I19	25 Jul 2016	1112	11	8e	<2	<2	0.25	17.2	69.62	7.7	33.42	8.2	ns	ns
I19	31 Jul 2016	1135	2	10e	<2	24e	0.20	20.8	72.16	8.6	33.44	8.2	ns	ns
I19	31 Jul 2016	1135	6	68	6e	84	0.09	20.5	70.32	8.0	33.43	8.2	ns	ns
I19	31 Jul 2016	1135	11	62	4e	30e	0.06	18.0	68.11	7.9	33.40	8.2	ns	ns
I24	07 Jul 2016	1109	2	<2	<2	<2	1.00	19.9	71.37	7.4	33.53	8.2	ns	ns
I24	07 Jul 2016	1109	6	<2	<2	<2	1.00	15.9	77.71	7.5	33.43	8.1	ns	ns
I24	07 Jul 2016	1109	11	<2	<2	<2	1.00	15.6	74.93	6.9	33.42	8.1	ns	ns
I24	13 Jul 2016	1111	2	<2	<2	<2	1.00	21.8	80.90	7.9	33.63	8.3	ns	ns
I24	13 Jul 2016	1111	6	<2	<2	<2	1.00	21.6	78.83	7.9	33.66	8.3	ns	ns
I24	13 Jul 2016	1111	11	<2	<2	<2	1.00	17.6	78.63	7.5	35.06	8.1	ns	ns
I24	19 Jul 2016	1146	2	<2	<2	<2	1.00	22.8	76.38	8.1	33.67	8.4	ns	ns
I24	19 Jul 2016	1146	6	4e	<2	<2	0.50	19.1	77.85	7.4	33.49	8.2	ns	ns
I24	19 Jul 2016	1146	11	<2	<2	<2	1.00	15.9	74.55	6.4	33.40	8.0	ns	ns
I24	25 Jul 2016	1138	2	<2	<2	<2	1.00	21.1	75.43	7.8	33.50	8.2	ns	ns
I24	25 Jul 2016	1138	6	2e	<2	<2	1.00	19.1	79.58	8.4	33.47	8.3	ns	ns
I24	25 Jul 2016	1138	11	14e	<2	2e	0.14	18.0	78.33	7.6	33.43	8.2	ns	ns
I24	31 Jul 2016	1201	2	<2	<2	<2	1.00	21.0	77.40	8.4	33.46	8.2	ns	ns
I24	31 Jul 2016	1201	6	2e	<2	<2	1.00	19.2	70.70	8.2	33.40	8.2	ns	ns
I24	31 Jul 2016	1201	11	36e	2e	20e	0.06	17.4	75.58	7.8	33.40	8.2	ns	ns
I25	07 Jul 2016	1117	2	<2	<2	<2	1.00	20.0	71.95	7.4	33.52	8.2	ns	ns
I25	07 Jul 2016	1117	6	<2	<2	<2	1.00	15.9	78.01	7.1	33.43	8.1	ns	ns
I25	07 Jul 2016	1117	9	<2	<2	<2	1.00	15.8	78.73	7.3	33.43	8.1	ns	ns
I25	13 Jul 2016	1120	2	<2	<2	<2	1.00	22.0	81.53	7.7	33.59	8.3	ns	ns
I25	13 Jul 2016	1120	6	<2	<2	<2	1.00	21.5	80.47	7.3	33.67	8.3	ns	ns

Station	Date	Time	Depth	Total	Fecal	Enterο	F:T	Temp	XMS	DO	Sal	pH	OG	SUSO
I25	13 Jul 2016	1120	9	<2	<2	<2	1.00	19.5	79.85	8.0	34.85	8.2	ns	ns
I25	19 Jul 2016	1156	2	<2	<2	<2	1.00	22.7	76.62	8.5	33.66	8.3	ns	ns
I25	19 Jul 2016	1156	6	<2	<2	<2	1.00	19.2	80.30	7.6	33.52	8.2	ns	ns
I25	19 Jul 2016	1156	9	<2	<2	<2	1.00	18.5	75.61	6.9	33.42	8.2	ns	ns
I25	25 Jul 2016	1148	2	2e	<2	<2	1.00	21.4	77.47	7.9	33.51	8.2	ns	ns
I25	25 Jul 2016	1148	6	4e	<2	2e	0.50	19.3	79.09	8.4	33.48	8.3	ns	ns
I25	25 Jul 2016	1148	9	8e	<2	<2	0.25	18.8	81.04	8.3	33.47	8.3	ns	ns
I25	31 Jul 2016	1211	2	<2	<2	<2	1.00	20.8	76.90	8.5	33.46	8.2	ns	ns
I25	31 Jul 2016	1211	6	8e	<2	<2	0.25	18.7	74.46	8.2	33.41	8.2	ns	ns
I25	31 Jul 2016	1211	9	16e	<2	4e	0.12	17.7	75.46	8.4	33.41	8.2	ns	ns
I26	07 Jul 2016	1127	2	<2	<2	<2	1.00	19.9	74.22	6.9	33.52	8.2	ns	ns
I26	07 Jul 2016	1127	6	<2	<2	<2	1.00	16.6	75.98	6.8	33.42	8.1	ns	ns
I26	07 Jul 2016	1127	9	2e	<2	<2	1.00	15.5	75.78	6.7	33.42	8.1	ns	ns
I26	13 Jul 2016	1130	2	<2	<2	<2	1.00	22.0	73.05	8.0	33.62	8.3	ns	ns
I26	13 Jul 2016	1130	6	<2	<2	<2	1.00	21.6	78.15	8.0	33.72	8.3	ns	ns
I26	13 Jul 2016	1130	9	<2	<2	<2	1.00	18.1	77.00	7.0	35.51	8.2	ns	ns
I26	19 Jul 2016	1210	2	<2	<2	2e	1.00	22.5	73.28	7.8	33.66	8.3	ns	ns
I26	19 Jul 2016	1210	6	<2	<2	4e	1.00	21.7	72.36	6.7	33.62	8.3	ns	ns
I26	19 Jul 2016	1210	9	<2	<2	2e	1.00	18.2	76.45	7.1	33.50	8.1	ns	ns
I26	25 Jul 2016	1159	2	<2	<2	<2	1.00	21.6	78.11	7.5	33.54	8.2	ns	ns
I26	25 Jul 2016	1159	6	2e	<2	<2	1.00	20.5	77.44	7.0	33.49	8.2	ns	ns
I26	25 Jul 2016	1159	9	<2	<2	<2	1.00	19.6	80.46	7.3	33.51	8.2	ns	ns
I26	31 Jul 2016	1222	2	<2	<2	<2	1.00	21.7	77.58	8.7	33.50	8.3	ns	ns
I26	31 Jul 2016	1222	6	<2	2e	<2	1.00	20.4	70.63	8.1	33.43	8.2	ns	ns
I26	31 Jul 2016	1222	9	42	<2	4e	0.05	18.3	74.52	8.4	33.40	8.2	ns	ns
I32	07 Jul 2016	1139	2	<2	<2	<2	1.00	21.2	71.67	7.9	33.63	8.3	ns	ns
I32	07 Jul 2016	1139	6	<2	<2	<2	1.00	19.9	67.60	6.8	33.59	8.2	ns	ns
I32	07 Jul 2016	1139	9	6e	<2	<2	0.33	16.8	67.12	6.1	33.37	8.1	ns	ns
I32	13 Jul 2016	1144	2	<2	<2	<2	1.00	22.0	80.27	7.7	33.63	8.3	ns	ns
I32	13 Jul 2016	1144	6	<2	<2	<2	1.00	21.8	68.46	6.6	33.73	8.3	ns	ns
I32	13 Jul 2016	1144	9	<2	<2	<2	1.00	17.4	69.24	8.0	34.89	8.1	ns	ns
I32	19 Jul 2016	1225	2	<2	<2	<2	1.00	22.5	73.14	7.5	33.66	8.3	ns	ns
I32	19 Jul 2016	1225	6	2e	<2	<2	1.00	21.5	68.45	7.0	33.63	8.3	ns	ns
I32	19 Jul 2016	1225	9	4e	<2	4e	0.50	20.1	62.85	7.5	33.60	8.2	ns	ns
I32	25 Jul 2016	1214	2	2e	<2	<2	1.00	21.3	83.88	7.4	33.55	8.2	ns	ns
I32	25 Jul 2016	1214	6	<2	<2	<2	1.00	21.2	77.53	7.2	33.54	8.2	ns	ns
I32	25 Jul 2016	1214	9	2e	<2	<2	1.00	20.2	79.14	7.2	33.52	8.2	ns	ns
I32	31 Jul 2016	1237	2	<2	<2	<2	1.00	22.2	78.13	8.3	33.54	8.2	ns	ns
I32	31 Jul 2016	1237	6	8e	<2	2e	0.25	20.7	67.97	8.3	33.48	8.2	ns	ns
I32	31 Jul 2016	1237	9	10e	2e	<2	0.20	19.5	72.10	7.8	33.43	8.2	ns	ns
I39	07 Jul 2016	1022	2	<2	<2	<2	1.00	19.9	65.24	8.2	33.58	8.2	ns	ns

Station	Date	Time	Depth	Total	Fecal	Enterο	F:T	Temp	XMS	DO	Sal	pH	OG	SUSO
I39	07 Jul 2016	1022	12	<2	<2	<2	1.00	15.6	80.16	7.0	33.43	8.1	ns	ns
I39	07 Jul 2016	1022	18	<2	<2	<2	1.00	14.8	81.57	6.8	33.42	8.1	ns	ns
I39	13 Jul 2016	1016	2	<2	<2	<2	1.00	21.7	83.51	7.9	33.59	8.3	ns	ns
I39	13 Jul 2016	1016	12	<2	<2	<2	1.00	19.8	78.77	7.4	33.86	8.2	ns	ns
I39	13 Jul 2016	1016	18	<2	<2	<2	1.00	15.0	82.04	7.0	34.66	8.0	ns	ns
I39	19 Jul 2016	1053	2	<2	<2	<2	1.00	22.8	78.42	8.4	33.68	8.4	ns	ns
I39	19 Jul 2016	1053	12	<2	<2	<2	1.00	16.1	82.88	5.7	33.37	8.1	ns	ns
I39	19 Jul 2016	1053	18	<2	<2	<2	1.00	13.8	77.48	6.0	33.34	8.0	ns	ns
I39	25 Jul 2016	1048	2	<2	<2	<2	1.00	21.7	83.57	7.2	33.55	8.2	ns	ns
I39	25 Jul 2016	1048	12	8e	<2	<2	0.25	19.2	81.49	8.0	33.48	8.2	ns	ns
I39	25 Jul 2016	1048	18	4e	<2	<2	0.50	16.1	79.76	7.6	33.40	8.1	ns	ns
I39	31 Jul 2016	1114	2	<2	<2	<2	1.00	21.1	78.70	8.7	33.50	8.3	ns	ns
I39	31 Jul 2016	1114	12	8e	<2	<2	0.25	19.6	78.68	8.8	33.45	8.2	ns	ns
I39	31 Jul 2016	1114	18	14e	<2	8e	0.14	17.5	77.25	8.2	33.41	8.2	ns	ns
I40	07 Jul 2016	1100	2	<2	<2	<2	1.00	19.3	73.48	7.4	33.52	8.2	ns	ns
I40	07 Jul 2016	1100	6	<2	<2	<2	1.00	16.4	76.28	7.6	33.43	8.1	ns	ns
I40	07 Jul 2016	1100	9	<2	<2	<2	1.00	15.9	76.09	7.3	33.43	8.1	ns	ns
I40	13 Jul 2016	1102	2	2e	<2	<2	1.00	22.1	71.02	6.6	33.59	8.3	ns	ns
I40	13 Jul 2016	1102	6	<2	<2	<2	1.00	21.4	71.55	6.4	33.74	8.2	ns	ns
I40	13 Jul 2016	1102	9	<2	<2	<2	1.00	20.6	73.21	6.2	34.13	8.2	ns	ns
I40	19 Jul 2016	1136	2	<2	2e	<2	1.00	22.4	77.32	8.6	33.66	8.3	ns	ns
I40	19 Jul 2016	1136	6	<2	<2	<2	1.00	20.4	81.20	6.8	33.53	8.3	ns	ns
I40	19 Jul 2016	1136	9	2e	<2	<2	1.00	17.3	68.55	6.8	33.45	8.1	ns	ns
I40	25 Jul 2016	1127	2	<2	<2	<2	1.00	21.2	75.18	7.7	33.50	8.2	ns	ns
I40	25 Jul 2016	1127	6	4e	<2	<2	0.50	19.2	78.16	8.1	33.44	8.2	ns	ns
I40	25 Jul 2016	1127	9	2e	<2	<2	1.00	18.4	77.29	7.3	33.44	8.2	ns	ns
I40	31 Jul 2016	1148	2	2e	<2	2e	1.00	21.1	74.37	8.2	33.46	8.2	ns	ns
I40	31 Jul 2016	1148	6	4e	<2	<2	0.50	19.1	66.58	7.9	33.39	8.2	ns	ns
I40	31 Jul 2016	1148	9	50	<2	12e	0.04	17.9	70.97	8.2	33.40	8.2	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	07 Jul 2016	Depth (m)	10
I19	07 Jul 2016	Arrive Time	1046
I19	07 Jul 2016	Depart Time	1049
I19	07 Jul 2016	Air Temp (C)	19
I19	07 Jul 2016	Weather	Partly Cloudy
I19	07 Jul 2016	Visibility (mi)	8
I19	07 Jul 2016	Wind Speed (kts)	5
I19	07 Jul 2016	Wind Dir	SW
I19	07 Jul 2016	Water Color	Brownish-Green
I19	07 Jul 2016	Wave Ht Low (ft)	4
I19	07 Jul 2016	Wave Period (sec)	9
I19	07 Jul 2016	Sea State	Calm
I19	07 Jul 2016	High Tide (ft)	4.23
I19	07 Jul 2016	High Tide Time	1235
I19	07 Jul 2016	Low Tide (ft)	-0.58
I19	07 Jul 2016	Low Tide Time	609
I19	07 Jul 2016	Comments	
I19	13 Jul 2016	Depth (m)	10
I19	13 Jul 2016	Arrive Time	1048
I19	13 Jul 2016	Depart Time	1052
I19	13 Jul 2016	Air Temp (C)	19
I19	13 Jul 2016	Weather	Partly Cloudy
I19	13 Jul 2016	Visibility (mi)	3
I19	13 Jul 2016	Wind Speed (kts)	5
I19	13 Jul 2016	Wind Dir	N
I19	13 Jul 2016	Water Color	Greenish-Brown
I19	13 Jul 2016	Wave Ht Low (ft)	3
I19	13 Jul 2016	Wave Period (sec)	13
I19	13 Jul 2016	Sea State	Calm
I19	13 Jul 2016	High Tide (ft)	2.99
I19	13 Jul 2016	High Tide Time	530
I19	13 Jul 2016	Low Tide (ft)	1.92
I19	13 Jul 2016	Low Tide Time	1051
I19	13 Jul 2016	Comments	
I19	19 Jul 2016	Depth (m)	10
I19	19 Jul 2016	Arrive Time	1118
I19	19 Jul 2016	Depart Time	1124
I19	19 Jul 2016	Air Temp (C)	21
I19	19 Jul 2016	Weather	Clear
I19	19 Jul 2016	Visibility (mi)	11
I19	19 Jul 2016	Wind Speed (kts)	6
I19	19 Jul 2016	Wind Dir	NW
I19	19 Jul 2016	Water Color	Green
I19	19 Jul 2016	Wave Ht Low (ft)	4
I19	19 Jul 2016	Wave Period (sec)	13
I19	19 Jul 2016	Sea State	Light chop
I19	19 Jul 2016	High Tide (ft)	4.05
I19	19 Jul 2016	High Tide Time	1006
I19	19 Jul 2016	Low Tide (ft)	1.75

Station	Date	Parameter	Value
I19	19 Jul 2016	Low Tide Time	1515
I19	19 Jul 2016	Comments	
I19	25 Jul 2016	Depth (m)	11
I19	25 Jul 2016	Arrive Time	1112
I19	25 Jul 2016	Depart Time	1115
I19	25 Jul 2016	Air Temp (C)	21
I19	25 Jul 2016	Weather	Overcast
I19	25 Jul 2016	Visibility (mi)	4
I19	25 Jul 2016	Wind Speed (kts)	4
I19	25 Jul 2016	Wind Dir	S
I19	25 Jul 2016	Water Color	Brownish-Green
I19	25 Jul 2016	Wave Ht Low (ft)	3
I19	25 Jul 2016	Wave Period (sec)	13
I19	25 Jul 2016	Sea State	Calm
I19	25 Jul 2016	High Tide (ft)	4.81
I19	25 Jul 2016	High Tide Time	1420
I19	25 Jul 2016	Low Tide (ft)	0.62
I19	25 Jul 2016	Low Tide Time	744
I19	25 Jul 2016	Comments	
I19	31 Jul 2016	Depth (m)	11
I19	31 Jul 2016	Arrive Time	1135
I19	31 Jul 2016	Depart Time	1138
I19	31 Jul 2016	Air Temp (C)	21
I19	31 Jul 2016	Weather	Partly Cloudy
I19	31 Jul 2016	Visibility (mi)	10
I19	31 Jul 2016	Wind Speed (kts)	4
I19	31 Jul 2016	Wind Dir	E
I19	31 Jul 2016	Water Color	Green
I19	31 Jul 2016	Wave Ht Low (ft)	3
I19	31 Jul 2016	Wave Period (sec)	9
I19	31 Jul 2016	Sea State	Calm
I19	31 Jul 2016	High Tide (ft)	4.12
I19	31 Jul 2016	High Tide Time	846
I19	31 Jul 2016	Low Tide (ft)	1.66
I19	31 Jul 2016	Low Tide Time	1355
I19	31 Jul 2016	Comments	Kelp debris
I24	07 Jul 2016	Depth (m)	10
I24	07 Jul 2016	Arrive Time	1109
I24	07 Jul 2016	Depart Time	1112
I24	07 Jul 2016	Air Temp (C)	19
I24	07 Jul 2016	Weather	Partly Cloudy
I24	07 Jul 2016	Visibility (mi)	8
I24	07 Jul 2016	Wind Speed (kts)	3
I24	07 Jul 2016	Wind Dir	SE
I24	07 Jul 2016	Water Color	Brownish-Green
I24	07 Jul 2016	Wave Ht Low (ft)	3
I24	07 Jul 2016	Wave Period (sec)	9
I24	07 Jul 2016	Sea State	Calm
I24	07 Jul 2016	High Tide (ft)	4.23
I24	07 Jul 2016	High Tide Time	1235
I24	07 Jul 2016	Low Tide (ft)	-0.58
I24	07 Jul 2016	Low Tide Time	609

Station	Date	Parameter	Value
I24	07 Jul 2016	Comments	
I24	13 Jul 2016	Depth (m)	10
I24	13 Jul 2016	Arrive Time	1111
I24	13 Jul 2016	Depart Time	1114
I24	13 Jul 2016	Air Temp (C)	19
I24	13 Jul 2016	Weather	Haze
I24	13 Jul 2016	Visibility (mi)	3
I24	13 Jul 2016	Wind Speed (kts)	6
I24	13 Jul 2016	Wind Dir	NE
I24	13 Jul 2016	Water Color	Green
I24	13 Jul 2016	Wave Ht Low (ft)	3
I24	13 Jul 2016	Wave Period (sec)	13
I24	13 Jul 2016	Sea State	Calm
I24	13 Jul 2016	High Tide (ft)	2.99
I24	13 Jul 2016	High Tide Time	530
I24	13 Jul 2016	Low Tide (ft)	1.92
I24	13 Jul 2016	Low Tide Time	1051
I24	13 Jul 2016	Comments	
I24	19 Jul 2016	Depth (m)	10
I24	19 Jul 2016	Arrive Time	1146
I24	19 Jul 2016	Depart Time	1151
I24	19 Jul 2016	Air Temp (C)	21
I24	19 Jul 2016	Weather	Clear
I24	19 Jul 2016	Visibility (mi)	11
I24	19 Jul 2016	Wind Speed (kts)	9
I24	19 Jul 2016	Wind Dir	W
I24	19 Jul 2016	Water Color	Green
I24	19 Jul 2016	Wave Ht Low (ft)	4
I24	19 Jul 2016	Wave Period (sec)	13
I24	19 Jul 2016	Sea State	Light chop
I24	19 Jul 2016	High Tide (ft)	4.05
I24	19 Jul 2016	High Tide Time	1006
I24	19 Jul 2016	Low Tide (ft)	1.75
I24	19 Jul 2016	Low Tide Time	1515
I24	19 Jul 2016	Comments	
I24	25 Jul 2016	Depth (m)	11
I24	25 Jul 2016	Arrive Time	1138
I24	25 Jul 2016	Depart Time	1142
I24	25 Jul 2016	Air Temp (C)	21
I24	25 Jul 2016	Weather	Overcast
I24	25 Jul 2016	Visibility (mi)	4
I24	25 Jul 2016	Wind Speed (kts)	6
I24	25 Jul 2016	Wind Dir	NW
I24	25 Jul 2016	Water Color	Brownish-Green
I24	25 Jul 2016	Wave Ht Low (ft)	3
I24	25 Jul 2016	Wave Period (sec)	13
I24	25 Jul 2016	Sea State	Calm
I24	25 Jul 2016	High Tide (ft)	4.81
I24	25 Jul 2016	High Tide Time	1420
I24	25 Jul 2016	Low Tide (ft)	0.62
I24	25 Jul 2016	Low Tide Time	744
I24	25 Jul 2016	Comments	

Station	Date	Parameter	Value
I24	31 Jul 2016	Depth (m)	9
I24	31 Jul 2016	Arrive Time	1201
I24	31 Jul 2016	Depart Time	1206
I24	31 Jul 2016	Air Temp (C)	22
I24	31 Jul 2016	Weather	Partly Cloudy
I24	31 Jul 2016	Visibility (mi)	10
I24	31 Jul 2016	Wind Speed (kts)	3
I24	31 Jul 2016	Wind Dir	S
I24	31 Jul 2016	Water Color	Green
I24	31 Jul 2016	Wave Ht Low (ft)	3
I24	31 Jul 2016	Wave Period (sec)	9
I24	31 Jul 2016	Sea State	Calm
I24	31 Jul 2016	High Tide (ft)	4.12
I24	31 Jul 2016	High Tide Time	846
I24	31 Jul 2016	Low Tide (ft)	1.66
I24	31 Jul 2016	Low Tide Time	1355
I24	31 Jul 2016	Comments	Kelp debris
I25	07 Jul 2016	Depth (m)	9
I25	07 Jul 2016	Arrive Time	1117
I25	07 Jul 2016	Depart Time	1120
I25	07 Jul 2016	Air Temp (C)	19
I25	07 Jul 2016	Weather	Partly Cloudy
I25	07 Jul 2016	Visibility (mi)	8
I25	07 Jul 2016	Wind Speed (kts)	4
I25	07 Jul 2016	Wind Dir	SW
I25	07 Jul 2016	Water Color	Brownish-Green
I25	07 Jul 2016	Wave Ht Low (ft)	3
I25	07 Jul 2016	Wave Period (sec)	9
I25	07 Jul 2016	Sea State	Calm
I25	07 Jul 2016	High Tide (ft)	4.23
I25	07 Jul 2016	High Tide Time	1235
I25	07 Jul 2016	Low Tide (ft)	-0.58
I25	07 Jul 2016	Low Tide Time	609
I25	07 Jul 2016	Comments	Kelp; Boats
I25	13 Jul 2016	Depth (m)	9
I25	13 Jul 2016	Arrive Time	1120
I25	13 Jul 2016	Depart Time	1123
I25	13 Jul 2016	Air Temp (C)	19
I25	13 Jul 2016	Weather	Haze
I25	13 Jul 2016	Visibility (mi)	3
I25	13 Jul 2016	Wind Speed (kts)	7
I25	13 Jul 2016	Wind Dir	SE
I25	13 Jul 2016	Water Color	Green
I25	13 Jul 2016	Wave Ht Low (ft)	3
I25	13 Jul 2016	Wave Period (sec)	13
I25	13 Jul 2016	Sea State	Calm
I25	13 Jul 2016	High Tide (ft)	2.99
I25	13 Jul 2016	High Tide Time	530
I25	13 Jul 2016	Low Tide (ft)	1.92
I25	13 Jul 2016	Low Tide Time	1051
I25	13 Jul 2016	Comments	

Station	Date	Parameter	Value
I25	19 Jul 2016	Depth (m)	8
I25	19 Jul 2016	Arrive Time	1156
I25	19 Jul 2016	Depart Time	1201
I25	19 Jul 2016	Air Temp (C)	21
I25	19 Jul 2016	Weather	Clear
I25	19 Jul 2016	Visibility (mi)	11
I25	19 Jul 2016	Wind Speed (kts)	10
I25	19 Jul 2016	Wind Dir	NW
I25	19 Jul 2016	Water Color	Green
I25	19 Jul 2016	Wave Ht Low (ft)	4
I25	19 Jul 2016	Wave Period (sec)	13
I25	19 Jul 2016	Sea State	Light chop
I25	19 Jul 2016	High Tide (ft)	4.05
I25	19 Jul 2016	High Tide Time	1006
I25	19 Jul 2016	Low Tide (ft)	1.75
I25	19 Jul 2016	Low Tide Time	1515
I25	19 Jul 2016	Comments	
I25	25 Jul 2016	Depth (m)	9
I25	25 Jul 2016	Arrive Time	1148
I25	25 Jul 2016	Depart Time	1151
I25	25 Jul 2016	Air Temp (C)	21
I25	25 Jul 2016	Weather	Overcast
I25	25 Jul 2016	Visibility (mi)	4
I25	25 Jul 2016	Wind Speed (kts)	8
I25	25 Jul 2016	Wind Dir	S
I25	25 Jul 2016	Water Color	Brownish-Green
I25	25 Jul 2016	Wave Ht Low (ft)	3
I25	25 Jul 2016	Wave Period (sec)	13
I25	25 Jul 2016	Sea State	Calm
I25	25 Jul 2016	High Tide (ft)	4.81
I25	25 Jul 2016	High Tide Time	1420
I25	25 Jul 2016	Low Tide (ft)	0.62
I25	25 Jul 2016	Low Tide Time	744
I25	25 Jul 2016	Comments	
I25	31 Jul 2016	Depth (m)	9
I25	31 Jul 2016	Arrive Time	1211
I25	31 Jul 2016	Depart Time	1216
I25	31 Jul 2016	Air Temp (C)	22
I25	31 Jul 2016	Weather	Partly Cloudy
I25	31 Jul 2016	Visibility (mi)	10
I25	31 Jul 2016	Wind Speed (kts)	3
I25	31 Jul 2016	Wind Dir	E
I25	31 Jul 2016	Water Color	Green
I25	31 Jul 2016	Wave Ht Low (ft)	3
I25	31 Jul 2016	Wave Period (sec)	9
I25	31 Jul 2016	Sea State	Calm
I25	31 Jul 2016	High Tide (ft)	4.12
I25	31 Jul 2016	High Tide Time	846
I25	31 Jul 2016	Low Tide (ft)	1.66
I25	31 Jul 2016	Low Tide Time	1355
I25	31 Jul 2016	Comments	Kelp debris
I26	07 Jul 2016	Depth (m)	9

Station	Date	Parameter	Value
I26	07 Jul 2016	Arrive Time	1127
I26	07 Jul 2016	Depart Time	1130
I26	07 Jul 2016	Air Temp (C)	19
I26	07 Jul 2016	Weather	Partly Cloudy
I26	07 Jul 2016	Visibility (mi)	8
I26	07 Jul 2016	Wind Speed (kts)	5
I26	07 Jul 2016	Wind Dir	SE
I26	07 Jul 2016	Water Color	Green
I26	07 Jul 2016	Wave Ht Low (ft)	3
I26	07 Jul 2016	Wave Period (sec)	9
I26	07 Jul 2016	Sea State	Calm
I26	07 Jul 2016	High Tide (ft)	4.23
I26	07 Jul 2016	High Tide Time	1235
I26	07 Jul 2016	Low Tide (ft)	-0.58
I26	07 Jul 2016	Low Tide Time	609
I26	07 Jul 2016	Comments	
I26	13 Jul 2016	Depth (m)	9
I26	13 Jul 2016	Arrive Time	1130
I26	13 Jul 2016	Depart Time	1133
I26	13 Jul 2016	Air Temp (C)	19
I26	13 Jul 2016	Weather	Haze
I26	13 Jul 2016	Visibility (mi)	3
I26	13 Jul 2016	Wind Speed (kts)	9
I26	13 Jul 2016	Wind Dir	N
I26	13 Jul 2016	Water Color	Green
I26	13 Jul 2016	Wave Ht Low (ft)	3
I26	13 Jul 2016	Wave Period (sec)	13
I26	13 Jul 2016	Sea State	Calm
I26	13 Jul 2016	High Tide (ft)	2.99
I26	13 Jul 2016	High Tide Time	530
I26	13 Jul 2016	Low Tide (ft)	1.92
I26	13 Jul 2016	Low Tide Time	1051
I26	13 Jul 2016	Comments	
I26	19 Jul 2016	Depth (m)	9
I26	19 Jul 2016	Arrive Time	1210
I26	19 Jul 2016	Depart Time	1213
I26	19 Jul 2016	Air Temp (C)	20
I26	19 Jul 2016	Weather	Clear
I26	19 Jul 2016	Visibility (mi)	11
I26	19 Jul 2016	Wind Speed (kts)	9
I26	19 Jul 2016	Wind Dir	NE
I26	19 Jul 2016	Water Color	Green
I26	19 Jul 2016	Wave Ht Low (ft)	4
I26	19 Jul 2016	Wave Period (sec)	13
I26	19 Jul 2016	Sea State	Light chop
I26	19 Jul 2016	High Tide (ft)	4.05
I26	19 Jul 2016	High Tide Time	1006
I26	19 Jul 2016	Low Tide (ft)	1.75
I26	19 Jul 2016	Low Tide Time	1515
I26	19 Jul 2016	Comments	
I26	25 Jul 2016	Depth (m)	9
I26	25 Jul 2016	Arrive Time	1159

Station	Date	Parameter	Value
I26	25 Jul 2016	Depart Time	1202
I26	25 Jul 2016	Air Temp (C)	21
I26	25 Jul 2016	Weather	Overcast
I26	25 Jul 2016	Visibility (mi)	4
I26	25 Jul 2016	Wind Speed (kts)	4
I26	25 Jul 2016	Wind Dir	S
I26	25 Jul 2016	Water Color	Brownish-Green
I26	25 Jul 2016	Wave Ht Low (ft)	3
I26	25 Jul 2016	Wave Period (sec)	13
I26	25 Jul 2016	Sea State	Calm
I26	25 Jul 2016	High Tide (ft)	4.81
I26	25 Jul 2016	High Tide Time	1420
I26	25 Jul 2016	Low Tide (ft)	0.62
I26	25 Jul 2016	Low Tide Time	744
I26	25 Jul 2016	Comments	
I26	31 Jul 2016	Depth (m)	10
I26	31 Jul 2016	Arrive Time	1222
I26	31 Jul 2016	Depart Time	1227
I26	31 Jul 2016	Air Temp (C)	22
I26	31 Jul 2016	Weather	Partly Cloudy
I26	31 Jul 2016	Visibility (mi)	15
I26	31 Jul 2016	Wind Speed (kts)	6
I26	31 Jul 2016	Wind Dir	SW
I26	31 Jul 2016	Water Color	Green
I26	31 Jul 2016	Wave Ht Low (ft)	3
I26	31 Jul 2016	Wave Period (sec)	9
I26	31 Jul 2016	Sea State	Calm
I26	31 Jul 2016	High Tide (ft)	4.12
I26	31 Jul 2016	High Tide Time	846
I26	31 Jul 2016	Low Tide (ft)	1.66
I26	31 Jul 2016	Low Tide Time	1355
I26	31 Jul 2016	Comments	
I32	07 Jul 2016	Depth (m)	10
I32	07 Jul 2016	Arrive Time	1139
I32	07 Jul 2016	Depart Time	1142
I32	07 Jul 2016	Air Temp (C)	19
I32	07 Jul 2016	Weather	Partly Cloudy
I32	07 Jul 2016	Visibility (mi)	8
I32	07 Jul 2016	Wind Speed (kts)	4
I32	07 Jul 2016	Wind Dir	E
I32	07 Jul 2016	Water Color	Brownish-Green
I32	07 Jul 2016	Wave Ht Low (ft)	3
I32	07 Jul 2016	Wave Period (sec)	9
I32	07 Jul 2016	Sea State	Calm
I32	07 Jul 2016	High Tide (ft)	4.23
I32	07 Jul 2016	High Tide Time	1235
I32	07 Jul 2016	Low Tide (ft)	-0.58
I32	07 Jul 2016	Low Tide Time	609
I32	07 Jul 2016	Comments	
I32	13 Jul 2016	Depth (m)	10
I32	13 Jul 2016	Arrive Time	1144
I32	13 Jul 2016	Depart Time	1146

Station	Date	Parameter	Value
I32	13 Jul 2016	Air Temp (C)	19
I32	13 Jul 2016	Weather	Haze
I32	13 Jul 2016	Visibility (mi)	3
I32	13 Jul 2016	Wind Speed (kts)	7
I32	13 Jul 2016	Wind Dir	E
I32	13 Jul 2016	Water Color	Green
I32	13 Jul 2016	Wave Ht Low (ft)	3
I32	13 Jul 2016	Wave Period (sec)	13
I32	13 Jul 2016	Sea State	Calm
I32	13 Jul 2016	High Tide (ft)	2.99
I32	13 Jul 2016	High Tide Time	530
I32	13 Jul 2016	Low Tide (ft)	1.92
I32	13 Jul 2016	Low Tide Time	1051
I32	13 Jul 2016	Comments	
I32	19 Jul 2016	Depth (m)	9
I32	19 Jul 2016	Arrive Time	1225
I32	19 Jul 2016	Depart Time	1229
I32	19 Jul 2016	Air Temp (C)	21
I32	19 Jul 2016	Weather	Clear
I32	19 Jul 2016	Visibility (mi)	11
I32	19 Jul 2016	Wind Speed (kts)	9
I32	19 Jul 2016	Wind Dir	W
I32	19 Jul 2016	Water Color	Green
I32	19 Jul 2016	Wave Ht Low (ft)	4
I32	19 Jul 2016	Wave Period (sec)	13
I32	19 Jul 2016	Sea State	Light chop
I32	19 Jul 2016	High Tide (ft)	4.05
I32	19 Jul 2016	High Tide Time	1006
I32	19 Jul 2016	Low Tide (ft)	1.75
I32	19 Jul 2016	Low Tide Time	1515
I32	19 Jul 2016	Comments	
I32	25 Jul 2016	Depth (m)	10
I32	25 Jul 2016	Arrive Time	1214
I32	25 Jul 2016	Depart Time	1216
I32	25 Jul 2016	Air Temp (C)	21
I32	25 Jul 2016	Weather	Overcast
I32	25 Jul 2016	Visibility (mi)	4
I32	25 Jul 2016	Wind Speed (kts)	4
I32	25 Jul 2016	Wind Dir	SW
I32	25 Jul 2016	Water Color	Brownish-Green
I32	25 Jul 2016	Wave Ht Low (ft)	3
I32	25 Jul 2016	Wave Period (sec)	13
I32	25 Jul 2016	Sea State	Calm
I32	25 Jul 2016	High Tide (ft)	4.81
I32	25 Jul 2016	High Tide Time	1420
I32	25 Jul 2016	Low Tide (ft)	0.62
I32	25 Jul 2016	Low Tide Time	744
I32	25 Jul 2016	Comments	
I32	31 Jul 2016	Depth (m)	10
I32	31 Jul 2016	Arrive Time	1237
I32	31 Jul 2016	Depart Time	1243
I32	31 Jul 2016	Air Temp (C)	22

Station	Date	Parameter	Value
I32	31 Jul 2016	Weather	Partly Cloudy
I32	31 Jul 2016	Visibility (mi)	15
I32	31 Jul 2016	Wind Speed (kts)	7
I32	31 Jul 2016	Wind Dir	W
I32	31 Jul 2016	Water Color	Green
I32	31 Jul 2016	Wave Ht Low (ft)	3
I32	31 Jul 2016	Wave Period (sec)	9
I32	31 Jul 2016	Sea State	Calm
I32	31 Jul 2016	High Tide (ft)	4.12
I32	31 Jul 2016	High Tide Time	846
I32	31 Jul 2016	Low Tide (ft)	1.66
I32	31 Jul 2016	Low Tide Time	1355
I32	31 Jul 2016	Comments	
I39	07 Jul 2016	Depth (m)	18
I39	07 Jul 2016	Arrive Time	1022
I39	07 Jul 2016	Depart Time	1025
I39	07 Jul 2016	Air Temp (C)	19
I39	07 Jul 2016	Weather	Partly Cloudy
I39	07 Jul 2016	Visibility (mi)	8
I39	07 Jul 2016	Wind Speed (kts)	1
I39	07 Jul 2016	Wind Dir	S
I39	07 Jul 2016	Water Color	Green
I39	07 Jul 2016	Wave Ht Low (ft)	4
I39	07 Jul 2016	Wave Period (sec)	9
I39	07 Jul 2016	Sea State	Calm
I39	07 Jul 2016	High Tide (ft)	4.23
I39	07 Jul 2016	High Tide Time	1235
I39	07 Jul 2016	Low Tide (ft)	-0.58
I39	07 Jul 2016	Low Tide Time	609
I39	07 Jul 2016	Comments	Kelp
I39	13 Jul 2016	Depth (m)	18
I39	13 Jul 2016	Arrive Time	1016
I39	13 Jul 2016	Depart Time	1026
I39	13 Jul 2016	Air Temp (C)	19
I39	13 Jul 2016	Weather	Partly Cloudy
I39	13 Jul 2016	Visibility (mi)	3
I39	13 Jul 2016	Wind Speed (kts)	3
I39	13 Jul 2016	Wind Dir	E
I39	13 Jul 2016	Water Color	Green
I39	13 Jul 2016	Wave Ht Low (ft)	3
I39	13 Jul 2016	Wave Period (sec)	13
I39	13 Jul 2016	Sea State	Calm
I39	13 Jul 2016	High Tide (ft)	2.99
I39	13 Jul 2016	High Tide Time	530
I39	13 Jul 2016	Low Tide (ft)	1.92
I39	13 Jul 2016	Low Tide Time	1051
I39	13 Jul 2016	Comments	
I39	19 Jul 2016	Depth (m)	18
I39	19 Jul 2016	Arrive Time	1053
I39	19 Jul 2016	Depart Time	1059
I39	19 Jul 2016	Air Temp (C)	20
I39	19 Jul 2016	Weather	Clear

Station	Date	Parameter	Value
I39	19 Jul 2016	Visibility (mi)	11
I39	19 Jul 2016	Wind Speed (kts)	9
I39	19 Jul 2016	Wind Dir	N
I39	19 Jul 2016	Water Color	Green
I39	19 Jul 2016	Wave Ht Low (ft)	4
I39	19 Jul 2016	Wave Period (sec)	13
I39	19 Jul 2016	Sea State	Light chop
I39	19 Jul 2016	High Tide (ft)	4.05
I39	19 Jul 2016	High Tide Time	1006
I39	19 Jul 2016	Low Tide (ft)	1.75
I39	19 Jul 2016	Low Tide Time	1515
I39	19 Jul 2016	Comments	
I39	25 Jul 2016	Depth (m)	18
I39	25 Jul 2016	Arrive Time	1048
I39	25 Jul 2016	Depart Time	1051
I39	25 Jul 2016	Air Temp (C)	21
I39	25 Jul 2016	Weather	Overcast
I39	25 Jul 2016	Visibility (mi)	4
I39	25 Jul 2016	Wind Speed (kts)	4
I39	25 Jul 2016	Wind Dir	SE
I39	25 Jul 2016	Water Color	Blue
I39	25 Jul 2016	Wave Ht Low (ft)	3
I39	25 Jul 2016	Wave Period (sec)	13
I39	25 Jul 2016	Sea State	Calm
I39	25 Jul 2016	High Tide (ft)	4.81
I39	25 Jul 2016	High Tide Time	1420
I39	25 Jul 2016	Low Tide (ft)	0.62
I39	25 Jul 2016	Low Tide Time	744
I39	25 Jul 2016	Comments	
I39	31 Jul 2016	Depth (m)	19
I39	31 Jul 2016	Arrive Time	1114
I39	31 Jul 2016	Depart Time	1120
I39	31 Jul 2016	Air Temp (C)	22
I39	31 Jul 2016	Weather	Partly Cloudy
I39	31 Jul 2016	Visibility (mi)	10
I39	31 Jul 2016	Wind Speed (kts)	3
I39	31 Jul 2016	Wind Dir	W
I39	31 Jul 2016	Water Color	Green
I39	31 Jul 2016	Wave Ht Low (ft)	3
I39	31 Jul 2016	Wave Period (sec)	9
I39	31 Jul 2016	Sea State	Calm
I39	31 Jul 2016	High Tide (ft)	4.12
I39	31 Jul 2016	High Tide Time	846
I39	31 Jul 2016	Low Tide (ft)	1.66
I39	31 Jul 2016	Low Tide Time	1355
I39	31 Jul 2016	Comments	Boats
I40	07 Jul 2016	Depth (m)	10
I40	07 Jul 2016	Arrive Time	1100
I40	07 Jul 2016	Depart Time	1102
I40	07 Jul 2016	Air Temp (C)	19
I40	07 Jul 2016	Weather	Partly Cloudy
I40	07 Jul 2016	Visibility (mi)	8

Station	Date	Parameter	Value
I40	07 Jul 2016	Wind Speed (kts)	6
I40	07 Jul 2016	Wind Dir	S
I40	07 Jul 2016	Water Color	Brownish-Green
I40	07 Jul 2016	Wave Ht Low (ft)	3
I40	07 Jul 2016	Wave Period (sec)	9
I40	07 Jul 2016	Sea State	Calm
I40	07 Jul 2016	High Tide (ft)	4.23
I40	07 Jul 2016	High Tide Time	1235
I40	07 Jul 2016	Low Tide (ft)	-0.58
I40	07 Jul 2016	Low Tide Time	609
I40	07 Jul 2016	Comments	
I40	13 Jul 2016	Depth (m)	10
I40	13 Jul 2016	Arrive Time	1102
I40	13 Jul 2016	Depart Time	1104
I40	13 Jul 2016	Air Temp (C)	19
I40	13 Jul 2016	Weather	Partly Cloudy
I40	13 Jul 2016	Visibility (mi)	3
I40	13 Jul 2016	Wind Speed (kts)	7
I40	13 Jul 2016	Wind Dir	NW
I40	13 Jul 2016	Water Color	Greenish-Brown
I40	13 Jul 2016	Wave Ht Low (ft)	3
I40	13 Jul 2016	Wave Period (sec)	13
I40	13 Jul 2016	Sea State	Calm
I40	13 Jul 2016	High Tide (ft)	2.99
I40	13 Jul 2016	High Tide Time	530
I40	13 Jul 2016	Low Tide (ft)	1.92
I40	13 Jul 2016	Low Tide Time	1051
I40	13 Jul 2016	Comments	
I40	19 Jul 2016	Depth (m)	9
I40	19 Jul 2016	Arrive Time	1136
I40	19 Jul 2016	Depart Time	1140
I40	19 Jul 2016	Air Temp (C)	21
I40	19 Jul 2016	Weather	Clear
I40	19 Jul 2016	Visibility (mi)	11
I40	19 Jul 2016	Wind Speed (kts)	8
I40	19 Jul 2016	Wind Dir	SE
I40	19 Jul 2016	Water Color	Green
I40	19 Jul 2016	Wave Ht Low (ft)	4
I40	19 Jul 2016	Wave Period (sec)	13
I40	19 Jul 2016	Sea State	Light chop
I40	19 Jul 2016	High Tide (ft)	4.05
I40	19 Jul 2016	High Tide Time	1006
I40	19 Jul 2016	Low Tide (ft)	1.75
I40	19 Jul 2016	Low Tide Time	1515
I40	19 Jul 2016	Comments	
I40	25 Jul 2016	Depth (m)	10
I40	25 Jul 2016	Arrive Time	1127
I40	25 Jul 2016	Depart Time	1131
I40	25 Jul 2016	Air Temp (C)	21
I40	25 Jul 2016	Weather	Overcast
I40	25 Jul 2016	Visibility (mi)	4
I40	25 Jul 2016	Wind Speed (kts)	4

Station	Date	Parameter	Value
I40	25 Jul 2016	Wind Dir	E
I40	25 Jul 2016	Water Color	Brownish-Green
I40	25 Jul 2016	Wave Ht Low (ft)	3
I40	25 Jul 2016	Wave Period (sec)	13
I40	25 Jul 2016	Sea State	Calm
I40	25 Jul 2016	High Tide (ft)	4.81
I40	25 Jul 2016	High Tide Time	1420
I40	25 Jul 2016	Low Tide (ft)	0.62
I40	25 Jul 2016	Low Tide Time	744
I40	25 Jul 2016	Comments	
I40	31 Jul 2016	Depth (m)	10
I40	31 Jul 2016	Arrive Time	1148
I40	31 Jul 2016	Depart Time	1150
I40	31 Jul 2016	Air Temp (C)	22
I40	31 Jul 2016	Weather	Partly Cloudy
I40	31 Jul 2016	Visibility (mi)	10
I40	31 Jul 2016	Wind Speed (kts)	4
I40	31 Jul 2016	Wind Dir	NE
I40	31 Jul 2016	Water Color	Green
I40	31 Jul 2016	Wave Ht Low (ft)	3
I40	31 Jul 2016	Wave Period (sec)	9
I40	31 Jul 2016	Sea State	Calm
I40	31 Jul 2016	High Tide (ft)	4.12
I40	31 Jul 2016	High Tide Time	846
I40	31 Jul 2016	Low Tide (ft)	1.66
I40	31 Jul 2016	Low Tide Time	1355
I40	31 Jul 2016	Comments	Boats

Table 3.10

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

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ($\sigma-t$)	Chlor ($\mu\text{g/L}$)
I19	07 Jul 2016	1	20.16	73.08	7.4	33.59	8.2	23.6	1.62
I19	07 Jul 2016	2	19.34	73.24	7.6	33.51	8.2	23.8	1.60
I19	07 Jul 2016	3	18.08	73.92	7.9	33.46	8.2	24.1	1.98
I19	07 Jul 2016	4	17.24	76.60	7.9	33.46	8.2	24.3	2.47
I19	07 Jul 2016	5	16.94	79.23	7.8	33.45	8.2	24.3	2.73
I19	07 Jul 2016	6	16.66	79.23	7.7	33.43	8.2	24.4	3.25
I19	07 Jul 2016	7	16.39	77.86	7.7	33.42	8.2	24.4	4.38
I19	07 Jul 2016	8	16.09	76.15	7.5	33.42	8.2	24.5	4.56
I19	07 Jul 2016	9	15.96	78.34	7.5	33.42	8.2	24.5	4.20
I19	07 Jul 2016	10	15.89	72.81	7.8	33.43	8.1	24.6	4.03
I19	13 Jul 2016	1	22.11	73.81	7.5	33.54	8.3	23.1	1.47
I19	13 Jul 2016	2	22.09	73.84	7.2	33.61	8.3	23.1	1.85
I19	13 Jul 2016	3	21.93	75.02	7.6	33.70	8.3	23.2	2.35
I19	13 Jul 2016	4	21.86	75.37	7.6	33.67	8.3	23.2	2.62
I19	13 Jul 2016	5	21.74	76.16	7.4	33.72	8.3	23.3	3.07
I19	13 Jul 2016	6	21.72	75.85	6.9	33.65	8.3	23.3	3.38
I19	13 Jul 2016	7	21.65	75.33	7.5	33.66	8.3	23.3	3.45
I19	13 Jul 2016	8	21.64	75.11	7.7	33.67	8.3	23.3	3.46
I19	13 Jul 2016	9	21.27	73.55	7.2	33.74	8.3	23.5	3.78
I19	13 Jul 2016	10	21.04	72.21	6.5	33.91	8.3	23.7	4.82
I19	19 Jul 2016	1	22.27	78.82	9.0	33.67	8.4	23.1	3.15
I19	19 Jul 2016	2	22.16	78.39	8.7	33.65	8.4	23.1	3.49
I19	19 Jul 2016	3	21.95	75.64	8.6	33.65	8.3	23.2	3.91
I19	19 Jul 2016	4	21.91	75.16	8.3	33.64	8.3	23.2	4.10
I19	19 Jul 2016	5	21.87	75.06	7.6	33.64	8.3	23.2	4.81
I19	19 Jul 2016	6	21.50	72.59	7.1	33.59	8.3	23.3	4.94
I19	19 Jul 2016	7	20.89	70.97	6.5	33.59	8.3	23.5	5.11
I19	19 Jul 2016	8	20.58	71.16	6.0	33.55	8.3	23.5	5.73
I19	19 Jul 2016	9	17.94	66.62	7.3	33.36	8.2	24.0	4.85
I19	19 Jul 2016	10	16.50	62.07	8.0	33.54	8.1	24.5	4.68
I19	25 Jul 2016	1	21.29	68.53	7.7	33.52	8.2	23.3	9.34
I19	25 Jul 2016	2	21.11	68.37	7.7	33.50	8.2	23.3	8.60
I19	25 Jul 2016	3	20.77	68.07	7.4	33.52	8.2	23.4	7.91
I19	25 Jul 2016	4	20.50	70.38	7.4	33.48	8.2	23.5	8.67
I19	25 Jul 2016	5	20.40	71.13	7.6	33.49	8.2	23.5	8.82
I19	25 Jul 2016	6	20.16	69.61	7.4	33.48	8.2	23.6	7.39
I19	25 Jul 2016	7	20.00	70.28	7.1	33.48	8.2	23.6	6.21
I19	25 Jul 2016	8	19.21	72.54	7.2	33.43	8.2	23.8	6.00
I19	25 Jul 2016	9	17.56	73.06	7.5	33.41	8.2	24.2	6.14
I19	25 Jul 2016	10	17.19	69.62	7.7	33.42	8.2	24.3	6.07
I19	31 Jul 2016	1	21.20	72.54	8.5	33.43	8.2	23.2	2.02
I19	31 Jul 2016	2	20.81	72.16	8.6	33.44	8.2	23.4	2.22
I19	31 Jul 2016	3	20.94	72.52	8.5	33.43	8.2	23.3	2.96
I19	31 Jul 2016	4	20.80	71.82	8.3	33.43	8.2	23.4	3.70
I19	31 Jul 2016	5	20.57	70.52	8.2	33.43	8.2	23.4	4.25
I19	31 Jul 2016	6	20.47	70.32	8.0	33.43	8.2	23.4	5.18
I19	31 Jul 2016	7	20.07	69.39	7.9	33.41	8.2	23.5	5.44

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ($\sigma\text{-t}$)	Chlor ($\mu\text{g/L}$)
I19	31 Jul 2016	8	19.72	68.55	7.8	33.42	8.2	23.6	5.69
I19	31 Jul 2016	9	18.64	68.95	7.7	33.40	8.2	23.9	5.38
I19	31 Jul 2016	10	17.97	68.11	7.9	33.40	8.2	24.1	5.38
I24	07 Jul 2016	1	20.26	71.35	7.3	33.51	8.2	23.6	1.65
I24	07 Jul 2016	2	19.85	71.37	7.4	33.53	8.2	23.7	1.75
I24	07 Jul 2016	3	17.86	73.00	7.7	33.44	8.2	24.1	2.03
I24	07 Jul 2016	4	16.87	77.62	7.6	33.44	8.2	24.3	2.37
I24	07 Jul 2016	5	16.09	78.28	7.5	33.41	8.2	24.5	2.68
I24	07 Jul 2016	6	15.90	77.71	7.5	33.43	8.1	24.6	2.95
I24	07 Jul 2016	7	15.83	77.93	7.4	33.42	8.1	24.6	3.96
I24	07 Jul 2016	8	15.77	78.08	7.0	33.42	8.1	24.6	4.69
I24	07 Jul 2016	9	15.66	77.36	6.7	33.42	8.1	24.6	4.65
I24	07 Jul 2016	10	15.53	74.18	6.8	33.43	8.1	24.6	4.55
I24	07 Jul 2016	11	15.56	74.93	6.9	33.42	8.1	24.6	4.65
I24	13 Jul 2016	1	21.84	81.04	7.8	33.59	8.3	23.2	1.65
I24	13 Jul 2016	2	21.81	80.90	7.9	33.63	8.3	23.2	1.84
I24	13 Jul 2016	3	21.67	80.29	7.4	33.67	8.3	23.3	2.27
I24	13 Jul 2016	4	21.62	79.66	7.5	33.65	8.3	23.3	2.35
I24	13 Jul 2016	5	21.61	79.31	7.6	33.66	8.3	23.3	2.65
I24	13 Jul 2016	6	21.56	78.83	7.9	33.66	8.3	23.3	2.77
I24	13 Jul 2016	7	21.49	77.67	7.9	33.72	8.3	23.4	2.65
I24	13 Jul 2016	8	20.63	78.99	7.2	33.85	8.3	23.7	2.65
I24	13 Jul 2016	9	18.54	79.58	7.2	34.16	8.2	24.5	2.53
I24	13 Jul 2016	10	17.56	78.63	7.5	35.06	8.1	25.4	2.68
I24	19 Jul 2016	1	22.83	76.87	8.6	33.68	8.4	23.0	1.31
I24	19 Jul 2016	2	22.79	76.38	8.1	33.67	8.4	23.0	1.33
I24	19 Jul 2016	3	22.28	80.04	7.4	33.59	8.4	23.1	1.46
I24	19 Jul 2016	4	19.67	81.44	7.8	33.48	8.3	23.7	2.12
I24	19 Jul 2016	5	19.62	79.56	7.4	33.52	8.2	23.7	2.66
I24	19 Jul 2016	6	19.09	77.85	7.4	33.49	8.2	23.8	3.86
I24	19 Jul 2016	7	19.04	77.86	6.9	33.49	8.2	23.9	4.34
I24	19 Jul 2016	8	18.79	74.47	5.9	33.48	8.2	23.9	4.90
I24	19 Jul 2016	9	17.31	72.36	5.8	33.35	8.2	24.2	4.90
I24	19 Jul 2016	10	15.72	73.79	6.3	33.38	8.1	24.6	4.75
I24	19 Jul 2016	11	15.88	74.55	6.4	33.40	8.0	24.5	4.72
I24	25 Jul 2016	1	21.42	74.15	7.6	33.52	8.2	23.3	3.22
I24	25 Jul 2016	2	21.08	75.43	7.8	33.50	8.2	23.3	2.88
I24	25 Jul 2016	3	20.57	76.24	7.9	33.48	8.2	23.5	2.68
I24	25 Jul 2016	4	20.07	78.55	8.1	33.51	8.2	23.6	2.88
I24	25 Jul 2016	5	19.67	80.11	8.4	33.48	8.2	23.7	2.77
I24	25 Jul 2016	6	19.11	79.58	8.4	33.47	8.3	23.8	2.88
I24	25 Jul 2016	7	18.77	80.58	8.2	33.45	8.3	23.9	3.38
I24	25 Jul 2016	8	18.46	80.37	7.7	33.45	8.3	24.0	3.36
I24	25 Jul 2016	9	18.16	79.07	7.4	33.45	8.2	24.0	3.23
I24	25 Jul 2016	10	17.98	78.33	7.6	33.43	8.2	24.1	3.11
I24	31 Jul 2016	1	21.35	77.42	8.6	33.47	8.2	23.2	1.32
I24	31 Jul 2016	2	20.98	77.40	8.4	33.46	8.2	23.3	2.41
I24	31 Jul 2016	3	20.12	76.10	8.5	33.44	8.2	23.5	3.28
I24	31 Jul 2016	4	19.80	72.57	8.4	33.43	8.2	23.6	3.78
I24	31 Jul 2016	5	19.65	70.65	8.2	33.41	8.2	23.6	3.78

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ($\sigma\text{-t}$)	Chlor ($\mu\text{g/L}$)
I24	31 Jul 2016	6	19.23	70.70	8.2	33.40	8.2	23.7	4.37
I24	31 Jul 2016	7	18.36	74.10	8.0	33.41	8.2	24.0	4.34
I24	31 Jul 2016	8	17.79	73.23	7.8	33.40	8.2	24.1	3.94
I24	31 Jul 2016	9	17.58	74.39	7.7	33.40	8.2	24.2	3.57
I24	31 Jul 2016	10	17.42	75.58	7.8	33.40	8.2	24.2	3.50
I25	07 Jul 2016	1	20.47	72.58	7.4	33.60	8.2	23.6	1.69
I25	07 Jul 2016	2	20.00	71.95	7.4	33.52	8.2	23.6	1.71
I25	07 Jul 2016	3	18.31	72.38	7.5	33.47	8.2	24.0	1.90
I25	07 Jul 2016	4	17.49	74.53	7.4	33.45	8.2	24.2	2.23
I25	07 Jul 2016	5	16.31	77.00	7.3	33.41	8.2	24.5	2.73
I25	07 Jul 2016	6	15.92	78.01	7.1	33.43	8.1	24.6	2.76
I25	07 Jul 2016	7	15.83	77.92	7.1	33.42	8.1	24.6	2.67
I25	07 Jul 2016	8	15.81	78.03	7.2	33.42	8.1	24.6	2.63
I25	07 Jul 2016	9	15.81	78.73	7.3	33.43	8.1	24.6	2.55
I25	13 Jul 2016	1	21.98	81.26	8.1	33.57	8.3	23.1	1.16
I25	13 Jul 2016	2	21.98	81.53	7.7	33.59	8.3	23.1	1.18
I25	13 Jul 2016	3	21.77	81.86	7.7	33.65	8.3	23.3	1.54
I25	13 Jul 2016	4	21.65	82.18	8.0	33.69	8.3	23.3	1.60
I25	13 Jul 2016	5	21.62	81.40	7.7	33.68	8.3	23.3	2.16
I25	13 Jul 2016	6	21.53	80.47	7.3	33.67	8.3	23.3	2.04
I25	13 Jul 2016	7	21.37	79.73	7.5	33.72	8.3	23.4	2.42
I25	13 Jul 2016	8	20.69	77.90	7.8	34.05	8.3	23.9	1.60
I25	13 Jul 2016	9	19.51	79.85	8.0	34.85	8.2	24.8	1.27
I25	19 Jul 2016	1	22.80	75.72	8.6	33.68	8.3	23.0	1.17
I25	19 Jul 2016	2	22.67	76.62	8.5	33.66	8.3	23.0	1.09
I25	19 Jul 2016	3	22.22	79.39	8.2	33.61	8.3	23.1	1.23
I25	19 Jul 2016	4	20.88	82.88	7.8	33.55	8.3	23.4	1.50
I25	19 Jul 2016	5	19.47	82.39	8.0	33.50	8.3	23.8	1.98
I25	19 Jul 2016	6	19.22	80.30	7.6	33.52	8.2	23.8	2.35
I25	19 Jul 2016	7	19.09	79.58	7.4	33.49	8.2	23.8	2.45
I25	19 Jul 2016	8	18.68	75.71	7.2	33.48	8.2	23.9	2.73
I25	19 Jul 2016	9	18.54	75.61	6.9	33.42	8.2	23.9	2.76
I25	25 Jul 2016	1	21.53	77.39	7.6	33.54	8.2	23.2	3.38
I25	25 Jul 2016	2	21.41	77.47	7.9	33.51	8.2	23.2	3.00
I25	25 Jul 2016	3	20.41	77.07	8.2	33.48	8.2	23.5	3.07
I25	25 Jul 2016	4	19.82	79.30	8.3	33.50	8.2	23.7	3.32
I25	25 Jul 2016	5	19.39	79.10	8.4	33.48	8.3	23.8	3.12
I25	25 Jul 2016	6	19.34	79.09	8.4	33.48	8.3	23.8	2.75
I25	25 Jul 2016	7	19.08	79.66	8.3	33.47	8.3	23.8	2.61
I25	25 Jul 2016	8	18.88	80.47	8.2	33.47	8.3	23.9	2.40
I25	25 Jul 2016	9	18.83	81.04	8.3	33.47	8.3	23.9	2.59
I25	31 Jul 2016	1	21.15	77.27	8.5	33.49	8.3	23.3	1.72
I25	31 Jul 2016	2	20.77	76.90	8.5	33.46	8.2	23.4	2.13
I25	31 Jul 2016	3	20.02	73.30	8.6	33.44	8.2	23.6	2.70
I25	31 Jul 2016	4	19.84	71.99	8.4	33.43	8.2	23.6	2.94
I25	31 Jul 2016	5	19.50	71.35	8.3	33.40	8.2	23.7	2.96
I25	31 Jul 2016	6	18.69	74.46	8.2	33.41	8.2	23.9	3.45
I25	31 Jul 2016	7	18.04	73.99	8.1	33.39	8.2	24.0	3.30
I25	31 Jul 2016	8	17.71	74.72	8.2	33.41	8.2	24.1	3.29
I25	31 Jul 2016	9	17.69	75.46	8.4	33.41	8.2	24.1	3.41

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ($\sigma\text{-t}$)	Chlor ($\mu\text{g/L}$)
I26	07 Jul 2016	1	20.52	73.69	7.6	33.59	8.2	23.6	1.34
I26	07 Jul 2016	2	19.95	74.22	6.9	33.52	8.2	23.6	1.64
I26	07 Jul 2016	3	18.44	74.15	7.0	33.50	8.2	24.0	1.90
I26	07 Jul 2016	4	17.81	73.86	7.3	33.47	8.2	24.2	2.16
I26	07 Jul 2016	5	17.28	73.97	7.1	33.45	8.1	24.3	2.45
I26	07 Jul 2016	6	16.65	75.98	6.8	33.42	8.1	24.4	3.35
I26	07 Jul 2016	7	16.27	78.07	6.4	33.44	8.1	24.5	3.79
I26	07 Jul 2016	8	16.02	78.03	6.4	33.41	8.1	24.5	3.57
I26	07 Jul 2016	9	15.52	75.78	6.7	33.42	8.1	24.6	3.49
I26	13 Jul 2016	1	22.07	73.05	8.3	33.53	8.3	23.1	2.09
I26	13 Jul 2016	2	22.00	73.05	8.0	33.62	8.3	23.2	2.76
I26	13 Jul 2016	3	21.86	72.96	8.0	33.67	8.3	23.2	2.77
I26	13 Jul 2016	4	21.82	74.53	7.7	33.65	8.3	23.2	3.04
I26	13 Jul 2016	5	21.74	76.93	8.1	33.66	8.3	23.3	3.40
I26	13 Jul 2016	6	21.59	78.15	8.0	33.72	8.3	23.4	3.06
I26	13 Jul 2016	7	20.96	76.41	7.5	33.86	8.3	23.6	3.97
I26	13 Jul 2016	8	18.62	75.72	7.2	34.87	8.2	25.0	3.54
I26	13 Jul 2016	9	18.07	77.00	7.0	35.51	8.2	25.6	3.14
I26	19 Jul 2016	1	22.57	71.77	8.0	33.66	8.3	23.0	1.64
I26	19 Jul 2016	2	22.53	73.28	7.8	33.66	8.3	23.1	1.81
I26	19 Jul 2016	3	22.42	73.98	7.8	33.65	8.3	23.1	2.82
I26	19 Jul 2016	4	22.17	74.35	7.8	33.65	8.3	23.1	3.63
I26	19 Jul 2016	5	22.01	74.21	7.6	33.63	8.3	23.2	3.12
I26	19 Jul 2016	6	21.68	72.36	6.7	33.62	8.3	23.3	2.87
I26	19 Jul 2016	7	21.47	74.99	5.5	33.61	8.3	23.3	3.00
I26	19 Jul 2016	8	20.29	73.41	5.9	33.44	8.2	23.5	2.90
I26	19 Jul 2016	9	18.16	76.45	7.1	33.50	8.1	24.1	2.82
I26	25 Jul 2016	1	21.57	78.09	7.6	33.54	8.2	23.2	4.31
I26	25 Jul 2016	2	21.57	78.11	7.5	33.54	8.2	23.2	3.81
I26	25 Jul 2016	3	21.52	78.21	7.5	33.53	8.2	23.2	3.92
I26	25 Jul 2016	4	21.13	78.83	7.9	33.48	8.2	23.3	3.82
I26	25 Jul 2016	5	20.69	76.17	7.7	33.49	8.2	23.4	3.45
I26	25 Jul 2016	6	20.49	77.44	7.0	33.49	8.2	23.5	2.83
I26	25 Jul 2016	7	20.38	78.69	6.9	33.51	8.2	23.5	3.05
I26	25 Jul 2016	8	20.10	81.13	7.2	33.51	8.2	23.6	2.61
I26	25 Jul 2016	9	19.57	80.46	7.3	33.51	8.2	23.7	2.55
I26	31 Jul 2016	1	21.81	77.54	8.7	33.50	8.3	23.1	1.20
I26	31 Jul 2016	2	21.66	77.58	8.7	33.50	8.3	23.2	1.34
I26	31 Jul 2016	3	21.33	76.76	8.7	33.48	8.3	23.2	1.91
I26	31 Jul 2016	4	21.07	74.82	8.6	33.46	8.2	23.3	2.84
I26	31 Jul 2016	5	20.60	72.27	8.5	33.43	8.2	23.4	3.26
I26	31 Jul 2016	6	20.36	70.63	8.1	33.43	8.2	23.5	3.73
I26	31 Jul 2016	7	19.52	69.25	8.2	33.40	8.2	23.7	3.87
I26	31 Jul 2016	8	18.95	70.83	8.2	33.39	8.2	23.8	3.53
I26	31 Jul 2016	9	18.27	74.52	8.4	33.40	8.2	24.0	3.51
I32	07 Jul 2016	1	21.27	71.45	8.1	33.63	8.3	23.4	2.12
I32	07 Jul 2016	2	21.19	71.67	7.9	33.63	8.3	23.4	2.58
I32	07 Jul 2016	3	20.95	71.69	7.6	33.61	8.3	23.4	4.09
I32	07 Jul 2016	4	20.54	72.12	7.5	33.59	8.3	23.5	4.53

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ($\sigma\text{-t}$)	Chlor ($\mu\text{g/L}$)
I32	07 Jul 2016	5	19.98	71.12	7.4	33.58	8.3	23.7	4.99
I32	07 Jul 2016	6	19.93	67.60	6.8	33.59	8.2	23.7	5.16
I32	07 Jul 2016	7	19.42	65.51	6.2	33.54	8.2	23.8	5.34
I32	07 Jul 2016	8	18.92	68.24	5.7	33.53	8.2	23.9	5.57
I32	07 Jul 2016	9	16.84	67.12	6.1	33.37	8.1	24.3	6.39
I32	07 Jul 2016	10	16.18	67.85	6.6	33.45	8.1	24.5	5.88
I32	13 Jul 2016	1	22.01	80.70	7.5	33.59	8.3	23.1	1.41
I32	13 Jul 2016	2	22.01	80.27	7.7	33.63	8.3	23.2	1.59
I32	13 Jul 2016	3	21.98	78.60	7.8	33.64	8.3	23.2	1.77
I32	13 Jul 2016	4	21.97	76.55	7.5	33.63	8.3	23.2	2.83
I32	13 Jul 2016	5	21.95	73.87	7.3	33.64	8.3	23.2	5.30
I32	13 Jul 2016	6	21.77	68.46	6.6	33.73	8.3	23.3	6.11
I32	13 Jul 2016	7	19.85	67.04	6.8	34.98	8.2	24.8	6.99
I32	13 Jul 2016	8	17.90	67.37	7.5	35.61	8.2	25.8	6.16
I32	13 Jul 2016	9	17.40	69.24	8.0	34.89	8.1	25.3	6.44
I32	13 Jul 2016	10	17.31	70.17	7.7	35.25	8.1	25.6	7.60
I32	19 Jul 2016	1	22.55	72.29	7.8	33.64	8.3	23.0	3.18
I32	19 Jul 2016	2	22.50	73.14	7.5	33.66	8.3	23.1	3.69
I32	19 Jul 2016	3	22.32	70.60	7.3	33.66	8.3	23.1	4.01
I32	19 Jul 2016	4	22.26	68.24	7.1	33.66	8.3	23.1	4.10
I32	19 Jul 2016	5	22.00	67.79	7.1	33.62	8.3	23.2	3.75
I32	19 Jul 2016	6	21.53	68.45	7.0	33.63	8.3	23.3	3.87
I32	19 Jul 2016	7	21.32	69.90	7.0	33.61	8.3	23.3	3.76
I32	19 Jul 2016	8	20.94	70.60	7.3	33.56	8.2	23.4	3.56
I32	19 Jul 2016	9	20.06	62.85	7.5	33.60	8.2	23.7	3.45
I32	25 Jul 2016	1	21.31	83.93	7.3	33.55	8.2	23.3	2.09
I32	25 Jul 2016	2	21.30	83.88	7.4	33.55	8.2	23.3	2.73
I32	25 Jul 2016	3	21.27	83.89	7.4	33.55	8.2	23.3	3.37
I32	25 Jul 2016	4	21.25	82.94	7.3	33.55	8.2	23.3	4.81
I32	25 Jul 2016	5	21.25	81.95	7.3	33.54	8.2	23.3	4.44
I32	25 Jul 2016	6	21.21	77.53	7.2	33.54	8.2	23.3	3.81
I32	25 Jul 2016	7	21.15	76.98	7.5	33.54	8.2	23.3	3.54
I32	25 Jul 2016	8	20.52	78.72	7.5	33.50	8.2	23.5	3.90
I32	25 Jul 2016	9	20.17	79.14	7.2	33.52	8.2	23.6	4.01
I32	25 Jul 2016	10	19.37	74.41	7.5	33.44	8.2	23.7	3.88
I32	31 Jul 2016	1	22.18	77.68	8.3	33.54	8.2	23.1	1.33
I32	31 Jul 2016	2	22.22	78.13	8.3	33.54	8.2	23.1	1.64
I32	31 Jul 2016	3	21.84	77.35	8.3	33.52	8.2	23.1	2.39
I32	31 Jul 2016	4	21.59	75.04	8.2	33.51	8.2	23.2	3.52
I32	31 Jul 2016	5	20.90	70.57	8.4	33.47	8.2	23.4	4.00
I32	31 Jul 2016	6	20.71	67.97	8.3	33.48	8.2	23.4	3.99
I32	31 Jul 2016	7	20.65	68.27	8.1	33.48	8.2	23.4	3.47
I32	31 Jul 2016	8	20.42	70.24	7.8	33.45	8.2	23.5	3.47
I32	31 Jul 2016	9	19.48	72.10	7.8	33.43	8.2	23.7	3.50
I32	31 Jul 2016	10	18.82	72.30	8.0	33.42	8.2	23.9	3.40
I39	07 Jul 2016	1	20.10	72.49	8.2	33.60	8.2	23.7	1.96
I39	07 Jul 2016	2	19.90	65.24	8.2	33.58	8.2	23.7	2.19
I39	07 Jul 2016	3	19.46	76.02	8.1	33.57	8.2	23.8	2.41
I39	07 Jul 2016	4	19.37	76.44	7.8	33.56	8.2	23.8	2.49
I39	07 Jul 2016	5	19.15	76.43	7.6	33.55	8.2	23.9	2.68

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ($\sigma\text{-t}$)	Chlor ($\mu\text{g/L}$)
I39	07 Jul 2016	6	18.67	76.79	7.5	33.49	8.2	23.9	2.93
I39	07 Jul 2016	7	17.62	77.14	7.5	33.46	8.2	24.2	3.38
I39	07 Jul 2016	8	17.18	77.65	7.5	33.46	8.2	24.3	3.67
I39	07 Jul 2016	9	16.49	78.48	7.5	33.43	8.2	24.4	3.88
I39	07 Jul 2016	10	16.01	79.04	7.5	33.41	8.2	24.5	3.96
I39	07 Jul 2016	11	15.62	79.78	7.4	33.41	8.1	24.6	4.41
I39	07 Jul 2016	12	15.58	80.16	7.0	33.43	8.1	24.6	4.19
I39	07 Jul 2016	13	15.43	79.22	6.7	33.39	8.1	24.6	3.87
I39	07 Jul 2016	14	15.12	79.36	6.6	33.41	8.1	24.7	3.65
I39	07 Jul 2016	15	14.99	79.90	6.7	33.40	8.1	24.7	3.36
I39	07 Jul 2016	16	14.86	80.45	6.8	33.41	8.1	24.8	3.23
I39	07 Jul 2016	17	14.91	81.21	6.8	33.41	8.1	24.8	3.03
I39	07 Jul 2016	18	14.82	81.57	6.8	33.42	8.1	24.8	3.06
I39	13 Jul 2016	1	21.75	83.28	8.1	33.10	8.3	22.8	1.45
I39	13 Jul 2016	2	21.71	83.51	7.9	33.59	8.3	23.2	1.62
I39	13 Jul 2016	3	21.60	83.44	7.7	33.65	8.3	23.3	2.07
I39	13 Jul 2016	4	21.53	83.11	7.7	33.65	8.3	23.3	2.26
I39	13 Jul 2016	5	21.51	83.11	7.5	33.64	8.3	23.3	2.81
I39	13 Jul 2016	6	21.39	82.83	7.7	33.70	8.3	23.4	2.74
I39	13 Jul 2016	7	21.26	81.88	7.5	33.75	8.3	23.5	3.04
I39	13 Jul 2016	8	21.07	80.52	7.5	33.69	8.3	23.5	3.14
I39	13 Jul 2016	9	20.74	79.24	7.6	33.90	8.3	23.7	3.14
I39	13 Jul 2016	10	20.29	79.04	7.5	33.81	8.3	23.8	3.04
I39	13 Jul 2016	11	20.11	78.99	7.7	33.74	8.3	23.8	2.91
I39	13 Jul 2016	12	19.79	78.77	7.4	33.86	8.2	23.9	2.77
I39	13 Jul 2016	13	18.23	78.85	7.3	33.91	8.2	24.4	2.43
I39	13 Jul 2016	14	17.29	78.89	7.0	34.08	8.2	24.7	2.35
I39	13 Jul 2016	15	16.44	79.57	6.7	34.20	8.1	25.0	2.20
I39	13 Jul 2016	16	15.65	81.12	6.8	34.10	8.1	25.1	1.94
I39	13 Jul 2016	17	15.14	81.94	7.2	34.72	8.0	25.7	1.89
I39	13 Jul 2016	18	14.99	82.04	7.0	34.66	8.0	25.7	2.16
I39	19 Jul 2016	1	22.78	78.48	8.7	33.69	8.4	23.0	1.35
I39	19 Jul 2016	2	22.77	78.42	8.4	33.68	8.4	23.0	1.35
I39	19 Jul 2016	3	22.70	78.49	8.1	33.68	8.3	23.0	1.40
I39	19 Jul 2016	4	22.28	80.06	8.1	33.58	8.3	23.1	1.37
I39	19 Jul 2016	5	20.48	82.71	8.2	33.51	8.3	23.5	1.39
I39	19 Jul 2016	6	19.74	82.83	7.9	33.53	8.3	23.7	1.54
I39	19 Jul 2016	7	19.04	83.17	7.6	33.46	8.2	23.8	1.73
I39	19 Jul 2016	8	18.25	83.34	7.7	33.43	8.2	24.0	1.70
I39	19 Jul 2016	9	17.39	82.67	7.9	33.42	8.2	24.2	1.73
I39	19 Jul 2016	10	17.25	82.86	7.6	33.41	8.2	24.2	1.93
I39	19 Jul 2016	11	16.46	83.12	6.9	33.37	8.2	24.4	3.13
I39	19 Jul 2016	12	16.06	82.88	5.7	33.37	8.1	24.5	5.13
I39	19 Jul 2016	13	15.52	82.15	5.3	33.34	8.1	24.6	5.39
I39	19 Jul 2016	14	14.83	78.54	5.7	33.34	8.0	24.7	5.71
I39	19 Jul 2016	15	14.73	76.52	6.0	33.34	8.0	24.7	5.71
I39	19 Jul 2016	16	13.92	76.67	6.1	33.33	8.0	24.9	4.84
I39	19 Jul 2016	17	13.84	75.96	5.9	33.34	8.0	24.9	4.79
I39	19 Jul 2016	18	13.76	77.48	6.0	33.34	8.0	25.0	4.87
I39	25 Jul 2016	1	21.72	83.55	7.2	33.55	8.2	23.2	2.33
I39	25 Jul 2016	2	21.71	83.57	7.2	33.55	8.2	23.2	2.12
I39	25 Jul 2016	3	21.69	83.92	7.2	33.55	8.2	23.2	2.03

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ($\sigma\text{-t}$)	Chlor ($\mu\text{g/L}$)
I39	25 Jul 2016	4	21.68	84.22	7.2	33.55	8.2	23.2	1.64
I39	25 Jul 2016	5	21.67	84.69	7.1	33.55	8.2	23.2	1.55
I39	25 Jul 2016	6	21.61	85.04	7.2	33.54	8.2	23.2	1.98
I39	25 Jul 2016	7	21.53	85.27	7.8	33.54	8.2	23.2	2.20
I39	25 Jul 2016	8	20.75	84.47	8.2	33.49	8.2	23.4	2.34
I39	25 Jul 2016	9	20.17	82.36	8.2	33.52	8.2	23.6	2.58
I39	25 Jul 2016	10	19.99	81.49	8.0	33.50	8.2	23.6	2.71
I39	25 Jul 2016	11	19.66	81.70	7.9	33.49	8.2	23.7	2.93
I39	25 Jul 2016	12	19.23	81.49	8.0	33.48	8.2	23.8	3.06
I39	25 Jul 2016	13	19.09	81.16	7.8	33.48	8.2	23.8	3.17
I39	25 Jul 2016	14	19.03	80.92	7.5	33.47	8.2	23.8	3.20
I39	25 Jul 2016	15	18.54	81.22	7.1	33.47	8.2	24.0	3.56
I39	25 Jul 2016	16	17.90	80.07	7.0	33.39	8.2	24.1	3.29
I39	25 Jul 2016	17	16.62	79.38	7.2	33.39	8.2	24.4	3.51
I39	25 Jul 2016	18	16.09	79.76	7.6	33.40	8.1	24.5	3.63
I39	31 Jul 2016	1	21.30	78.35	8.7	33.51	8.3	23.3	1.60
I39	31 Jul 2016	2	21.14	78.70	8.7	33.50	8.3	23.3	1.70
I39	31 Jul 2016	3	20.78	79.02	8.8	33.49	8.3	23.4	1.93
I39	31 Jul 2016	4	20.65	79.04	8.9	33.48	8.2	23.4	2.25
I39	31 Jul 2016	5	20.35	78.40	9.0	33.47	8.2	23.5	2.49
I39	31 Jul 2016	6	20.26	77.96	9.0	33.47	8.2	23.5	2.58
I39	31 Jul 2016	7	20.24	78.11	8.9	33.47	8.2	23.5	2.64
I39	31 Jul 2016	8	20.17	78.39	8.8	33.46	8.2	23.5	2.63
I39	31 Jul 2016	9	19.70	78.73	8.9	33.45	8.2	23.7	2.59
I39	31 Jul 2016	10	19.56	78.73	9.0	33.45	8.2	23.7	2.68
I39	31 Jul 2016	11	19.55	78.70	8.9	33.45	8.2	23.7	2.65
I39	31 Jul 2016	12	19.55	78.68	8.8	33.45	8.2	23.7	2.67
I39	31 Jul 2016	13	19.49	78.67	8.6	33.45	8.2	23.7	2.67
I39	31 Jul 2016	14	19.15	78.56	8.6	33.44	8.2	23.8	2.94
I39	31 Jul 2016	15	19.00	78.50	7.9	33.45	8.2	23.8	3.33
I39	31 Jul 2016	16	18.19	78.04	8.0	33.40	8.2	24.0	3.42
I39	31 Jul 2016	17	17.56	77.35	8.1	33.44	8.2	24.2	3.55
I39	31 Jul 2016	18	17.49	77.25	8.2	33.41	8.2	24.2	3.56
I40	07 Jul 2016	1	19.58	73.21	7.6	33.57	8.2	23.8	1.48
I40	07 Jul 2016	2	19.26	73.48	7.4	33.52	8.2	23.8	1.66
I40	07 Jul 2016	3	18.29	74.92	7.4	33.48	8.2	24.0	1.91
I40	07 Jul 2016	4	17.18	76.56	7.5	33.42	8.2	24.3	2.11
I40	07 Jul 2016	5	16.51	76.94	7.6	33.46	8.2	24.4	2.52
I40	07 Jul 2016	6	16.39	76.28	7.6	33.43	8.1	24.5	3.03
I40	07 Jul 2016	7	16.13	77.20	7.4	33.44	8.1	24.5	4.11
I40	07 Jul 2016	8	16.06	77.22	7.2	33.43	8.1	24.5	4.13
I40	07 Jul 2016	9	15.95	76.09	7.3	33.43	8.1	24.6	3.46
I40	07 Jul 2016	10	15.85	70.73	7.5	33.44	8.1	24.6	4.03
I40	13 Jul 2016	1	22.14	70.42	6.7	33.56	8.3	23.1	2.39
I40	13 Jul 2016	2	22.08	71.02	6.6	33.59	8.3	23.1	4.23
I40	13 Jul 2016	3	22.07	71.45	6.4	33.57	8.3	23.1	5.16
I40	13 Jul 2016	4	22.01	70.61	6.7	33.59	8.3	23.1	5.52
I40	13 Jul 2016	5	21.49	71.72	6.8	33.84	8.3	23.5	6.09
I40	13 Jul 2016	6	21.44	71.55	6.4	33.74	8.2	23.4	6.03
I40	13 Jul 2016	7	21.15	73.75	6.6	33.72	8.3	23.5	5.40
I40	13 Jul 2016	8	21.17	73.42	6.4	33.74	8.3	23.5	5.19
I40	13 Jul 2016	9	20.56	73.21	6.2	34.13	8.2	23.9	5.64

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor ($\mu\text{g/L}$)
I40	13 Jul 2016	10	19.59	73.27	6.3	34.83	8.2	24.7	5.42
I40	19 Jul 2016	1	22.43	74.66	8.6	33.66	8.3	23.1	1.28
I40	19 Jul 2016	2	22.41	77.32	8.6	33.66	8.3	23.1	1.25
I40	19 Jul 2016	3	22.16	78.46	8.6	33.62	8.3	23.1	1.43
I40	19 Jul 2016	4	21.34	81.65	8.2	33.61	8.3	23.3	1.93
I40	19 Jul 2016	5	21.08	81.38	7.5	33.58	8.3	23.4	3.00
I40	19 Jul 2016	6	20.37	81.20	6.8	33.53	8.3	23.5	4.12
I40	19 Jul 2016	7	19.99	79.26	5.9	33.53	8.3	23.6	4.40
I40	19 Jul 2016	8	19.53	75.43	6.0	33.39	8.2	23.7	4.29
I40	19 Jul 2016	9	17.28	68.55	6.8	33.45	8.1	24.3	4.15
I40	19 Jul 2016	10	17.45	66.93	7.0	33.46	8.1	24.2	4.18
I40	25 Jul 2016	1	21.44	74.93	7.5	33.53	8.2	23.3	3.64
I40	25 Jul 2016	2	21.22	75.18	7.7	33.50	8.2	23.3	4.28
I40	25 Jul 2016	3	20.56	77.02	7.8	33.52	8.2	23.5	5.37
I40	25 Jul 2016	4	20.37	77.32	7.6	33.51	8.2	23.5	4.09
I40	25 Jul 2016	5	20.09	75.84	7.8	33.51	8.2	23.6	3.62
I40	25 Jul 2016	6	19.17	78.16	8.1	33.44	8.2	23.8	4.29
I40	25 Jul 2016	7	18.89	79.31	8.1	33.47	8.2	23.9	4.70
I40	25 Jul 2016	8	18.52	79.06	7.7	33.45	8.2	24.0	4.74
I40	25 Jul 2016	9	18.43	77.29	7.3	33.44	8.2	24.0	4.70
I40	25 Jul 2016	10	17.86	75.52	7.6	33.42	8.2	24.1	4.83
I40	31 Jul 2016	1	21.34	75.44	8.3	33.47	8.2	23.2	2.70
I40	31 Jul 2016	2	21.15	74.37	8.2	33.46	8.2	23.3	3.62
I40	31 Jul 2016	3	20.75	68.77	7.9	33.45	8.2	23.4	4.33
I40	31 Jul 2016	4	20.58	68.17	7.6	33.44	8.2	23.4	4.93
I40	31 Jul 2016	5	19.87	67.11	7.6	33.42	8.2	23.6	5.20
I40	31 Jul 2016	6	19.14	66.58	7.9	33.39	8.2	23.8	5.40
I40	31 Jul 2016	7	18.39	67.92	8.1	33.38	8.2	23.9	5.01
I40	31 Jul 2016	8	17.96	71.17	8.0	33.39	8.2	24.1	4.83
I40	31 Jul 2016	9	17.87	70.97	8.2	33.40	8.2	24.1	4.95

NA = not available

APPENDIX A

Quality Assurance

Table A.1

Summary of bacteriological quality assurance field and lab duplicate sample analyses at selected SBOO stations. Densities of total coliform (Total), fecal coliform (Fecal), and *Enterococcus* (Enter) are reported as CFU/100 mL.

Station	Date	Depth	Analyst	Procedure	Total	Fecal	Enter
I19	07 Jul 2016	6	AR	LAB DUPLICATE	<2	ns	ns
I19	07 Jul 2016	6	SR	LAB DUPLICATE	ns	<2	<2
I19	13 Jul 2016	6	AR	LAB DUPLICATE	<2	<2	<2
I19	19 Jul 2016	6	JT	LAB DUPLICATE	<2	<2	<2
I19	25 Jul 2016	6	JT	LAB DUPLICATE	2e	<2	<2
I19	31 Jul 2016	6	JT	LAB DUPLICATE	80e	6e	ns
I19	31 Jul 2016	6	LMA	LAB DUPLICATE	ns	ns	110
I40	07 Jul 2016	6	AR	LAB DUPLICATE	<2	ns	ns
I40	07 Jul 2016	6	SR	LAB DUPLICATE	ns	<2	<2
I40	13 Jul 2016	6	AR	LAB DUPLICATE	<2	<2	<2
I40	19 Jul 2016	6	ZV	LAB DUPLICATE	<2	<2	ns
I40	25 Jul 2016	6	JT	LAB DUPLICATE	4e	<2	<2
I40	31 Jul 2016	6	JT	LAB DUPLICATE	8e	<2	ns
I40	31 Jul 2016	6	LMA	LAB DUPLICATE	ns	ns	10e
S12	05 Jul 2016		JT	FIELD DUPLICATE	40e	8e	8e
S12	05 Jul 2016		JT	LAB DUPLICATE	20e	8e	ns
S12	12 Jul 2016		LMA	FIELD DUPLICATE	20e	2e	<2
S12	12 Jul 2016		LMA	LAB DUPLICATE	<2	<2	<2
S12	19 Jul 2016		LMA	FIELD DUPLICATE	<20	<2	<2
S12	19 Jul 2016		LMA	LAB DUPLICATE	20e	<2	4e
S12	26 Jul 2016		LMA	FIELD DUPLICATE	<20	6e	14e
S12	26 Jul 2016		LMA	LAB DUPLICATE	<20	<2	<2

ns = not sampled

ND = no data

