

SOUTH BAY OCEAN OUTFALL MONTHLY RECEIVING WATERS MONITORING REPORT

SOUTH BAY WATER RECLAMATION PLANT

NPDES Permit No. CA0109045
SDRWQCB Order No. R9-2013-0006

APRIL 2018

Environmental Monitoring and Technical Services
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May 31, 2018

Mr. David W. Gibson, Executive Officer
California Regional Water Quality Control Board
San Diego Region
2375 Northside Drive, Suite 100
San Diego, CA 92108

Attention: POTW Compliance Unit

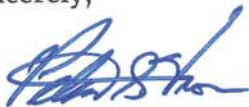
Dear Mr. Gibson:

Enclosed is the April 2018 Monthly Receiving Waters Monitoring Report for the South Bay Ocean Outfall, South Bay Water Reclamation Plant as required per Order No. R9-2013-0006 as amended by Order Nos. R9-2014-0071 and R9-2017-0023, 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 as amended Order Nos. R9-2014-0094 and R9-2017-0024, NPDES Permit No. CA0108928).

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

Sincerely,



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

TS/rjg

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

INTRODUCTION

Monthly reports of water quality and ocean conditions from Playa Blanco, Mexico to Coronado, USA are submitted to the San Diego Regional Water Quality Control Board and U.S. EPA Region 9 in accordance with Order No. R9-2013-0006 as amended by Order Nos. R9-2014-0071 and R9-2017-0023, NPDES Permit No. CA0109045, for the South Bay Water Reclamation Plant (SBWRP), South Bay Ocean Outfall (SBOO). 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 also 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 weekly 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.

Routine monitoring at each kelp site consisted 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 were also recorded at all stations.

Seawater samples at the kelp bed stations were 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 ≥ 4 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 at 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 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 were collected at 28 of the stations.

At these offshore stations, water samples for bacteriological analyses were collected using a CTD-integrated 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 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.

Single Sample Maximums:

^[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.

- (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 2018 Quality Assurance Report, which will be completed in March 2019.

SUMMARY OF RESULTS

➤ Shoreline Water Quality Sampling

- Because of site access restrictions in Mexico, the South Bay shoreline sampling is carried out on the same day each week (i.e., Tuesday) in order to coordinate sampling between the Mexican and USA based stations. Seawater samples at the three shore stations located south of the USA/Mexico border (i.e., stations S0, S2 and S3) are presently collected by the Comisión Internacional de Límites y Aguas (CILA) and transported to the IBWC for subsequent delivery to the City's Marine Microbiology Lab, while samples from the eight stations located in USA waters are sampled by City staff.
- During April, one of the eight shore stations located north of the border was out of compliance with various California Ocean Plan (Ocean Plan) water contact standards (see below); these standards do not apply to stations located in Mexican waters.
 - The 30-day geometric mean standard for total coliform bacteria was exceeded at station S5 on one or more days in April.
 - The 30-day geometric mean standard for *Enterococcus* was exceeded at station S5 on one or more days in April.
- Historical analyses of Ocean Plan compliance rates for the South Bay outfall shore and kelp monitoring stations, combined with the results of satellite imagery data, suggest that outflows from the Tijuana River and Los Buenos Creek, as well as surface runoff during or after rain events (storms), are likely to be the cause of impacted water quality along the

shore and in near shore recreational waters in the South Bay region. See the City of San Diego's most recent *South Bay Ocean Outfall Annual Receiving Waters Monitoring and Assessment Report* for details (<http://www.sandiego.gov/mwwd/environment/oceanmonitor/reports/index.shtml>).

- Nothing of sewage origin was observed at any of the shore stations.

➤ **Kelp Bed Water Quality Sampling**

- The seven kelp bed water quality stations (I19, I24, I25, I26, I32, I39, I40) were sampled five times during the month (i.e. April 2, 9, 16, 23, 30).
- During April, one of the seven stations was out of compliance with various Ocean Plan water contact standards (see below).
 - The SSM standard for fecal coliform bacteria was exceeded at station I19 on April 2 at one or more depths.
 - The SSM standard for *Enterococcus* bacteria was exceeded at station I19 on April 2 at one or more depths.
 - The SSM standard that states total coliform densities shall not exceed 1000 CFU/100 mL when the fecal:total ratio exceeds 0.1 was exceeded at station I19, on April 2 at one or more depths.
- Water column temperatures ranged from 10.89 to 16.21°C. The difference between surface and bottom waters ranged from 0.04 to 4.73°C, indicating the water column was stratified at some of these sites during the month.
- Chlorophyll *a* concentrations ranged from 0.61 to 19.50 µg/L at the kelp bed stations, suggesting the presence of phytoplankton blooms during the month.
- Nothing of sewage origin was observed at any of the kelp bed stations.

➤ **Offshore Water Quality Sampling**

- Quarterly sampling was not conducted during April at the offshore stations. The next quarterly sampling is scheduled for May 2018.



TABLES AND FIGURES

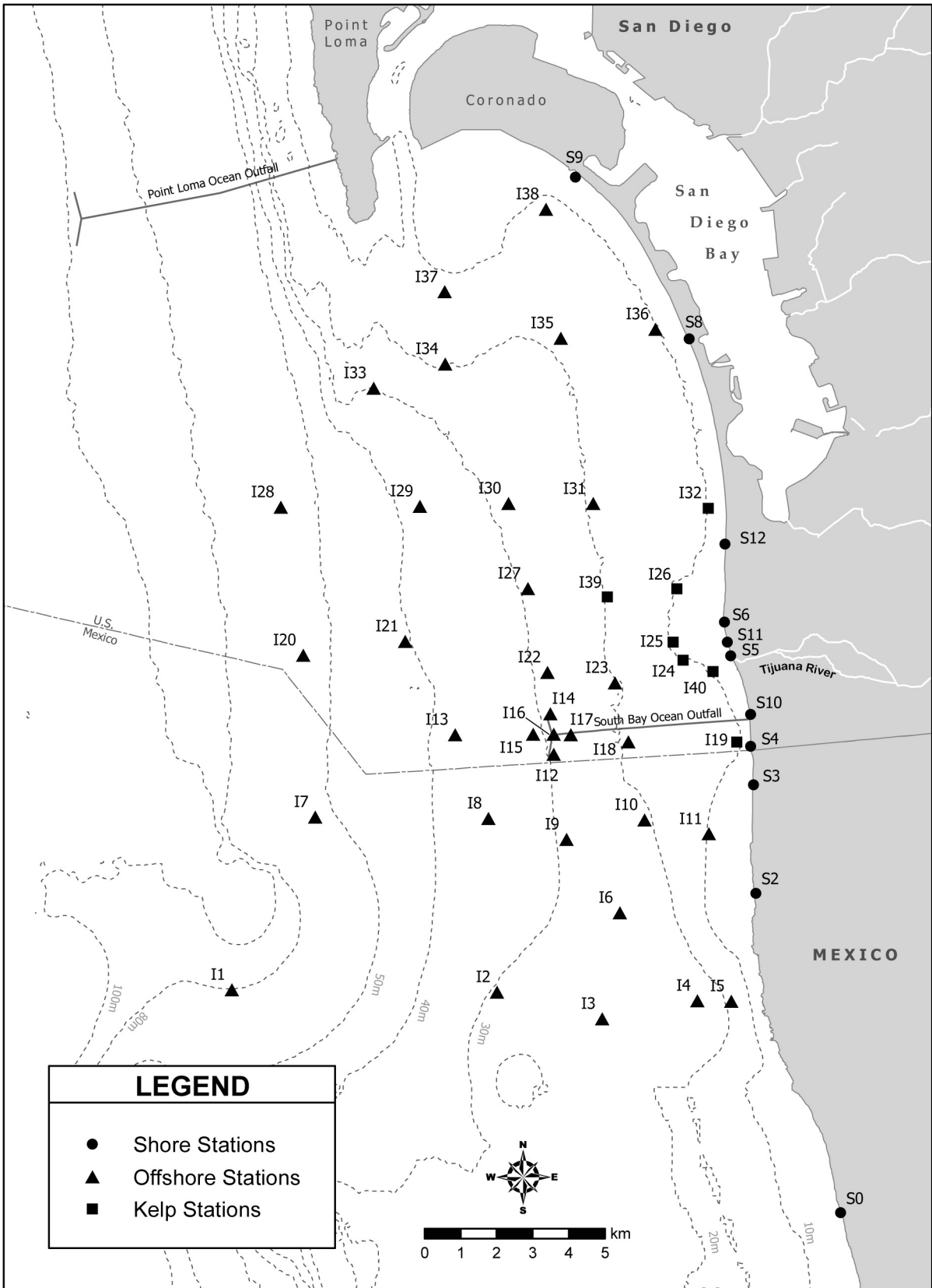


Figure 1.1 Station Map

Shore Stations

Table 2.1

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

Date	S4	S5	S6	S8	S9	S10	S11	S12
01 Apr 2018	281*	2319	5*	2*	4*	428*	544*	4*
02 Apr 2018	281*	2319	5*	2*	4*	428*	544*	4*
03 Apr 2018	257	1453	7	3	5	394	350	5
04 Apr 2018	257	1453	7	3	5	394	350	5
05 Apr 2018	190*	1425	10*	4*	6*	245*	248*	6*
06 Apr 2018	190*	1425	10*	4*	6*	245*	248*	6*
07 Apr 2018	190*	1425	10*	4*	6*	245*	248*	6*
08 Apr 2018	190*	1425	10*	4*	6*	245*	248*	6*
09 Apr 2018	190*	1425	10*	4*	6*	245*	248*	6*
10 Apr 2018	77	477	7	3	5	149	150	8
11 Apr 2018	77	477	7	3	5	149	150	8
12 Apr 2018	27*	236	4*	4*	4*	67*	82*	6*
13 Apr 2018	27*	236	4*	4*	4*	67*	82*	6*
14 Apr 2018	27*	119*	4*	4*	4*	67*	82*	6*
15 Apr 2018	27*	119*	4*	4*	4*	67*	82*	6*
16 Apr 2018	27*	119*	4*	4*	4*	67*	82*	6*
17 Apr 2018	25	84	6	3	6	53	62	8
18 Apr 2018	25	84	6	3	6	53	62	8
19 Apr 2018	18*	41*	8*	4*	8*	39*	21*	11*
20 Apr 2018	18*	41*	8*	4*	8*	39*	21*	11*
21 Apr 2018	18*	41*	8*	4*	8*	39*	21*	11*
22 Apr 2018	18*	41*	8*	4*	8*	39*	21*	11*
23 Apr 2018	18*	41*	8*	4*	8*	39*	21*	11*
24 Apr 2018	20	49	6	3	7	37	13	11
25 Apr 2018	20	49	6	3	7	37	13	11
26 Apr 2018	21*	27*	8*	4*	9*	44*	15*	16*
27 Apr 2018	21*	27*	8*	4*	9*	44*	15*	16*
28 Apr 2018	21*	27*	8*	4*	9*	44*	15*	16*
29 Apr 2018	21*	27*	8*	4*	9*	44*	15*	16*
30 Apr 2018	21*	27*	8*	4*	9*	44*	15*	16*

* Geometric mean calculated using n<5

Table 2.2

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

Date	S4	S5	S6	S8	S9	S10	S11	S12
01 Apr 2018	15*	114	2*	2*	2*	28*	38*	2*
02 Apr 2018	15*	114	2*	2*	2*	28*	38*	2*
03 Apr 2018	17	80	3	2	2	24	35	2
04 Apr 2018	17	80	3	2	2	24	35	2
05 Apr 2018	13*	90	4*	2*	2*	18*	35*	2*
06 Apr 2018	13*	90	4*	2*	2*	18*	35*	2*
07 Apr 2018	13*	90	4*	2*	2*	18*	35*	2*
08 Apr 2018	13*	90	4*	2*	2*	18*	35*	2*
09 Apr 2018	13*	90	4*	2*	2*	18*	35*	2*
10 Apr 2018	9	48	3	2	2	12	20	2
11 Apr 2018	9	48	3	2	2	12	20	2
12 Apr 2018	4*	16	3*	2*	2*	5*	13*	2*
13 Apr 2018	4*	16	3*	2*	2*	5*	13*	2*
14 Apr 2018	4*	11*	3*	2*	2*	5*	13*	2*
15 Apr 2018	4*	11*	3*	2*	2*	5*	13*	2*
16 Apr 2018	4*	11*	3*	2*	2*	5*	13*	2*
17 Apr 2018	3	8	3	2	2	4	9	2
18 Apr 2018	3	8	3	2	2	4	9	2
19 Apr 2018	4*	4*	3*	2*	2*	3*	5*	2*
20 Apr 2018	4*	4*	3*	2*	2*	3*	5*	2*
21 Apr 2018	4*	4*	3*	2*	2*	3*	5*	2*
22 Apr 2018	4*	4*	3*	2*	2*	3*	5*	2*
23 Apr 2018	4*	4*	3*	2*	2*	3*	5*	2*
24 Apr 2018	3	4	3	2	2	3	4	2
25 Apr 2018	3	4	3	2	2	3	4	2
26 Apr 2018	4*	3*	3*	2*	2*	4*	4*	2*
27 Apr 2018	4*	3*	3*	2*	2*	4*	4*	2*
28 Apr 2018	4*	3*	3*	2*	2*	4*	4*	2*
29 Apr 2018	4*	3*	3*	2*	2*	4*	4*	2*
30 Apr 2018	4*	3*	3*	2*	2*	4*	4*	2*

* Geometric mean calculated using n<5

Table 2.3

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

Date	S4	S5	S6	S8	S9	S10	S11	S12
01 Apr 2018	4*	46	2*	2*	2*	4*	4*	2*
02 Apr 2018	4*	46	2*	2*	2*	4*	4*	2*
03 Apr 2018	4	27	2	2	2	4	4	2
04 Apr 2018	4	27	2	2	2	4	4	2
05 Apr 2018	3*	30	2*	2*	2*	2*	5*	2*
06 Apr 2018	3*	30	2*	2*	2*	2*	5*	2*
07 Apr 2018	3*	30	2*	2*	2*	2*	5*	2*
08 Apr 2018	3*	30	2*	2*	2*	2*	5*	2*
09 Apr 2018	3*	30	2*	2*	2*	2*	5*	2*
10 Apr 2018	2	19	2	2	2	2	4	2
11 Apr 2018	2	19	2	2	2	2	4	2
12 Apr 2018	2*	5	2*	2*	2*	2*	5*	2*
13 Apr 2018	2*	5	2*	2*	2*	2*	5*	2*
14 Apr 2018	2*	3*	2*	2*	2*	2*	5*	2*
15 Apr 2018	2*	3*	2*	2*	2*	2*	5*	2*
16 Apr 2018	2*	3*	2*	2*	2*	2*	5*	2*
17 Apr 2018	2	3	2	2	2	2	4	2
18 Apr 2018	2	3	2	2	2	2	4	2
19 Apr 2018	2*	2*	2*	2*	3*	2*	3*	2*
20 Apr 2018	2*	2*	2*	2*	3*	2*	3*	2*
21 Apr 2018	2*	2*	2*	2*	3*	2*	3*	2*
22 Apr 2018	2*	2*	2*	2*	3*	2*	3*	2*
23 Apr 2018	2*	2*	2*	2*	3*	2*	3*	2*
24 Apr 2018	2	3	2	2	2	2	3	2
25 Apr 2018	2	3	2	2	2	2	3	2
26 Apr 2018	2*	3*	2*	2*	3*	2*	3*	2*
27 Apr 2018	2*	3*	2*	2*	3*	2*	3*	2*
28 Apr 2018	2*	3*	2*	2*	3*	2*	3*	2*
29 Apr 2018	2*	3*	2*	2*	3*	2*	3*	2*
30 Apr 2018	2*	3*	2*	2*	3*	2*	3*	2*

* 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
03 Apr 2018	IC	IC	IC	IC	IC	IC	IC	IC
10 Apr 2018	IC	IC	IC	IC	IC	IC	IC	IC
17 Apr 2018	IC	IC	IC	IC	IC	IC	IC	IC
24 Apr 2018	IC	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

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
03 Apr 2018	IC	IC	IC	IC	IC	IC	IC	IC
10 Apr 2018	IC	IC	IC	IC	IC	IC	IC	IC
17 Apr 2018	IC	IC	IC	IC	IC	IC	IC	IC
24 Apr 2018	IC	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

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
03 Apr 2018	IC	IC	IC	IC	IC	IC	IC	IC
10 Apr 2018	IC	IC	IC	IC	IC	IC	IC	IC
17 Apr 2018	IC	IC	IC	IC	IC	IC	IC	IC
24 Apr 2018	IC	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

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
03 Apr 2018	IC	IC	IC	IC	IC	IC	IC	IC
10 Apr 2018	IC	IC	IC	IC	IC	IC	IC	IC
17 Apr 2018	IC	IC	IC	IC	IC	IC	IC	IC
24 Apr 2018	IC	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 2.8

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

Station	Date	Time	Total	Fecal	Entero	F:T
S0	03 Apr 2018	1020	30e	<2	4e	0.07
S0	10 Apr 2018	1045	1600	62	80e	0.04
S0	17 Apr 2018	1110	1000e	84	96	0.08
S0	24 Apr 2018	1110	12e	<2	<2	0.17
S2	03 Apr 2018	1125	2000e	100	30e	0.05
S2	10 Apr 2018	1132	<2	<2	2e	1.00
S2	17 Apr 2018	1200	<2	<2	<2	1.00
S2	24 Apr 2018	1215	24e	<2	4e	0.08
S3	03 Apr 2018	1215	1600	120e	16e	0.07
S3	10 Apr 2018	1152	14e	<2	<2	0.14
S3	17 Apr 2018	1230	1200e	100e	22e	0.08
S3	24 Apr 2018	1255	2e	<2	2e	1.00
S4	03 Apr 2018	933	180e	24e	2e	0.13
S4	10 Apr 2018	853	<2	<2	<2	1.00
S4	17 Apr 2018	925	<20	2e	<2	0.10
S4	24 Apr 2018	853	28e	2e	<2	0.07
S5	03 Apr 2018	1033	140e	14e	<2	0.10
S5	10 Apr 2018	1000	<2	<2	<2	1.00
S5	17 Apr 2018	1124	<20	<2	<2	0.10
S5	24 Apr 2018	1002	100e	2e	12e	0.02
S6	03 Apr 2018	1043	40e	10e	<2	0.25
S6	10 Apr 2018	1008	2e	<2	<2	1.00
S6	17 Apr 2018	1152	<20	2e	<2	0.10
S6	24 Apr 2018	1012	<2	<2	<2	1.00
S8	03 Apr 2018	1207	<20	<2	<2	0.10
S8	10 Apr 2018	1110	<2	<2	<2	1.00
S8	17 Apr 2018	1249	<2	<2	<2	1.00
S8	24 Apr 2018	1122	<2	2e	<2	1.00
S9	03 Apr 2018	1254	<20	<2	<2	0.10
S9	10 Apr 2018	1138	<2	<2	2e	1.00
S9	17 Apr 2018	1324	40e	4e	6e	0.10
S9	24 Apr 2018	1146	4e	<2	<2	0.50
S10	03 Apr 2018	928	280e	14e	4e	0.05
S10	10 Apr 2018	858	<20	<2	2e	0.10
S10	17 Apr 2018	941	<20	2e	2e	0.10
S10	24 Apr 2018	849	32e	4e	<2	0.12
S11	03 Apr 2018	1039	60e	28e	8e	0.47
S11	10 Apr 2018	1005	<20	<2	<2	0.10
S11	17 Apr 2018	1138	<20	<2	<2	0.10
S11	24 Apr 2018	1008	<2	<2	<2	1.00

Station	Date	Time	Total	Fecal	Entero	F:T
S12	03 Apr 2018	1052	<20	<2	<2	0.10
S12	10 Apr 2018	1017	<20	<2	<2	0.10
S12	17 Apr 2018	1029	<20	<2	<2	0.10
S12	24 Apr 2018	1020	8e	<2	<2	0.25

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	03 Apr 2018	Arrive Time	1020
S0	03 Apr 2018	Weather	Cloudy
S0	03 Apr 2018	Wind Speed (kts)	1.5
S0	03 Apr 2018	Wind Dir	SW
S0	03 Apr 2018	Animal Life	15 Birds; 5 Dogs
S0	03 Apr 2018	Floatables	None
S0	03 Apr 2018	Water Color	Green
S0	03 Apr 2018	Current Direction	N
S0	03 Apr 2018	Water Temp (C)	15
S0	03 Apr 2018	Wave Height Low (ft)	2
S0	03 Apr 2018	High Tide (ft)	3.8
S0	03 Apr 2018	High Tide Time	1154
S0	03 Apr 2018	Low Tide (ft)	0
S0	03 Apr 2018	Low Tide Time	553
S0	03 Apr 2018	Comments	Water clear; 1.5 L/s water flowing from stormdrain
S0	10 Apr 2018	Arrive Time	1045
S0	10 Apr 2018	Weather	Sunny
S0	10 Apr 2018	Wind Speed (kts)	1.5
S0	10 Apr 2018	Wind Dir	E
S0	10 Apr 2018	Animal Life	5 Shorebirds; 4 Seagulls
S0	10 Apr 2018	Floatables	None
S0	10 Apr 2018	Water Color	Green
S0	10 Apr 2018	Current Direction	N
S0	10 Apr 2018	Water Temp (C)	15
S0	10 Apr 2018	Wave Height Low (ft)	4
S0	10 Apr 2018	High Tide (ft)	4.1
S0	10 Apr 2018	High Tide Time	605
S0	10 Apr 2018	Low Tide (ft)	2.2
S0	10 Apr 2018	Low Tide Time	1231
S0	10 Apr 2018	Comments	Kelp; Seagrass; Algae; Water clear; 0.5L/s water flowing from storm drain
S0	17 Apr 2018	Arrive Time	1110
S0	17 Apr 2018	Weather	Sunny
S0	17 Apr 2018	Wind Speed (kts)	3.9
S0	17 Apr 2018	Wind Dir	S
S0	17 Apr 2018	Animal Life	1 dead sea lion
S0	17 Apr 2018	Floatables	None
S0	17 Apr 2018	Water Color	Green
S0	17 Apr 2018	Current Direction	S
S0	17 Apr 2018	Water Temp (C)	13
S0	17 Apr 2018	Wave Height Low (ft)	4
S0	17 Apr 2018	High Tide (ft)	4.3
S0	17 Apr 2018	High Tide Time	1053
S0	17 Apr 2018	Low Tide (ft)	0.8
S0	17 Apr 2018	Low Tide Time	1634
S0	17 Apr 2018	Comments	Kelp; Algae; Water clear; 0.5 L/s water flowing from stormdrain
S0	24 Apr 2018	Arrive Time	1110
S0	24 Apr 2018	Weather	Sunny

Station	Date	Parameter	Value
S0	24 Apr 2018	Wind Speed (kts)	2.5
S0	24 Apr 2018	Wind Dir	W
S0	24 Apr 2018	Animal Life	5 Birds; 5 Dogs
S0	24 Apr 2018	Floatables	None
S0	24 Apr 2018	Water Color	Green
S0	24 Apr 2018	Current Direction	N
S0	24 Apr 2018	Water Temp (C)	15
S0	24 Apr 2018	Wave Height Low (ft)	2.5
S0	24 Apr 2018	High Tide (ft)	4.5
S0	24 Apr 2018	High Tide Time	517
S0	24 Apr 2018	Low Tide (ft)	-0.3
S0	24 Apr 2018	Low Tide Time	21
S0	24 Apr 2018	Comments	Water clear; No flow from storm drain
S2	03 Apr 2018	Arrive Time	1125
S2	03 Apr 2018	Weather	Cloudy
S2	03 Apr 2018	Wind Speed (kts)	1.9
S2	03 Apr 2018	Wind Dir	SW
S2	03 Apr 2018	Animal Life	5 Shorebirds
S2	03 Apr 2018	Floatables	None
S2	03 Apr 2018	Water Color	Green
S2	03 Apr 2018	Current Direction	N
S2	03 Apr 2018	Water Temp (C)	15
S2	03 Apr 2018	Wave Height Low (ft)	2
S2	03 Apr 2018	High Tide (ft)	3.8
S2	03 Apr 2018	High Tide Time	1154
S2	03 Apr 2018	Low Tide (ft)	0
S2	03 Apr 2018	Low Tide Time	553
S2	03 Apr 2018	Comments	Water clear; No flow from stormdrain; Trash on the beach
S2	10 Apr 2018	Arrive Time	1132
S2	10 Apr 2018	Weather	Sunny
S2	10 Apr 2018	Wind Speed (kts)	1.5
S2	10 Apr 2018	Wind Dir	E
S2	10 Apr 2018	Animal Life	15 Shorebirds
S2	10 Apr 2018	Floatables	None
S2	10 Apr 2018	Water Color	Green
S2	10 Apr 2018	Current Direction	N
S2	10 Apr 2018	Water Temp (C)	16
S2	10 Apr 2018	Wave Height Low (ft)	3
S2	10 Apr 2018	High Tide (ft)	4.1
S2	10 Apr 2018	High Tide Time	605
S2	10 Apr 2018	Low Tide (ft)	2.2
S2	10 Apr 2018	Low Tide Time	1231
S2	10 Apr 2018	Comments	Kelp; Seagrass; Algae; 4 Persons; Water clear; No flow from stormdrain
S2	17 Apr 2018	Arrive Time	1200
S2	17 Apr 2018	Weather	Sunny
S2	17 Apr 2018	Wind Speed (kts)	4.7
S2	17 Apr 2018	Wind Dir	NE
S2	17 Apr 2018	Animal Life	15 Shorebirds; 1 Dog
S2	17 Apr 2018	Floatables	None
S2	17 Apr 2018	Water Color	Green
S2	17 Apr 2018	Current Direction	S

Station	Date	Parameter	Value
S2	17 Apr 2018	Water Temp (C)	14
S2	17 Apr 2018	Wave Height Low (ft)	3
S2	17 Apr 2018	High Tide (ft)	4.3
S2	17 Apr 2018	High Tide Time	1053
S2	17 Apr 2018	Low Tide (ft)	0.8
S2	17 Apr 2018	Low Tide Time	1634
S2	17 Apr 2018	Comments	Kelp; Algae; 4 Persons; Water clear; No flow from storm drain
S2	24 Apr 2018	Arrive Time	1215
S2	24 Apr 2018	Weather	Sunny
S2	24 Apr 2018	Wind Speed (kts)	2.6
S2	24 Apr 2018	Wind Dir	W
S2	24 Apr 2018	Animal Life	15 Birds
S2	24 Apr 2018	Floatables	None
S2	24 Apr 2018	Water Color	Green
S2	24 Apr 2018	Current Direction	N
S2	24 Apr 2018	Water Temp (C)	15
S2	24 Apr 2018	Wave Height Low (ft)	2
S2	24 Apr 2018	High Tide (ft)	4.4
S2	24 Apr 2018	High Tide Time	1857
S2	24 Apr 2018	Low Tide (ft)	-0.3
S2	24 Apr 2018	Low Tide Time	21
S2	24 Apr 2018	Comments	Water clear; No flow from storm drain
S3	03 Apr 2018	Arrive Time	1215
S3	03 Apr 2018	Weather	Cloudy
S3	03 Apr 2018	Wind Speed (kts)	1.7
S3	03 Apr 2018	Wind Dir	SW
S3	03 Apr 2018	Animal Life	5 Shorebirds
S3	03 Apr 2018	Floatables	None
S3	03 Apr 2018	Water Color	Green
S3	03 Apr 2018	Current Direction	N
S3	03 Apr 2018	Water Temp (C)	15
S3	03 Apr 2018	Wave Height Low (ft)	2
S3	03 Apr 2018	High Tide (ft)	3.8
S3	03 Apr 2018	High Tide Time	1154
S3	03 Apr 2018	Low Tide (ft)	1.2
S3	03 Apr 2018	Low Tide Time	1732
S3	03 Apr 2018	Comments	Water clear; No flow from stormdrain
S3	10 Apr 2018	Arrive Time	1152
S3	10 Apr 2018	Weather	Sunny
S3	10 Apr 2018	Wind Speed (kts)	0.7
S3	10 Apr 2018	Wind Dir	E
S3	10 Apr 2018	Animal Life	20 Shorebirds
S3	10 Apr 2018	Floatables	None
S3	10 Apr 2018	Water Color	Green
S3	10 Apr 2018	Current Direction	N
S3	10 Apr 2018	Water Temp (C)	16
S3	10 Apr 2018	Wave Height Low (ft)	2
S3	10 Apr 2018	High Tide (ft)	4.1
S3	10 Apr 2018	High Tide Time	605
S3	10 Apr 2018	Low Tide (ft)	2.2
S3	10 Apr 2018	Low Tide Time	1231
S3	10 Apr 2018	Comments	Kelp; Seagrass; Algae; 10 Persons; Water clear; No flow from stormdrain

Station	Date	Parameter	Value
S3	17 Apr 2018	Arrive Time	1230
S3	17 Apr 2018	Weather	Sunny
S3	17 Apr 2018	Wind Speed (kts)	4.9
S3	17 Apr 2018	Wind Dir	NE
S3	17 Apr 2018	Animal Life	5 Shorebirds
S3	17 Apr 2018	Floatables	None
S3	17 Apr 2018	Water Color	Green
S3	17 Apr 2018	Current Direction	S
S3	17 Apr 2018	Water Temp (C)	14
S3	17 Apr 2018	Wave Height Low (ft)	4
S3	17 Apr 2018	High Tide (ft)	4.3
S3	17 Apr 2018	High Tide Time	1053
S3	17 Apr 2018	Low Tide (ft)	0.8
S3	17 Apr 2018	Low Tide Time	1634
S3	17 Apr 2018	Comments	Kelp; Algae; Water clear; No flow from storm drain
S3	24 Apr 2018	Arrive Time	1255
S3	24 Apr 2018	Weather	Sunny
S3	24 Apr 2018	Wind Speed (kts)	2.7
S3	24 Apr 2018	Wind Dir	W
S3	24 Apr 2018	Animal Life	5 Birds
S3	24 Apr 2018	Floatables	None
S3	24 Apr 2018	Water Color	Green
S3	24 Apr 2018	Current Direction	N
S3	24 Apr 2018	Water Temp (C)	15
S3	24 Apr 2018	Wave Height Low (ft)	2
S3	24 Apr 2018	High Tide (ft)	4.4
S3	24 Apr 2018	High Tide Time	1857
S3	24 Apr 2018	Low Tide (ft)	-0.3
S3	24 Apr 2018	Low Tide Time	21
S3	24 Apr 2018	Comments	Water clear; 0.5 L/s water flowing from stormdrain
S4	03 Apr 2018	Arrive Time	933
S4	03 Apr 2018	Weather	Partly Cloudy
S4	03 Apr 2018	Wind Speed (kts)	2.2
S4	03 Apr 2018	Wind Dir	SW
S4	03 Apr 2018	Animal Life	None
S4	03 Apr 2018	Floatables	None
S4	03 Apr 2018	Water Color	Green
S4	03 Apr 2018	Current Direction	N
S4	03 Apr 2018	Water Temp (C)	15.4
S4	03 Apr 2018	Wave Height Low (ft)	2
S4	03 Apr 2018	High Tide (ft)	3.8
S4	03 Apr 2018	High Tide Time	1154
S4	03 Apr 2018	Low Tide (ft)	0
S4	03 Apr 2018	Low Tide Time	553
S4	03 Apr 2018	Comments	Kelp; Seagrass; Water clear
S4	10 Apr 2018	Arrive Time	853
S4	10 Apr 2018	Weather	Sunny
S4	10 Apr 2018	Wind Speed (kts)	2.1
S4	10 Apr 2018	Wind Dir	W
S4	10 Apr 2018	Animal Life	None
S4	10 Apr 2018	Floatables	None

Station	Date	Parameter	Value
S4	10 Apr 2018	Water Color	Green
S4	10 Apr 2018	Current Direction	N
S4	10 Apr 2018	Water Temp (C)	17.2
S4	10 Apr 2018	Wave Height Low (ft)	3
S4	10 Apr 2018	High Tide (ft)	4.1
S4	10 Apr 2018	High Tide Time	605
S4	10 Apr 2018	Low Tide (ft)	2.2
S4	10 Apr 2018	Low Tide Time	1231
S4	10 Apr 2018	Comments	Kelp; Seagrass; Debris; Water clear
S4	17 Apr 2018	Arrive Time	925
S4	17 Apr 2018	Weather	Sunny
S4	17 Apr 2018	Wind Speed (kts)	4.8
S4	17 Apr 2018	Wind Dir	NW
S4	17 Apr 2018	Animal Life	None
S4	17 Apr 2018	Floatables	None
S4	17 Apr 2018	Water Color	Green
S4	17 Apr 2018	Current Direction	N
S4	17 Apr 2018	Water Temp (C)	12.6
S4	17 Apr 2018	Wave Height Low (ft)	2
S4	17 Apr 2018	High Tide (ft)	4.3
S4	17 Apr 2018	High Tide Time	1053
S4	17 Apr 2018	Low Tide (ft)	-0.6
S4	17 Apr 2018	Low Tide Time	448
S4	17 Apr 2018	Comments	Water clear
S4	24 Apr 2018	Arrive Time	853
S4	24 Apr 2018	Weather	Cloudy
S4	24 Apr 2018	Wind Speed (kts)	4
S4	24 Apr 2018	Wind Dir	W
S4	24 Apr 2018	Animal Life	None
S4	24 Apr 2018	Floatables	None
S4	24 Apr 2018	Water Color	Green
S4	24 Apr 2018	Current Direction	N
S4	24 Apr 2018	Water Temp (C)	15.6
S4	24 Apr 2018	Wave Height Low (ft)	3
S4	24 Apr 2018	High Tide (ft)	4.5
S4	24 Apr 2018	High Tide Time	517
S4	24 Apr 2018	Low Tide (ft)	-0.3
S4	24 Apr 2018	Low Tide Time	21
S4	24 Apr 2018	Comments	Kelp; Seagrass; Water clear
S5	03 Apr 2018	Arrive Time	1033
S5	03 Apr 2018	Weather	Partly Cloudy
S5	03 Apr 2018	Wind Speed (kts)	5
S5	03 Apr 2018	Wind Dir	W
S5	03 Apr 2018	Animal Life	None
S5	03 Apr 2018	Floatables	None
S5	03 Apr 2018	Water Color	Green
S5	03 Apr 2018	Current Direction	N
S5	03 Apr 2018	Water Temp (C)	16
S5	03 Apr 2018	Wave Height Low (ft)	3
S5	03 Apr 2018	High Tide (ft)	3.8
S5	03 Apr 2018	High Tide Time	1154
S5	03 Apr 2018	Low Tide (ft)	0

Station	Date	Parameter	Value
S5	03 Apr 2018	Low Tide Time	553
S5	03 Apr 2018	Comments	Kelp; Seagrass; Water clear
S5	10 Apr 2018	Arrive Time	1000
S5	10 Apr 2018	Weather	Partly Cloudy
S5	10 Apr 2018	Wind Speed (kts)	4
S5	10 Apr 2018	Wind Dir	W
S5	10 Apr 2018	Animal Life	None
S5	10 Apr 2018	Floatables	None
S5	10 Apr 2018	Water Color	Green
S5	10 Apr 2018	Current Direction	N
S5	10 Apr 2018	Water Temp (C)	18.5
S5	10 Apr 2018	Wave Height Low (ft)	2
S5	10 Apr 2018	High Tide (ft)	4.1
S5	10 Apr 2018	High Tide Time	605
S5	10 Apr 2018	Low Tide (ft)	2.2
S5	10 Apr 2018	Low Tide Time	1231
S5	10 Apr 2018	Comments	Kelp; Seagrass; Water clear
S5	17 Apr 2018	Arrive Time	1124
S5	17 Apr 2018	Weather	Sunny
S5	17 Apr 2018	Wind Speed (kts)	6.5
S5	17 Apr 2018	Wind Dir	N
S5	17 Apr 2018	Animal Life	None
S5	17 Apr 2018	Floatables	None
S5	17 Apr 2018	Water Color	Green
S5	17 Apr 2018	Current Direction	N
S5	17 Apr 2018	Water Temp (C)	12.4
S5	17 Apr 2018	Wave Height Low (ft)	2
S5	17 Apr 2018	High Tide (ft)	4.3
S5	17 Apr 2018	High Tide Time	1053
S5	17 Apr 2018	Low Tide (ft)	0.8
S5	17 Apr 2018	Low Tide Time	1634
S5	17 Apr 2018	Comments	Kelp; Seagrass; Water clear
S5	24 Apr 2018	Arrive Time	1002
S5	24 Apr 2018	Weather	Cloudy
S5	24 Apr 2018	Wind Speed (kts)	5.8
S5	24 Apr 2018	Wind Dir	W
S5	24 Apr 2018	Animal Life	None
S5	24 Apr 2018	Floatables	None
S5	24 Apr 2018	Water Color	Green
S5	24 Apr 2018	Current Direction	N
S5	24 Apr 2018	Water Temp (C)	15
S5	24 Apr 2018	Wave Height Low (ft)	3
S5	24 Apr 2018	High Tide (ft)	4.5
S5	24 Apr 2018	High Tide Time	517
S5	24 Apr 2018	Low Tide (ft)	-0.3
S5	24 Apr 2018	Low Tide Time	21
S5	24 Apr 2018	Comments	Kelp; Seagrass; Water clear
S6	03 Apr 2018	Arrive Time	1043
S6	03 Apr 2018	Weather	Partly Cloudy
S6	03 Apr 2018	Wind Speed (kts)	5.2
S6	03 Apr 2018	Wind Dir	W

Station	Date	Parameter	Value
S6	03 Apr 2018	Animal Life	None
S6	03 Apr 2018	Floatables	None
S6	03 Apr 2018	Water Color	Green
S6	03 Apr 2018	Current Direction	N
S6	03 Apr 2018	Water Temp (C)	16.8
S6	03 Apr 2018	Wave Height Low (ft)	3
S6	03 Apr 2018	High Tide (ft)	3.8
S6	03 Apr 2018	High Tide Time	1154
S6	03 Apr 2018	Low Tide (ft)	0
S6	03 Apr 2018	Low Tide Time	553
S6	03 Apr 2018	Comments	Kelp; Seagrass; 2 Persons; Water clear
S6	10 Apr 2018	Arrive Time	1008
S6	10 Apr 2018	Weather	Sunny
S6	10 Apr 2018	Wind Speed (kts)	4.1
S6	10 Apr 2018	Wind Dir	W
S6	10 Apr 2018	Animal Life	None
S6	10 Apr 2018	Floatables	None
S6	10 Apr 2018	Water Color	Green
S6	10 Apr 2018	Current Direction	N
S6	10 Apr 2018	Water Temp (C)	19.4
S6	10 Apr 2018	Wave Height Low (ft)	3
S6	10 Apr 2018	High Tide (ft)	4.1
S6	10 Apr 2018	High Tide Time	605
S6	10 Apr 2018	Low Tide (ft)	2.2
S6	10 Apr 2018	Low Tide Time	1231
S6	10 Apr 2018	Comments	Kelp; Seagrass; Water clear
S6	17 Apr 2018	Arrive Time	1152
S6	17 Apr 2018	Weather	Sunny
S6	17 Apr 2018	Wind Speed (kts)	11.6
S6	17 Apr 2018	Wind Dir	N
S6	17 Apr 2018	Animal Life	None
S6	17 Apr 2018	Floatables	None
S6	17 Apr 2018	Water Color	Green
S6	17 Apr 2018	Current Direction	N
S6	17 Apr 2018	Water Temp (C)	12.1
S6	17 Apr 2018	Wave Height Low (ft)	2
S6	17 Apr 2018	High Tide (ft)	4.3
S6	17 Apr 2018	High Tide Time	1053
S6	17 Apr 2018	Low Tide (ft)	0.8
S6	17 Apr 2018	Low Tide Time	1634
S6	17 Apr 2018	Comments	Seagrass; 8 Persons; 1 Surfer; Water clear
S6	24 Apr 2018	Arrive Time	1012
S6	24 Apr 2018	Weather	Cloudy
S6	24 Apr 2018	Wind Speed (kts)	5.4
S6	24 Apr 2018	Wind Dir	W
S6	24 Apr 2018	Animal Life	None
S6	24 Apr 2018	Floatables	None
S6	24 Apr 2018	Water Color	Green
S6	24 Apr 2018	Current Direction	N
S6	24 Apr 2018	Water Temp (C)	15.8
S6	24 Apr 2018	Wave Height Low (ft)	3
S6	24 Apr 2018	High Tide (ft)	4.5

Station	Date	Parameter	Value
S6	24 Apr 2018	High Tide Time	517
S6	24 Apr 2018	Low Tide (ft)	-0.3
S6	24 Apr 2018	Low Tide Time	21
S6	24 Apr 2018	Comments	Kelp; Seagrass; Water clear
S8	03 Apr 2018	Arrive Time	1207
S8	03 Apr 2018	Weather	Partly Cloudy
S8	03 Apr 2018	Wind Speed (kts)	6.2
S8	03 Apr 2018	Wind Dir	W
S8	03 Apr 2018	Animal Life	None
S8	03 Apr 2018	Floatables	None
S8	03 Apr 2018	Water Color	Green
S8	03 Apr 2018	Current Direction	N
S8	03 Apr 2018	Water Temp (C)	18.2
S8	03 Apr 2018	Wave Height Low (ft)	3
S8	03 Apr 2018	High Tide (ft)	3.8
S8	03 Apr 2018	High Tide Time	1154
S8	03 Apr 2018	Low Tide (ft)	1.2
S8	03 Apr 2018	Low Tide Time	1732
S8	03 Apr 2018	Comments	Kelp; Seagrass; 20 Persons; 8 Swimmers; Water clear
S8	10 Apr 2018	Arrive Time	1110
S8	10 Apr 2018	Weather	Sunny
S8	10 Apr 2018	Wind Speed (kts)	3.3
S8	10 Apr 2018	Wind Dir	W
S8	10 Apr 2018	Animal Life	None
S8	10 Apr 2018	Floatables	None
S8	10 Apr 2018	Water Color	Green
S8	10 Apr 2018	Current Direction	N
S8	10 Apr 2018	Water Temp (C)	19.4
S8	10 Apr 2018	Wave Height Low (ft)	3
S8	10 Apr 2018	High Tide (ft)	4.1
S8	10 Apr 2018	High Tide Time	605
S8	10 Apr 2018	Low Tide (ft)	2.2
S8	10 Apr 2018	Low Tide Time	1231
S8	10 Apr 2018	Comments	Kelp; Seagrass; 2 Persons; Water clear
S8	17 Apr 2018	Arrive Time	1249
S8	17 Apr 2018	Weather	Sunny
S8	17 Apr 2018	Wind Speed (kts)	10.6
S8	17 Apr 2018	Wind Dir	N
S8	17 Apr 2018	Animal Life	None
S8	17 Apr 2018	Floatables	None
S8	17 Apr 2018	Water Color	Green
S8	17 Apr 2018	Current Direction	N
S8	17 Apr 2018	Water Temp (C)	12.3
S8	17 Apr 2018	Wave Height Low (ft)	3
S8	17 Apr 2018	High Tide (ft)	4.3
S8	17 Apr 2018	High Tide Time	1053
S8	17 Apr 2018	Low Tide (ft)	0.8
S8	17 Apr 2018	Low Tide Time	1634
S8	17 Apr 2018	Comments	Water clear
S8	24 Apr 2018	Arrive Time	1122
S8	24 Apr 2018	Weather	Partly Cloudy

Station	Date	Parameter	Value
S8	24 Apr 2018	Wind Speed (kts)	6.3
S8	24 Apr 2018	Wind Dir	W
S8	24 Apr 2018	Animal Life	None
S8	24 Apr 2018	Floatables	None
S8	24 Apr 2018	Water Color	Green
S8	24 Apr 2018	Current Direction	N
S8	24 Apr 2018	Water Temp (C)	17.5
S8	24 Apr 2018	Wave Height Low (ft)	2
S8	24 Apr 2018	High Tide (ft)	4.5
S8	24 Apr 2018	High Tide Time	517
S8	24 Apr 2018	Low Tide (ft)	-0.3
S8	24 Apr 2018	Low Tide Time	21
S8	24 Apr 2018	Comments	Kelp; Seagrass; 1 Fisherman; Water clear
S9	03 Apr 2018	Arrive Time	1254
S9	03 Apr 2018	Weather	Sunny
S9	03 Apr 2018	Wind Speed (kts)	5.1
S9	03 Apr 2018	Wind Dir	NW
S9	03 Apr 2018	Animal Life	None
S9	03 Apr 2018	Floatables	None
S9	03 Apr 2018	Water Color	Green
S9	03 Apr 2018	Current Direction	N
S9	03 Apr 2018	Water Temp (C)	18
S9	03 Apr 2018	Wave Height Low (ft)	2
S9	03 Apr 2018	High Tide (ft)	3.8
S9	03 Apr 2018	High Tide Time	1154
S9	03 Apr 2018	Low Tide (ft)	1.2
S9	03 Apr 2018	Low Tide Time	1732
S9	03 Apr 2018	Comments	Kelp; Seagrass; 20 Persons; 20 Swimmers; Water clear
S9	10 Apr 2018	Arrive Time	1138
S9	10 Apr 2018	Weather	Sunny
S9	10 Apr 2018	Wind Speed (kts)	1.2
S9	10 Apr 2018	Wind Dir	W
S9	10 Apr 2018	Animal Life	None
S9	10 Apr 2018	Floatables	None
S9	10 Apr 2018	Water Color	Green
S9	10 Apr 2018	Current Direction	N
S9	10 Apr 2018	Water Temp (C)	20.3
S9	10 Apr 2018	Wave Height Low (ft)	3
S9	10 Apr 2018	High Tide (ft)	4.1
S9	10 Apr 2018	High Tide Time	605
S9	10 Apr 2018	Low Tide (ft)	2.2
S9	10 Apr 2018	Low Tide Time	1231
S9	10 Apr 2018	Comments	Kelp; Seagrass; 7 Persons; 6 Surfers; 2 Boats; 1 Swimmer; Water clear
S9	17 Apr 2018	Arrive Time	1324
S9	17 Apr 2018	Weather	Sunny
S9	17 Apr 2018	Wind Speed (kts)	10.1
S9	17 Apr 2018	Wind Dir	N
S9	17 Apr 2018	Animal Life	None
S9	17 Apr 2018	Floatables	None
S9	17 Apr 2018	Water Color	Green
S9	17 Apr 2018	Current Direction	N

Station	Date	Parameter	Value
S9	17 Apr 2018	Water Temp (C)	14.1
S9	17 Apr 2018	Wave Height Low (ft)	2
S9	17 Apr 2018	High Tide (ft)	4.3
S9	17 Apr 2018	High Tide Time	1053
S9	17 Apr 2018	Low Tide (ft)	0.8
S9	17 Apr 2018	Low Tide Time	1634
S9	17 Apr 2018	Comments	2 Joggers; 6 Persons; Water clear
S9	24 Apr 2018	Arrive Time	1146
S9	24 Apr 2018	Weather	Partly Cloudy
S9	24 Apr 2018	Wind Speed (kts)	6.8
S9	24 Apr 2018	Wind Dir	W
S9	24 Apr 2018	Animal Life	None
S9	24 Apr 2018	Floatables	None
S9	24 Apr 2018	Water Color	Green
S9	24 Apr 2018	Current Direction	N
S9	24 Apr 2018	Water Temp (C)	18.8
S9	24 Apr 2018	Wave Height Low (ft)	2
S9	24 Apr 2018	High Tide (ft)	4.5
S9	24 Apr 2018	High Tide Time	517
S9	24 Apr 2018	Low Tide (ft)	-0.3
S9	24 Apr 2018	Low Tide Time	21
S9	24 Apr 2018	Comments	Kelp; Seagrass; 1 Jogger; Water clear
S10	10 Apr 2018	Arrive Time	858
S10	10 Apr 2018	Weather	Sunny
S10	10 Apr 2018	Wind Speed (kts)	1.9
S10	10 Apr 2018	Wind Dir	W
S10	10 Apr 2018	Animal Life	None
S10	10 Apr 2018	Floatables	None
S10	10 Apr 2018	Water Color	Green
S10	10 Apr 2018	Current Direction	N
S10	10 Apr 2018	Water Temp (C)	18.1
S10	10 Apr 2018	Wave Height Low (ft)	3
S10	10 Apr 2018	High Tide (ft)	4.1
S10	10 Apr 2018	High Tide Time	605
S10	10 Apr 2018	Low Tide (ft)	2.2
S10	10 Apr 2018	Low Tide Time	1231
S10	10 Apr 2018	Comments	Kelp; Seagrass; Water clear
S10	17 Apr 2018	Arrive Time	941
S10	17 Apr 2018	Weather	Sunny
S10	17 Apr 2018	Wind Speed (kts)	6.6
S10	17 Apr 2018	Wind Dir	N
S10	17 Apr 2018	Animal Life	None
S10	17 Apr 2018	Floatables	None
S10	17 Apr 2018	Water Color	Green
S10	17 Apr 2018	Current Direction	N
S10	17 Apr 2018	Water Temp (C)	12.3
S10	17 Apr 2018	Wave Height Low (ft)	2
S10	17 Apr 2018	High Tide (ft)	4.3
S10	17 Apr 2018	High Tide Time	1053
S10	17 Apr 2018	Low Tide (ft)	-0.6
S10	17 Apr 2018	Low Tide Time	448
S10	17 Apr 2018	Comments	Kelp; Seagrass; Water clear

Station	Date	Parameter	Value
S10	24 Apr 2018	Arrive Time	849
S10	24 Apr 2018	Weather	Cloudy
S10	24 Apr 2018	Wind Speed (kts)	4.4
S10	24 Apr 2018	Wind Dir	W
S10	24 Apr 2018	Animal Life	None
S10	24 Apr 2018	Floatables	None
S10	24 Apr 2018	Water Color	Green
S10	24 Apr 2018	Current Direction	N
S10	24 Apr 2018	Water Temp (C)	15.8
S10	24 Apr 2018	Wave Height Low (ft)	3
S10	24 Apr 2018	High Tide (ft)	4.5
S10	24 Apr 2018	High Tide Time	517
S10	24 Apr 2018	Low Tide (ft)	-0.3
S10	24 Apr 2018	Low Tide Time	21
S10	24 Apr 2018	Comments	Kelp; Seagrass; Water clear
S11	03 Apr 2018	Arrive Time	1039
S11	03 Apr 2018	Weather	Partly Cloudy
S11	03 Apr 2018	Wind Speed (kts)	15.8
S11	03 Apr 2018	Wind Dir	W
S11	03 Apr 2018	Animal Life	None
S11	03 Apr 2018	Floatables	None
S11	03 Apr 2018	Water Color	Green
S11	03 Apr 2018	Current Direction	N
S11	03 Apr 2018	Water Temp (C)	16
S11	03 Apr 2018	Wave Height Low (ft)	4
S11	03 Apr 2018	High Tide (ft)	3.8
S11	03 Apr 2018	High Tide Time	1154
S11	03 Apr 2018	Low Tide (ft)	0
S11	03 Apr 2018	Low Tide Time	553
S11	03 Apr 2018	Comments	Kelp; Seagrass; Water clear
S11	10 Apr 2018	Arrive Time	1005
S11	10 Apr 2018	Weather	Sunny
S11	10 Apr 2018	Wind Speed (kts)	3.1
S11	10 Apr 2018	Wind Dir	W
S11	10 Apr 2018	Animal Life	None
S11	10 Apr 2018	Floatables	None
S11	10 Apr 2018	Water Color	Green
S11	10 Apr 2018	Current Direction	N
S11	10 Apr 2018	Water Temp (C)	17.5
S11	10 Apr 2018	Wave Height Low (ft)	3
S11	10 Apr 2018	High Tide (ft)	4.1
S11	10 Apr 2018	High Tide Time	605
S11	10 Apr 2018	Low Tide (ft)	2.2
S11	10 Apr 2018	Low Tide Time	1231
S11	10 Apr 2018	Comments	Kelp; Seagrass; Water clear
S11	17 Apr 2018	Arrive Time	1138
S11	17 Apr 2018	Weather	Sunny
S11	17 Apr 2018	Wind Speed (kts)	6.3
S11	17 Apr 2018	Wind Dir	N
S11	17 Apr 2018	Animal Life	None
S11	17 Apr 2018	Floatables	None

Station	Date	Parameter	Value
S11	17 Apr 2018	Water Color	Green
S11	17 Apr 2018	Current Direction	N
S11	17 Apr 2018	Water Temp (C)	10.8
S11	17 Apr 2018	Wave Height Low (ft)	2
S11	17 Apr 2018	High Tide (ft)	4.3
S11	17 Apr 2018	High Tide Time	1053
S11	17 Apr 2018	Low Tide (ft)	0.8
S11	17 Apr 2018	Low Tide Time	1634
S11	17 Apr 2018	Comments	Kelp; Water clear
S11	24 Apr 2018	Arrive Time	1008
S11	24 Apr 2018	Weather	Cloudy
S11	24 Apr 2018	Wind Speed (kts)	4
S11	24 Apr 2018	Wind Dir	W
S11	24 Apr 2018	Animal Life	None
S11	24 Apr 2018	Floatables	None
S11	24 Apr 2018	Water Color	Green
S11	24 Apr 2018	Current Direction	N
S11	24 Apr 2018	Water Temp (C)	16
S11	24 Apr 2018	Wave Height Low (ft)	3
S11	24 Apr 2018	High Tide (ft)	4.5
S11	24 Apr 2018	High Tide Time	517
S11	24 Apr 2018	Low Tide (ft)	-0.3
S11	24 Apr 2018	Low Tide Time	21
S11	24 Apr 2018	Comments	Kelp; Seagrass; Water clear
S12	03 Apr 2018	Arrive Time	1052
S12	03 Apr 2018	Weather	Partly Cloudy
S12	03 Apr 2018	Wind Speed (kts)	5.1
S12	03 Apr 2018	Wind Dir	W
S12	03 Apr 2018	Animal Life	None
S12	03 Apr 2018	Floatables	None
S12	03 Apr 2018	Water Color	Green
S12	03 Apr 2018	Current Direction	N
S12	03 Apr 2018	Water Temp (C)	17.2
S12	03 Apr 2018	Wave Height Low (ft)	3
S12	03 Apr 2018	High Tide (ft)	3.8
S12	03 Apr 2018	High Tide Time	1154
S12	03 Apr 2018	Low Tide (ft)	0
S12	03 Apr 2018	Low Tide Time	553
S12	03 Apr 2018	Comments	Kelp; Seagrass; 1 Person; Water clear
S12	10 Apr 2018	Arrive Time	1017
S12	10 Apr 2018	Weather	Sunny
S12	10 Apr 2018	Wind Speed (kts)	3.6
S12	10 Apr 2018	Wind Dir	W
S12	10 Apr 2018	Animal Life	None
S12	10 Apr 2018	Floatables	None
S12	10 Apr 2018	Water Color	Green
S12	10 Apr 2018	Current Direction	N
S12	10 Apr 2018	Water Temp (C)	19.2
S12	10 Apr 2018	Wave Height Low (ft)	3
S12	10 Apr 2018	High Tide (ft)	4.1
S12	10 Apr 2018	High Tide Time	605
S12	10 Apr 2018	Low Tide (ft)	2.2

Station	Date	Parameter	Value
S12	10 Apr 2018	Low Tide Time	1231
S12	10 Apr 2018	Comments	Kelp; Water clear
S12	17 Apr 2018	Arrive Time	1029
S12	17 Apr 2018	Weather	Sunny
S12	17 Apr 2018	Wind Speed (kts)	5.4
S12	17 Apr 2018	Wind Dir	N
S12	17 Apr 2018	Animal Life	None
S12	17 Apr 2018	Floatables	None
S12	17 Apr 2018	Water Color	Green
S12	17 Apr 2018	Current Direction	N
S12	17 Apr 2018	Water Temp (C)	12.8
S12	17 Apr 2018	Wave Height Low (ft)	1
S12	17 Apr 2018	High Tide (ft)	4.3
S12	17 Apr 2018	High Tide Time	1053
S12	17 Apr 2018	Low Tide (ft)	-0.6
S12	17 Apr 2018	Low Tide Time	448
S12	17 Apr 2018	Comments	Seagrass; Water clear
S12	24 Apr 2018	Arrive Time	1020
S12	24 Apr 2018	Weather	Cloudy
S12	24 Apr 2018	Wind Speed (kts)	6.4
S12	24 Apr 2018	Wind Dir	W
S12	24 Apr 2018	Animal Life	None
S12	24 Apr 2018	Floatables	None
S12	24 Apr 2018	Water Color	Green
S12	24 Apr 2018	Current Direction	N
S12	24 Apr 2018	Water Temp (C)	17
S12	24 Apr 2018	Wave Height Low (ft)	2
S12	24 Apr 2018	High Tide (ft)	4.5
S12	24 Apr 2018	High Tide Time	517
S12	24 Apr 2018	Low Tide (ft)	-0.3
S12	24 Apr 2018	Low Tide Time	21
S12	24 Apr 2018	Comments	Kelp; Seagrass; 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 Apr 2018	15*	27*	6*	6*	6*	10*	39*
02 Apr 2018	48	25	7	5	5	7	34
03 Apr 2018	48	25	7	5	5	7	34
04 Apr 2018	62*	31*	9*	6*	6*	6*	50*
05 Apr 2018	62*	31*	9*	6*	6*	6*	50*
06 Apr 2018	62*	31*	9*	6*	6*	6*	50*
07 Apr 2018	62*	31*	9*	6*	6*	6*	50*
08 Apr 2018	62*	31*	9*	6*	6*	6*	50*
09 Apr 2018	50	18	7	5	5	5	28
10 Apr 2018	50	18	7	5	5	5	28
11 Apr 2018	46*	8*	3*	2*	2*	2*	7*
12 Apr 2018	46*	8*	3*	2*	2*	2*	7*
13 Apr 2018	46*	8*	3*	2*	2*	2*	7*
14 Apr 2018	46*	8*	3*	2*	2*	2*	7*
15 Apr 2018	46*	8*	3*	2*	2*	2*	7*
16 Apr 2018	25	6	3	2	2	2	6
17 Apr 2018	25	6	3	2	2	2	6
18 Apr 2018	36*	3*	3*	2*	2*	2*	5*
19 Apr 2018	36*	3*	3*	2*	2*	2*	5*
20 Apr 2018	36*	3*	3*	2*	2*	2*	5*
21 Apr 2018	36*	3*	3*	2*	2*	2*	5*
22 Apr 2018	36*	3*	3*	2*	2*	2*	5*
23 Apr 2018	45	4	3	2	2	2	7
24 Apr 2018	45	4	3	2	2	2	7
25 Apr 2018	71*	5*	3*	2*	2*	2*	9*
26 Apr 2018	71*	5*	3*	2*	2*	2*	9*
27 Apr 2018	71*	5*	3*	2*	2*	2*	9*
28 Apr 2018	71*	5*	3*	2*	2*	2*	9*
29 Apr 2018	71*	5*	3*	2*	2*	2*	9*
30 Apr 2018	52	4	3	2	2	2	7

* Geometric mean calculated using n<5

Table 3.2

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

Date	I19	I24	I25	I26	I32	I39	I40
01 Apr 2018	3*	6*	3*	3*	3*	3*	7*
02 Apr 2018	9	5	3	3	3	2	6
03 Apr 2018	9	5	3	3	3	2	6
04 Apr 2018	14*	7*	3*	3*	3*	3*	8*
05 Apr 2018	14*	7*	3*	3*	3*	3*	8*
06 Apr 2018	14*	7*	3*	3*	3*	3*	8*
07 Apr 2018	14*	7*	3*	3*	3*	3*	8*
08 Apr 2018	14*	7*	3*	3*	3*	3*	8*
09 Apr 2018	9	5	3	3	3	2	6
10 Apr 2018	9	5	3	3	3	2	6
11 Apr 2018	8*	3*	2*	2*	2*	2*	2*
12 Apr 2018	8*	3*	2*	2*	2*	2*	2*
13 Apr 2018	8*	3*	2*	2*	2*	2*	2*
14 Apr 2018	8*	3*	2*	2*	2*	2*	2*
15 Apr 2018	8*	3*	2*	2*	2*	2*	2*
16 Apr 2018	6	3	2	2	2	2	2
17 Apr 2018	6	3	2	2	2	2	2
18 Apr 2018	8*	2*	2*	2*	2*	2*	2*
19 Apr 2018	8*	2*	2*	2*	2*	2*	2*
20 Apr 2018	8*	2*	2*	2*	2*	2*	2*
21 Apr 2018	8*	2*	2*	2*	2*	2*	2*
22 Apr 2018	8*	2*	2*	2*	2*	2*	2*
23 Apr 2018	7	2	2	2	2	2	2
24 Apr 2018	7	2	2	2	2	2	2
25 Apr 2018	10*	2*	2*	2*	2*	2*	2*
26 Apr 2018	10*	2*	2*	2*	2*	2*	2*
27 Apr 2018	10*	2*	2*	2*	2*	2*	2*
28 Apr 2018	10*	2*	2*	2*	2*	2*	2*
29 Apr 2018	10*	2*	2*	2*	2*	2*	2*
30 Apr 2018	7	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 Apr 2018	2*	3*	3*	2*	2*	2*	4*
02 Apr 2018	6	3	2	2	2	2	4
03 Apr 2018	6	3	2	2	2	2	4
04 Apr 2018	8*	3*	3*	2*	2*	2*	4*
05 Apr 2018	8*	3*	3*	2*	2*	2*	4*
06 Apr 2018	8*	3*	3*	2*	2*	2*	4*
07 Apr 2018	8*	3*	3*	2*	2*	2*	4*
08 Apr 2018	8*	3*	3*	2*	2*	2*	4*
09 Apr 2018	6	3	2	2	2	2	4
10 Apr 2018	6	3	2	2	2	2	4
11 Apr 2018	7*	2*	2*	2*	2*	2*	2*
12 Apr 2018	7*	2*	2*	2*	2*	2*	2*
13 Apr 2018	7*	2*	2*	2*	2*	2*	2*
14 Apr 2018	7*	2*	2*	2*	2*	2*	2*
15 Apr 2018	7*	2*	2*	2*	2*	2*	2*
16 Apr 2018	5	2	2	2	2	2	2
17 Apr 2018	5	2	2	2	2	2	2
18 Apr 2018	7*	2*	2*	2*	2*	2*	2*
19 Apr 2018	7*	2*	2*	2*	2*	2*	2*
20 Apr 2018	7*	2*	2*	2*	2*	2*	2*
21 Apr 2018	7*	2*	2*	2*	2*	2*	2*
22 Apr 2018	7*	2*	2*	2*	2*	2*	2*
23 Apr 2018	7	2	2	2	2	2	2
24 Apr 2018	7	2	2	2	2	2	2
25 Apr 2018	9*	2*	2*	2*	2*	2*	2*
26 Apr 2018	9*	2*	2*	2*	2*	2*	2*
27 Apr 2018	9*	2*	2*	2*	2*	2*	2*
28 Apr 2018	9*	2*	2*	2*	2*	2*	2*
29 Apr 2018	9*	2*	2*	2*	2*	2*	2*
30 Apr 2018	7	2	2	2	2	2	2

* Geometric mean calculated using n<5

Table 3.4

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

Date	I19	I24	I25	I26	I32	I39	I40
02 Apr 2018	IC	IC	IC	IC	IC	IC	IC
09 Apr 2018	IC	IC	IC	IC	IC	IC	IC
16 Apr 2018	IC	IC	IC	IC	IC	IC	IC
23 Apr 2018	IC	IC	IC	IC	IC	IC	IC
30 Apr 2018	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

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
02 Apr 2018	E	IC	IC	IC	IC	IC	IC
09 Apr 2018	IC	IC	IC	IC	IC	IC	IC
16 Apr 2018	IC	IC	IC	IC	IC	IC	IC
23 Apr 2018	IC	IC	IC	IC	IC	IC	IC
30 Apr 2018	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

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
02 Apr 2018	E	IC	IC	IC	IC	IC	IC
09 Apr 2018	IC	IC	IC	IC	IC	IC	IC
16 Apr 2018	IC	IC	IC	IC	IC	IC	IC
23 Apr 2018	IC	IC	IC	IC	IC	IC	IC
30 Apr 2018	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

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
02 Apr 2018	E	IC	IC	IC	IC	IC	IC
09 Apr 2018	IC	IC	IC	IC	IC	IC	IC
16 Apr 2018	IC	IC	IC	IC	IC	IC	IC
23 Apr 2018	IC	IC	IC	IC	IC	IC	IC
30 Apr 2018	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 3.8

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

Station	Date	Time	Depth	Total	Fecal	Entero	F:T	Temp	XMS	DO	Sal	pH
I19	02 Apr 2018	1222	2	8000	860	280e	0.11	14.4	56.05	10.3	33.37	8.2
I19	02 Apr 2018	1222	6	6000	440	360e	0.07	14.4	60.27	9.9	33.44	8.2
I19	02 Apr 2018	1222	11	3200e	240e	260e	0.07	14.2	63.68	9.5	33.51	8.2
I19	09 Apr 2018	1106	2	<20	<2	<2	0.10	14.6	63.44	7.2	33.55	8.0
I19	09 Apr 2018	1106	6	<20	<2	<2	0.10	14.2	56.24	7.4	33.53	8.0
I19	09 Apr 2018	1106	11	<20	<2	<2	0.10	12.2	56.76	5.2	33.56	7.8
I19	16 Apr 2018	1106	2	<2	<2	<2	1.00	13.7	64.68	7.2	33.60	8.0
I19	16 Apr 2018	1106	6	<2	<2	<2	1.00	12.6	66.40	6.5	33.58	7.9
I19	16 Apr 2018	1106	11	<2	<2	<2	1.00	11.7	20.00	5.0	33.60	7.8
I19	23 Apr 2018	1046	2	4e	<2	<2	0.50	15.0	56.40	9.4	33.63	8.1
I19	23 Apr 2018	1046	6	160e	8e	6e	0.05	12.5	58.83	8.5	33.61	8.0
I19	23 Apr 2018	1046	11	160e	6e	8e	0.04	12.1	63.87	7.5	33.63	7.9
I19	30 Apr 2018	1239	2	<20	2e	<2	0.10	15.0	65.54	8.8	33.66	8.1
I19	30 Apr 2018	1239	6	6e	<2	2e	0.33	15.0	65.76	8.6	33.67	8.1
I19	30 Apr 2018	1239	11	<20	<2	<2	0.10	14.9	64.72	8.4	33.67	8.1
I24	02 Apr 2018	1241	2	6e	4e	<2	0.67	14.5	66.01	10.4	33.55	8.2
I24	02 Apr 2018	1241	6	40e	6e	<2	0.15	14.3	66.51	9.5	33.57	8.2
I24	02 Apr 2018	1241	11	8e	<2	<2	0.25	12.1	52.34	7.5	33.55	8.0
I24	09 Apr 2018	1128	2	<2	<2	<2	1.00	15.8	73.16	8.4	33.58	8.2
I24	09 Apr 2018	1128	6	<2	<2	<2	1.00	12.8	68.90	6.6	33.59	8.0
I24	09 Apr 2018	1128	11	<2	<2	<2	1.00	12.8	70.75	6.5	33.55	8.0
I24	16 Apr 2018	1133	2	<2	<2	<2	1.00	14.3	67.29	7.6	33.58	8.0
I24	16 Apr 2018	1133	6	<2	<2	<2	1.00	12.6	67.69	6.8	33.59	8.0
I24	16 Apr 2018	1133	11	<2	<2	<2	1.00	11.7	58.27	4.9	33.58	7.8
I24	23 Apr 2018	1108	2	<2	<2	<2	1.00	15.2	53.16	9.4	33.66	8.1
I24	23 Apr 2018	1108	6	6e	<2	<2	0.33	12.5	59.05	8.5	33.65	8.1
I24	23 Apr 2018	1108	11	16e	<2	<2	0.12	12.0	60.96	6.9	33.62	7.9
I24	30 Apr 2018	1305	2	<2	<2	<2	1.00	14.8	75.80	8.6	33.64	8.1
I24	30 Apr 2018	1305	6	<2	<2	<2	1.00	14.8	77.18	8.6	33.65	8.1
I24	30 Apr 2018	1305	11	<2	<2	<2	1.00	14.2	72.47	7.7	33.67	8.0
I25	02 Apr 2018	1248	2	<2	<2	<2	1.00	15.0	72.15	9.7	33.55	8.2
I25	02 Apr 2018	1248	6	4e	<2	<2	0.50	14.4	68.88	10.5	33.55	8.2
I25	02 Apr 2018	1248	9	<20	2e	2e	0.10	12.5	61.20	8.4	33.60	8.1
I25	09 Apr 2018	1135	2	<2	<2	<2	1.00	15.6	72.84	8.5	33.55	8.2
I25	09 Apr 2018	1135	6	<2	<2	<2	1.00	12.8	75.76	6.8	33.54	8.0
I25	09 Apr 2018	1135	9	4e	<2	<2	0.50	12.6	72.02	6.3	33.54	7.9

Station	Date	Time	Depth	Total	Fecal	Entero	F:T	Temp	XMS	DO	Sal	pH
I25	16 Apr 2018	1145	2	<2	<2	<2	1.00	14.7	68.76	7.9	33.57	8.0
I25	16 Apr 2018	1145	6	<2	<2	<2	1.00	12.1	75.26	6.0	33.63	7.9
I25	16 Apr 2018	1145	9	<2	<2	<2	1.00	11.7	74.15	5.3	33.61	7.9
I25	23 Apr 2018	1116	2	<2	<2	<2	1.00	15.2	50.74	9.4	33.67	8.1
I25	23 Apr 2018	1116	6	2e	<2	<2	1.00	12.2	60.07	8.0	33.63	8.0
I25	23 Apr 2018	1116	9	<2	2e	<2	1.00	13.0	67.92	7.7	33.56	8.0
I25	30 Apr 2018	1314	2	<2	<2	<2	1.00	14.8	69.63	8.7	33.64	8.2
I25	30 Apr 2018	1314	6	<2	<2	<2	1.00	14.8	77.03	8.7	33.64	8.2
I25	30 Apr 2018	1314	9	<2	<2	<2	1.00	14.7	74.69	8.3	33.64	8.1
I26	02 Apr 2018	1257	2	<2	<2	<2	1.00	14.6	67.86	10.5	33.55	8.2
I26	02 Apr 2018	1257	6	<2	<2	<2	1.00	14.4	65.66	10.4	33.55	8.2
I26	02 Apr 2018	1257	9	2e	<2	<2	1.00	13.4	68.30	8.9	33.59	8.2
I26	09 Apr 2018	1146	2	<2	<2	<2	1.00	15.6	72.89	8.2	33.58	8.1
I26	09 Apr 2018	1146	6	<2	<2	<2	1.00	12.8	78.58	7.2	33.58	8.0
I26	09 Apr 2018	1146	9	<2	<2	<2	1.00	12.3	69.42	5.8	33.57	7.9
I26	16 Apr 2018	1154	2	<2	<2	<2	1.00	14.6	67.35	8.0	33.57	8.0
I26	16 Apr 2018	1154	6	<2	<2	<2	1.00	11.9	74.71	5.7	33.62	7.9
I26	16 Apr 2018	1154	9	<2	<2	<2	1.00	11.6	74.71	5.1	33.61	7.8
I26	23 Apr 2018	1127	2	<2	<2	<2	1.00	14.8	54.35	9.1	33.68	8.1
I26	23 Apr 2018	1127	6	<2	<2	<2	1.00	13.7	57.77	9.5	33.66	8.1
I26	23 Apr 2018	1127	9	<2	<2	<2	1.00	12.6	62.93	7.2	33.60	7.9
I26	30 Apr 2018	1326	2	<2	<2	<2	1.00	14.8	75.54	8.7	33.64	8.2
I26	30 Apr 2018	1326	6	<2	<2	<2	1.00	14.8	77.03	8.7	33.64	8.2
I26	30 Apr 2018	1326	9	<2	<2	<2	1.00	14.4	79.31	8.1	33.64	8.1
I32	02 Apr 2018	1309	2	<2	<2	<2	1.00	14.8	68.44	9.7	33.54	8.2
I32	02 Apr 2018	1309	6	<2	<2	<2	1.00	14.6	67.04	9.9	33.55	8.2
I32	02 Apr 2018	1309	9	<2	<2	<2	1.00	14.6	65.78	9.8	33.54	8.2
I32	09 Apr 2018	1159	2	<2	<2	<2	1.00	15.6	64.35	7.8	33.55	8.1
I32	09 Apr 2018	1159	6	<2	<2	<2	1.00	12.9	63.75	6.3	33.60	7.9
I32	09 Apr 2018	1159	9	<2	<2	<2	1.00	12.3	51.15	5.6	33.56	7.9
I32	16 Apr 2018	1208	2	<2	<2	<2	1.00	14.4	65.53	8.0	33.57	8.0
I32	16 Apr 2018	1208	6	<2	<2	<2	1.00	12.1	60.68	5.8	33.61	7.9
I32	16 Apr 2018	1208	9	<2	<2	<2	1.00	11.6	72.87	5.2	33.61	7.9
I32	23 Apr 2018	1140	2	<2	<2	<2	1.00	16.0	44.56	10.6	33.68	8.2
I32	23 Apr 2018	1140	6	2e	<2	<2	1.00	14.7	57.47	9.0	33.72	8.1
I32	23 Apr 2018	1140	9	6e	2e	<2	0.33	12.9	64.17	8.1	33.59	8.0
I32	30 Apr 2018	1340	2	<2	<2	<2	1.00	14.8	59.99	8.4	33.65	8.1
I32	30 Apr 2018	1340	6	<2	<2	<2	1.00	14.8	60.80	8.4	33.66	8.1
I32	30 Apr 2018	1340	9	<2	<2	<2	1.00	14.7	46.76	8.4	33.66	8.1
I39	02 Apr 2018	1156	2	<2	<2	<2	1.00	15.2	72.07	9.3	33.53	8.2
I39	02 Apr 2018	1156	12	<2	<2	<2	1.00	13.7	63.83	9.6	33.53	8.2

Station	Date	Time	Depth	Total	Fecal	Entero	F:T	Temp	XMS	DO	Sal	pH
I39	02 Apr 2018	1156	18	<2	<2	<2	1.00	11.7	69.80	5.8	33.57	7.9
I39	09 Apr 2018	1040	2	<2	<2	<2	1.00	15.9	77.42	9.1	33.54	8.2
I39	09 Apr 2018	1040	12	<2	<2	<2	1.00	12.2	82.69	5.8	33.57	7.9
I39	09 Apr 2018	1040	18	2e	<2	<2	1.00	11.2	55.38	4.5	33.62	7.8
I39	16 Apr 2018	1043	2	<2	<2	<2	1.00	14.6	71.15	7.8	33.59	8.0
I39	16 Apr 2018	1043	12	<2	<2	<2	1.00	11.2	82.03	5.1	33.62	7.9
I39	16 Apr 2018	1043	18	<2	<2	<2	1.00	10.9	71.57	4.3	33.65	7.8
I39	23 Apr 2018	1023	2	<2	<2	<2	1.00	14.9	52.81	10.8	33.65	8.2
I39	23 Apr 2018	1023	12	<2	<2	<2	1.00	11.4	73.92	5.5	33.64	7.9
I39	23 Apr 2018	1023	18	<2	<2	<2	1.00	11.2	76.69	4.5	33.66	7.8
I39	30 Apr 2018	1209	2	<2	<2	<2	1.00	14.8	78.67	8.4	33.65	8.1
I39	30 Apr 2018	1209	12	<2	<2	<2	1.00	11.5	81.15	4.9	33.69	7.8
I39	30 Apr 2018	1209	18	4e	<2	<2	0.50	11.0	76.50	3.9	33.68	7.8
I40	02 Apr 2018	1231	2	<2	<2	<2	1.00	14.7	64.92	10.5	33.55	8.2
I40	02 Apr 2018	1231	6	40e	4e	4e	0.10	14.5	65.13	9.7	33.56	8.2
I40	02 Apr 2018	1231	9	20e	4e	<2	0.20	14.4	62.89	9.2	33.56	8.2
I40	09 Apr 2018	1118	2	<2	<2	<2	1.00	15.2	66.75	7.7	33.54	8.1
I40	09 Apr 2018	1118	6	<2	<2	<2	1.00	13.5	61.33	6.6	33.55	7.9
I40	09 Apr 2018	1118	9	4e	<2	<2	0.50	12.5	65.78	5.6	33.56	7.9
I40	16 Apr 2018	1122	2	4e	<2	2e	0.50	14.0	60.06	8.2	33.58	8.0
I40	16 Apr 2018	1122	6	<2	<2	<2	1.00	12.0	63.56	5.9	33.68	7.9
I40	16 Apr 2018	1122	9	<2	<2	<2	1.00	11.4	53.07	4.1	33.60	7.8
I40	23 Apr 2018	1059	2	<2	<2	<2	1.00	14.9	58.02	9.2	33.64	8.1
I40	23 Apr 2018	1059	6	100e	2e	2e	0.02	13.2	55.97	8.8	33.64	8.1
I40	23 Apr 2018	1059	9	26e	2e	<2	0.08	12.5	58.62	8.2	33.62	8.0
I40	30 Apr 2018	1251	2	<2	<2	<2	1.00	15.0	68.49	8.9	33.65	8.1
I40	30 Apr 2018	1251	6	<2	<2	<2	1.00	15.0	70.95	8.9	33.65	8.1
I40	30 Apr 2018	1251	9	2e	<2	<2	1.00	15.0	70.13	8.8	33.66	8.1

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	02 Apr 2018	Depth (m)	12
I19	02 Apr 2018	Arrive Time	1222
I19	02 Apr 2018	Depart Time	1225
I19	02 Apr 2018	Air Temp (C)	15
I19	02 Apr 2018	Weather	Haze
I19	02 Apr 2018	Visibility (mi)	5
I19	02 Apr 2018	Wind Speed (kts)	6
I19	02 Apr 2018	Wind Dir	S
I19	02 Apr 2018	Water Color	Greenish-Blue
I19	02 Apr 2018	Wave Ht Low (ft)	3
I19	02 Apr 2018	Wave Period (sec)	13
I19	02 Apr 2018	Sea State	Light chop
I19	02 Apr 2018	High Tide (ft)	4.37
I19	02 Apr 2018	High Tide Time	1110
I19	02 Apr 2018	Low Tide (ft)	-0.21
I19	02 Apr 2018	Low Tide Time	510
I19	02 Apr 2018	Comments	none
I19	09 Apr 2018	Depth (m)	11
I19	09 Apr 2018	Arrive Time	1106
I19	09 Apr 2018	Depart Time	1110
I19	09 Apr 2018	Air Temp (C)	15
I19	09 Apr 2018	Weather	Haze
I19	09 Apr 2018	Visibility (mi)	5
I19	09 Apr 2018	Wind Speed (kts)	6
I19	09 Apr 2018	Wind Dir	E
I19	09 Apr 2018	Water Color	Greenish-Blue
I19	09 Apr 2018	Wave Ht Low (ft)	8
I19	09 Apr 2018	Wave Period (sec)	13
I19	09 Apr 2018	Sea State	Confused swell
I19	09 Apr 2018	High Tide (ft)	3.8
I19	09 Apr 2018	High Tide Time	502
I19	09 Apr 2018	Low Tide (ft)	0.47
I19	09 Apr 2018	Low Tide Time	26
I19	09 Apr 2018	Comments	none
I19	16 Apr 2018	Depth (m)	11
I19	16 Apr 2018	Arrive Time	1106
I19	16 Apr 2018	Depart Time	1114
I19	16 Apr 2018	Air Temp (C)	15
I19	16 Apr 2018	Weather	Partly Cloudy
I19	16 Apr 2018	Visibility (mi)	5
I19	16 Apr 2018	Wind Speed (kts)	8
I19	16 Apr 2018	Wind Dir	SW
I19	16 Apr 2018	Water Color	Greenish-Blue
I19	16 Apr 2018	Wave Ht Low (ft)	8
I19	16 Apr 2018	Wave Period (sec)	11
I19	16 Apr 2018	Sea State	Light chop
I19	16 Apr 2018	High Tide (ft)	4.58
I19	16 Apr 2018	High Tide Time	1008
I19	16 Apr 2018	Low Tide (ft)	-0.38

Station	Date	Parameter	Value
I19	16 Apr 2018	Low Tide Time	407
I19	16 Apr 2018	Comments	none
I19	23 Apr 2018	Depth (m)	11
I19	23 Apr 2018	Arrive Time	1046
I19	23 Apr 2018	Depart Time	1049
I19	23 Apr 2018	Air Temp (C)	14
I19	23 Apr 2018	Weather	Overcast
I19	23 Apr 2018	Visibility (mi)	5
I19	23 Apr 2018	Wind Speed (kts)	4
I19	23 Apr 2018	Wind Dir	SW
I19	23 Apr 2018	Water Color	Green
I19	23 Apr 2018	Wave Ht Low (ft)	4
I19	23 Apr 2018	Wave Period (sec)	13
I19	23 Apr 2018	Sea State	Calm
I19	23 Apr 2018	High Tide (ft)	4.45
I19	23 Apr 2018	High Tide Time	352
I19	23 Apr 2018	Low Tide (ft)	-0.17
I19	23 Apr 2018	Low Tide Time	1122
I19	23 Apr 2018	Comments	none
I19	30 Apr 2018	Depth (m)	12
I19	30 Apr 2018	Arrive Time	1239
I19	30 Apr 2018	Depart Time	1243
I19	30 Apr 2018	Air Temp (C)	14
I19	30 Apr 2018	Weather	Overcast
I19	30 Apr 2018	Visibility (mi)	5
I19	30 Apr 2018	Wind Speed (kts)	8
I19	30 Apr 2018	Wind Dir	S
I19	30 Apr 2018	Water Color	Greenish-Blue
I19	30 Apr 2018	Wave Ht Low (ft)	6
I19	30 Apr 2018	Wave Period (sec)	4
I19	30 Apr 2018	Sea State	Confused swell
I19	30 Apr 2018	High Tide (ft)	4.2
I19	30 Apr 2018	High Tide Time	1020
I19	30 Apr 2018	Low Tide (ft)	-0.55
I19	30 Apr 2018	Low Tide Time	418
I19	30 Apr 2018	Comments	none
I24	02 Apr 2018	Depth (m)	12
I24	02 Apr 2018	Arrive Time	1241
I24	02 Apr 2018	Depart Time	1246
I24	02 Apr 2018	Air Temp (C)	15
I24	02 Apr 2018	Weather	Haze
I24	02 Apr 2018	Visibility (mi)	5
I24	02 Apr 2018	Wind Speed (kts)	10
I24	02 Apr 2018	Wind Dir	S
I24	02 Apr 2018	Water Color	Greenish-Blue
I24	02 Apr 2018	Wave Ht Low (ft)	3
I24	02 Apr 2018	Wave Period (sec)	13
I24	02 Apr 2018	Sea State	Light chop
I24	02 Apr 2018	High Tide (ft)	4.37
I24	02 Apr 2018	High Tide Time	1110
I24	02 Apr 2018	Low Tide (ft)	-0.21
I24	02 Apr 2018	Low Tide Time	510

Station	Date	Parameter	Value
I24	02 Apr 2018	Comments	none
I24	09 Apr 2018	Depth (m)	10
I24	09 Apr 2018	Arrive Time	1128
I24	09 Apr 2018	Depart Time	1132
I24	09 Apr 2018	Air Temp (C)	15
I24	09 Apr 2018	Weather	Haze
I24	09 Apr 2018	Visibility (mi)	5
I24	09 Apr 2018	Wind Speed (kts)	4
I24	09 Apr 2018	Wind Dir	SE
I24	09 Apr 2018	Water Color	Greenish-Blue
I24	09 Apr 2018	Wave Ht Low (ft)	8
I24	09 Apr 2018	Wave Period (sec)	13
I24	09 Apr 2018	Sea State	Confused swell
I24	09 Apr 2018	High Tide (ft)	3.8
I24	09 Apr 2018	High Tide Time	502
I24	09 Apr 2018	Low Tide (ft)	0.47
I24	09 Apr 2018	Low Tide Time	26
I24	09 Apr 2018	Comments	none
I24	16 Apr 2018	Depth (m)	11
I24	16 Apr 2018	Arrive Time	1133
I24	16 Apr 2018	Depart Time	1139
I24	16 Apr 2018	Air Temp (C)	15
I24	16 Apr 2018	Weather	Partly Cloudy
I24	16 Apr 2018	Visibility (mi)	5
I24	16 Apr 2018	Wind Speed (kts)	16
I24	16 Apr 2018	Wind Dir	SW
I24	16 Apr 2018	Water Color	Greenish-Blue
I24	16 Apr 2018	Wave Ht Low (ft)	8
I24	16 Apr 2018	Wave Period (sec)	11
I24	16 Apr 2018	Sea State	Light chop
I24	16 Apr 2018	High Tide (ft)	4.58
I24	16 Apr 2018	High Tide Time	1008
I24	16 Apr 2018	Low Tide (ft)	-0.38
I24	16 Apr 2018	Low Tide Time	407
I24	16 Apr 2018	Comments	none
I24	23 Apr 2018	Depth (m)	10
I24	23 Apr 2018	Arrive Time	1108
I24	23 Apr 2018	Depart Time	1111
I24	23 Apr 2018	Air Temp (C)	14
I24	23 Apr 2018	Weather	Overcast
I24	23 Apr 2018	Visibility (mi)	6
I24	23 Apr 2018	Wind Speed (kts)	5
I24	23 Apr 2018	Wind Dir	SW
I24	23 Apr 2018	Water Color	Green
I24	23 Apr 2018	Wave Ht Low (ft)	4
I24	23 Apr 2018	Wave Period (sec)	13
I24	23 Apr 2018	Sea State	Calm
I24	23 Apr 2018	High Tide (ft)	4.45
I24	23 Apr 2018	High Tide Time	352
I24	23 Apr 2018	Low Tide (ft)	-0.17
I24	23 Apr 2018	Low Tide Time	1122
I24	23 Apr 2018	Comments	none

Station	Date	Parameter	Value
I24	30 Apr 2018	Depth (m)	12
I24	30 Apr 2018	Arrive Time	1305
I24	30 Apr 2018	Depart Time	1308
I24	30 Apr 2018	Air Temp (C)	15
I24	30 Apr 2018	Weather	Overcast
I24	30 Apr 2018	Visibility (mi)	5
I24	30 Apr 2018	Wind Speed (kts)	10
I24	30 Apr 2018	Wind Dir	SW
I24	30 Apr 2018	Water Color	Green
I24	30 Apr 2018	Wave Ht Low (ft)	6
I24	30 Apr 2018	Wave Period (sec)	4
I24	30 Apr 2018	Sea State	Confused swell
I24	30 Apr 2018	High Tide (ft)	4.2
I24	30 Apr 2018	High Tide Time	1020
I24	30 Apr 2018	Low Tide (ft)	-0.55
I24	30 Apr 2018	Low Tide Time	418
I24	30 Apr 2018	Comments	none
I25	02 Apr 2018	Depth (m)	11
I25	02 Apr 2018	Arrive Time	1248
I25	02 Apr 2018	Depart Time	1254
I25	02 Apr 2018	Air Temp (C)	15
I25	02 Apr 2018	Weather	Haze
I25	02 Apr 2018	Visibility (mi)	5
I25	02 Apr 2018	Wind Speed (kts)	10
I25	02 Apr 2018	Wind Dir	S
I25	02 Apr 2018	Water Color	Greenish-Blue
I25	02 Apr 2018	Wave Ht Low (ft)	3
I25	02 Apr 2018	Wave Period (sec)	13
I25	02 Apr 2018	Sea State	Light chop
I25	02 Apr 2018	High Tide (ft)	4.37
I25	02 Apr 2018	High Tide Time	1110
I25	02 Apr 2018	Low Tide (ft)	-0.21
I25	02 Apr 2018	Low Tide Time	510
I25	02 Apr 2018	Comments	none
I25	09 Apr 2018	Depth (m)	9
I25	09 Apr 2018	Arrive Time	1135
I25	09 Apr 2018	Depart Time	1138
I25	09 Apr 2018	Air Temp (C)	16
I25	09 Apr 2018	Weather	Haze
I25	09 Apr 2018	Visibility (mi)	5
I25	09 Apr 2018	Wind Speed (kts)	2
I25	09 Apr 2018	Wind Dir	N
I25	09 Apr 2018	Water Color	Greenish-Brown
I25	09 Apr 2018	Wave Ht Low (ft)	8
I25	09 Apr 2018	Wave Period (sec)	13
I25	09 Apr 2018	Sea State	Confused swell
I25	09 Apr 2018	High Tide (ft)	3.8
I25	09 Apr 2018	High Tide Time	502
I25	09 Apr 2018	Low Tide (ft)	0.47
I25	09 Apr 2018	Low Tide Time	26
I25	09 Apr 2018	Comments	none

Station	Date	Parameter	Value
I25	16 Apr 2018	Depth (m)	9
I25	16 Apr 2018	Arrive Time	1145
I25	16 Apr 2018	Depart Time	1148
I25	16 Apr 2018	Air Temp (C)	15
I25	16 Apr 2018	Weather	Partly Cloudy
I25	16 Apr 2018	Visibility (mi)	5
I25	16 Apr 2018	Wind Speed (kts)	7
I25	16 Apr 2018	Wind Dir	S
I25	16 Apr 2018	Water Color	Greenish-Blue
I25	16 Apr 2018	Wave Ht Low (ft)	8
I25	16 Apr 2018	Wave Period (sec)	11
I25	16 Apr 2018	Sea State	Light chop
I25	16 Apr 2018	High Tide (ft)	4.58
I25	16 Apr 2018	High Tide Time	1008
I25	16 Apr 2018	Low Tide (ft)	-0.38
I25	16 Apr 2018	Low Tide Time	407
I25	16 Apr 2018	Comments	none
I25	23 Apr 2018	Depth (m)	9
I25	23 Apr 2018	Arrive Time	1116
I25	23 Apr 2018	Depart Time	1119
I25	23 Apr 2018	Air Temp (C)	14
I25	23 Apr 2018	Weather	Overcast
I25	23 Apr 2018	Visibility (mi)	6
I25	23 Apr 2018	Wind Speed (kts)	4
I25	23 Apr 2018	Wind Dir	SW
I25	23 Apr 2018	Water Color	Greenish-Brown
I25	23 Apr 2018	Wave Ht Low (ft)	6
I25	23 Apr 2018	Wave Period (sec)	13
I25	23 Apr 2018	Sea State	Light chop
I25	23 Apr 2018	High Tide (ft)	4.45
I25	23 Apr 2018	High Tide Time	352
I25	23 Apr 2018	Low Tide (ft)	-0.17
I25	23 Apr 2018	Low Tide Time	1122
I25	23 Apr 2018	Comments	none
I25	30 Apr 2018	Depth (m)	9
I25	30 Apr 2018	Arrive Time	1314
I25	30 Apr 2018	Depart Time	1318
I25	30 Apr 2018	Air Temp (C)	15
I25	30 Apr 2018	Weather	Overcast
I25	30 Apr 2018	Visibility (mi)	5
I25	30 Apr 2018	Wind Speed (kts)	10
I25	30 Apr 2018	Wind Dir	SW
I25	30 Apr 2018	Water Color	Green
I25	30 Apr 2018	Wave Ht Low (ft)	6
I25	30 Apr 2018	Wave Period (sec)	4
I25	30 Apr 2018	Sea State	Confused swell
I25	30 Apr 2018	High Tide (ft)	4.2
I25	30 Apr 2018	High Tide Time	1020
I25	30 Apr 2018	Low Tide (ft)	-0.55
I25	30 Apr 2018	Low Tide Time	418
I25	30 Apr 2018	Comments	none
I26	02 Apr 2018	Depth (m)	11

Station	Date	Parameter	Value
I26	02 Apr 2018	Arrive Time	1257
I26	02 Apr 2018	Depart Time	1301
I26	02 Apr 2018	Air Temp (C)	15
I26	02 Apr 2018	Weather	Rain
I26	02 Apr 2018	Visibility (mi)	5
I26	02 Apr 2018	Wind Speed (kts)	9
I26	02 Apr 2018	Wind Dir	SE
I26	02 Apr 2018	Water Color	Greenish-Blue
I26	02 Apr 2018	Wave Ht Low (ft)	3
I26	02 Apr 2018	Wave Period (sec)	13
I26	02 Apr 2018	Sea State	Light chop
I26	02 Apr 2018	High Tide (ft)	4.37
I26	02 Apr 2018	High Tide Time	1110
I26	02 Apr 2018	Low Tide (ft)	-0.21
I26	02 Apr 2018	Low Tide Time	510
I26	02 Apr 2018	Comments	none
I26	09 Apr 2018	Depth (m)	9
I26	09 Apr 2018	Arrive Time	1146
I26	09 Apr 2018	Depart Time	1149
I26	09 Apr 2018	Air Temp (C)	16
I26	09 Apr 2018	Weather	Haze
I26	09 Apr 2018	Visibility (mi)	5
I26	09 Apr 2018	Wind Speed (kts)	4
I26	09 Apr 2018	Wind Dir	SE
I26	09 Apr 2018	Water Color	Greenish-Brown
I26	09 Apr 2018	Wave Ht Low (ft)	8
I26	09 Apr 2018	Wave Period (sec)	13
I26	09 Apr 2018	Sea State	Confused swell
I26	09 Apr 2018	High Tide (ft)	3.8
I26	09 Apr 2018	High Tide Time	502
I26	09 Apr 2018	Low Tide (ft)	0.47
I26	09 Apr 2018	Low Tide Time	26
I26	09 Apr 2018	Comments	none
I26	16 Apr 2018	Depth (m)	10
I26	16 Apr 2018	Arrive Time	1154
I26	16 Apr 2018	Depart Time	1158
I26	16 Apr 2018	Air Temp (C)	15
I26	16 Apr 2018	Weather	Partly Cloudy
I26	16 Apr 2018	Visibility (mi)	5
I26	16 Apr 2018	Wind Speed (kts)	6
I26	16 Apr 2018	Wind Dir	SE
I26	16 Apr 2018	Water Color	Greenish-Blue
I26	16 Apr 2018	Wave Ht Low (ft)	8
I26	16 Apr 2018	Wave Period (sec)	11
I26	16 Apr 2018	Sea State	Light chop
I26	16 Apr 2018	High Tide (ft)	4.58
I26	16 Apr 2018	High Tide Time	1008
I26	16 Apr 2018	Low Tide (ft)	-0.38
I26	16 Apr 2018	Low Tide Time	407
I26	16 Apr 2018	Comments	none
I26	23 Apr 2018	Depth (m)	9
I26	23 Apr 2018	Arrive Time	1127

Station	Date	Parameter	Value
I26	23 Apr 2018	Depart Time	1129
I26	23 Apr 2018	Air Temp (C)	14
I26	23 Apr 2018	Weather	Overcast
I26	23 Apr 2018	Visibility (mi)	6
I26	23 Apr 2018	Wind Speed (kts)	3
I26	23 Apr 2018	Wind Dir	SW
I26	23 Apr 2018	Water Color	Greenish-Brown
I26	23 Apr 2018	Wave Ht Low (ft)	6
I26	23 Apr 2018	Wave Period (sec)	13
I26	23 Apr 2018	Sea State	Light chop
I26	23 Apr 2018	High Tide (ft)	4.45
I26	23 Apr 2018	High Tide Time	352
I26	23 Apr 2018	Low Tide (ft)	-0.17
I26	23 Apr 2018	Low Tide Time	1122
I26	23 Apr 2018	Comments	none
I26	30 Apr 2018	Depth (m)	11
I26	30 Apr 2018	Arrive Time	1326
I26	30 Apr 2018	Depart Time	1330
I26	30 Apr 2018	Air Temp (C)	15
I26	30 Apr 2018	Weather	Overcast
I26	30 Apr 2018	Visibility (mi)	5
I26	30 Apr 2018	Wind Speed (kts)	11
I26	30 Apr 2018	Wind Dir	SW
I26	30 Apr 2018	Water Color	Green
I26	30 Apr 2018	Wave Ht Low (ft)	6
I26	30 Apr 2018	Wave Period (sec)	4
I26	30 Apr 2018	Sea State	Confused swell
I26	30 Apr 2018	High Tide (ft)	4.2
I26	30 Apr 2018	High Tide Time	1020
I26	30 Apr 2018	Low Tide (ft)	-0.55
I26	30 Apr 2018	Low Tide Time	418
I26	30 Apr 2018	Comments	none
I32	02 Apr 2018	Depth (m)	11
I32	02 Apr 2018	Arrive Time	1309
I32	02 Apr 2018	Depart Time	1312
I32	02 Apr 2018	Air Temp (C)	15
I32	02 Apr 2018	Weather	Partly Cloudy
I32	02 Apr 2018	Visibility (mi)	5
I32	02 Apr 2018	Wind Speed (kts)	10
I32	02 Apr 2018	Wind Dir	S
I32	02 Apr 2018	Water Color	Greenish-Blue
I32	02 Apr 2018	Wave Ht Low (ft)	3
I32	02 Apr 2018	Wave Period (sec)	13
I32	02 Apr 2018	Sea State	Light chop
I32	02 Apr 2018	High Tide (ft)	4.37
I32	02 Apr 2018	High Tide Time	1110
I32	02 Apr 2018	Low Tide (ft)	-0.21
I32	02 Apr 2018	Low Tide Time	510
I32	02 Apr 2018	Comments	
I32	09 Apr 2018	Depth (m)	11
I32	09 Apr 2018	Arrive Time	1159
I32	09 Apr 2018	Depart Time	1202

Station	Date	Parameter	Value
I32	09 Apr 2018	Air Temp (C)	16
I32	09 Apr 2018	Weather	Haze
I32	09 Apr 2018	Visibility (mi)	5
I32	09 Apr 2018	Wind Speed (kts)	7
I32	09 Apr 2018	Wind Dir	SE
I32	09 Apr 2018	Water Color	Greenish-Brown
I32	09 Apr 2018	Wave Ht Low (ft)	8
I32	09 Apr 2018	Wave Period (sec)	13
I32	09 Apr 2018	Sea State	Confused swell
I32	09 Apr 2018	High Tide (ft)	3.8
I32	09 Apr 2018	High Tide Time	502
I32	09 Apr 2018	Low Tide (ft)	0.47
I32	09 Apr 2018	Low Tide Time	26
I32	09 Apr 2018	Comments	none
I32	16 Apr 2018	Depth (m)	10
I32	16 Apr 2018	Arrive Time	1208
I32	16 Apr 2018	Depart Time	1216
I32	16 Apr 2018	Air Temp (C)	15
I32	16 Apr 2018	Weather	Partly Cloudy
I32	16 Apr 2018	Visibility (mi)	5
I32	16 Apr 2018	Wind Speed (kts)	12
I32	16 Apr 2018	Wind Dir	SW
I32	16 Apr 2018	Water Color	Greenish-Blue
I32	16 Apr 2018	Wave Ht Low (ft)	8
I32	16 Apr 2018	Wave Period (sec)	11
I32	16 Apr 2018	Sea State	Light chop
I32	16 Apr 2018	High Tide (ft)	4.58
I32	16 Apr 2018	High Tide Time	1008
I32	16 Apr 2018	Low Tide (ft)	-0.38
I32	16 Apr 2018	Low Tide Time	407
I32	16 Apr 2018	Comments	none
I32	23 Apr 2018	Depth (m)	9
I32	23 Apr 2018	Arrive Time	1140
I32	23 Apr 2018	Depart Time	1143
I32	23 Apr 2018	Air Temp (C)	14
I32	23 Apr 2018	Weather	Overcast
I32	23 Apr 2018	Visibility (mi)	6
I32	23 Apr 2018	Wind Speed (kts)	4
I32	23 Apr 2018	Wind Dir	S
I32	23 Apr 2018	Water Color	Greenish-Brown
I32	23 Apr 2018	Wave Ht Low (ft)	4
I32	23 Apr 2018	Wave Period (sec)	13
I32	23 Apr 2018	Sea State	Calm
I32	23 Apr 2018	High Tide (ft)	4.45
I32	23 Apr 2018	High Tide Time	352
I32	23 Apr 2018	Low Tide (ft)	-0.17
I32	23 Apr 2018	Low Tide Time	1122
I32	23 Apr 2018	Comments	none
I32	30 Apr 2018	Depth (m)	11
I32	30 Apr 2018	Arrive Time	1340
I32	30 Apr 2018	Depart Time	1343
I32	30 Apr 2018	Air Temp (C)	15

Station	Date	Parameter	Value
I32	30 Apr 2018	Weather	Overcast
I32	30 Apr 2018	Visibility (mi)	5
I32	30 Apr 2018	Wind Speed (kts)	10
I32	30 Apr 2018	Wind Dir	S
I32	30 Apr 2018	Water Color	Green
I32	30 Apr 2018	Wave Ht Low (ft)	6
I32	30 Apr 2018	Wave Period (sec)	4
I32	30 Apr 2018	Sea State	Confused swell
I32	30 Apr 2018	High Tide (ft)	4.2
I32	30 Apr 2018	High Tide Time	1020
I32	30 Apr 2018	Low Tide (ft)	-0.55
I32	30 Apr 2018	Low Tide Time	418
I32	30 Apr 2018	Comments	none
I39	02 Apr 2018	Depth (m)	20
I39	02 Apr 2018	Arrive Time	1156
I39	02 Apr 2018	Depart Time	1201
I39	02 Apr 2018	Air Temp (C)	15
I39	02 Apr 2018	Weather	Haze
I39	02 Apr 2018	Visibility (mi)	5
I39	02 Apr 2018	Wind Speed (kts)	10
I39	02 Apr 2018	Wind Dir	SE
I39	02 Apr 2018	Water Color	Greenish-Blue
I39	02 Apr 2018	Wave Ht Low (ft)	3
I39	02 Apr 2018	Wave Period (sec)	13
I39	02 Apr 2018	Sea State	Light chop
I39	02 Apr 2018	High Tide (ft)	4.37
I39	02 Apr 2018	High Tide Time	1110
I39	02 Apr 2018	Low Tide (ft)	-0.21
I39	02 Apr 2018	Low Tide Time	510
I39	02 Apr 2018	Comments	none
I39	09 Apr 2018	Depth (m)	19
I39	09 Apr 2018	Arrive Time	1040
I39	09 Apr 2018	Depart Time	1048
I39	09 Apr 2018	Air Temp (C)	15
I39	09 Apr 2018	Weather	Haze
I39	09 Apr 2018	Visibility (mi)	5
I39	09 Apr 2018	Wind Speed (kts)	3
I39	09 Apr 2018	Wind Dir	S
I39	09 Apr 2018	Water Color	Greenish-Blue
I39	09 Apr 2018	Wave Ht Low (ft)	8
I39	09 Apr 2018	Wave Period (sec)	13
I39	09 Apr 2018	Sea State	Confused swell
I39	09 Apr 2018	High Tide (ft)	3.8
I39	09 Apr 2018	High Tide Time	502
I39	09 Apr 2018	Low Tide (ft)	0.47
I39	09 Apr 2018	Low Tide Time	26
I39	09 Apr 2018	Comments	none
I39	16 Apr 2018	Depth (m)	20
I39	16 Apr 2018	Arrive Time	1043
I39	16 Apr 2018	Depart Time	1050
I39	16 Apr 2018	Air Temp (C)	15
I39	16 Apr 2018	Weather	Partly Cloudy

Station	Date	Parameter	Value
I39	16 Apr 2018	Visibility (mi)	5
I39	16 Apr 2018	Wind Speed (kts)	4
I39	16 Apr 2018	Wind Dir	S
I39	16 Apr 2018	Water Color	Greenish-Blue
I39	16 Apr 2018	Wave Ht Low (ft)	8
I39	16 Apr 2018	Wave Period (sec)	11
I39	16 Apr 2018	Sea State	Light chop
I39	16 Apr 2018	High Tide (ft)	4.58
I39	16 Apr 2018	High Tide Time	1008
I39	16 Apr 2018	Low Tide (ft)	-0.38
I39	16 Apr 2018	Low Tide Time	407
I39	16 Apr 2018	Comments	none
I39	23 Apr 2018	Depth (m)	19
I39	23 Apr 2018	Arrive Time	1023
I39	23 Apr 2018	Depart Time	1026
I39	23 Apr 2018	Air Temp (C)	14
I39	23 Apr 2018	Weather	Overcast
I39	23 Apr 2018	Visibility (mi)	5
I39	23 Apr 2018	Wind Speed (kts)	4
I39	23 Apr 2018	Wind Dir	SW
I39	23 Apr 2018	Water Color	Green
I39	23 Apr 2018	Wave Ht Low (ft)	4
I39	23 Apr 2018	Wave Period (sec)	13
I39	23 Apr 2018	Sea State	Calm
I39	23 Apr 2018	High Tide (ft)	4.45
I39	23 Apr 2018	High Tide Time	352
I39	23 Apr 2018	Low Tide (ft)	-0.17
I39	23 Apr 2018	Low Tide Time	1122
I39	23 Apr 2018	Comments	none
I39	30 Apr 2018	Depth (m)	20
I39	30 Apr 2018	Arrive Time	1209
I39	30 Apr 2018	Depart Time	1214
I39	30 Apr 2018	Air Temp (C)	14
I39	30 Apr 2018	Weather	Overcast
I39	30 Apr 2018	Visibility (mi)	5
I39	30 Apr 2018	Wind Speed (kts)	9
I39	30 Apr 2018	Wind Dir	SW
I39	30 Apr 2018	Water Color	Greenish-Blue
I39	30 Apr 2018	Wave Ht Low (ft)	6
I39	30 Apr 2018	Wave Period (sec)	4
I39	30 Apr 2018	Sea State	Confused swell
I39	30 Apr 2018	High Tide (ft)	4.2
I39	30 Apr 2018	High Tide Time	1020
I39	30 Apr 2018	Low Tide (ft)	-0.55
I39	30 Apr 2018	Low Tide Time	418
I39	30 Apr 2018	Comments	none
I40	02 Apr 2018	Depth (m)	11
I40	02 Apr 2018	Arrive Time	1231
I40	02 Apr 2018	Depart Time	1236
I40	02 Apr 2018	Air Temp (C)	15
I40	02 Apr 2018	Weather	Haze
I40	02 Apr 2018	Visibility (mi)	5

Station	Date	Parameter	Value
I40	02 Apr 2018	Wind Speed (kts)	5
I40	02 Apr 2018	Wind Dir	S
I40	02 Apr 2018	Water Color	Greenish-Blue
I40	02 Apr 2018	Wave Ht Low (ft)	3
I40	02 Apr 2018	Wave Period (sec)	13
I40	02 Apr 2018	Sea State	Light chop
I40	02 Apr 2018	High Tide (ft)	4.37
I40	02 Apr 2018	High Tide Time	1110
I40	02 Apr 2018	Low Tide (ft)	-0.21
I40	02 Apr 2018	Low Tide Time	510
I40	02 Apr 2018	Comments	none
I40	09 Apr 2018	Depth (m)	10
I40	09 Apr 2018	Arrive Time	1118
I40	09 Apr 2018	Depart Time	1122
I40	09 Apr 2018	Air Temp (C)	16
I40	09 Apr 2018	Weather	Haze
I40	09 Apr 2018	Visibility (mi)	5
I40	09 Apr 2018	Wind Speed (kts)	4
I40	09 Apr 2018	Wind Dir	E
I40	09 Apr 2018	Water Color	Greenish-Blue
I40	09 Apr 2018	Wave Ht Low (ft)	8
I40	09 Apr 2018	Wave Period (sec)	13
I40	09 Apr 2018	Sea State	Confused swell
I40	09 Apr 2018	High Tide (ft)	3.8
I40	09 Apr 2018	High Tide Time	502
I40	09 Apr 2018	Low Tide (ft)	0.47
I40	09 Apr 2018	Low Tide Time	26
I40	09 Apr 2018	Comments	none
I40	16 Apr 2018	Depth (m)	10
I40	16 Apr 2018	Arrive Time	1122
I40	16 Apr 2018	Depart Time	1128
I40	16 Apr 2018	Air Temp (C)	15
I40	16 Apr 2018	Weather	Partly Cloudy
I40	16 Apr 2018	Visibility (mi)	5
I40	16 Apr 2018	Wind Speed (kts)	12
I40	16 Apr 2018	Wind Dir	SW
I40	16 Apr 2018	Water Color	Greenish-Blue
I40	16 Apr 2018	Wave Ht Low (ft)	8
I40	16 Apr 2018	Wave Period (sec)	11
I40	16 Apr 2018	Sea State	Light chop
I40	16 Apr 2018	High Tide (ft)	4.58
I40	16 Apr 2018	High Tide Time	1008
I40	16 Apr 2018	Low Tide (ft)	-0.38
I40	16 Apr 2018	Low Tide Time	407
I40	16 Apr 2018	Comments	none
I40	23 Apr 2018	Depth (m)	10
I40	23 Apr 2018	Arrive Time	1059
I40	23 Apr 2018	Depart Time	1102
I40	23 Apr 2018	Air Temp (C)	14
I40	23 Apr 2018	Weather	Overcast
I40	23 Apr 2018	Visibility (mi)	6
I40	23 Apr 2018	Wind Speed (kts)	2

Station	Date	Parameter	Value
I40	23 Apr 2018	Wind Dir	SW
I40	23 Apr 2018	Water Color	Green
I40	23 Apr 2018	Wave Ht Low (ft)	4
I40	23 Apr 2018	Wave Period (sec)	13
I40	23 Apr 2018	Sea State	Calm
I40	23 Apr 2018	High Tide (ft)	4.45
I40	23 Apr 2018	High Tide Time	352
I40	23 Apr 2018	Low Tide (ft)	-0.17
I40	23 Apr 2018	Low Tide Time	1122
I40	23 Apr 2018	Comments	none
I40	30 Apr 2018	Depth (m)	11
I40	30 Apr 2018	Arrive Time	1251
I40	30 Apr 2018	Depart Time	1258
I40	30 Apr 2018	Air Temp (C)	14
I40	30 Apr 2018	Weather	Overcast
I40	30 Apr 2018	Visibility (mi)	5
I40	30 Apr 2018	Wind Speed (kts)	6
I40	30 Apr 2018	Wind Dir	S
I40	30 Apr 2018	Water Color	Green
I40	30 Apr 2018	Wave Ht Low (ft)	6
I40	30 Apr 2018	Wave Period (sec)	4
I40	30 Apr 2018	Sea State	Confused swell
I40	30 Apr 2018	High Tide (ft)	4.2
I40	30 Apr 2018	High Tide Time	1020
I40	30 Apr 2018	Low Tide (ft)	-0.55
I40	30 Apr 2018	Low Tide Time	418
I40	30 Apr 2018	Comments	none

Table 3.10

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

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
I19	02 Apr 2018	1	14.44	56.23	10.4	33.36	8.2	24.8	5.00
I19	02 Apr 2018	2	14.41	56.05	10.3	33.37	8.2	24.8	5.60
I19	02 Apr 2018	3	14.37	55.73	10.2	33.39	8.2	24.9	7.73
I19	02 Apr 2018	4	14.37	56.86	10.0	33.41	8.2	24.9	9.01
I19	02 Apr 2018	5	14.37	58.48	10.0	33.42	8.2	24.9	8.87
I19	02 Apr 2018	6	14.36	60.27	9.9	33.44	8.2	24.9	8.39
I19	02 Apr 2018	7	14.35	60.98	9.8	33.44	8.2	24.9	8.42
I19	02 Apr 2018	8	14.34	61.20	9.8	33.45	8.2	24.9	8.01
I19	02 Apr 2018	9	14.36	62.00	9.8	33.46	8.2	24.9	7.75
I19	02 Apr 2018	10	14.22	63.68	9.5	33.51	8.2	25.0	7.37
I19	09 Apr 2018	1	14.65	62.11	7.2	33.55	8.0	24.9	0.61
I19	09 Apr 2018	2	14.64	63.44	7.2	33.55	8.0	24.9	0.65
I19	09 Apr 2018	3	14.46	62.18	7.2	33.55	8.0	25.0	0.76
I19	09 Apr 2018	4	14.40	61.30	7.3	33.54	8.0	25.0	0.90
I19	09 Apr 2018	5	14.24	59.84	7.5	33.54	8.0	25.0	1.05
I19	09 Apr 2018	6	14.19	56.24	7.4	33.53	8.0	25.0	1.20
I19	09 Apr 2018	7	13.21	41.63	7.0	33.58	8.0	25.2	1.33
I19	09 Apr 2018	8	12.62	33.85	6.1	33.58	7.9	25.4	1.45
I19	09 Apr 2018	9	11.97	61.34	5.3	33.60	7.9	25.5	1.14
I19	09 Apr 2018	10	12.18	56.76	5.2	33.56	7.8	25.4	1.02
I19	16 Apr 2018	1	14.21	64.95	7.7	33.57	8.0	25.0	0.62
I19	16 Apr 2018	2	13.67	64.68	7.2	33.60	8.0	25.2	0.78
I19	16 Apr 2018	3	13.03	65.93	6.8	33.59	7.9	25.3	0.98
I19	16 Apr 2018	4	12.81	66.70	6.6	33.59	7.9	25.3	1.05
I19	16 Apr 2018	5	12.62	66.42	6.6	33.58	7.9	25.4	1.28
I19	16 Apr 2018	6	12.60	66.40	6.5	33.58	7.9	25.4	1.53
I19	16 Apr 2018	7	12.40	70.00	6.4	33.58	7.9	25.4	2.01
I19	16 Apr 2018	8	12.17	68.02	6.1	33.59	7.9	25.5	2.10
I19	16 Apr 2018	9	11.90	52.09	5.6	33.60	7.9	25.5	2.12
I19	16 Apr 2018	10	11.66	20.00	5.0	33.60	7.8	25.6	2.82
I19	23 Apr 2018	1	15.26	55.66	9.7	33.62	8.1	24.9	3.19
I19	23 Apr 2018	2	14.99	56.40	9.4	33.63	8.1	24.9	3.14
I19	23 Apr 2018	3	14.52	58.58	9.0	33.63	8.1	25.0	3.10
I19	23 Apr 2018	4	13.70	60.54	8.6	33.65	8.0	25.2	3.38
I19	23 Apr 2018	5	12.71	58.96	8.6	33.64	8.0	25.4	5.05
I19	23 Apr 2018	6	12.50	58.83	8.5	33.61	8.0	25.4	6.82
I19	23 Apr 2018	7	12.40	60.91	8.3	33.62	8.0	25.4	7.38
I19	23 Apr 2018	8	12.28	63.03	8.0	33.62	8.0	25.5	7.30
I19	23 Apr 2018	9	12.18	63.44	7.7	33.63	8.0	25.5	7.12
I19	23 Apr 2018	10	12.14	63.87	7.5	33.63	7.9	25.5	6.53
I19	30 Apr 2018	1	15.01	63.32	8.8	33.66	8.1	24.9	3.26
I19	30 Apr 2018	2	15.02	65.54	8.8	33.66	8.1	24.9	3.64
I19	30 Apr 2018	3	15.02	66.38	8.8	33.66	8.1	24.9	4.22
I19	30 Apr 2018	4	15.01	67.01	8.8	33.66	8.1	24.9	4.29
I19	30 Apr 2018	5	15.00	66.70	8.7	33.66	8.1	24.9	4.71
I19	30 Apr 2018	6	14.97	65.76	8.6	33.67	8.1	25.0	4.67
I19	30 Apr 2018	7	14.96	65.26	8.6	33.67	8.1	25.0	4.48

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
I19	30 Apr 2018	8	14.93	64.96	8.5	33.67	8.1	25.0	4.50
I19	30 Apr 2018	9	14.93	64.78	8.5	33.67	8.1	25.0	4.39
I19	30 Apr 2018	10	14.86	64.72	8.4	33.67	8.1	25.0	4.13
I24	02 Apr 2018	1	14.51	66.23	10.5	33.55	8.2	25.0	2.62
I24	02 Apr 2018	2	14.48	66.01	10.4	33.55	8.2	25.0	2.89
I24	02 Apr 2018	3	14.46	65.95	10.3	33.55	8.2	25.0	3.60
I24	02 Apr 2018	4	14.46	66.20	10.3	33.55	8.2	25.0	4.62
I24	02 Apr 2018	5	14.43	66.57	10.0	33.55	8.2	25.0	5.45
I24	02 Apr 2018	6	14.29	66.51	9.5	33.57	8.2	25.0	7.11
I24	02 Apr 2018	7	13.75	66.05	9.2	33.60	8.2	25.2	8.69
I24	02 Apr 2018	8	12.96	64.98	9.2	33.60	8.1	25.3	10.47
I24	02 Apr 2018	9	12.52	60.65	8.7	33.57	8.1	25.4	13.37
I24	02 Apr 2018	10	12.26	56.21	8.0	33.57	8.0	25.4	16.33
I24	02 Apr 2018	11	12.12	52.34	7.5	33.55	8.0	25.4	19.50
I24	09 Apr 2018	1	15.90	72.66	8.5	33.53	8.2	24.6	1.12
I24	09 Apr 2018	2	15.77	73.16	8.4	33.58	8.2	24.7	1.15
I24	09 Apr 2018	3	14.99	72.28	8.2	33.70	8.1	25.0	1.20
I24	09 Apr 2018	4	13.61	67.22	7.6	33.83	8.0	25.4	1.38
I24	09 Apr 2018	5	12.87	65.78	6.9	33.66	8.0	25.4	1.66
I24	09 Apr 2018	6	12.81	68.90	6.6	33.59	8.0	25.3	1.67
I24	09 Apr 2018	7	12.78	71.21	6.6	33.56	8.0	25.3	1.62
I24	09 Apr 2018	8	12.76	71.39	6.6	33.56	8.0	25.3	1.56
I24	09 Apr 2018	9	12.78	70.48	6.6	33.55	8.0	25.3	1.54
I24	09 Apr 2018	10	12.81	70.75	6.5	33.55	8.0	25.3	1.51
I24	16 Apr 2018	1	14.02	66.64	7.6	33.57	8.0	25.1	1.12
I24	16 Apr 2018	2	14.26	67.29	7.6	33.58	8.0	25.0	1.16
I24	16 Apr 2018	3	13.85	66.68	7.4	33.60	8.0	25.1	1.19
I24	16 Apr 2018	4	13.06	64.34	7.5	33.60	8.0	25.3	1.20
I24	16 Apr 2018	5	13.06	66.70	7.1	33.59	7.9	25.3	1.41
I24	16 Apr 2018	6	12.57	67.69	6.8	33.59	8.0	25.4	2.05
I24	16 Apr 2018	7	12.56	68.98	6.6	33.58	8.0	25.4	2.54
I24	16 Apr 2018	8	12.31	72.95	6.1	33.61	8.0	25.4	2.69
I24	16 Apr 2018	9	11.68	74.77	5.4	33.63	7.9	25.6	2.28
I24	16 Apr 2018	10	11.43	62.77	4.9	33.62	7.8	25.6	1.88
I24	16 Apr 2018	11	11.66	58.27	4.9	33.58	7.8	25.6	1.52
I24	23 Apr 2018	1	15.54	52.29	9.9	33.63	8.1	24.8	3.62
I24	23 Apr 2018	2	15.17	53.16	9.4	33.66	8.1	24.9	3.87
I24	23 Apr 2018	3	14.01	57.57	9.3	33.66	8.1	25.1	4.03
I24	23 Apr 2018	4	13.65	57.77	9.2	33.64	8.1	25.2	5.34
I24	23 Apr 2018	5	13.04	57.21	9.1	33.65	8.1	25.3	7.33
I24	23 Apr 2018	6	12.47	59.05	8.5	33.65	8.1	25.5	9.28
I24	23 Apr 2018	7	12.08	61.21	7.6	33.63	8.0	25.5	8.78
I24	23 Apr 2018	8	11.97	60.68	7.1	33.63	7.9	25.5	6.93
I24	23 Apr 2018	9	11.95	61.09	6.9	33.62	7.9	25.5	5.40
I24	23 Apr 2018	10	12.00	60.96	6.9	33.62	7.9	25.5	4.81
I24	30 Apr 2018	1	14.78	72.43	8.5	33.55	8.1	24.9	2.27
I24	30 Apr 2018	2	14.78	75.80	8.6	33.64	8.1	25.0	2.36
I24	30 Apr 2018	3	14.77	76.30	8.6	33.65	8.1	25.0	2.89
I24	30 Apr 2018	4	14.77	76.83	8.6	33.65	8.1	25.0	3.08
I24	30 Apr 2018	5	14.77	76.74	8.5	33.65	8.1	25.0	3.61

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
I24	30 Apr 2018	6	14.77	77.18	8.6	33.65	8.1	25.0	3.56
I24	30 Apr 2018	7	14.74	77.20	8.4	33.65	8.1	25.0	3.55
I24	30 Apr 2018	8	14.74	78.41	8.4	33.65	8.1	25.0	3.28
I24	30 Apr 2018	9	14.72	79.28	8.3	33.65	8.1	25.0	2.97
I24	30 Apr 2018	10	14.50	74.34	8.0	33.67	8.1	25.1	2.40
I24	30 Apr 2018	11	14.18	72.47	7.7	33.67	8.0	25.1	2.33
I25	02 Apr 2018	1	15.12	71.88	9.6	33.53	8.2	24.8	0.82
I25	02 Apr 2018	2	15.03	72.15	9.7	33.55	8.2	24.8	0.83
I25	02 Apr 2018	3	14.83	71.45	10.0	33.54	8.2	24.9	0.91
I25	02 Apr 2018	4	14.73	70.74	10.2	33.55	8.2	24.9	1.12
I25	02 Apr 2018	5	14.58	69.98	10.5	33.55	8.2	24.9	1.67
I25	02 Apr 2018	6	14.42	68.88	10.5	33.55	8.2	25.0	2.48
I25	02 Apr 2018	7	14.38	66.87	10.2	33.55	8.2	25.0	3.77
I25	02 Apr 2018	8	13.74	66.89	9.4	33.63	8.2	25.2	5.31
I25	02 Apr 2018	9	12.48	61.20	8.4	33.60	8.1	25.4	8.96
I25	09 Apr 2018	1	15.93	73.27	8.6	33.54	8.2	24.6	0.94
I25	09 Apr 2018	2	15.64	72.84	8.5	33.55	8.2	24.7	1.06
I25	09 Apr 2018	3	15.15	71.43	8.3	33.55	8.1	24.8	1.53
I25	09 Apr 2018	4	14.01	69.47	8.0	33.56	8.1	25.1	1.93
I25	09 Apr 2018	5	13.20	72.92	7.5	33.54	8.1	25.2	1.87
I25	09 Apr 2018	6	12.78	75.76	6.8	33.54	8.0	25.3	1.56
I25	09 Apr 2018	7	12.47	74.61	6.3	33.55	8.0	25.4	1.19
I25	09 Apr 2018	8	12.43	72.60	6.1	33.54	7.9	25.4	0.96
I25	09 Apr 2018	9	12.57	72.02	6.3	33.54	7.9	25.3	0.93
I25	16 Apr 2018	1	14.63	68.00	7.9	33.57	8.0	24.9	1.01
I25	16 Apr 2018	2	14.70	68.76	7.9	33.57	8.0	24.9	1.00
I25	16 Apr 2018	3	14.18	67.80	7.5	33.64	8.0	25.1	1.08
I25	16 Apr 2018	4	13.12	67.80	7.0	33.66	8.0	25.3	1.34
I25	16 Apr 2018	5	12.35	73.20	6.5	33.64	8.0	25.5	1.57
I25	16 Apr 2018	6	12.08	75.26	6.0	33.63	7.9	25.5	1.65
I25	16 Apr 2018	7	11.79	74.14	5.7	33.63	7.9	25.6	1.62
I25	16 Apr 2018	8	11.68	74.25	5.4	33.61	7.9	25.6	1.75
I25	16 Apr 2018	9	11.68	74.15	5.3	33.61	7.9	25.6	1.51
I25	23 Apr 2018	1	15.68	49.34	10.0	33.63	8.1	24.8	4.00
I25	23 Apr 2018	2	15.25	50.74	9.4	33.67	8.1	24.9	4.18
I25	23 Apr 2018	3	13.76	58.40	9.1	33.69	8.0	25.2	4.21
I25	23 Apr 2018	4	13.06	58.15	9.1	33.65	8.1	25.3	5.68
I25	23 Apr 2018	5	12.50	57.97	8.7	33.64	8.1	25.4	8.21
I25	23 Apr 2018	6	12.19	60.07	8.0	33.63	8.0	25.5	9.62
I25	23 Apr 2018	7	12.04	66.24	7.1	33.63	7.9	25.5	7.65
I25	23 Apr 2018	8	12.13	69.52	6.8	33.60	7.9	25.5	4.28
I25	23 Apr 2018	9	13.04	67.92	7.7	33.56	8.0	25.3	4.39
I25	30 Apr 2018	1	14.83	77.40	8.7	33.64	8.2	25.0	2.12
I25	30 Apr 2018	2	14.83	69.63	8.7	33.64	8.2	25.0	2.37
I25	30 Apr 2018	3	14.82	75.51	8.7	33.64	8.2	25.0	2.52
I25	30 Apr 2018	4	14.82	77.42	8.7	33.64	8.2	25.0	2.87
I25	30 Apr 2018	5	14.79	77.13	8.7	33.64	8.2	25.0	3.56
I25	30 Apr 2018	6	14.78	77.03	8.7	33.64	8.2	25.0	3.78
I25	30 Apr 2018	7	14.77	77.45	8.7	33.64	8.1	25.0	3.82
I25	30 Apr 2018	8	14.51	77.54	8.3	33.64	8.1	25.0	3.42

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
I25	30 Apr 2018	9	14.74	74.69	8.3	33.64	8.1	25.0	3.20
I26	02 Apr 2018	1	14.65	68.10	10.5	33.54	8.2	24.9	1.88
I26	02 Apr 2018	2	14.62	67.86	10.5	33.55	8.2	24.9	1.97
I26	02 Apr 2018	3	14.55	67.17	10.5	33.55	8.2	24.9	2.56
I26	02 Apr 2018	4	14.54	66.67	10.5	33.54	8.2	24.9	3.63
I26	02 Apr 2018	5	14.52	66.48	10.5	33.54	8.2	25.0	4.64
I26	02 Apr 2018	6	14.45	65.66	10.4	33.55	8.2	25.0	5.84
I26	02 Apr 2018	7	14.40	66.30	10.2	33.54	8.2	25.0	6.33
I26	02 Apr 2018	8	14.13	67.75	9.7	33.57	8.2	25.1	6.26
I26	02 Apr 2018	9	13.36	68.30	8.9	33.59	8.2	25.2	7.05
I26	09 Apr 2018	1	15.82	73.26	8.4	33.54	8.1	24.7	0.98
I26	09 Apr 2018	2	15.58	72.89	8.2	33.58	8.1	24.8	1.00
I26	09 Apr 2018	3	14.67	69.76	8.0	33.64	8.1	25.0	1.07
I26	09 Apr 2018	4	13.76	69.44	7.9	33.62	8.1	25.2	1.41
I26	09 Apr 2018	5	13.32	73.95	7.6	33.59	8.1	25.2	1.79
I26	09 Apr 2018	6	12.81	78.58	7.2	33.58	8.0	25.3	1.83
I26	09 Apr 2018	7	12.72	79.96	6.8	33.54	8.0	25.3	1.37
I26	09 Apr 2018	8	12.59	74.42	6.4	33.56	8.0	25.4	1.08
I26	09 Apr 2018	9	12.29	69.42	5.8	33.57	7.9	25.4	0.97
I26	16 Apr 2018	1	14.59	67.58	8.1	33.57	8.0	25.0	1.04
I26	16 Apr 2018	2	14.55	67.35	8.0	33.57	8.0	25.0	1.06
I26	16 Apr 2018	3	13.90	67.32	7.5	33.61	8.0	25.1	1.21
I26	16 Apr 2018	4	13.08	66.31	6.8	33.60	8.0	25.3	1.51
I26	16 Apr 2018	5	12.53	69.48	6.2	33.62	7.9	25.4	1.49
I26	16 Apr 2018	6	11.90	74.71	5.7	33.62	7.9	25.5	1.41
I26	16 Apr 2018	7	11.69	76.06	5.2	33.61	7.9	25.6	1.29
I26	16 Apr 2018	8	11.62	75.62	5.1	33.60	7.8	25.6	1.27
I26	16 Apr 2018	9	11.58	74.71	5.1	33.61	7.8	25.6	1.23
I26	23 Apr 2018	1	15.39	54.09	9.4	33.64	8.1	24.8	3.24
I26	23 Apr 2018	2	14.77	54.35	9.1	33.68	8.1	25.0	3.31
I26	23 Apr 2018	3	14.37	58.41	9.0	33.65	8.1	25.1	3.53
I26	23 Apr 2018	4	14.28	58.28	9.2	33.63	8.1	25.1	5.09
I26	23 Apr 2018	5	14.13	57.85	9.3	33.65	8.1	25.1	6.83
I26	23 Apr 2018	6	13.74	57.77	9.5	33.66	8.1	25.2	9.81
I26	23 Apr 2018	7	12.88	61.42	8.6	33.71	8.1	25.4	11.00
I26	23 Apr 2018	8	12.01	68.87	7.3	33.66	8.0	25.5	7.86
I26	23 Apr 2018	9	12.58	62.93	7.2	33.60	7.9	25.4	5.21
I26	30 Apr 2018	1	14.78	74.92	8.7	33.64	8.2	25.0	2.18
I26	30 Apr 2018	2	14.77	75.54	8.7	33.64	8.2	25.0	2.26
I26	30 Apr 2018	3	14.77	76.97	8.7	33.64	8.2	25.0	2.50
I26	30 Apr 2018	4	14.76	76.92	8.7	33.64	8.2	25.0	3.41
I26	30 Apr 2018	5	14.76	76.89	8.7	33.64	8.2	25.0	3.73
I26	30 Apr 2018	6	14.76	77.03	8.7	33.64	8.2	25.0	3.76
I26	30 Apr 2018	7	14.71	77.08	8.6	33.65	8.1	25.0	3.70
I26	30 Apr 2018	8	14.69	78.03	8.5	33.65	8.1	25.0	3.52
I26	30 Apr 2018	9	14.38	79.31	8.1	33.64	8.1	25.1	2.79
I32	02 Apr 2018	1	14.83	68.70	9.7	33.54	8.2	24.9	1.87
I32	02 Apr 2018	2	14.83	68.44	9.7	33.54	8.2	24.9	1.85
I32	02 Apr 2018	3	14.80	68.48	9.8	33.54	8.2	24.9	1.93

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
I32	02 Apr 2018	4	14.71	67.86	9.8	33.55	8.2	24.9	2.45
I32	02 Apr 2018	5	14.64	67.12	9.9	33.55	8.2	24.9	3.74
I32	02 Apr 2018	6	14.60	67.04	9.9	33.55	8.2	24.9	5.03
I32	02 Apr 2018	7	14.59	66.62	9.9	33.54	8.2	24.9	6.01
I32	02 Apr 2018	8	14.58	66.15	9.8	33.54	8.2	24.9	6.25
I32	02 Apr 2018	9	14.57	65.78	9.8	33.54	8.2	24.9	6.18
I32	02 Apr 2018	10	14.57	65.57	9.8	33.54	8.2	24.9	5.75
I32	09 Apr 2018	1	15.84	64.65	7.9	33.53	8.1	24.7	1.13
I32	09 Apr 2018	2	15.64	64.35	7.8	33.55	8.1	24.7	1.09
I32	09 Apr 2018	3	15.25	63.32	7.7	33.56	8.1	24.8	1.16
I32	09 Apr 2018	4	14.70	61.65	7.3	33.63	8.0	25.0	1.27
I32	09 Apr 2018	5	13.38	56.18	6.9	33.63	8.0	25.3	1.34
I32	09 Apr 2018	6	12.94	63.75	6.3	33.60	7.9	25.3	1.33
I32	09 Apr 2018	7	12.46	70.20	5.8	33.59	7.9	25.4	1.22
I32	09 Apr 2018	8	12.32	63.93	5.6	33.57	7.9	25.4	1.04
I32	09 Apr 2018	9	12.31	51.15	5.6	33.56	7.9	25.4	1.04
I32	09 Apr 2018	10	12.41	44.41	5.6	33.55	7.9	25.4	1.43
I32	16 Apr 2018	1	14.45	65.73	8.1	33.57	8.0	25.0	0.79
I32	16 Apr 2018	2	14.36	65.53	8.0	33.57	8.0	25.0	0.78
I32	16 Apr 2018	3	14.22	65.46	7.7	33.58	8.0	25.0	0.85
I32	16 Apr 2018	4	13.61	63.14	7.2	33.60	8.0	25.2	0.94
I32	16 Apr 2018	5	12.43	60.27	6.5	33.65	7.9	25.5	1.17
I32	16 Apr 2018	6	12.07	60.68	5.8	33.61	7.9	25.5	1.42
I32	16 Apr 2018	7	11.93	68.41	5.5	33.60	7.9	25.5	1.59
I32	16 Apr 2018	8	11.72	72.98	5.4	33.61	7.9	25.6	1.57
I32	16 Apr 2018	9	11.58	72.87	5.2	33.61	7.9	25.6	1.56
I32	16 Apr 2018	10	11.57	69.68	5.0	33.60	7.8	25.6	1.64
I32	23 Apr 2018	1	16.21	44.76	10.7	33.65	8.2	24.7	5.47
I32	23 Apr 2018	2	16.01	44.56	10.6	33.68	8.2	24.7	6.26
I32	23 Apr 2018	3	15.68	44.99	10.5	33.68	8.2	24.8	6.99
I32	23 Apr 2018	4	15.44	47.01	10.3	33.67	8.2	24.8	9.02
I32	23 Apr 2018	5	15.27	48.89	9.7	33.67	8.2	24.9	11.39
I32	23 Apr 2018	6	14.66	57.47	9.0	33.72	8.1	25.1	11.26
I32	23 Apr 2018	7	13.37	58.76	8.9	33.76	8.1	25.4	10.25
I32	23 Apr 2018	8	12.86	60.43	8.6	33.70	8.1	25.4	12.11
I32	23 Apr 2018	9	12.90	64.17	8.1	33.59	8.0	25.3	10.16
I32	23 Apr 2018	10	13.97	58.99	8.2	33.54	8.0	25.1	8.06
I32	30 Apr 2018	1	14.80	48.21	8.4	33.65	8.1	25.0	1.75
I32	30 Apr 2018	2	14.79	59.99	8.4	33.65	8.1	25.0	1.95
I32	30 Apr 2018	3	14.78	62.12	8.4	33.66	8.1	25.0	2.22
I32	30 Apr 2018	4	14.78	62.31	8.4	33.66	8.1	25.0	2.59
I32	30 Apr 2018	5	14.76	61.08	8.4	33.66	8.1	25.0	2.66
I32	30 Apr 2018	6	14.75	60.80	8.4	33.66	8.1	25.0	2.79
I32	30 Apr 2018	7	14.73	59.61	8.4	33.66	8.1	25.0	2.86
I32	30 Apr 2018	8	14.71	57.35	8.4	33.66	8.1	25.0	2.94
I32	30 Apr 2018	9	14.70	46.76	8.4	33.66	8.1	25.0	2.86
I32	30 Apr 2018	10	14.69	40.41	8.3	33.66	8.1	25.0	3.31
I39	02 Apr 2018	1	15.28	72.78	9.3	33.53	8.2	24.8	1.18
I39	02 Apr 2018	2	15.23	72.07	9.3	33.53	8.2	24.8	1.24
I39	02 Apr 2018	3	14.87	71.30	9.5	33.56	8.2	24.9	1.61

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
I39	02 Apr 2018	4	14.58	69.38	9.8	33.56	8.2	24.9	2.82
I39	02 Apr 2018	5	14.31	67.30	10.1	33.55	8.2	25.0	4.82
I39	02 Apr 2018	6	14.26	66.29	10.1	33.54	8.2	25.0	6.13
I39	02 Apr 2018	7	14.14	65.47	10.0	33.54	8.2	25.0	7.37
I39	02 Apr 2018	8	14.00	65.61	9.9	33.54	8.2	25.1	8.71
I39	02 Apr 2018	9	13.80	64.41	9.8	33.54	8.2	25.1	9.99
I39	02 Apr 2018	10	13.71	63.61	9.7	33.53	8.2	25.1	11.04
I39	02 Apr 2018	11	13.68	63.65	9.7	33.53	8.2	25.1	11.37
I39	02 Apr 2018	12	13.66	63.83	9.6	33.53	8.2	25.1	11.05
I39	02 Apr 2018	13	13.56	62.99	9.6	33.54	8.2	25.1	11.99
I39	02 Apr 2018	14	13.41	62.56	9.6	33.54	8.2	25.2	12.51
I39	02 Apr 2018	15	13.27	62.69	9.2	33.54	8.2	25.2	12.93
I39	02 Apr 2018	16	12.51	62.24	8.1	33.62	8.1	25.4	13.81
I39	02 Apr 2018	17	11.77	67.54	6.5	33.59	8.0	25.5	11.22
I39	02 Apr 2018	18	11.74	69.80	5.8	33.57	7.9	25.5	10.38
I39	09 Apr 2018	1	15.89	76.56	9.1	33.54	8.2	24.7	0.73
I39	09 Apr 2018	2	15.93	77.42	9.1	33.54	8.2	24.6	0.75
I39	09 Apr 2018	3	15.93	77.20	9.0	33.54	8.2	24.6	0.79
I39	09 Apr 2018	4	15.52	77.27	9.0	33.56	8.2	24.8	0.82
I39	09 Apr 2018	5	14.98	76.76	8.3	33.58	8.2	24.9	0.99
I39	09 Apr 2018	6	13.50	77.38	7.3	33.60	8.1	25.2	1.17
I39	09 Apr 2018	7	13.04	79.93	6.8	33.56	8.0	25.3	1.18
I39	09 Apr 2018	8	12.57	81.81	6.4	33.56	8.0	25.4	1.02
I39	09 Apr 2018	9	12.54	82.26	6.2	33.55	8.0	25.4	0.91
I39	09 Apr 2018	10	12.51	82.43	6.2	33.55	7.9	25.4	0.92
I39	09 Apr 2018	11	12.48	82.52	6.1	33.55	7.9	25.4	0.95
I39	09 Apr 2018	12	12.24	82.69	5.8	33.57	7.9	25.4	0.88
I39	09 Apr 2018	13	11.96	83.51	5.6	33.58	7.9	25.5	0.86
I39	09 Apr 2018	14	11.89	83.74	5.4	33.57	7.9	25.5	0.65
I39	09 Apr 2018	15	11.80	83.43	5.3	33.58	7.9	25.5	0.76
I39	09 Apr 2018	16	11.57	83.06	5.1	33.59	7.9	25.6	0.82
I39	09 Apr 2018	17	11.33	81.59	4.8	33.61	7.8	25.6	0.88
I39	09 Apr 2018	18	11.20	55.38	4.5	33.62	7.8	25.7	1.03
I39	16 Apr 2018	1	14.69	70.97	7.9	33.57	8.0	24.9	1.02
I39	16 Apr 2018	2	14.64	71.15	7.8	33.59	8.0	25.0	1.10
I39	16 Apr 2018	3	14.53	70.99	7.4	33.60	8.0	25.0	1.20
I39	16 Apr 2018	4	13.39	72.03	7.0	33.67	8.0	25.3	1.30
I39	16 Apr 2018	5	12.50	75.84	6.4	33.64	8.0	25.4	1.29
I39	16 Apr 2018	6	12.06	79.05	5.9	33.62	7.9	25.5	1.18
I39	16 Apr 2018	7	11.70	80.59	5.7	33.62	7.9	25.6	1.12
I39	16 Apr 2018	8	11.57	81.11	5.5	33.60	7.9	25.6	0.97
I39	16 Apr 2018	9	11.52	81.53	5.4	33.60	7.9	25.6	0.94
I39	16 Apr 2018	10	11.46	81.98	5.4	33.60	7.9	25.6	1.02
I39	16 Apr 2018	11	11.35	82.30	5.3	33.61	7.9	25.6	0.99
I39	16 Apr 2018	12	11.20	82.03	5.1	33.62	7.9	25.7	0.94
I39	16 Apr 2018	13	11.16	79.59	5.0	33.62	7.8	25.7	1.08
I39	16 Apr 2018	14	11.14	77.43	4.8	33.63	7.8	25.7	1.30
I39	16 Apr 2018	15	11.04	74.89	4.6	33.64	7.8	25.7	1.44
I39	16 Apr 2018	16	10.95	74.36	4.4	33.65	7.8	25.7	1.32
I39	16 Apr 2018	17	10.89	73.66	4.3	33.66	7.8	25.7	1.19
I39	16 Apr 2018	18	10.90	71.57	4.3	33.65	7.8	25.7	1.10
I39	23 Apr 2018	1	15.06	52.76	10.9	33.63	8.2	24.9	5.67

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
I39	23 Apr 2018	2	14.93	52.81	10.8	33.65	8.2	24.9	6.03
I39	23 Apr 2018	3	14.68	53.64	10.4	33.66	8.2	25.0	7.17
I39	23 Apr 2018	4	14.10	55.03	9.9	33.68	8.1	25.1	8.93
I39	23 Apr 2018	5	13.46	57.09	9.4	33.68	8.1	25.3	10.03
I39	23 Apr 2018	6	13.00	60.52	8.7	33.68	8.1	25.4	10.82
I39	23 Apr 2018	7	12.23	65.88	8.0	33.68	8.0	25.5	10.16
I39	23 Apr 2018	8	11.84	68.79	7.4	33.65	8.0	25.6	9.01
I39	23 Apr 2018	9	11.69	71.17	6.8	33.63	8.0	25.6	7.95
I39	23 Apr 2018	10	11.53	72.98	6.3	33.63	7.9	25.6	7.11
I39	23 Apr 2018	11	11.44	73.10	5.9	33.63	7.9	25.6	6.10
I39	23 Apr 2018	12	11.41	73.92	5.5	33.64	7.9	25.6	5.21
I39	23 Apr 2018	13	11.39	75.01	5.3	33.64	7.8	25.6	4.47
I39	23 Apr 2018	14	11.38	75.75	5.2	33.64	7.8	25.7	3.98
I39	23 Apr 2018	15	11.36	76.17	5.1	33.64	7.8	25.7	3.48
I39	23 Apr 2018	16	11.33	76.79	5.0	33.65	7.8	25.7	3.06
I39	23 Apr 2018	17	11.33	77.11	4.8	33.65	7.8	25.7	2.77
I39	23 Apr 2018	18	11.24	76.69	4.5	33.66	7.8	25.7	2.39
I39	30 Apr 2018	1	14.82	78.88	8.4	33.65	8.1	25.0	2.19
I39	30 Apr 2018	2	14.82	78.67	8.4	33.65	8.1	25.0	2.39
I39	30 Apr 2018	3	14.81	78.65	8.3	33.65	8.1	25.0	2.90
I39	30 Apr 2018	4	14.78	78.68	8.4	33.65	8.1	25.0	2.69
I39	30 Apr 2018	5	14.75	78.50	8.3	33.65	8.1	25.0	2.71
I39	30 Apr 2018	6	14.66	78.76	8.3	33.64	8.1	25.0	2.91
I39	30 Apr 2018	7	14.46	79.24	8.1	33.65	8.1	25.0	2.91
I39	30 Apr 2018	8	14.10	80.10	8.0	33.66	8.1	25.1	2.83
I39	30 Apr 2018	9	13.85	79.89	7.8	33.63	8.1	25.2	3.04
I39	30 Apr 2018	10	13.35	79.86	7.0	33.67	8.1	25.3	3.18
I39	30 Apr 2018	11	12.28	80.68	5.9	33.64	7.9	25.5	2.50
I39	30 Apr 2018	12	11.47	81.15	4.9	33.69	7.8	25.7	1.87
I39	30 Apr 2018	13	11.32	81.15	4.5	33.66	7.8	25.7	1.82
I39	30 Apr 2018	14	11.28	81.36	4.5	33.66	7.8	25.7	1.72
I39	30 Apr 2018	15	11.17	80.63	4.4	33.67	7.8	25.7	1.61
I39	30 Apr 2018	16	11.09	78.93	4.2	33.68	7.8	25.7	1.89
I39	30 Apr 2018	17	10.97	78.22	4.0	33.68	7.8	25.8	1.33
I39	30 Apr 2018	18	10.96	76.50	3.9	33.68	7.8	25.8	1.44
I40	02 Apr 2018	1	14.69	64.24	10.5	33.55	8.2	24.9	3.83
I40	02 Apr 2018	2	14.67	64.92	10.5	33.55	8.2	24.9	4.12
I40	02 Apr 2018	3	14.65	63.32	10.5	33.55	8.2	24.9	5.39
I40	02 Apr 2018	4	14.64	63.05	10.4	33.55	8.2	24.9	7.16
I40	02 Apr 2018	5	14.57	63.86	10.1	33.56	8.2	25.0	7.22
I40	02 Apr 2018	6	14.49	65.13	9.7	33.56	8.2	25.0	6.94
I40	02 Apr 2018	7	14.48	64.76	9.5	33.56	8.2	25.0	6.57
I40	02 Apr 2018	8	14.47	64.56	9.4	33.56	8.2	25.0	7.22
I40	02 Apr 2018	9	14.44	62.89	9.2	33.56	8.2	25.0	6.82
I40	02 Apr 2018	10	14.03	59.18	8.8	33.58	8.2	25.1	8.17
I40	09 Apr 2018	1	15.20	66.12	7.9	33.54	8.1	24.8	1.07
I40	09 Apr 2018	2	15.16	66.75	7.7	33.54	8.1	24.8	1.11
I40	09 Apr 2018	3	14.27	65.82	7.2	33.58	8.0	25.0	1.08
I40	09 Apr 2018	4	13.80	63.05	6.9	33.56	8.0	25.1	0.93
I40	09 Apr 2018	5	13.58	61.78	6.8	33.55	7.9	25.2	0.84
I40	09 Apr 2018	6	13.53	61.33	6.6	33.55	7.9	25.2	0.91
I40	09 Apr 2018	7	12.90	60.39	6.3	33.59	7.9	25.3	0.95

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (µg/L)
I40	09 Apr 2018	8	12.69	63.34	6.1	33.55	7.9	25.3	0.96
I40	09 Apr 2018	9	12.49	65.78	5.6	33.56	7.9	25.4	0.82
I40	09 Apr 2018	10	12.61	21.82	5.6	33.55	7.9	25.3	0.80
I40	16 Apr 2018	1	14.08	55.48	8.2	33.58	8.0	25.1	0.68
I40	16 Apr 2018	2	14.04	60.06	8.2	33.58	8.0	25.1	0.84
I40	16 Apr 2018	3	13.96	61.78	8.2	33.58	8.0	25.1	0.97
I40	16 Apr 2018	4	13.83	61.03	8.2	33.59	8.0	25.1	1.37
I40	16 Apr 2018	5	13.61	61.15	7.6	33.58	8.0	25.2	1.95
I40	16 Apr 2018	6	11.97	63.56	5.9	33.68	7.9	25.6	1.81
I40	16 Apr 2018	7	11.50	55.04	4.7	33.62	7.8	25.6	1.84
I40	16 Apr 2018	8	11.48	53.17	4.2	33.60	7.8	25.6	2.06
I40	16 Apr 2018	9	11.44	53.07	4.1	33.60	7.8	25.6	2.07
I40	16 Apr 2018	10	11.39	52.78	4.1	33.60	7.8	25.6	1.98
I40	23 Apr 2018	1	15.20	56.24	9.4	33.64	8.1	24.9	2.82
I40	23 Apr 2018	2	14.89	58.02	9.2	33.64	8.1	24.9	2.85
I40	23 Apr 2018	3	14.49	59.87	8.9	33.64	8.1	25.0	3.02
I40	23 Apr 2018	4	14.21	60.85	8.8	33.63	8.1	25.1	3.85
I40	23 Apr 2018	5	13.87	59.87	8.7	33.64	8.0	25.2	5.47
I40	23 Apr 2018	6	13.20	55.97	8.8	33.64	8.1	25.3	8.56
I40	23 Apr 2018	7	12.98	56.42	8.5	33.62	8.0	25.3	9.87
I40	23 Apr 2018	8	12.64	60.69	8.3	33.63	8.0	25.4	9.01
I40	23 Apr 2018	9	12.48	58.62	8.2	33.62	8.0	25.4	7.87
I40	23 Apr 2018	10	12.71	42.28	8.2	33.60	8.0	25.4	7.77
I40	30 Apr 2018	1	15.00	66.46	8.9	33.65	8.1	24.9	4.16
I40	30 Apr 2018	2	15.01	68.49	8.9	33.65	8.1	24.9	4.38
I40	30 Apr 2018	3	15.01	70.76	8.9	33.65	8.1	24.9	5.41
I40	30 Apr 2018	4	15.00	70.98	8.9	33.65	8.1	24.9	5.16
I40	30 Apr 2018	5	15.00	70.54	8.9	33.65	8.1	24.9	4.92
I40	30 Apr 2018	6	15.00	70.95	8.9	33.65	8.1	24.9	4.90
I40	30 Apr 2018	7	14.99	71.05	8.9	33.66	8.1	24.9	4.89
I40	30 Apr 2018	8	14.98	70.48	8.8	33.66	8.1	24.9	4.68
I40	30 Apr 2018	9	14.98	70.13	8.8	33.66	8.1	24.9	4.45
I40	30 Apr 2018	10	14.97	70.56	8.7	33.66	8.1	24.9	4.00

NA = not available

APPENDIX A
Quality Assurance

Table A.1

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

Station	Date	Depth	Analyst	Procedure	Total	Fecal	Entero
I19	02 Apr 2018	6	ZV	LAB DUPLICATE	2600e	640	700
I19	09 Apr 2018	6	AE	LAB DUPLICATE	<20	<2	<2
I19	16 Apr 2018	6	AE	LAB DUPLICATE	<2	<2	2e
I19	23 Apr 2018	6	AR	LAB DUPLICATE	180e	<2	4e
I19	30 Apr 2018	6	ZV	LAB DUPLICATE	2e	2e	<2
I40	02 Apr 2018	6	ZV	LAB DUPLICATE	20e	2e	2e
I40	09 Apr 2018	6	JT	LAB DUPLICATE	<2	<2	<2
I40	16 Apr 2018	6	JT	LAB DUPLICATE	<2	<2	<2
I40	23 Apr 2018	6	AR	LAB DUPLICATE	18e	2e	2e
I40	30 Apr 2018	6	ZV	LAB DUPLICATE	<20	2e	<2
S12	03 Apr 2018		AE	FIELD DUPLICATE	<20	<2	2e
S12	03 Apr 2018		AE	LAB DUPLICATE	<20	<2	<2
S12	10 Apr 2018		ZV	FIELD DUPLICATE	<2	<2	<2
S12	10 Apr 2018		ZV	LAB DUPLICATE	2e	<2	<2
S12	17 Apr 2018		JT	FIELD DUPLICATE	<20	<2	<2
S12	17 Apr 2018		JT	LAB DUPLICATE	<20	<2	<2
S12	24 Apr 2018		AE	FIELD DUPLICATE	<2	4e	<2
S12	24 Apr 2018		AE	LAB DUPLICATE	6e	<2	<2

ns = not sampled

ND = no data

