Monthly Receiving Waters Monitoring Report for the South Bay Ocean Outfall

(South Bay Water Reclamation Plant)
NPDES Permit No. CA0109045

January 2016

City of San Diego
Ocean Monitoring Program
Public Utilities Department
Environmental Monitoring and Technical Services Division

THE CITY OF SAN DIEGO

February 29, 2016

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

Attention: POTW Compliance Unit

Dear Mr. Gibson:

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

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

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

Sincerely,

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

TDS:ger

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

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INTRODUCTION

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 Order No. R9-2013-0006 superseded Order No. R9-2006-0067 effective April 4, 2013.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

MATERIALS AND METHODS

Shore Stations

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

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

Kelp Bed Stations

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

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

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

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

Offshore Stations

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

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

Bacteriological Reporting and Quality Assurance

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

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

> <u>30-day Geometric Mean</u>: The following standards are based on the geometric mean of the five most recent samples from each site.
>
> (1) Total coliform density shall not exceed 1000 CFU/100 mL;
> (2) Fecal coliform density shall not exceed 200 CFU/100 mL;
> (3) *Enterococcus* density shall not exceed 35 CFU/100 mL.

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

Single Sample Maximums:

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

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

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

SUMMARY OF RESULTS

- **Shoreline Water Quality Sampling**
  - Because of site access restrictions in Mexico, the South Bay shoreline sampling is carried out on the same day each week (i.e., Tuesday) in order to coordinate sampling between the Mexican and USA based stations. Seawater samples at the three shore stations located south of the USA/Mexico border (i.e., stations S0, S2 and S3) are presently collected by the Comisión Internacional de Límites y Aguas (CILA) and transported to the IBWC for subsequent delivery to the City's Marine Microbiology Lab, while samples from the eight stations located in USA waters are sampled by City staff.
  - During January, each of the eight shore stations located north of the border were out of compliance with various California Ocean Plan (Ocean Plan) water contact standards (see below); these standards do not apply to stations located in Mexican waters.
    - The 30-day geometric mean standard for total coliforms was exceeded at stations S4, S5, and S10 on multiple days during the month.
    - The 30-day geometric mean standard for *Enterococcus* was exceeded at stations S4, S5, S6, S10, S11, and S12 on multiple days during the month.

- The 30-day geometric mean standard for fecal coliforms was exceeded at station S10 on multiple days during the month.
- The single sample maximum (SSM) standard for *Enterococcus* was exceeded at stations S4, S5, S6, S8, S9, S10, S11 and S12 on one or more days during the month.
- The SSM standard for total coliforms was exceeded at stations S4, S5, S6, S10, S11 and S12 on one or more days during the month.
- The SSM standard for fecal coliforms was exceeded at stations S4, S5, S6, S8, S9, S10, S11 and S12 on one or more days during the month.
- The SSM standard that states total coliform densities shall not exceed 1000 CFU/100 mL when the fecal:total ratio exceeds 0.1 were each exceeded at stations S5, S6, S8, S9, S10, S11 and S12 on one or more days during the month.
- Per permit requirements, resamples were collected in response to these SSM exceedances (see Table 2.8 for details).

- Although the Ocean Plan standards do not apply to these stations, bacteria densities exceeded one or more benchmark levels (i.e., total coliforms >10,000 CFU/100mL; fecal coliforms >400 CFU/100 mL; *Enterococcus* >104 CFU/100 mL; total >1000 CFU/100 mL & F:T ratio >0.1) in the seawater samples collected at stations S0, S2, and S3 on multiple days during the month.
- Historical analyses of Ocean Plan compliance rates for the South Bay outfall shoreline monitoring stations, combined with the results of satellite imagery data, suggest that outflows from the Tijuana River and Los Buenos Creek, as well as surface runoff during or after rain events (storms), are likely to be the cause of impacted water quality along the shore and in near shore recreational waters in the South Bay region. See the City of San Diego's most recent *South Bay Ocean Outfall Annual Receiving Waters Monitoring and Assessment Report* for details

  (http://www.sandiego.gov/mwwd/environment/oceanmonitor/reports/index.shtml).

- Notable visual observations for January included: A sewage-like odor at station S4 and S10 on January 8.

- **Kelp Bed Water Quality Sampling**
  - The four of the kelp bed water quality stations (I19, I24, I39, I40) were sampled four times during January (i.e. January 4, 13, 19, 28). Stations I25, I26, and I32 were not sampled on January 4th due to equipment problems, and could not be sampled later during that week due to stormy weather conditions. Additionally, the fifth day of sampling scheduled for January 31 was canceled due to stormy weather.
  - During January, all seven of these stations were in compliance with all Ocean Plan standards.
  - Water column temperatures ranged from 14.99 to 16.56°C. The difference between surface and bottom waters ranged from approximately 0.01 to 0.75°C, indicating the water column was not stratified at these sites.
  - Chlorophyll *a* concentrations ranged from 0.0 to 3.57 µg/L at these stations, suggesting the absence 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 January at the offshore stations. The next quarterly sampling is scheduled for February 2016.

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TABLES AND FIGURES

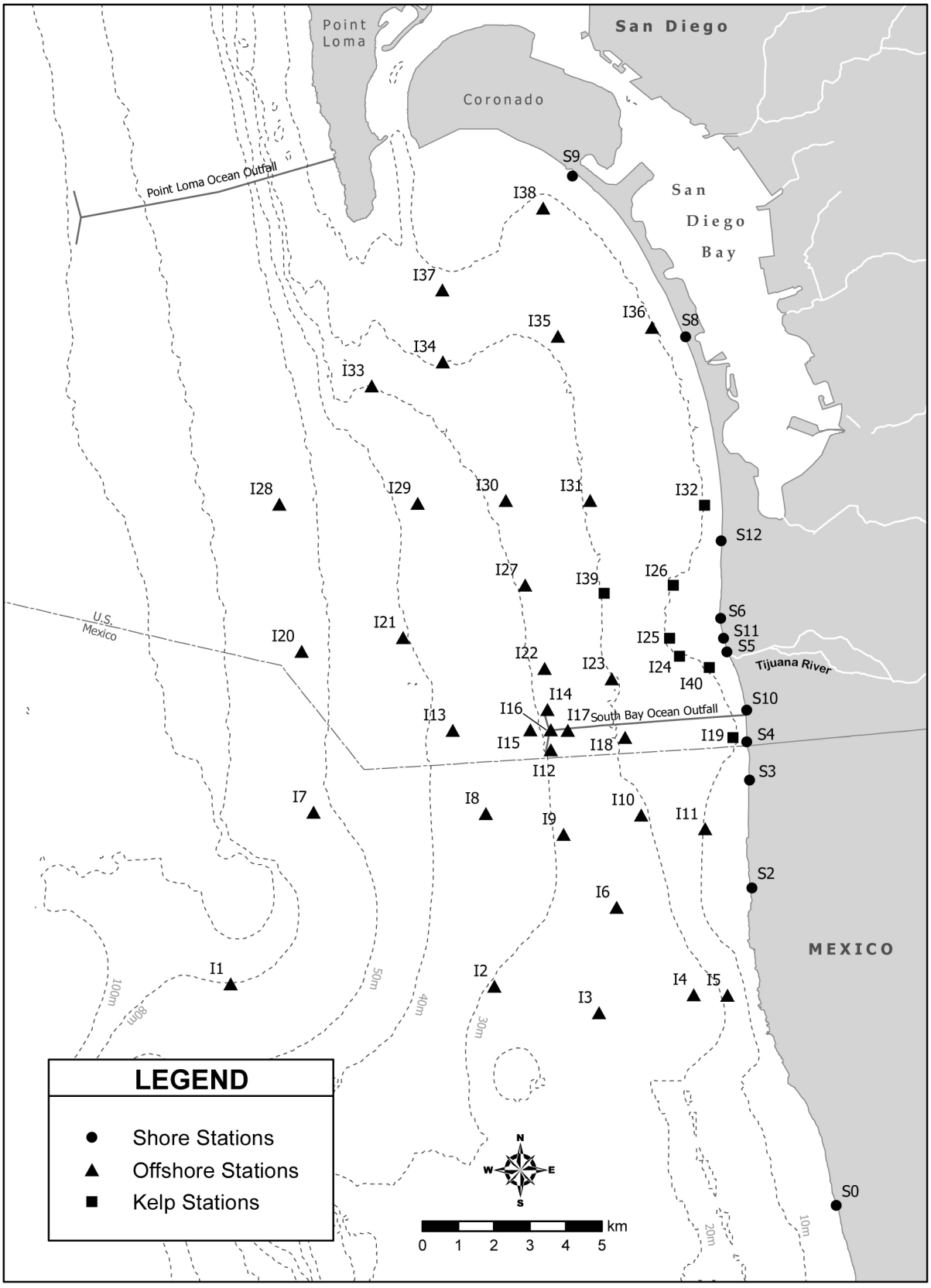

Figure 1.1 Station Map

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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 Jan 2016	1188	266	31*	5*	2*	597	29*	6*
02 Jan 2016	1188	266	31*	5*	2*	597	29*	6*
03 Jan 2016	1188	266	31*	5*	2*	597	29*	6*
04 Jan 2016	1188	266	31*	5*	2*	597	29*	6*
05 Jan 2016	1832	527	109	17	10	833	102	30
06 Jan 2016	1832	527	109	17	10	833	102	30
07 Jan 2016	3720	1275	320	54	22	2166	448	115
08 Jan 2016	3720	1275	320	54	22	2781	512	182
09 Jan 2016	3720	1275	320	54	22	2781	512	182
10 Jan 2016	3720	1275	320	54	22	2533	613	182
11 Jan 2016	3720	1275	320	54	22	2533	613	182
12 Jan 2016	2705	992	227	46	21	1673	458	167
13 Jan 2016	2705	992	227	46	21	1673	458	167
14 Jan 2016	2952	1902	468	86	34	1961	996	350
15 Jan 2016	2952	1902	468	86	34	1961	996	350
16 Jan 2016	2952	1902	468	86	34	1961	996	350
17 Jan 2016	2952	1902	468	86	34	1961	996	350
18 Jan 2016	2952	1902	468	86	34	1961	996	350
19 Jan 2016	1446	2219	277	74	31	1384	611	167
20 Jan 2016	991	1526	295	152	47	1054	509	239
21 Jan 2016	991	1526	295	152	47	1054	509	239
22 Jan 2016	991	1526	295	152	47	1054	509	239
23 Jan 2016	845	1660	295	152	47	786	509	239
24 Jan 2016	845	1660	295	152	47	786	509	239
25 Jan 2016	845	1660	295	152	47	1203	509	239
26 Jan 2016	453	542	129	74	41	541	278	167
27 Jan 2016	372	691	162	122	75	511	332	350
28 Jan 2016	372	691	162	122	75	511	332	350
29 Jan 2016	372	691	162	122	75	511	332	350
30 Jan 2016	372	691	162	122	75	511	332	350
31 Jan 2016	372	691	162	122	75	511	332	350

* 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 Jan 2016	28*	13*	5*	2*	2*	46	3*	2*
02 Jan 2016	28*	13*	5*	2*	2*	46	3*	2*
03 Jan 2016	28*	13*	5*	2*	2*	46	3*	2*
04 Jan 2016	28*	13*	5*	2*	2*	46	3*	2*
05 Jan 2016	60	52	24	6	6	72	18	12
06 Jan 2016	60	52	24	6	6	72	18	12
07 Jan 2016	137	103	61	18	6	236	49	46
08 Jan 2016	137	103	61	18	6	385	62	57
09 Jan 2016	137	103	61	18	6	385	62	57
10 Jan 2016	137	103	61	18	6	378	79	57
11 Jan 2016	137	103	61	18	6	378	79	57
12 Jan 2016	101	70	47	13	5	263	62	57
13 Jan 2016	101	70	47	13	5	263	62	57
14 Jan 2016	98	114	76	18	6	319	102	100
15 Jan 2016	98	114	76	18	6	319	102	100
16 Jan 2016	98	114	76	18	6	319	102	100
17 Jan 2016	98	114	76	18	6	319	102	100
18 Jan 2016	98	114	76	18	6	319	102	100
19 Jan 2016	61	120	41	13	5	225	62	57
20 Jan 2016	56	107	58	18	6	199	74	89
21 Jan 2016	56	107	58	18	6	199	74	89
22 Jan 2016	56	107	58	18	6	199	74	89
23 Jan 2016	56	107	58	18	6	167	74	89
24 Jan 2016	56	107	58	18	6	167	74	89
25 Jan 2016	56	107	58	18	6	314	74	89
26 Jan 2016	32	55	33	13	5	167	47	52
27 Jan 2016	34	75	42	18	6	181	74	89
28 Jan 2016	34	75	42	18	6	181	74	89
29 Jan 2016	34	75	42	18	6	181	74	89
30 Jan 2016	34	75	42	18	6	181	74	89
31 Jan 2016	34	75	42	18	6	181	74	89

* 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 Jan 2016	125	60	6*	2*	2*	94	10*	6*
02 Jan 2016	125	60	6*	2*	2*	94	10*	6*
03 Jan 2016	125	60	6*	2*	2*	94	10*	6*
04 Jan 2016	125	60	6*	2*	2*	94	10*	6*
05 Jan 2016	180	128	27	6	6	119	40	23
06 Jan 2016	180	128	27	6	6	119	40	23
07 Jan 2016	359	247	88	18	11	291	115	58
08 Jan 2016	530	234	117	22	11	422	145	89
09 Jan 2016	530	234	117	22	11	422	145	89
10 Jan 2016	439	239	120	22	11	386	138	93
11 Jan 2016	439	239	120	22	11	386	138	93
12 Jan 2016	361	201	96	16	9	289	118	81
13 Jan 2016	361	201	96	16	9	289	118	81
14 Jan 2016	407	335	166	22	12	330	191	137
15 Jan 2016	407	335	166	22	12	330	191	137
16 Jan 2016	486	335	166	22	12	330	191	137
17 Jan 2016	486	335	166	22	12	330	191	137
18 Jan 2016	486	335	166	22	12	330	191	137
19 Jan 2016	357	307	104	16	9	261	118	81
20 Jan 2016	352	293	122	22	11	237	136	117
21 Jan 2016	352	240	122	22	11	237	136	117
22 Jan 2016	224	156	122	22	11	160	136	117
23 Jan 2016	280	199	122	22	11	149	136	117
24 Jan 2016	280	199	122	22	11	149	136	117
25 Jan 2016	280	199	122	22	11	254	136	117
26 Jan 2016	165	135	73	16	8	168	80	71
27 Jan 2016	194	176	94	22	11	175	116	117
28 Jan 2016	194	176	94	22	11	175	116	117
29 Jan 2016	194	176	94	22	11	221	116	117
30 Jan 2016	194	176	94	22	11	221	116	117
31 Jan 2016	194	176	94	22	11	221	116	117

* Geometric mean calculated using n<5

Table 2.4

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

Date	S4	S5	S6	S8	S9	S10	S11	S12
05 Jan 2016	E	E	E	IC	IC	IC	E	E
07 Jan 2016	IC	IC	IC	IC	IC	E	IC	E
08 Jan 2016	ns	ns	ns	ns	ns	E	IC	IC
10 Jan 2016	ns	ns	ns	ns	ns	IC	IC	ns
12 Jan 2016	IC	IC	IC	IC	IC	IC	IC	IC
19 Jan 2016	IC	IC	IC	IC	IC	IC	IC	IC
26 Jan 2016	IC	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance
E = Exceedance
ns = not sampled

Table 2.5

Summary of compliance at the SBOO shore stations with the Ocean Plan's Single Sample Maximum standard for fecal coliform bacteria, which states that fecal coliform density shall not exceed 400 CFU/100 mL.

Date	S4	S5	S6	S8	S9	S10	S11	S12
05 Jan 2016	E	E	E	IC	E	E	E	E
07 Jan 2016	IC	IC	IC	E	IC	E	IC	E
08 Jan 2016	ns	ns	ns	IC	ns	E	IC	IC
10 Jan 2016	ns	ns	ns	ns	ns	IC	IC	ns
12 Jan 2016	IC	IC	IC	IC	IC	IC	IC	IC
19 Jan 2016	IC	IC	IC	IC	IC	IC	IC	IC
26 Jan 2016	IC	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance
E = Exceedance
ns = not sampled

Table 2.6

Summary of compliance at the SBOO shore stations with the Ocean Plan's Single Sample Maximum standard for *Enterococcus* bacteria, which states that *Enterococcus* density shall not exceed 104 CFU/100 mL.

Date	S4	S5	S6	S8	S9	S10	S11	S12
05 Jan 2016	E	E	E	E	E	E	E	E
07 Jan 2016	E	E	E	E	IC	E	E	E
08 Jan 2016	E	E	E	IC	ns	E	E	E
10 Jan 2016	IC	E	E	ns	ns	E	IC	E
12 Jan 2016	IC	IC	IC	IC	IC	IC	IC	IC
19 Jan 2016	IC	E	IC	IC	IC	IC	IC	IC
21 Jan 2016	ns	IC	ns	ns	ns	ns	ns	ns
26 Jan 2016	IC	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance
E = Exceedance
ns = not sampled

Table 2.7

Summary of compliance at the SBOO shore stations with the Ocean Plan's Single Sample Maximum standard for total coliform bacteria and the fecal/total coliform ratio (F:T), which states that total coliform density shall not exceed 1,000 CFU/100 mL when F:T > 0.1.

Date	S4	S5	S6	S8	S9	S10	S11	S12
05 Jan 2016	IC	E	E	E	E	E	E	E
07 Jan 2016	IC	IC	IC	IC	IC	E	E	IC
08 Jan 2016	ns	ns	ns	ns	ns	E	IC	IC
10 Jan 2016	ns	ns	ns	ns	ns	E	E	ns
12 Jan 2016	IC	IC	IC	IC	IC	IC	IC	IC
19 Jan 2016	IC	IC	IC	IC	IC	IC	IC	IC
26 Jan 2016	IC	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance
E = Exceedance
ns = not sampled

Table 2.8

Summary of water quality parameters at the SBOO shore stations for each sample date. Densities of total coliform (Total), fecal coliform (Fecal), and *Enterococcus* (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	05 Jan 2016	1105	1800e	180e	580	0.10
S0	12 Jan 2016	1115	400e	34e	120e	0.08
S0	19 Jan 2016	1050	800e	36e	240e	0.04
S0	26 Jan 2016	1105	800	42	72	0.05
S2	05 Jan 2016	1015	15000	2200e	4200	0.15
S2	12 Jan 2016	1010	480	16e	70	0.03
S2	19 Jan 2016	1045	<20	<2	10e	0.10
S2	26 Jan 2016	1005	<20	<2	2e	0.10
S3	05 Jan 2016	948	>16000	3200e	3400e	0.20
S3	12 Jan 2016	940	ns	ns	ns	ns
S3	19 Jan 2016	1015	20e	<2	18e	0.10
S3	26 Jan 2016	925	10e	<2	2e	0.20
S4	05 Jan 2016	1036	>16000	1400e	2400e	0.09
S4	07 Jan 2016	921	2800e	120e	980	0.04
S4	08 Jan 2016	958	ns	ns	>12000	ns
S4	10 Jan 2016	944	ns	ns	80e	ns
S4	12 Jan 2016	1150	400	22e	52	0.06
S4	19 Jan 2016	1210	20e	6e	22e	0.30
S4	26 Jan 2016	840	<20	<2	4e	0.10
S5	05 Jan 2016	1144	>16000	>12000	>12000	0.75
S5	07 Jan 2016	1037	4000	60e	1200e	0.01
S5	08 Jan 2016	1115	ns	ns	160e	ns
S5	10 Jan 2016	808	ns	ns	280e	ns
S5	12 Jan 2016	1016	220e	10e	42	0.05
S5	19 Jan 2016	1037	5600	160e	140e	0.03
S5	21 Jan 2016	1030	ns	ns	40	ns
S5	26 Jan 2016	1032	<2	<2	6e	1.00
S6	05 Jan 2016	1137	>16000	>12000	7600	0.75
S6	07 Jan 2016	1028	4400	220e	800e	0.05
S6	08 Jan 2016	1100	ns	ns	480	ns
S6	10 Jan 2016	840	ns	ns	140e	ns
S6	12 Jan 2016	957	40e	12e	20e	0.30
S6	19 Jan 2016	1024	<20	<2	4e	0.10
S6	26 Jan 2016	1002	2e	<2	<2	1.00
S8	05 Jan 2016	1235	2600e	360e	180e	0.14
S8	07 Jan 2016	1119	7600	580	1400e	0.08
S8	08 Jan 2016	1207	ns	22e	56	ns
S8	12 Jan 2016	904	<20	2e	<2	0.10
S8	19 Jan 2016	940	34e	<2	<2	0.06
S8	26 Jan 2016	1200	<2	<2	<2	1.00
S9	05 Jan 2016	1317	3600e	520	360e	0.14
S9	07 Jan 2016	1143	80e	2e	26e	0.02

Station	Date	Time	Total	Fecal	Entero	F:T
S9	12 Jan 2016	840	<20	2e	4e	0.10
S9	19 Jan 2016	915	<20	<2	<2	0.10
S9	26 Jan 2016	1231	20e	2e	2e	0.10
S10	05 Jan 2016	1042	6200	1000	780	0.16
S10	07 Jan 2016	927	>16000	8200e	12000	0.51
S10	08 Jan 2016	1005	>16000	>12000	>12000	0.75
S10	10 Jan 2016	1004	1200e	320e	160e	0.27
S10	12 Jan 2016	1141	40e	10e	12e	0.25
S10	19 Jan 2016	1218	60e	10e	20e	0.17
S10	26 Jan 2016	847	2e	<2	6e	1.00
S11	05 Jan 2016	1149	>16000	>12000	>12000	0.75
S11	07 Jan 2016	1032	3200e	340e	1600e	0.11
S11	08 Jan 2016	1106	1000e	200e	460	0.20
S11	10 Jan 2016	825	1800e	320e	100e	0.18
S11	12 Jan 2016	1027	60e	12e	40	0.20
S11	19 Jan 2016	1030	20e	<2	4e	0.10
S11	26 Jan 2016	1025	4e	2e	<2	0.50
S12	05 Jan 2016	1126	>16000	8200	5400	0.51
S12	07 Jan 2016	1012	>16000	1600e	5200	0.10
S12	08 Jan 2016	1048	1800e	160e	760	0.09
S12	10 Jan 2016	907	ns	ns	120	ns
S12	12 Jan 2016	937	100e	60	30e	0.60
S12	19 Jan 2016	1012	2e	<2	2e	1.00
S12	26 Jan 2016	943	<20	<2	<2	0.10

ns = not sampled
ND = no data

Comments

Station	Date	Depth	Parameter	Comments
S4	07 Jan 2016			Resample
S5	07 Jan 2016			Resample
S6	07 Jan 2016			Resample
S8	07 Jan 2016			Resample
S9	07 Jan 2016			Resample
S10	07 Jan 2016			Resample
S11	07 Jan 2016			Resample
S12	07 Jan 2016			Resample
S5	08 Jan 2016			Resample
S4	08 Jan 2016			Resample
S6	08 Jan 2016			Resample
S8	08 Jan 2016			Resample
S10	08 Jan 2016			Resample
S11	08 Jan 2016			Resample
S12	08 Jan 2016			Resample
S4	10 Jan 2016			Resample
S5	10 Jan 2016			Resample
S6	10 Jan 2016			Resample
S10	10 Jan 2016			Resample
S11	10 Jan 2016			Resample
S12	10 Jan 2016			Resample
S5	21 Jan 2016			Resample

Table 2.9

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

Station	Date	Parameter	Value
S0	05 Jan 2016	Arrive Time	1105
S0	05 Jan 2016	Weather	Moderate Rain
S0	05 Jan 2016	Wind Speed (kts)	0.1
S0	05 Jan 2016	Wind Dir	SE
S0	05 Jan 2016	Animal Life	5 Shorebirds
S0	05 Jan 2016	Floatables	None
S0	05 Jan 2016	Water Color	Green
S0	05 Jan 2016	Current Direction	N
S0	05 Jan 2016	Water Temp (C)	14.5
S0	05 Jan 2016	Wave Height Low (ft)	5
S0	05 Jan 2016	High Tide (ft)	5.1
S0	05 Jan 2016	High Tide Time	536
S0	05 Jan 2016	Low Tide (ft)	0.3
S0	05 Jan 2016	Low Tide Time	1250
S0	05 Jan 2016	Comments	Kelp; Water clear; Stormdrain discharging mud; Wind speed not recorded but entered as 0.1 knot/hr to be accepted on system
S0	12 Jan 2016	Arrive Time	1115
S0	12 Jan 2016	Weather	Sunny
S0	12 Jan 2016	Wind Speed (kts)	0.1
S0	12 Jan 2016	Wind Dir	NE
S0	12 Jan 2016	Animal Life	5 Shorebirds
S0	12 Jan 2016	Floatables	None
S0	12 Jan 2016	Water Color	Green
S0	12 Jan 2016	Current Direction	NE
S0	12 Jan 2016	Water Temp (C)	14.5
S0	12 Jan 2016	Wave Height Low (ft)	7
S0	12 Jan 2016	High Tide (ft)	5.8
S0	12 Jan 2016	High Tide Time	954
S0	12 Jan 2016	Low Tide (ft)	-0.9
S0	12 Jan 2016	Low Tide Time	1700
S0	12 Jan 2016	Comments	Kelp; Water clear; Flow from stormdrain 0.5 L/sec; Anemometer not available
S0	19 Jan 2016	Arrive Time	1050
S0	19 Jan 2016	Weather	Sunny
S0	19 Jan 2016	Wind Speed (kts)	
S0	19 Jan 2016	Wind Dir	
S0	19 Jan 2016	Animal Life	None
S0	19 Jan 2016	Floatables	None
S0	19 Jan 2016	Water Color	Green
S0	19 Jan 2016	Current Direction	S
S0	19 Jan 2016	Water Temp (C)	14.5
S0	19 Jan 2016	Wave Height Low (ft)	2
S0	19 Jan 2016	High Tide (ft)	5.54
S0	19 Jan 2016	High Tide Time	505
S0	19 Jan 2016	Low Tide (ft)	-0.22
S0	19 Jan 2016	Low Tide Time	1227
S0	19 Jan 2016	Comments	Water turbid; Flow from stormdrain 0.5 L/sec; No anemometer available to record wind speed

Station	Date	Parameter	Value
S0	26 Jan 2016	Arrive Time	1105
S0	26 Jan 2016	Weather	Sunny
S0	26 Jan 2016	Wind Speed (kts)	2.8
S0	26 Jan 2016	Wind Dir	NW
S0	26 Jan 2016	Animal Life	5 Shorebirds
S0	26 Jan 2016	Floatables	None
S0	26 Jan 2016	Water Color	Green
S0	26 Jan 2016	Current Direction	NW
S0	26 Jan 2016	Water Temp (C)	14.5
S0	26 Jan 2016	Wave Height Low (ft)	5
S0	26 Jan 2016	High Tide (ft)	5.3
S0	26 Jan 2016	High Tide Time	954
S0	26 Jan 2016	Low Tide (ft)	-0.4
S0	26 Jan 2016	Low Tide Time	1646
S0	26 Jan 2016	Comments	Kelp; Water clear; Flow from stormdrain 0.5 L/sec
S2	05 Jan 2016	Arrive Time	1015
S2	05 Jan 2016	Weather	Moderate Rain
S2	05 Jan 2016	Wind Speed (kts)	0.1
S2	05 Jan 2016	Wind Dir	SE
S2	05 Jan 2016	Animal Life	5 Shorebirds
S2	05 Jan 2016	Floatables	None
S2	05 Jan 2016	Water Color	Green
S2	05 Jan 2016	Current Direction	N
S2	05 Jan 2016	Water Temp (C)	14
S2	05 Jan 2016	Wave Height Low (ft)	5
S2	05 Jan 2016	High Tide (ft)	5.1
S2	05 Jan 2016	High Tide Time	536
S2	05 Jan 2016	Low Tide (ft)	0.3
S2	05 Jan 2016	Low Tide Time	1250
S2	05 Jan 2016	Comments	Kelp; Water turbid; Stormdrain discharging mud; Wind speed not recorded but entered as 0.1 knot/hr to be accepted by system
S2	12 Jan 2016	Arrive Time	1010
S2	12 Jan 2016	Weather	Sunny
S2	12 Jan 2016	Wind Speed (kts)	0.1
S2	12 Jan 2016	Wind Dir	NE
S2	12 Jan 2016	Animal Life	5 Shorebirds
S2	12 Jan 2016	Floatables	None
S2	12 Jan 2016	Water Color	Green
S2	12 Jan 2016	Current Direction	S
S2	12 Jan 2016	Water Temp (C)	14.5
S2	12 Jan 2016	Wave Height Low (ft)	7
S2	12 Jan 2016	High Tide (ft)	5.8
S2	12 Jan 2016	High Tide Time	954
S2	12 Jan 2016	Low Tide (ft)	1.5
S2	12 Jan 2016	Low Tide Time	354
S2	12 Jan 2016	Comments	Kelp; Water clear; No flow from stormdrain; Anemometer not available
S2	19 Jan 2016	Arrive Time	1045
S2	19 Jan 2016	Weather	Sunny
S2	19 Jan 2016	Wind Speed (kts)	
S2	19 Jan 2016	Wind Dir	
S2	19 Jan 2016	Animal Life	Seagulls 12

Station	Date	Parameter	Value
S2	19 Jan 2016	Floatables	None
S2	19 Jan 2016	Water Color	Green
S2	19 Jan 2016	Current Direction	S
S2	19 Jan 2016	Water Temp (C)	14.6
S2	19 Jan 2016	Wave Height Low (ft)	2
S2	19 Jan 2016	High Tide (ft)	5.54
S2	19 Jan 2016	High Tide Time	505
S2	19 Jan 2016	Low Tide (ft)	-0.22
S2	19 Jan 2016	Low Tide Time	1227
S2	19 Jan 2016	Comments	Water turbid; No flow from stormdrain; No anemometer available to record wind speed
S2	26 Jan 2016	Arrive Time	1005
S2	26 Jan 2016	Weather	Sunny
S2	26 Jan 2016	Wind Speed (kts)	1.6
S2	26 Jan 2016	Wind Dir	NW
S2	26 Jan 2016	Animal Life	5 Shorebirds
S2	26 Jan 2016	Floatables	None
S2	26 Jan 2016	Water Color	Green
S2	26 Jan 2016	Current Direction	NW
S2	26 Jan 2016	Water Temp (C)	14.5
S2	26 Jan 2016	Wave Height Low (ft)	5
S2	26 Jan 2016	High Tide (ft)	5.3
S2	26 Jan 2016	High Tide Time	954
S2	26 Jan 2016	Low Tide (ft)	1.4
S2	26 Jan 2016	Low Tide Time	401
S2	26 Jan 2016	Comments	Kelp; Water clear; No flow from stormdrain
S3	05 Jan 2016	Arrive Time	948
S3	05 Jan 2016	Weather	Moderate Rain
S3	05 Jan 2016	Wind Speed (kts)	0.1
S3	05 Jan 2016	Wind Dir	SE
S3	05 Jan 2016	Animal Life	5 Shorebirds
S3	05 Jan 2016	Floatables	None
S3	05 Jan 2016	Water Color	Green
S3	05 Jan 2016	Current Direction	SE
S3	05 Jan 2016	Water Temp (C)	13.6
S3	05 Jan 2016	Wave Height Low (ft)	6
S3	05 Jan 2016	High Tide (ft)	5.1
S3	05 Jan 2016	High Tide Time	536
S3	05 Jan 2016	Low Tide (ft)	0.3
S3	05 Jan 2016	Low Tide Time	1250
S3	05 Jan 2016	Comments	Kelp; Water clear; Wind speed not reported but recorded as 0.1 knots/hr to be accepted on system
S3	12 Jan 2016	Arrive Time	940
S3	12 Jan 2016	Weather	Sunny
S3	12 Jan 2016	Wind Speed (kts)	0.1
S3	12 Jan 2016	Wind Dir	NE
S3	12 Jan 2016	Animal Life	5 Shorebirds; 10 Dolphins
S3	12 Jan 2016	Floatables	None
S3	12 Jan 2016	Water Color	Green
S3	12 Jan 2016	Current Direction	S
S3	12 Jan 2016	Water Temp (C)	14
S3	12 Jan 2016	Wave Height Low (ft)	7

Station	Date	Parameter	Value
S3	12 Jan 2016	High Tide (ft)	5.8
S3	12 Jan 2016	High Tide Time	954
S3	12 Jan 2016	Low Tide (ft)	1.5
S3	12 Jan 2016	Low Tide Time	354
S3	12 Jan 2016	Comments	Kelp; Water clear; Sample invalid; No lid; Anemometer not available
S3	19 Jan 2016	Arrive Time	1015
S3	19 Jan 2016	Weather	Sunny
S3	19 Jan 2016	Wind Speed (kts)	
S3	19 Jan 2016	Wind Dir	
S3	19 Jan 2016	Animal Life	Seagulls 2
S3	19 Jan 2016	Floatables	None
S3	19 Jan 2016	Water Color	Green
S3	19 Jan 2016	Current Direction	S
S3	19 Jan 2016	Water Temp (C)	14.8
S3	19 Jan 2016	Wave Height Low (ft)	2
S3	19 Jan 2016	High Tide (ft)	5.54
S3	19 Jan 2016	High Tide Time	505
S3	19 Jan 2016	Low Tide (ft)	-0.22
S3	19 Jan 2016	Low Tide Time	1227
S3	19 Jan 2016	Comments	Water turbid; No flow from stormdrain; No anemometer available to record wind speed
S3	26 Jan 2016	Arrive Time	1603
S3	26 Jan 2016	Weather	Sunny
S3	26 Jan 2016	Wind Speed (kts)	1.2
S3	26 Jan 2016	Wind Dir	NW
S3	26 Jan 2016	Animal Life	5 Shorebirds
S3	26 Jan 2016	Floatables	None
S3	26 Jan 2016	Water Color	Green
S3	26 Jan 2016	Current Direction	NW
S3	26 Jan 2016	Water Temp (C)	14
S3	26 Jan 2016	Wave Height Low (ft)	5
S3	26 Jan 2016	High Tide (ft)	5.3
S3	26 Jan 2016	High Tide Time	954
S3	26 Jan 2016	Low Tide (ft)	-0.4
S3	26 Jan 2016	Low Tide Time	1646
S3	26 Jan 2016	Comments	Kelp; 5 Surfers; Water clear; No flow from stormdrain
S4	05 Jan 2016	Arrive Time	1036
S4	05 Jan 2016	Weather	Moderate Rain
S4	05 Jan 2016	Wind Speed (kts)	7.7
S4	05 Jan 2016	Wind Dir	SE
S4	05 Jan 2016	Animal Life	None
S4	05 Jan 2016	Floatables	None
S4	05 Jan 2016	Water Color	Green
S4	05 Jan 2016	Current Direction	S
S4	05 Jan 2016	Water Temp (C)	15.4
S4	05 Jan 2016	Wave Height Low (ft)	4
S4	05 Jan 2016	High Tide (ft)	5.1
S4	05 Jan 2016	High Tide Time	536
S4	05 Jan 2016	Low Tide (ft)	0.3
S4	05 Jan 2016	Low Tide Time	1250
S4	05 Jan 2016	Comments	Seagrass; Water clear

Station	Date	Parameter	Value
S4	07 Jan 2016	Arrive Time	921
S4	07 Jan 2016	Weather	Cloudy
S4	07 Jan 2016	Wind Speed (kts)	12.1
S4	07 Jan 2016	Wind Dir	SW
S4	07 Jan 2016	Animal Life	None
S4	07 Jan 2016	Floatables	None
S4	07 Jan 2016	Water Color	Brown
S4	07 Jan 2016	Current Direction	SW
S4	07 Jan 2016	Water Temp (C)	14.4
S4	07 Jan 2016	Wave Height Low (ft)	6
S4	07 Jan 2016	High Tide (ft)	5.7
S4	07 Jan 2016	High Tide Time	646
S4	07 Jan 2016	Low Tide (ft)	-0.6
S4	07 Jan 2016	Low Tide Time	1358
S4	07 Jan 2016	Comments	Kelp; Seagrass; Water clear
S4	08 Jan 2016	Arrive Time	958
S4	08 Jan 2016	Weather	Partly Cloudy
S4	08 Jan 2016	Wind Speed (kts)	3.3
S4	08 Jan 2016	Wind Dir	W
S4	08 Jan 2016	Animal Life	None
S4	08 Jan 2016	Floatables	None
S4	08 Jan 2016	Water Color	Brown
S4	08 Jan 2016	Current Direction	S
S4	08 Jan 2016	Water Temp (C)	15.8
S4	08 Jan 2016	Wave Height Low (ft)	4
S4	08 Jan 2016	High Tide (ft)	6
S4	08 Jan 2016	High Tide Time	721
S4	08 Jan 2016	Low Tide (ft)	-0.9
S4	08 Jan 2016	Low Tide Time	1432
S4	08 Jan 2016	Comments	Seagrass; Sewage-like odor; Water turbid
S4	10 Jan 2016	Arrive Time	944
S4	10 Jan 2016	Weather	Overcast
S4	10 Jan 2016	Wind Speed (kts)	3
S4	10 Jan 2016	Wind Dir	E
S4	10 Jan 2016	Animal Life	None
S4	10 Jan 2016	Floatables	None
S4	10 Jan 2016	Water Color	Green
S4	10 Jan 2016	Current Direction	E
S4	10 Jan 2016	Water Temp (C)	16
S4	10 Jan 2016	Wave Height Low (ft)	3
S4	10 Jan 2016	High Tide (ft)	6.2
S4	10 Jan 2016	High Tide Time	834
S4	10 Jan 2016	Low Tide (ft)	-1.2
S4	10 Jan 2016	Low Tide Time	1543
S4	10 Jan 2016	Comments	Kelp; Seagrass; Water clear
S4	12 Jan 2016	Arrive Time	1150
S4	12 Jan 2016	Weather	Sunny
S4	12 Jan 2016	Wind Speed (kts)	5
S4	12 Jan 2016	Wind Dir	W
S4	12 Jan 2016	Animal Life	None
S4	12 Jan 2016	Floatables	None

Station	Date	Parameter	Value
S4	12 Jan 2016	Water Color	Green
S4	12 Jan 2016	Current Direction	N
S4	12 Jan 2016	Water Temp (C)	14.8
S4	12 Jan 2016	Wave Height Low (ft)	7
S4	12 Jan 2016	High Tide (ft)	5.8
S4	12 Jan 2016	High Tide Time	954
S4	12 Jan 2016	Low Tide (ft)	-0.9
S4	12 Jan 2016	Low Tide Time	1700
S4	12 Jan 2016	Comments	Water clear
S4	19 Jan 2016	Arrive Time	1210
S4	19 Jan 2016	Weather	Partly Cloudy
S4	19 Jan 2016	Wind Speed (kts)	6.8
S4	19 Jan 2016	Wind Dir	NW
S4	19 Jan 2016	Animal Life	None
S4	19 Jan 2016	Floatables	None
S4	19 Jan 2016	Water Color	Green
S4	19 Jan 2016	Current Direction	S
S4	19 Jan 2016	Water Temp (C)	16
S4	19 Jan 2016	Wave Height Low (ft)	4
S4	19 Jan 2016	High Tide (ft)	3.4
S4	19 Jan 2016	High Tide Time	1837
S4	19 Jan 2016	Low Tide (ft)	-0.2
S4	19 Jan 2016	Low Tide Time	1227
S4	19 Jan 2016	Comments	Water clear
S4	26 Jan 2016	Arrive Time	840
S4	26 Jan 2016	Weather	Sunny
S4	26 Jan 2016	Wind Speed (kts)	3.6
S4	26 Jan 2016	Wind Dir	W
S4	26 Jan 2016	Animal Life	None
S4	26 Jan 2016	Floatables	None
S4	26 Jan 2016	Water Color	Green
S4	26 Jan 2016	Current Direction	S
S4	26 Jan 2016	Water Temp (C)	14.4
S4	26 Jan 2016	Wave Height Low (ft)	2
S4	26 Jan 2016	High Tide (ft)	5.3
S4	26 Jan 2016	High Tide Time	954
S4	26 Jan 2016	Low Tide (ft)	1.4
S4	26 Jan 2016	Low Tide Time	401
S4	26 Jan 2016	Comments	Kelp; Seagrass; Water clear
S5	05 Jan 2016	Arrive Time	1144
S5	05 Jan 2016	Weather	Moderate Rain
S5	05 Jan 2016	Wind Speed (kts)	17.3
S5	05 Jan 2016	Wind Dir	S
S5	05 Jan 2016	Animal Life	None
S5	05 Jan 2016	Floatables	None
S5	05 Jan 2016	Water Color	Green
S5	05 Jan 2016	Current Direction	S
S5	05 Jan 2016	Water Temp (C)	16.6
S5	05 Jan 2016	Wave Height Low (ft)	4
S5	05 Jan 2016	High Tide (ft)	5.1
S5	05 Jan 2016	High Tide Time	536
S5	05 Jan 2016	Low Tide (ft)	0.3

Station	Date	Parameter	Value
S5	05 Jan 2016	Low Tide Time	1250
S5	05 Jan 2016	Comments	Water clear; Smells like detergent
S5	07 Jan 2016	Arrive Time	1037
S5	07 Jan 2016	Weather	Cloudy
S5	07 Jan 2016	Wind Speed (kts)	7.1
S5	07 Jan 2016	Wind Dir	N
S5	07 Jan 2016	Animal Life	None
S5	07 Jan 2016	Floatables	None
S5	07 Jan 2016	Water Color	Green
S5	07 Jan 2016	Current Direction	NW
S5	07 Jan 2016	Water Temp (C)	15.2
S5	07 Jan 2016	Wave Height Low (ft)	4
S5	07 Jan 2016	High Tide (ft)	5.7
S5	07 Jan 2016	High Tide Time	646
S5	07 Jan 2016	Low Tide (ft)	-0.6
S5	07 Jan 2016	Low Tide Time	1358
S5	07 Jan 2016	Comments	Kelp; Seagrass; Water clear
S5	08 Jan 2016	Arrive Time	1115
S5	08 Jan 2016	Weather	Partly Cloudy
S5	08 Jan 2016	Wind Speed (kts)	2.9
S5	08 Jan 2016	Wind Dir	W
S5	08 Jan 2016	Animal Life	None
S5	08 Jan 2016	Floatables	None
S5	08 Jan 2016	Water Color	Brown
S5	08 Jan 2016	Current Direction	S
S5	08 Jan 2016	Water Temp (C)	15.8
S5	08 Jan 2016	Wave Height Low (ft)	4
S5	08 Jan 2016	High Tide (ft)	6
S5	08 Jan 2016	High Tide Time	721
S5	08 Jan 2016	Low Tide (ft)	-0.9
S5	08 Jan 2016	Low Tide Time	1432
S5	08 Jan 2016	Comments	Kelp; 2 Persons; Water turbid
S5	10 Jan 2016	Arrive Time	808
S5	10 Jan 2016	Weather	Overcast
S5	10 Jan 2016	Wind Speed (kts)	4
S5	10 Jan 2016	Wind Dir	E
S5	10 Jan 2016	Animal Life	20 Seagulls
S5	10 Jan 2016	Floatables	None
S5	10 Jan 2016	Water Color	Green
S5	10 Jan 2016	Current Direction	E
S5	10 Jan 2016	Water Temp (C)	12
S5	10 Jan 2016	Wave Height Low (ft)	3
S5	10 Jan 2016	High Tide (ft)	6.2
S5	10 Jan 2016	High Tide Time	834
S5	10 Jan 2016	Low Tide (ft)	1.5
S5	10 Jan 2016	Low Tide Time	228
S5	10 Jan 2016	Comments	Kelp; Seagrass; Water turbid; Many sea cucumbers
S5	12 Jan 2016	Arrive Time	1016
S5	12 Jan 2016	Weather	Sunny
S5	12 Jan 2016	Wind Speed (kts)	3.6
S5	12 Jan 2016	Wind Dir	NE

Station	Date	Parameter	Value
S5	12 Jan 2016	Animal Life	3 Birds
S5	12 Jan 2016	Floatables	None
S5	12 Jan 2016	Water Color	Green
S5	12 Jan 2016	Current Direction	S
S5	12 Jan 2016	Water Temp (C)	14.2
S5	12 Jan 2016	Wave Height Low (ft)	5
S5	12 Jan 2016	High Tide (ft)	5.8
S5	12 Jan 2016	High Tide Time	954
S5	12 Jan 2016	Low Tide (ft)	1.5
S5	12 Jan 2016	Low Tide Time	354
S5	12 Jan 2016	Comments	Kelp; Water clear
S5	19 Jan 2016	Arrive Time	1037
S5	19 Jan 2016	Weather	Partly Cloudy
S5	19 Jan 2016	Wind Speed (kts)	3.3
S5	19 Jan 2016	Wind Dir	NW
S5	19 Jan 2016	Animal Life	None
S5	19 Jan 2016	Floatables	None
S5	19 Jan 2016	Water Color	Green
S5	19 Jan 2016	Current Direction	S
S5	19 Jan 2016	Water Temp (C)	16.6
S5	19 Jan 2016	Wave Height Low (ft)	4
S5	19 Jan 2016	High Tide (ft)	5.5
S5	19 Jan 2016	High Tide Time	505
S5	19 Jan 2016	Low Tide (ft)	-0.2
S5	19 Jan 2016	Low Tide Time	1227
S5	19 Jan 2016	Comments	Water clear; Slight odor
S5	21 Jan 2016	Arrive Time	1030
S5	21 Jan 2016	Weather	Cloudy
S5	21 Jan 2016	Wind Speed (kts)	7.7
S5	21 Jan 2016	Wind Dir	SW
S5	21 Jan 2016	Animal Life	None
S5	21 Jan 2016	Floatables	None
S5	21 Jan 2016	Water Color	Green
S5	21 Jan 2016	Current Direction	SW
S5	21 Jan 2016	Water Temp (C)	14.2
S5	21 Jan 2016	Wave Height Low (ft)	3
S5	21 Jan 2016	High Tide (ft)	6.1
S5	21 Jan 2016	High Tide Time	643
S5	21 Jan 2016	Low Tide (ft)	-1
S5	21 Jan 2016	Low Tide Time	1356
S5	21 Jan 2016	Comments	Kelp; Seagrass; Water clear
S5	26 Jan 2016	Arrive Time	1032
S5	26 Jan 2016	Weather	Sunny
S5	26 Jan 2016	Wind Speed (kts)	1.5
S5	26 Jan 2016	Wind Dir	NW
S5	26 Jan 2016	Animal Life	None
S5	26 Jan 2016	Floatables	None
S5	26 Jan 2016	Water Color	Green
S5	26 Jan 2016	Current Direction	S
S5	26 Jan 2016	Water Temp (C)	15.8
S5	26 Jan 2016	Wave Height Low (ft)	3
S5	26 Jan 2016	High Tide (ft)	5.3

Station	Date	Parameter	Value
S5	26 Jan 2016	High Tide Time	954
S5	26 Jan 2016	Low Tide (ft)	-0.4
S5	26 Jan 2016	Low Tide Time	1646
S5	26 Jan 2016	Comments	Kelp; Seagrass; Water clear
S6	05 Jan 2016	Arrive Time	1137
S6	05 Jan 2016	Weather	Moderate Rain
S6	05 Jan 2016	Wind Speed (kts)	17.2
S6	05 Jan 2016	Wind Dir	S
S6	05 Jan 2016	Animal Life	None
S6	05 Jan 2016	Floatables	None
S6	05 Jan 2016	Water Color	Green
S6	05 Jan 2016	Current Direction	S
S6	05 Jan 2016	Water Temp (C)	16.8
S6	05 Jan 2016	Wave Height Low (ft)	5
S6	05 Jan 2016	High Tide (ft)	5.1
S6	05 Jan 2016	High Tide Time	536
S6	05 Jan 2016	Low Tide (ft)	0.3
S6	05 Jan 2016	Low Tide Time	1250
S6	05 Jan 2016	Comments	Seagrass; Water clear
S6	07 Jan 2016	Arrive Time	1028
S6	07 Jan 2016	Weather	Cloudy
S6	07 Jan 2016	Wind Speed (kts)	5.8
S6	07 Jan 2016	Wind Dir	W
S6	07 Jan 2016	Animal Life	None
S6	07 Jan 2016	Floatables	None
S6	07 Jan 2016	Water Color	Green
S6	07 Jan 2016	Current Direction	NW
S6	07 Jan 2016	Water Temp (C)	13.6
S6	07 Jan 2016	Wave Height Low (ft)	7
S6	07 Jan 2016	High Tide (ft)	5.7
S6	07 Jan 2016	High Tide Time	646
S6	07 Jan 2016	Low Tide (ft)	-0.6
S6	07 Jan 2016	Low Tide Time	1358
S6	07 Jan 2016	Comments	Kelp; Seagrass; Water clear
S6	08 Jan 2016	Arrive Time	1100
S6	08 Jan 2016	Weather	Partly Cloudy
S6	08 Jan 2016	Wind Speed (kts)	4.5
S6	08 Jan 2016	Wind Dir	W
S6	08 Jan 2016	Animal Life	None
S6	08 Jan 2016	Floatables	None
S6	08 Jan 2016	Water Color	Brown
S6	08 Jan 2016	Current Direction	S
S6	08 Jan 2016	Water Temp (C)	15.2
S6	08 Jan 2016	Wave Height Low (ft)	3
S6	08 Jan 2016	High Tide (ft)	6
S6	08 Jan 2016	High Tide Time	721
S6	08 Jan 2016	Low Tide (ft)	-0.9
S6	08 Jan 2016	Low Tide Time	1432
S6	08 Jan 2016	Comments	Seagrass; 8 Persons; Water clear
S6	10 Jan 2016	Arrive Time	840
S6	10 Jan 2016	Weather	Overcast

Station	Date	Parameter	Value
S6	10 Jan 2016	Wind Speed (kts)	3
S6	10 Jan 2016	Wind Dir	E
S6	10 Jan 2016	Animal Life	None
S6	10 Jan 2016	Floatables	None
S6	10 Jan 2016	Water Color	Green
S6	10 Jan 2016	Current Direction	E
S6	10 Jan 2016	Water Temp (C)	12
S6	10 Jan 2016	Wave Height Low (ft)	3
S6	10 Jan 2016	High Tide (ft)	6.2
S6	10 Jan 2016	High Tide Time	834
S6	10 Jan 2016	Low Tide (ft)	1.5
S6	10 Jan 2016	Low Tide Time	228
S6	10 Jan 2016	Comments	Kelp; Seagrass; Water clear
S6	12 Jan 2016	Arrive Time	957
S6	12 Jan 2016	Weather	Sunny
S6	12 Jan 2016	Wind Speed (kts)	4
S6	12 Jan 2016	Wind Dir	E
S6	12 Jan 2016	Animal Life	2 Dogs
S6	12 Jan 2016	Floatables	Foam
S6	12 Jan 2016	Water Color	Green
S6	12 Jan 2016	Current Direction	N
S6	12 Jan 2016	Water Temp (C)	14
S6	12 Jan 2016	Wave Height Low (ft)	6
S6	12 Jan 2016	High Tide (ft)	5.8
S6	12 Jan 2016	High Tide Time	954
S6	12 Jan 2016	Low Tide (ft)	1.5
S6	12 Jan 2016	Low Tide Time	354
S6	12 Jan 2016	Comments	Kelp; 9 Persons; Water clear
S6	19 Jan 2016	Arrive Time	1024
S6	19 Jan 2016	Weather	Partly Cloudy
S6	19 Jan 2016	Wind Speed (kts)	1.5
S6	19 Jan 2016	Wind Dir	W
S6	19 Jan 2016	Animal Life	None
S6	19 Jan 2016	Floatables	None
S6	19 Jan 2016	Water Color	Green
S6	19 Jan 2016	Current Direction	S
S6	19 Jan 2016	Water Temp (C)	16
S6	19 Jan 2016	Wave Height Low (ft)	4
S6	19 Jan 2016	High Tide (ft)	5.5
S6	19 Jan 2016	High Tide Time	505
S6	19 Jan 2016	Low Tide (ft)	-0.2
S6	19 Jan 2016	Low Tide Time	1227
S6	19 Jan 2016	Comments	Seagrass; Water clear
S6	26 Jan 2016	Arrive Time	1002
S6	26 Jan 2016	Weather	Sunny
S6	26 Jan 2016	Wind Speed (kts)	2.1
S6	26 Jan 2016	Wind Dir	NW
S6	26 Jan 2016	Animal Life	None
S6	26 Jan 2016	Floatables	None
S6	26 Jan 2016	Water Color	Green
S6	26 Jan 2016	Current Direction	S
S6	26 Jan 2016	Water Temp (C)	15.2

Station	Date	Parameter	Value
S6	26 Jan 2016	Wave Height Low (ft)	4
S6	26 Jan 2016	High Tide (ft)	5.3
S6	26 Jan 2016	High Tide Time	954
S6	26 Jan 2016	Low Tide (ft)	1.4
S6	26 Jan 2016	Low Tide Time	401
S6	26 Jan 2016	Comments	Kelp; Seagrass; 2 Surfers; Water clear
S8	05 Jan 2016	Arrive Time	1235
S8	05 Jan 2016	Weather	Moderate Rain
S8	05 Jan 2016	Wind Speed (kts)	7.8
S8	05 Jan 2016	Wind Dir	S
S8	05 Jan 2016	Animal Life	None
S8	05 Jan 2016	Floatables	None
S8	05 Jan 2016	Water Color	Green
S8	05 Jan 2016	Current Direction	S
S8	05 Jan 2016	Water Temp (C)	16
S8	05 Jan 2016	Wave Height Low (ft)	4
S8	05 Jan 2016	High Tide (ft)	3.3
S8	05 Jan 2016	High Tide Time	1852
S8	05 Jan 2016	Low Tide (ft)	0.3
S8	05 Jan 2016	Low Tide Time	1250
S8	05 Jan 2016	Comments	Water clear
S8	07 Jan 2016	Arrive Time	1119
S8	07 Jan 2016	Weather	Cloudy
S8	07 Jan 2016	Wind Speed (kts)	4.6
S8	07 Jan 2016	Wind Dir	NW
S8	07 Jan 2016	Animal Life	None
S8	07 Jan 2016	Floatables	None
S8	07 Jan 2016	Water Color	Green
S8	07 Jan 2016	Current Direction	NW
S8	07 Jan 2016	Water Temp (C)	14.4
S8	07 Jan 2016	Wave Height Low (ft)	4
S8	07 Jan 2016	High Tide (ft)	5.7
S8	07 Jan 2016	High Tide Time	646
S8	07 Jan 2016	Low Tide (ft)	-0.6
S8	07 Jan 2016	Low Tide Time	1358
S8	07 Jan 2016	Comments	Kelp; Seagrass; Water clear
S8	08 Jan 2016	Arrive Time	1207
S8	08 Jan 2016	Weather	Partly Cloudy
S8	08 Jan 2016	Wind Speed (kts)	2.2
S8	08 Jan 2016	Wind Dir	SW
S8	08 Jan 2016	Animal Life	None
S8	08 Jan 2016	Floatables	None
S8	08 Jan 2016	Water Color	Green
S8	08 Jan 2016	Current Direction	S
S8	08 Jan 2016	Water Temp (C)	15.8
S8	08 Jan 2016	Wave Height Low (ft)	15.8
S8	08 Jan 2016	High Tide (ft)	6
S8	08 Jan 2016	High Tide Time	721
S8	08 Jan 2016	Low Tide (ft)	-0.9
S8	08 Jan 2016	Low Tide Time	1432
S8	08 Jan 2016	Comments	Kelp; Seagrass; 3 Persons; Water clear

Station	Date	Parameter	Value
S8	12 Jan 2016	Arrive Time	904
S8	12 Jan 2016	Weather	Sunny
S8	12 Jan 2016	Wind Speed (kts)	1.5
S8	12 Jan 2016	Wind Dir	NE
S8	12 Jan 2016	Animal Life	None
S8	12 Jan 2016	Floatables	Foam
S8	12 Jan 2016	Water Color	Green
S8	12 Jan 2016	Current Direction	N
S8	12 Jan 2016	Water Temp (C)	14.2
S8	12 Jan 2016	Wave Height Low (ft)	6
S8	12 Jan 2016	High Tide (ft)	5.8
S8	12 Jan 2016	High Tide Time	954
S8	12 Jan 2016	Low Tide (ft)	1.5
S8	12 Jan 2016	Low Tide Time	354
S8	12 Jan 2016	Comments	Kelp; 2 Persons; Water clear
S8	19 Jan 2016	Arrive Time	940
S8	19 Jan 2016	Weather	Partly Cloudy
S8	19 Jan 2016	Wind Speed (kts)	1.9
S8	19 Jan 2016	Wind Dir	W
S8	19 Jan 2016	Animal Life	None
S8	19 Jan 2016	Floatables	None
S8	19 Jan 2016	Water Color	Green
S8	19 Jan 2016	Current Direction	S
S8	19 Jan 2016	Water Temp (C)	15.4
S8	19 Jan 2016	Wave Height Low (ft)	3
S8	19 Jan 2016	High Tide (ft)	5.5
S8	19 Jan 2016	High Tide Time	505
S8	19 Jan 2016	Low Tide (ft)	-0.2
S8	19 Jan 2016	Low Tide Time	1227
S8	19 Jan 2016	Comments	Water clear
S8	26 Jan 2016	Arrive Time	1200
S8	26 Jan 2016	Weather	Sunny
S8	26 Jan 2016	Wind Speed (kts)	5
S8	26 Jan 2016	Wind Dir	NW
S8	26 Jan 2016	Animal Life	None
S8	26 Jan 2016	Floatables	None
S8	26 Jan 2016	Water Color	Green
S8	26 Jan 2016	Current Direction	S
S8	26 Jan 2016	Water Temp (C)	16
S8	26 Jan 2016	Wave Height Low (ft)	2
S8	26 Jan 2016	High Tide (ft)	5.3
S8	26 Jan 2016	High Tide Time	954
S8	26 Jan 2016	Low Tide (ft)	-0.4
S8	26 Jan 2016	Low Tide Time	1646
S8	26 Jan 2016	Comments	Kelp; Seagrass; Water clear
S9	05 Jan 2016	Arrive Time	1317
S9	05 Jan 2016	Weather	Heavy Rain
S9	05 Jan 2016	Wind Speed (kts)	18
S9	05 Jan 2016	Wind Dir	S
S9	05 Jan 2016	Animal Life	None
S9	05 Jan 2016	Floatables	None
S9	05 Jan 2016	Water Color	Green

Station	Date	Parameter	Value
S9	05 Jan 2016	Current Direction	S
S9	05 Jan 2016	Water Temp (C)	16
S9	05 Jan 2016	Wave Height Low (ft)	5
S9	05 Jan 2016	High Tide (ft)	3.3
S9	05 Jan 2016	High Tide Time	1852
S9	05 Jan 2016	Low Tide (ft)	0.3
S9	05 Jan 2016	Low Tide Time	1250
S9	05 Jan 2016	Comments	Water clear
S9	07 Jan 2016	Arrive Time	1143
S9	07 Jan 2016	Weather	Cloudy
S9	07 Jan 2016	Wind Speed (kts)	3.3
S9	07 Jan 2016	Wind Dir	NW
S9	07 Jan 2016	Animal Life	None
S9	07 Jan 2016	Floatables	None
S9	07 Jan 2016	Water Color	Green
S9	07 Jan 2016	Current Direction	NW
S9	07 Jan 2016	Water Temp (C)	14.8
S9	07 Jan 2016	Wave Height Low (ft)	6
S9	07 Jan 2016	High Tide (ft)	5.7
S9	07 Jan 2016	High Tide Time	646
S9	07 Jan 2016	Low Tide (ft)	-0.6
S9	07 Jan 2016	Low Tide Time	1358
S9	07 Jan 2016	Comments	Kelp; Seagrass; 5 Persons; Water clear
S9	12 Jan 2016	Arrive Time	840
S9	12 Jan 2016	Weather	Sunny
S9	12 Jan 2016	Wind Speed (kts)	0.1
S9	12 Jan 2016	Wind Dir	NE
S9	12 Jan 2016	Animal Life	None
S9	12 Jan 2016	Floatables	Foam
S9	12 Jan 2016	Water Color	Green
S9	12 Jan 2016	Current Direction	N
S9	12 Jan 2016	Water Temp (C)	14.6
S9	12 Jan 2016	Wave Height Low (ft)	6
S9	12 Jan 2016	High Tide (ft)	5.8
S9	12 Jan 2016	High Tide Time	954
S9	12 Jan 2016	Low Tide (ft)	1.5
S9	12 Jan 2016	Low Tide Time	354
S9	12 Jan 2016	Comments	Water clear
S9	19 Jan 2016	Arrive Time	915
S9	19 Jan 2016	Weather	Partly Cloudy
S9	19 Jan 2016	Wind Speed (kts)	2.7
S9	19 Jan 2016	Wind Dir	W
S9	19 Jan 2016	Animal Life	None
S9	19 Jan 2016	Floatables	None
S9	19 Jan 2016	Water Color	Green
S9	19 Jan 2016	Current Direction	S
S9	19 Jan 2016	Water Temp (C)	15.6
S9	19 Jan 2016	Wave Height Low (ft)	5
S9	19 Jan 2016	High Tide (ft)	5.5
S9	19 Jan 2016	High Tide Time	505
S9	19 Jan 2016	Low Tide (ft)	-0.2
S9	19 Jan 2016	Low Tide Time	1227

Station	Date	Parameter	Value
S9	19 Jan 2016	Comments	Water clear
S9	26 Jan 2016	Arrive Time	1231
S9	26 Jan 2016	Weather	Sunny
S9	26 Jan 2016	Wind Speed (kts)	3.1
S9	26 Jan 2016	Wind Dir	NW
S9	26 Jan 2016	Animal Life	None
S9	26 Jan 2016	Floatables	None
S9	26 Jan 2016	Water Color	Green
S9	26 Jan 2016	Current Direction	S
S9	26 Jan 2016	Water Temp (C)	16
S9	26 Jan 2016	Wave Height Low (ft)	2
S9	26 Jan 2016	High Tide (ft)	5.3
S9	26 Jan 2016	High Tide Time	954
S9	26 Jan 2016	Low Tide (ft)	-0.4
S9	26 Jan 2016	Low Tide Time	1646
S9	26 Jan 2016	Comments	Kelp; Seagrass; Water clear
S10	05 Jan 2016	Arrive Time	1042
S10	05 Jan 2016	Weather	Moderate Rain
S10	05 Jan 2016	Wind Speed (kts)	7.7
S10	05 Jan 2016	Wind Dir	SE
S10	05 Jan 2016	Animal Life	None
S10	05 Jan 2016	Floatables	None
S10	05 Jan 2016	Water Color	Green
S10	05 Jan 2016	Current Direction	S
S10	05 Jan 2016	Water Temp (C)	15.6
S10	05 Jan 2016	Wave Height Low (ft)	3
S10	05 Jan 2016	High Tide (ft)	5.1
S10	05 Jan 2016	High Tide Time	536
S10	05 Jan 2016	Low Tide (ft)	0.3
S10	05 Jan 2016	Low Tide Time	1250
S10	05 Jan 2016	Comments	Seagrass; Water clear
S10	07 Jan 2016	Arrive Time	927
S10	07 Jan 2016	Weather	Cloudy
S10	07 Jan 2016	Wind Speed (kts)	16.1
S10	07 Jan 2016	Wind Dir	W
S10	07 Jan 2016	Animal Life	None
S10	07 Jan 2016	Floatables	None
S10	07 Jan 2016	Water Color	Brown
S10	07 Jan 2016	Current Direction	S
S10	07 Jan 2016	Water Temp (C)	14.6
S10	07 Jan 2016	Wave Height Low (ft)	7
S10	07 Jan 2016	High Tide (ft)	5.7
S10	07 Jan 2016	High Tide Time	646
S10	07 Jan 2016	Low Tide (ft)	-0.6
S10	07 Jan 2016	Low Tide Time	1358
S10	07 Jan 2016	Comments	Kelp; Seagrass; Water clear
S10	08 Jan 2016	Arrive Time	1005
S10	08 Jan 2016	Weather	Partly Cloudy
S10	08 Jan 2016	Wind Speed (kts)	3.8
S10	08 Jan 2016	Wind Dir	W
S10	08 Jan 2016	Animal Life	None

Station	Date	Parameter	Value
S10	08 Jan 2016	Floatables	None
S10	08 Jan 2016	Water Color	Brown
S10	08 Jan 2016	Current Direction	S
S10	08 Jan 2016	Water Temp (C)	15.8
S10	08 Jan 2016	Wave Height Low (ft)	4
S10	08 Jan 2016	High Tide (ft)	6
S10	08 Jan 2016	High Tide Time	721
S10	08 Jan 2016	Low Tide (ft)	-0.9
S10	08 Jan 2016	Low Tide Time	1432
S10	08 Jan 2016	Comments	Seagrass; Sewage-like odor; Water turbid
S10	10 Jan 2016	Arrive Time	1004
S10	10 Jan 2016	Weather	Overcast
S10	10 Jan 2016	Wind Speed (kts)	4
S10	10 Jan 2016	Wind Dir	E
S10	10 Jan 2016	Animal Life	None
S10	10 Jan 2016	Floatables	None
S10	10 Jan 2016	Water Color	Green
S10	10 Jan 2016	Current Direction	E
S10	10 Jan 2016	Water Temp (C)	10
S10	10 Jan 2016	Wave Height Low (ft)	3
S10	10 Jan 2016	High Tide (ft)	6.2
S10	10 Jan 2016	High Tide Time	834
S10	10 Jan 2016	Low Tide (ft)	-1.2
S10	10 Jan 2016	Low Tide Time	1543
S10	10 Jan 2016	Comments	Kelp; Seagrass; Water clear
S10	12 Jan 2016	Arrive Time	1141
S10	12 Jan 2016	Weather	Sunny
S10	12 Jan 2016	Wind Speed (kts)	4
S10	12 Jan 2016	Wind Dir	W
S10	12 Jan 2016	Animal Life	None
S10	12 Jan 2016	Floatables	None
S10	12 Jan 2016	Water Color	Green
S10	12 Jan 2016	Current Direction	W
S10	12 Jan 2016	Water Temp (C)	14.9
S10	12 Jan 2016	Wave Height Low (ft)	6
S10	12 Jan 2016	High Tide (ft)	5.8
S10	12 Jan 2016	High Tide Time	954
S10	12 Jan 2016	Low Tide (ft)	-0.9
S10	12 Jan 2016	Low Tide Time	1700
S10	12 Jan 2016	Comments	Water clear
S10	19 Jan 2016	Arrive Time	1218
S10	19 Jan 2016	Weather	Partly Cloudy
S10	19 Jan 2016	Wind Speed (kts)	7.3
S10	19 Jan 2016	Wind Dir	N
S10	19 Jan 2016	Animal Life	None
S10	19 Jan 2016	Floatables	None
S10	19 Jan 2016	Water Color	Green
S10	19 Jan 2016	Current Direction	S
S10	19 Jan 2016	Water Temp (C)	16.5
S10	19 Jan 2016	Wave Height Low (ft)	4
S10	19 Jan 2016	High Tide (ft)	3.4
S10	19 Jan 2016	High Tide Time	1837

Station	Date	Parameter	Value
S10	19 Jan 2016	Low Tide (ft)	-0.2
S10	19 Jan 2016	Low Tide Time	1227
S10	19 Jan 2016	Comments	Water clear
S10	26 Jan 2016	Arrive Time	847
S10	26 Jan 2016	Weather	Sunny
S10	26 Jan 2016	Wind Speed (kts)	2.1
S10	26 Jan 2016	Wind Dir	NW
S10	26 Jan 2016	Animal Life	None
S10	26 Jan 2016	Floatables	None
S10	26 Jan 2016	Water Color	Green
S10	26 Jan 2016	Current Direction	S
S10	26 Jan 2016	Water Temp (C)	13.8
S10	26 Jan 2016	Wave Height Low (ft)	3
S10	26 Jan 2016	High Tide (ft)	5.3
S10	26 Jan 2016	High Tide Time	954
S10	26 Jan 2016	Low Tide (ft)	1.4
S10	26 Jan 2016	Low Tide Time	401
S10	26 Jan 2016	Comments	Kelp; Seagrass; Water clear
S11	05 Jan 2016	Arrive Time	1149
S11	05 Jan 2016	Weather	Drizzle
S11	05 Jan 2016	Wind Speed (kts)	16.7
S11	05 Jan 2016	Wind Dir	S
S11	05 Jan 2016	Animal Life	None
S11	05 Jan 2016	Floatables	None
S11	05 Jan 2016	Water Color	Green
S11	05 Jan 2016	Current Direction	S
S11	05 Jan 2016	Water Temp (C)	16
S11	05 Jan 2016	Wave Height Low (ft)	4
S11	05 Jan 2016	High Tide (ft)	5.1
S11	05 Jan 2016	High Tide Time	536
S11	05 Jan 2016	Low Tide (ft)	0.3
S11	05 Jan 2016	Low Tide Time	1250
S11	05 Jan 2016	Comments	Seagrass; Water clear
S11	07 Jan 2016	Arrive Time	1032
S11	07 Jan 2016	Weather	Cloudy
S11	07 Jan 2016	Wind Speed (kts)	4.4
S11	07 Jan 2016	Wind Dir	W
S11	07 Jan 2016	Animal Life	None
S11	07 Jan 2016	Floatables	None
S11	07 Jan 2016	Water Color	Green
S11	07 Jan 2016	Current Direction	NW
S11	07 Jan 2016	Water Temp (C)	14.6
S11	07 Jan 2016	Wave Height Low (ft)	7
S11	07 Jan 2016	High Tide (ft)	5.7
S11	07 Jan 2016	High Tide Time	646
S11	07 Jan 2016	Low Tide (ft)	-0.6
S11	07 Jan 2016	Low Tide Time	1358
S11	07 Jan 2016	Comments	Kelp; Seagrass; Water clear
S11	08 Jan 2016	Arrive Time	1106
S11	08 Jan 2016	Weather	Partly Cloudy
S11	08 Jan 2016	Wind Speed (kts)	5.5

Station	Date	Parameter	Value
S11	08 Jan 2016	Wind Dir	W
S11	08 Jan 2016	Animal Life	None
S11	08 Jan 2016	Floatables	None
S11	08 Jan 2016	Water Color	Brown
S11	08 Jan 2016	Current Direction	S
S11	08 Jan 2016	Water Temp (C)	16.6
S11	08 Jan 2016	Wave Height Low (ft)	4
S11	08 Jan 2016	High Tide (ft)	6
S11	08 Jan 2016	High Tide Time	721
S11	08 Jan 2016	Low Tide (ft)	-0.9
S11	08 Jan 2016	Low Tide Time	1432
S11	08 Jan 2016	Comments	Kelp; Water clear
S11	10 Jan 2016	Arrive Time	825
S11	10 Jan 2016	Weather	Overcast
S11	10 Jan 2016	Wind Speed (kts)	4
S11	10 Jan 2016	Wind Dir	E
S11	10 Jan 2016	Animal Life	20 Seagulls
S11	10 Jan 2016	Floatables	None
S11	10 Jan 2016	Water Color	Green
S11	10 Jan 2016	Current Direction	E
S11	10 Jan 2016	Water Temp (C)	10
S11	10 Jan 2016	Wave Height Low (ft)	3
S11	10 Jan 2016	High Tide (ft)	6.2
S11	10 Jan 2016	High Tide Time	834
S11	10 Jan 2016	Low Tide (ft)	1.5
S11	10 Jan 2016	Low Tide Time	228
S11	10 Jan 2016	Comments	Kelp; Seagrass; Water turbid; Many sea cucumbers
S11	12 Jan 2016	Arrive Time	1027
S11	12 Jan 2016	Weather	Sunny
S11	12 Jan 2016	Wind Speed (kts)	2.1
S11	12 Jan 2016	Wind Dir	NE
S11	12 Jan 2016	Animal Life	None
S11	12 Jan 2016	Floatables	Foam
S11	12 Jan 2016	Water Color	Green
S11	12 Jan 2016	Current Direction	N
S11	12 Jan 2016	Water Temp (C)	14.6
S11	12 Jan 2016	Wave Height Low (ft)	5
S11	12 Jan 2016	High Tide (ft)	5.8
S11	12 Jan 2016	High Tide Time	954
S11	12 Jan 2016	Low Tide (ft)	1.5
S11	12 Jan 2016	Low Tide Time	354
S11	12 Jan 2016	Comments	Kelp; 2 Persons; Water clear
S11	19 Jan 2016	Arrive Time	1030
S11	19 Jan 2016	Weather	Cloudy
S11	19 Jan 2016	Wind Speed (kts)	2.7
S11	19 Jan 2016	Wind Dir	NW
S11	19 Jan 2016	Animal Life	None
S11	19 Jan 2016	Floatables	None
S11	19 Jan 2016	Water Color	Green
S11	19 Jan 2016	Current Direction	S
S11	19 Jan 2016	Water Temp (C)	16.3
S11	19 Jan 2016	Wave Height Low (ft)	4

Station	Date	Parameter	Value
S11	19 Jan 2016	High Tide (ft)	5.5
S11	19 Jan 2016	High Tide Time	505
S11	19 Jan 2016	Low Tide (ft)	-0.2
S11	19 Jan 2016	Low Tide Time	1227
S11	19 Jan 2016	Comments	Water clear
S11	26 Jan 2016	Arrive Time	1025
S11	26 Jan 2016	Weather	Sunny
S11	26 Jan 2016	Wind Speed (kts)	0
S11	26 Jan 2016	Wind Dir	
S11	26 Jan 2016	Animal Life	None
S11	26 Jan 2016	Floatables	None
S11	26 Jan 2016	Water Color	Green
S11	26 Jan 2016	Current Direction	S
S11	26 Jan 2016	Water Temp (C)	14.8
S11	26 Jan 2016	Wave Height Low (ft)	4
S11	26 Jan 2016	High Tide (ft)	5.3
S11	26 Jan 2016	High Tide Time	954
S11	26 Jan 2016	Low Tide (ft)	1.4
S11	26 Jan 2016	Low Tide Time	401
S11	26 Jan 2016	Comments	Kelp; Seagrass; Water clear
S12	05 Jan 2016	Arrive Time	1126
S12	05 Jan 2016	Weather	Moderate Rain
S12	05 Jan 2016	Wind Speed (kts)	6.6
S12	05 Jan 2016	Wind Dir	SE
S12	05 Jan 2016	Animal Life	None
S12	05 Jan 2016	Floatables	None
S12	05 Jan 2016	Water Color	Green
S12	05 Jan 2016	Current Direction	S
S12	05 Jan 2016	Water Temp (C)	15.8
S12	05 Jan 2016	Wave Height Low (ft)	4
S12	05 Jan 2016	High Tide (ft)	5.1
S12	05 Jan 2016	High Tide Time	536
S12	05 Jan 2016	Low Tide (ft)	0.3
S12	05 Jan 2016	Low Tide Time	1250
S12	05 Jan 2016	Comments	Seagrass; Water clear
S12	07 Jan 2016	Arrive Time	1012
S12	07 Jan 2016	Weather	Cloudy
S12	07 Jan 2016	Wind Speed (kts)	3.6
S12	07 Jan 2016	Wind Dir	W
S12	07 Jan 2016	Animal Life	None
S12	07 Jan 2016	Floatables	None
S12	07 Jan 2016	Water Color	Green
S12	07 Jan 2016	Current Direction	NW
S12	07 Jan 2016	Water Temp (C)	14.6
S12	07 Jan 2016	Wave Height Low (ft)	4
S12	07 Jan 2016	High Tide (ft)	5.7
S12	07 Jan 2016	High Tide Time	646
S12	07 Jan 2016	Low Tide (ft)	-0.6
S12	07 Jan 2016	Low Tide Time	1358
S12	07 Jan 2016	Comments	Kelp; Seagrass; Water clear
S12	08 Jan 2016	Arrive Time	1048

Station	Date	Parameter	Value
S12	08 Jan 2016	Weather	Partly Cloudy
S12	08 Jan 2016	Wind Speed (kts)	4.4
S12	08 Jan 2016	Wind Dir	W
S12	08 Jan 2016	Animal Life	None
S12	08 Jan 2016	Floatables	None
S12	08 Jan 2016	Water Color	Brown
S12	08 Jan 2016	Current Direction	S
S12	08 Jan 2016	Water Temp (C)	15
S12	08 Jan 2016	Wave Height Low (ft)	4
S12	08 Jan 2016	High Tide (ft)	6
S12	08 Jan 2016	High Tide Time	721
S12	08 Jan 2016	Low Tide (ft)	-0.9
S12	08 Jan 2016	Low Tide Time	1432
S12	08 Jan 2016	Comments	Seagrass; Water clear
S12	10 Jan 2016	Arrive Time	907
S12	10 Jan 2016	Weather	Overcast
S12	10 Jan 2016	Wind Speed (kts)	3
S12	10 Jan 2016	Wind Dir	E
S12	10 Jan 2016	Animal Life	None
S12	10 Jan 2016	Floatables	None
S12	10 Jan 2016	Water Color	Green
S12	10 Jan 2016	Current Direction	E
S12	10 Jan 2016	Water Temp (C)	14
S12	10 Jan 2016	Wave Height Low (ft)	4
S12	10 Jan 2016	High Tide (ft)	6.2
S12	10 Jan 2016	High Tide Time	834
S12	10 Jan 2016	Low Tide (ft)	1.5
S12	10 Jan 2016	Low Tide Time	228
S12	10 Jan 2016	Comments	Kelp; Seagrass; 2 Persons; Water clear
S12	12 Jan 2016	Arrive Time	937
S12	12 Jan 2016	Weather	Sunny
S12	12 Jan 2016	Wind Speed (kts)	2.9
S12	12 Jan 2016	Wind Dir	E
S12	12 Jan 2016	Animal Life	None
S12	12 Jan 2016	Floatables	None
S12	12 Jan 2016	Water Color	Green
S12	12 Jan 2016	Current Direction	N
S12	12 Jan 2016	Water Temp (C)	14.8
S12	12 Jan 2016	Wave Height Low (ft)	6
S12	12 Jan 2016	High Tide (ft)	5.8
S12	12 Jan 2016	High Tide Time	954
S12	12 Jan 2016	Low Tide (ft)	1.5
S12	12 Jan 2016	Low Tide Time	354
S12	12 Jan 2016	Comments	Kelp; Water clear
S12	19 Jan 2016	Arrive Time	1012
S12	19 Jan 2016	Weather	Partly Cloudy
S12	19 Jan 2016	Wind Speed (kts)	0.1
S12	19 Jan 2016	Wind Dir	W
S12	19 Jan 2016	Animal Life	None
S12	19 Jan 2016	Floatables	None
S12	19 Jan 2016	Water Color	Green
S12	19 Jan 2016	Current Direction	S

Station	Date	Parameter	Value
S12	19 Jan 2016	Water Temp (C)	16.6
S12	19 Jan 2016	Wave Height Low (ft)	4
S12	19 Jan 2016	High Tide (ft)	5.5
S12	19 Jan 2016	High Tide Time	505
S12	19 Jan 2016	Low Tide (ft)	-0.2
S12	19 Jan 2016	Low Tide Time	1227
S12	19 Jan 2016	Comments	Water clear
S12	26 Jan 2016	Arrive Time	943
S12	26 Jan 2016	Weather	Sunny
S12	26 Jan 2016	Wind Speed (kts)	1.9
S12	26 Jan 2016	Wind Dir	NW
S12	26 Jan 2016	Animal Life	None
S12	26 Jan 2016	Floatables	None
S12	26 Jan 2016	Water Color	Green
S12	26 Jan 2016	Current Direction	S
S12	26 Jan 2016	Water Temp (C)	15.2
S12	26 Jan 2016	Wave Height Low (ft)	4
S12	26 Jan 2016	High Tide (ft)	5.3
S12	26 Jan 2016	High Tide Time	954
S12	26 Jan 2016	Low Tide (ft)	1.4
S12	26 Jan 2016	Low Tide Time	401
S12	26 Jan 2016	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 Jan 2016	95	9	12	3	3	8	56
02 Jan 2016	95	9	12	3	3	8	56
03 Jan 2016	248*	14*	19*	3*	3*	11*	128*
04 Jan 2016	160	16	19	3	3	11	98
05 Jan 2016	160	16	19	3	3	11	98
06 Jan 2016	160	16	19	3	3	11	98
07 Jan 2016	160	16	19	3	3	11	98
08 Jan 2016	446*	28*	40*	4*	3*	17*	241*
09 Jan 2016	446*	28*	40*	4*	3*	17*	241*
10 Jan 2016	446*	28*	40*	4*	3*	17*	241*
11 Jan 2016	446*	28*	40*	4*	3*	17*	241*
12 Jan 2016	446*	28*	40*	4*	3*	17*	241*
13 Jan 2016	339	26	33	7	5	15	186
14 Jan 2016	411*	34*	52*	6*	5*	9*	234*
15 Jan 2016	411*	34*	52*	6*	5*	9*	234*
16 Jan 2016	336*	87*	268*	12*	6*	5*	226*
17 Jan 2016	336*	87*	268*	12*	6*	5*	226*
18 Jan 2016	336*	87*	268*	12*	6*	5*	226*
19 Jan 2016	205*	60*	83*	6*	7*	4*	123*
20 Jan 2016	53*	23*	13*	8*	13*	5*	36*
21 Jan 2016	53*	23*	13*	8*	13*	5*	36*
22 Jan 2016	53*	23*	13*	8*	13*	5*	36*
23 Jan 2016	53*	23*	13*	8*	13*	5*	36*
24 Jan 2016	53*	23*	13*	8*	13*	5*	36*
25 Jan 2016	53*	23*	13*	8*	13*	5*	36*
26 Jan 2016	53*	23*	13*	8*	13*	5*	36*
27 Jan 2016	53*	23*	13*	8*	13*	5*	36*
28 Jan 2016	25*	13*	7*	6*	7*	4*	17*
29 Jan 2016	25*	13*	7*	6*	7*	4*	17*
30 Jan 2016	25*	13*	7*	6*	7*	4*	17*
31 Jan 2016	25*	13*	7*	6*	7*	4*	17*

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

* Geometric mean calculated using n<5

Table 3.3

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

Date	I19	I24	I25	I26	I32	I39	I40
01 Jan 2016	14	3	4	2	2	3	5
02 Jan 2016	14	3	4	2	2	3	5
03 Jan 2016	22*	4*	5*	2*	2*	3*	6*
04 Jan 2016	15	4	5	2	2	3	8
05 Jan 2016	15	4	5	2	2	3	8
06 Jan 2016	15	4	5	2	2	3	8
07 Jan 2016	15	4	5	2	2	3	8
08 Jan 2016	22*	5*	6*	2*	2*	3*	11*
09 Jan 2016	22*	5*	6*	2*	2*	3*	11*
10 Jan 2016	22*	5*	6*	2*	2*	3*	11*
11 Jan 2016	22*	5*	6*	2*	2*	3*	11*
12 Jan 2016	22*	5*	6*	2*	2*	3*	11*
13 Jan 2016	25	4	7	4	2	3	11
14 Jan 2016	27*	5*	10*	4*	2*	3*	16*
15 Jan 2016	27*	5*	10*	4*	2*	3*	16*
16 Jan 2016	26*	7*	22*	6*	2*	3*	20*
17 Jan 2016	26*	7*	22*	6*	2*	3*	20*
18 Jan 2016	26*	7*	22*	6*	2*	3*	20*
19 Jan 2016	23*	6*	11*	4*	2*	3*	19*
20 Jan 2016	12*	4*	5*	6*	2*	3*	15*
21 Jan 2016	12*	4*	5*	6*	2*	3*	15*
22 Jan 2016	12*	4*	5*	6*	2*	3*	15*
23 Jan 2016	12*	4*	5*	6*	2*	3*	15*
24 Jan 2016	12*	4*	5*	6*	2*	3*	15*
25 Jan 2016	12*	4*	5*	6*	2*	3*	15*
26 Jan 2016	12*	4*	5*	6*	2*	3*	15*
27 Jan 2016	12*	4*	5*	6*	2*	3*	15*
28 Jan 2016	7*	4*	4*	4*	2*	3*	9*
29 Jan 2016	7*	4*	4*	4*	2*	3*	9*
30 Jan 2016	7*	4*	4*	4*	2*	3*	9*
31 Jan 2016	7*	4*	4*	4*	2*	3*	9*

* Geometric mean calculated using n<5

Table 3.4

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

Date	I19	I24	I25	I26	I32	I39	I40
04 Jan 2016	IC	IC	ns	ns	ns	IC	IC
13 Jan 2016	IC	IC	IC	IC	IC	IC	IC
19 Jan 2016	IC	IC	IC	IC	IC	IC	IC
28 Jan 2016	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance
E = Exceedance
ns = not sampled

Table 3.5

Summary of compliance at the SBOO kelp stations with the Ocean Plan's Single Sample Maximum standard for fecal coliform bacteria, which states that fecal coliform density shall not exceed 400 CFU/100 mL.

Date	I19	I24	I25	I26	I32	I39	I40
04 Jan 2016	IC	IC	ns	ns	ns	IC	IC
13 Jan 2016	IC	IC	IC	IC	IC	IC	IC
19 Jan 2016	IC	IC	IC	IC	IC	IC	IC
28 Jan 2016	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance
E = Exceedance
ns = not sampled

Table 3.6

Summary of compliance at the SBOO kelp stations with the Ocean Plan's Single Sample Maximum standard for *Enterococcus* bacteria, which states that *Enterococcus* density shall not exceed 104 CFU/100 mL.

Date	I19	I24	I25	I26	I32	I39	I40
04 Jan 2016	IC	IC	ns	ns	ns	IC	IC
13 Jan 2016	IC	IC	IC	IC	IC	IC	IC
19 Jan 2016	IC	IC	IC	IC	IC	IC	IC
28 Jan 2016	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance
E = Exceedance
ns = not sampled

Table 3.7

Summary of compliance at the SBOO kelp stations with the Ocean Plan's Single Sample Maximum standard for total coliform bacteria and the fecal/total coliform ratio (F:T), which states that total coliform density shall not exceed 1,000 CFU/100 mL when F:T > 0.1.

Date	I19	I24	I25	I26	I32	I39	I40
04 Jan 2016	IC	IC	ns	ns	ns	IC	IC
13 Jan 2016	IC	IC	IC	IC	IC	IC	IC
19 Jan 2016	IC	IC	IC	IC	IC	IC	IC
28 Jan 2016	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance
E = Exceedance
ns = not sampled

Table 3.8

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

Station	Date	Time	Depth	Total	Fecal	Entero	F:T	Temp	XMS	DO	Sal	pH	OG	SUSO
I19	04 Jan 2016	1353	2	<2	<2	<2	1.00	16.4	82.14	6.9	33.52	8.2	ns	ns
I19	04 Jan 2016	1353	6	80e	6e	4e	0.07	16.4	82.14	6.5	33.60	8.2	ns	ns
I19	04 Jan 2016	1353	11	2e	<2	<2	1.00	16.1	60.71	5.9	33.74	8.2	ns	ns
I19	13 Jan 2016	1200	2	80e	34e	42	0.42	15.4	33.24	7.3	33.44	8.1	ns	ns
I19	13 Jan 2016	1200	6	120e	24e	36e	0.20	15.3	22.47	7.7	33.43	8.1	ns	ns
I19	13 Jan 2016	1200	11	140e	28e	48	0.20	15.3	20.76	7.8	33.43	8.1	ns	ns
I19	19 Jan 2016	1256	2	<20	4e	12e	0.20	15.7	27.27	8.2	33.53	8.2	ns	ns
I19	19 Jan 2016	1256	6	40e	2e	18e	0.05	15.6	27.56	8.0	33.53	8.2	ns	ns
I19	19 Jan 2016	1256	11	80e	2e	12e	0.02	15.7	23.67	8.2	33.51	8.2	ns	ns
I19	28 Jan 2016	1143	2	<2	<2	<2	1.00	15.3	71.27	7.6	33.56	8.1	ns	ns
I19	28 Jan 2016	1143	6	<2	<2	<2	1.00	15.2	75.61	7.5	33.56	8.1	ns	ns
I19	28 Jan 2016	1143	11	4e	<2	<2	0.50	15.1	62.67	7.6	33.56	8.1	ns	ns
I24	04 Jan 2016	1423	2	<2	<2	<2	1.00	16.5	85.35	8.2	33.60	8.2	ns	ns
I24	04 Jan 2016	1423	6	10e	<2	<2	0.20	16.3	84.60	7.4	33.64	8.2	ns	ns
I24	04 Jan 2016	1423	11	80e	12e	14e	0.15	16.1	65.12	7.1	33.62	8.2	ns	ns
I24	13 Jan 2016	1231	2	<20	<2	2e	0.10	15.6	45.56	7.6	33.48	8.1	ns	ns
I24	13 Jan 2016	1231	6	<20	<2	<2	0.10	15.4	46.02	7.5	33.47	8.1	ns	ns
I24	13 Jan 2016	1231	11	<20	2e	2e	0.10	15.4	35.26	7.6	33.47	8.1	ns	ns
I24	19 Jan 2016	1327	2	<20	<2	2e	0.10	15.7	43.56	7.6	33.53	8.2	ns	ns
I24	19 Jan 2016	1327	6	<20	<2	<2	0.10	15.7	43.48	7.6	33.53	8.2	ns	ns
I24	19 Jan 2016	1327	11	<20	<2	10e	0.10	15.7	43.69	7.6	33.53	8.2	ns	ns
I24	28 Jan 2016	1205	2	<2	<2	<2	1.00	15.4	57.06	7.3	33.56	8.1	ns	ns
I24	28 Jan 2016	1205	6	<2	<2	2e	1.00	15.0	48.60	7.7	33.56	8.1	ns	ns
I24	28 Jan 2016	1205	11	2e	<2	6e	1.00	15.0	26.81	7.6	33.56	8.1	ns	ns
I25	04 Jan 2016	1438	2	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
I25	04 Jan 2016	1438	6	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
I25	04 Jan 2016	1438	9	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
I25	13 Jan 2016	1244	2	<20	<2	2e	0.10	15.6	46.44	7.5	33.47	8.1	ns	ns
I25	13 Jan 2016	1244	6	20e	2e	10e	0.10	15.4	42.66	7.4	33.47	8.1	ns	ns
I25	13 Jan 2016	1244	9	<20	2e	12e	0.10	15.4	31.34	7.4	33.47	8.1	ns	ns
I25	19 Jan 2016	1335	2	<2	<2	2e	1.00	15.7	48.18	7.6	33.53	8.2	ns	ns
I25	19 Jan 2016	1335	6	<20	<2	<2	0.10	15.7	48.88	7.6	33.53	8.2	ns	ns
I25	19 Jan 2016	1335	9	<2	<2	4e	1.00	15.7	48.12	7.6	33.53	8.2	ns	ns
I25	28 Jan 2016	1213	2	2e	<2	<2	1.00	15.3	58.21	7.4	33.56	8.1	ns	ns
I25	28 Jan 2016	1213	6	<2	<2	<2	1.00	15.1	56.39	7.3	33.55	8.1	ns	ns

Station	Date	Time	Depth	Total	Fecal	Entero	F:T	Temp	XMS	DO	Sal	pH	OG	SUSO
I25	28 Jan 2016	1213	9	<2	<2	4e	1.00	15.1	47.92	7.4	33.55	8.1	ns	ns
I26	04 Jan 2016		2	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
I26	04 Jan 2016		6	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
I26	04 Jan 2016		9	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
I26	13 Jan 2016	1257	2	<20	<2	4e	0.10	15.6	40.00	7.4	33.48	8.1	ns	ns
I26	13 Jan 2016	1257	6	60e	<2	24e	0.03	15.5	34.28	7.4	33.48	8.1	ns	ns
I26	13 Jan 2016	1257	9	20e	2e	32e	0.10	15.5	26.08	7.2	33.49	8.1	ns	ns
I26	19 Jan 2016	1351	2	<2	<2	<2	1.00	15.7	41.24	7.7	33.48	8.2	ns	ns
I26	19 Jan 2016	1351	6	<2	<2	<2	1.00	15.7	64.67	7.6	33.53	8.2	ns	ns
I26	19 Jan 2016	1351	9	2e	<2	2e	1.00	15.6	46.77	7.5	33.53	8.2	ns	ns
I26	28 Jan 2016	1225	2	<2	<2	<2	1.00	15.4	70.77	7.6	33.57	8.1	ns	ns
I26	28 Jan 2016	1225	6	<2	<2	<2	1.00	15.1	59.03	7.3	33.55	8.1	ns	ns
I26	28 Jan 2016	1225	9	4e	<2	<2	0.50	15.0	57.08	7.3	33.56	8.1	ns	ns
I32	04 Jan 2016		2	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
I32	04 Jan 2016		6	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
I32	04 Jan 2016		9	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
I32	13 Jan 2016	1316	2	<20	<2	2e	0.10	15.7	47.63	7.6	33.51	8.1	ns	ns
I32	13 Jan 2016	1316	6	<20	<2	2e	0.10	15.6	46.58	7.6	33.51	8.1	ns	ns
I32	13 Jan 2016	1316	9	<20	<2	2e	0.10	15.6	44.58	7.7	33.51	8.1	ns	ns
I32	19 Jan 2016	1406	2	<2	<2	<2	1.00	15.8	62.32	7.7	33.54	8.2	ns	ns
I32	19 Jan 2016	1406	6	<2	<2	<2	1.00	15.8	61.79	7.7	33.54	8.2	ns	ns
I32	19 Jan 2016	1406	9	<20	<2	<2	0.10	15.8	49.69	7.8	33.54	8.2	ns	ns
I32	28 Jan 2016	1240	2	<2	<2	<2	1.00	15.7	71.34	7.6	33.56	8.2	ns	ns
I32	28 Jan 2016	1240	6	<2	<2	<2	1.00	15.2	69.17	7.6	33.55	8.2	ns	ns
I32	28 Jan 2016	1240	9	<2	<2	<2	1.00	15.1	66.84	7.6	33.55	8.2	ns	ns
I39	04 Jan 2016	1326	2	4e	<2	<2	0.50	16.6	80.31	6.5	33.58	8.2	ns	ns
I39	04 Jan 2016	1326	12	<2	<2	<2	1.00	16.4	84.96	7.3	33.67	8.2	ns	ns
I39	04 Jan 2016	1326	18	24e	<2	<2	0.08	16.1	74.76	5.9	33.69	8.2	ns	ns
I39	13 Jan 2016	1132	2	<2	<2	<2	1.00	15.7	77.97	7.1	33.54	8.1	ns	ns
I39	13 Jan 2016	1132	12	<2	<2	2e	1.00	15.6	75.04	6.8	33.55	8.1	ns	ns
I39	13 Jan 2016	1132	18	<20	<2	8e	0.10	15.6	42.72	6.1	33.57	8.0	ns	ns
I39	19 Jan 2016	1226	2	<2	<2	<2	1.00	15.8	70.61	7.6	33.53	8.2	ns	ns
I39	19 Jan 2016	1226	12	2e	<2	<2	1.00	15.5	76.02	7.2	33.53	8.2	ns	ns
I39	19 Jan 2016	1226	18	<2	<2	12e	1.00	15.0	61.33	6.3	33.52	8.1	ns	ns
I39	28 Jan 2016	1119	2	<2	<2	<2	1.00	15.3	82.95	7.3	33.56	8.1	ns	ns
I39	28 Jan 2016	1119	12	<2	<2	<2	1.00	15.1	79.77	7.1	33.55	8.1	ns	ns
I39	28 Jan 2016	1119	18	<2	<2	<2	1.00	15.1	80.77	6.8	33.55	8.1	ns	ns
I40	04 Jan 2016	1407	2	2e	<2	<2	1.00	16.5	85.24	7.5	33.63	8.2	ns	ns
I40	04 Jan 2016	1407	6	20e	10e	20e	0.50	16.5	85.04	7.1	33.64	8.2	ns	ns
I40	04 Jan 2016	1407	9	80	8e	42	0.10	16.3	83.06	6.0	33.69	8.2	ns	ns
I40	13 Jan 2016	1215	2	<20	6e	<2	0.30	15.4	39.47	7.6	33.45	8.1	ns	ns

Station	Date	Time	Depth	Total	Fecal	Entero	F:T	Temp	XMS	DO	Sal	pH	OG	SUSO
I40	13 Jan 2016	1215	6	160e	8e	18e	0.05	15.4	33.73	7.7	33.46	8.1	ns	ns
I40	13 Jan 2016	1215	9	<20	6e	6e	0.30	15.3	31.61	7.8	33.47	8.1	ns	ns
I40	19 Jan 2016	1314	2	<20	<2	<2	0.10	15.8	43.69	7.7	33.50	8.2	ns	ns
I40	19 Jan 2016	1314	6	<20	<2	28e	0.10	15.7	40.85	7.7	33.54	8.2	ns	ns
I40	19 Jan 2016	1314	9	20e	<2	24e	0.10	15.3	10.89	6.4	33.53	8.1	ns	ns
I40	28 Jan 2016	1154	2	<2	<2	<2	1.00	15.3	54.46	7.9	33.57	8.1	ns	ns
I40	28 Jan 2016	1154	6	<2	<2	<2	1.00	15.1	58.25	7.9	33.56	8.1	ns	ns
I40	28 Jan 2016	1154	9	2e	<2	2e	1.00	15.0	57.48	7.8	33.56	8.1	ns	ns

ns = not sampled
ND = no data

Comments

Station	Date	Depth	Parameter	Comments
I25	04 Jan 2016			Not sampled due to equipment failure
I26	04 Jan 2016			Not sampled due to equipment failure
I32	04 Jan 2016			Not sampled due to equipment failure

Table 3.9

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

Station	Date	Parameter	Value
I19	04 Jan 2016	Depth (m)	10
I19	04 Jan 2016	Arrive Time	1353
I19	04 Jan 2016	Depart Time	1358
I19	04 Jan 2016	Air Temp (C)	16
I19	04 Jan 2016	Weather	Rain
I19	04 Jan 2016	Visibility (mi)	2
I19	04 Jan 2016	Wind Speed (kts)	2
I19	04 Jan 2016	Wind Dir	NW
I19	04 Jan 2016	Water Color	Green
I19	04 Jan 2016	Wave Ht Low (ft)	5
I19	04 Jan 2016	Wave Period (sec)	7
I19	04 Jan 2016	Sea State	Confused swell
I19	04 Jan 2016	High Tide (ft)	4.74
I19	04 Jan 2016	High Tide Time	458
I19	04 Jan 2016	Low Tide (ft)	0.87
I19	04 Jan 2016	Low Tide Time	1213
I19	04 Jan 2016	Comments	
I19	13 Jan 2016	Depth (m)	11
I19	13 Jan 2016	Arrive Time	1200
I19	13 Jan 2016	Depart Time	1206
I19	13 Jan 2016	Air Temp (C)	14
I19	13 Jan 2016	Weather	Partly Cloudy
I19	13 Jan 2016	Visibility (mi)	8
I19	13 Jan 2016	Wind Speed (kts)	10
I19	13 Jan 2016	Wind Dir	S
I19	13 Jan 2016	Water Color	Brownish-Green
I19	13 Jan 2016	Wave Ht Low (ft)	3
I19	13 Jan 2016	Wave Period (sec)	9
I19	13 Jan 2016	Sea State	Calm
I19	13 Jan 2016	High Tide (ft)	5.34
I19	13 Jan 2016	High Tide Time	1039
I19	13 Jan 2016	Low Tide (ft)	1.59
I19	13 Jan 2016	Low Tide Time	445
I19	13 Jan 2016	Comments	Low transmissivity all depths possibly TJ river output
I19	19 Jan 2016	Depth (m)	10
I19	19 Jan 2016	Arrive Time	1256
I19	19 Jan 2016	Depart Time	1305
I19	19 Jan 2016	Air Temp (C)	15
I19	19 Jan 2016	Weather	Overcast
I19	19 Jan 2016	Visibility (mi)	6
I19	19 Jan 2016	Wind Speed (kts)	13
I19	19 Jan 2016	Wind Dir	NE
I19	19 Jan 2016	Water Color	Green
I19	19 Jan 2016	Wave Ht Low (ft)	8
I19	19 Jan 2016	Wave Period (sec)	13
I19	19 Jan 2016	Sea State	Heavy chop
I19	19 Jan 2016	High Tide (ft)	5.54
I19	19 Jan 2016	High Tide Time	505
I19	19 Jan 2016	Low Tide (ft)	-0.22

Station	Date	Parameter	Value
I19	19 Jan 2016	Low Tide Time	1227
I19	19 Jan 2016	Comments	Due to large surf and swell sampled 0.1 nm from station; Freshwater lense from TJ river present at surface 1-2m depth
I19	28 Jan 2016	Depth (m)	12
I19	28 Jan 2016	Arrive Time	1143
I19	28 Jan 2016	Depart Time	1145
I19	28 Jan 2016	Air Temp (C)	16
I19	28 Jan 2016	Weather	Clear
I19	28 Jan 2016	Visibility (mi)	10
I19	28 Jan 2016	Wind Speed (kts)	4
I19	28 Jan 2016	Wind Dir	W
I19	28 Jan 2016	Water Color	Green
I19	28 Jan 2016	Wave Ht Low (ft)	3
I19	28 Jan 2016	Wave Period (sec)	9
I19	28 Jan 2016	Sea State	Calm
I19	28 Jan 2016	High Tide (ft)	4.24
I19	28 Jan 2016	High Tide Time	1105
I19	28 Jan 2016	Low Tide (ft)	1.69
I19	28 Jan 2016	Low Tide Time	525
I19	28 Jan 2016	Comments	
I24	04 Jan 2016	Depth (m)	9
I24	04 Jan 2016	Arrive Time	1423
I24	04 Jan 2016	Depart Time	1438
I24	04 Jan 2016	Air Temp (C)	15
I24	04 Jan 2016	Weather	Rain
I24	04 Jan 2016	Visibility (mi)	3
I24	04 Jan 2016	Wind Speed (kts)	0
I24	04 Jan 2016	Wind Dir	
I24	04 Jan 2016	Water Color	Green
I24	04 Jan 2016	Wave Ht Low (ft)	5
I24	04 Jan 2016	Wave Period (sec)	7
I24	04 Jan 2016	Sea State	Confused swell
I24	04 Jan 2016	High Tide (ft)	4.74
I24	04 Jan 2016	High Tide Time	458
I24	04 Jan 2016	Low Tide (ft)	0.87
I24	04 Jan 2016	Low Tide Time	1213
I24	04 Jan 2016	Comments	
I24	13 Jan 2016	Depth (m)	10
I24	13 Jan 2016	Arrive Time	1231
I24	13 Jan 2016	Depart Time	1238
I24	13 Jan 2016	Air Temp (C)	14
I24	13 Jan 2016	Weather	Partly Cloudy
I24	13 Jan 2016	Visibility (mi)	8
I24	13 Jan 2016	Wind Speed (kts)	11
I24	13 Jan 2016	Wind Dir	NW
I24	13 Jan 2016	Water Color	Brownish-Green
I24	13 Jan 2016	Wave Ht Low (ft)	3
I24	13 Jan 2016	Wave Period (sec)	9
I24	13 Jan 2016	Sea State	Calm
I24	13 Jan 2016	High Tide (ft)	5.34
I24	13 Jan 2016	High Tide Time	1039
I24	13 Jan 2016	Low Tide (ft)	1.59

Station	Date	Parameter	Value
I24	13 Jan 2016	Low Tide Time	445
I24	13 Jan 2016	Comments	
I24	19 Jan 2016	Depth (m)	10
I24	19 Jan 2016	Arrive Time	1327
I24	19 Jan 2016	Depart Time	1332
I24	19 Jan 2016	Air Temp (C)	15
I24	19 Jan 2016	Weather	Overcast
I24	19 Jan 2016	Visibility (mi)	6
I24	19 Jan 2016	Wind Speed (kts)	11
I24	19 Jan 2016	Wind Dir	N
I24	19 Jan 2016	Water Color	Green
I24	19 Jan 2016	Wave Ht Low (ft)	9
I24	19 Jan 2016	Wave Period (sec)	13
I24	19 Jan 2016	Sea State	Heavy chop
I24	19 Jan 2016	High Tide (ft)	5.54
I24	19 Jan 2016	High Tide Time	505
I24	19 Jan 2016	Low Tide (ft)	-0.22
I24	19 Jan 2016	Low Tide Time	1227
I24	19 Jan 2016	Comments	Due to large surf sampled 0.85nm away from station
I24	28 Jan 2016	Depth (m)	11
I24	28 Jan 2016	Arrive Time	1205
I24	28 Jan 2016	Depart Time	1209
I24	28 Jan 2016	Air Temp (C)	16
I24	28 Jan 2016	Weather	Clear
I24	28 Jan 2016	Visibility (mi)	10
I24	28 Jan 2016	Wind Speed (kts)	5
I24	28 Jan 2016	Wind Dir	NW
I24	28 Jan 2016	Water Color	Green
I24	28 Jan 2016	Wave Ht Low (ft)	3
I24	28 Jan 2016	Wave Period (sec)	9
I24	28 Jan 2016	Sea State	Calm
I24	28 Jan 2016	High Tide (ft)	4.24
I24	28 Jan 2016	High Tide Time	1105
I24	28 Jan 2016	Low Tide (ft)	1.69
I24	28 Jan 2016	Low Tide Time	525
I24	28 Jan 2016	Comments	
I25	04 Jan 2016	Depth (m)	9
I25	04 Jan 2016	Arrive Time	1438
I25	04 Jan 2016	Depart Time	1548
I25	04 Jan 2016	Air Temp (C)	16
I25	04 Jan 2016	Weather	Rain
I25	04 Jan 2016	Visibility (mi)	3
I25	04 Jan 2016	Wind Speed (kts)	0
I25	04 Jan 2016	Wind Dir	
I25	04 Jan 2016	Water Color	Green
I25	04 Jan 2016	Wave Ht Low (ft)	5
I25	04 Jan 2016	Wave Period (sec)	7
I25	04 Jan 2016	Sea State	Confused swell
I25	04 Jan 2016	High Tide (ft)	4.74
I25	04 Jan 2016	High Tide Time	458
I25	04 Jan 2016	Low Tide (ft)	0.87
I25	04 Jan 2016	Low Tide Time	1213

Station	Date	Parameter	Value
I25	04 Jan 2016	Comments	CTD stopped working at I25; Remaining stations I25, I26 and I32 are not going to be sampled
I25	13 Jan 2016	Depth (m)	9
I25	13 Jan 2016	Arrive Time	1244
I25	13 Jan 2016	Depart Time	1250
I25	13 Jan 2016	Air Temp (C)	14
I25	13 Jan 2016	Weather	Partly Cloudy
I25	13 Jan 2016	Visibility (mi)	8
I25	13 Jan 2016	Wind Speed (kts)	11
I25	13 Jan 2016	Wind Dir	N
I25	13 Jan 2016	Water Color	Brownish-Green
I25	13 Jan 2016	Wave Ht Low (ft)	3
I25	13 Jan 2016	Wave Period (sec)	9
I25	13 Jan 2016	Sea State	Calm
I25	13 Jan 2016	High Tide (ft)	5.34
I25	13 Jan 2016	High Tide Time	1039
I25	13 Jan 2016	Low Tide (ft)	1.59
I25	13 Jan 2016	Low Tide Time	445
I25	13 Jan 2016	Comments	
I25	19 Jan 2016	Depth (m)	10
I25	19 Jan 2016	Arrive Time	1335
I25	19 Jan 2016	Depart Time	1345
I25	19 Jan 2016	Air Temp (C)	15
I25	19 Jan 2016	Weather	Overcast
I25	19 Jan 2016	Visibility (mi)	6
I25	19 Jan 2016	Wind Speed (kts)	12
I25	19 Jan 2016	Wind Dir	SW
I25	19 Jan 2016	Water Color	Green
I25	19 Jan 2016	Wave Ht Low (ft)	9
I25	19 Jan 2016	Wave Period (sec)	13
I25	19 Jan 2016	Sea State	Heavy chop
I25	19 Jan 2016	High Tide (ft)	5.54
I25	19 Jan 2016	High Tide Time	505
I25	19 Jan 2016	Low Tide (ft)	-0.22
I25	19 Jan 2016	Low Tide Time	1227
I25	19 Jan 2016	Comments	Due to large surf we did not get 9m at I25 did not resample due to risk sampling
I25	28 Jan 2016	Depth (m)	10
I25	28 Jan 2016	Arrive Time	1213
I25	28 Jan 2016	Depart Time	1218
I25	28 Jan 2016	Air Temp (C)	16
I25	28 Jan 2016	Weather	Clear
I25	28 Jan 2016	Visibility (mi)	10
I25	28 Jan 2016	Wind Speed (kts)	4
I25	28 Jan 2016	Wind Dir	E
I25	28 Jan 2016	Water Color	Green
I25	28 Jan 2016	Wave Ht Low (ft)	3
I25	28 Jan 2016	Wave Period (sec)	9
I25	28 Jan 2016	Sea State	Calm
I25	28 Jan 2016	High Tide (ft)	4.24
I25	28 Jan 2016	High Tide Time	1105
I25	28 Jan 2016	Low Tide (ft)	1.69

Station	Date	Parameter	Value
I25	28 Jan 2016	Low Tide Time	525
I25	28 Jan 2016	Comments	
I26	13 Jan 2016	Depth (m)	9
I26	13 Jan 2016	Arrive Time	1257
I26	13 Jan 2016	Depart Time	1309
I26	13 Jan 2016	Air Temp (C)	14
I26	13 Jan 2016	Weather	Partly Cloudy
I26	13 Jan 2016	Visibility (mi)	8
I26	13 Jan 2016	Wind Speed (kts)	10
I26	13 Jan 2016	Wind Dir	W
I26	13 Jan 2016	Water Color	Green
I26	13 Jan 2016	Wave Ht Low (ft)	3
I26	13 Jan 2016	Wave Period (sec)	9
I26	13 Jan 2016	Sea State	Calm
I26	13 Jan 2016	High Tide (ft)	5.34
I26	13 Jan 2016	High Tide Time	1039
I26	13 Jan 2016	Low Tide (ft)	1.59
I26	13 Jan 2016	Low Tide Time	445
I26	13 Jan 2016	Comments	
I26	19 Jan 2016	Depth (m)	9
I26	19 Jan 2016	Arrive Time	1351
I26	19 Jan 2016	Depart Time	1358
I26	19 Jan 2016	Air Temp (C)	15
I26	19 Jan 2016	Weather	Overcast
I26	19 Jan 2016	Visibility (mi)	6
I26	19 Jan 2016	Wind Speed (kts)	12
I26	19 Jan 2016	Wind Dir	NE
I26	19 Jan 2016	Water Color	Green
I26	19 Jan 2016	Wave Ht Low (ft)	9
I26	19 Jan 2016	Wave Period (sec)	13
I26	19 Jan 2016	Sea State	Heavy chop
I26	19 Jan 2016	High Tide (ft)	5.54
I26	19 Jan 2016	High Tide Time	505
I26	19 Jan 2016	Low Tide (ft)	-0.22
I26	19 Jan 2016	Low Tide Time	1227
I26	19 Jan 2016	Comments	
I26	28 Jan 2016	Depth (m)	10
I26	28 Jan 2016	Arrive Time	1225
I26	28 Jan 2016	Depart Time	1237
I26	28 Jan 2016	Air Temp (C)	16
I26	28 Jan 2016	Weather	Clear
I26	28 Jan 2016	Visibility (mi)	10
I26	28 Jan 2016	Wind Speed (kts)	4
I26	28 Jan 2016	Wind Dir	E
I26	28 Jan 2016	Water Color	Green
I26	28 Jan 2016	Wave Ht Low (ft)	3
I26	28 Jan 2016	Wave Period (sec)	9
I26	28 Jan 2016	Sea State	Calm
I26	28 Jan 2016	High Tide (ft)	4.24
I26	28 Jan 2016	High Tide Time	1105
I26	28 Jan 2016	Low Tide (ft)	1.69
I26	28 Jan 2016	Low Tide Time	525

Station	Date	Parameter	Value
I26	28 Jan 2016	Comments	
I32	13 Jan 2016	Depth (m)	10
I32	13 Jan 2016	Arrive Time	1316
I32	13 Jan 2016	Depart Time	1322
I32	13 Jan 2016	Air Temp (C)	15
I32	13 Jan 2016	Weather	Partly Cloudy
I32	13 Jan 2016	Visibility (mi)	8
I32	13 Jan 2016	Wind Speed (kts)	10
I32	13 Jan 2016	Wind Dir	E
I32	13 Jan 2016	Water Color	Green
I32	13 Jan 2016	Wave Ht Low (ft)	3
I32	13 Jan 2016	Wave Period (sec)	9
I32	13 Jan 2016	Sea State	Calm
I32	13 Jan 2016	High Tide (ft)	5.34
I32	13 Jan 2016	High Tide Time	1039
I32	13 Jan 2016	Low Tide (ft)	1.59
I32	13 Jan 2016	Low Tide Time	445
I32	13 Jan 2016	Comments	
I32	19 Jan 2016	Depth (m)	10
I32	19 Jan 2016	Arrive Time	1406
I32	19 Jan 2016	Depart Time	1415
I32	19 Jan 2016	Air Temp (C)	15
I32	19 Jan 2016	Weather	Overcast
I32	19 Jan 2016	Visibility (mi)	6
I32	19 Jan 2016	Wind Speed (kts)	9
I32	19 Jan 2016	Wind Dir	S
I32	19 Jan 2016	Water Color	Green
I32	19 Jan 2016	Wave Ht Low (ft)	9
I32	19 Jan 2016	Wave Period (sec)	13
I32	19 Jan 2016	Sea State	Heavy chop
I32	19 Jan 2016	High Tide (ft)	5.54
I32	19 Jan 2016	High Tide Time	505
I32	19 Jan 2016	Low Tide (ft)	-0.22
I32	19 Jan 2016	Low Tide Time	1227
I32	19 Jan 2016	Comments	
I32	28 Jan 2016	Depth (m)	11
I32	28 Jan 2016	Arrive Time	1240
I32	28 Jan 2016	Depart Time	1245
I32	28 Jan 2016	Air Temp (C)	16
I32	28 Jan 2016	Weather	Clear
I32	28 Jan 2016	Visibility (mi)	10
I32	28 Jan 2016	Wind Speed (kts)	8
I32	28 Jan 2016	Wind Dir	SE
I32	28 Jan 2016	Water Color	Green
I32	28 Jan 2016	Wave Ht Low (ft)	3
I32	28 Jan 2016	Wave Period (sec)	9
I32	28 Jan 2016	Sea State	Calm
I32	28 Jan 2016	High Tide (ft)	4.24
I32	28 Jan 2016	High Tide Time	1105
I32	28 Jan 2016	Low Tide (ft)	1.69
I32	28 Jan 2016	Low Tide Time	525
I32	28 Jan 2016	Comments	

Station	Date	Parameter	Value
I39	04 Jan 2016	Depth (m)	19
I39	04 Jan 2016	Arrive Time	1326
I39	04 Jan 2016	Depart Time	1332
I39	04 Jan 2016	Air Temp (C)	16
I39	04 Jan 2016	Weather	Partly Cloudy
I39	04 Jan 2016	Visibility (mi)	10
I39	04 Jan 2016	Wind Speed (kts)	7
I39	04 Jan 2016	Wind Dir	N
I39	04 Jan 2016	Water Color	Green
I39	04 Jan 2016	Wave Ht Low (ft)	5
I39	04 Jan 2016	Wave Period (sec)	7
I39	04 Jan 2016	Sea State	Confused swell
I39	04 Jan 2016	High Tide (ft)	4.74
I39	04 Jan 2016	High Tide Time	458
I39	04 Jan 2016	Low Tide (ft)	0.87
I39	04 Jan 2016	Low Tide Time	1213
I39	04 Jan 2016	Comments	
I39	13 Jan 2016	Depth (m)	19
I39	13 Jan 2016	Arrive Time	1132
I39	13 Jan 2016	Depart Time	1141
I39	13 Jan 2016	Air Temp (C)	14
I39	13 Jan 2016	Weather	Partly Cloudy
I39	13 Jan 2016	Visibility (mi)	6
I39	13 Jan 2016	Wind Speed (kts)	6
I39	13 Jan 2016	Wind Dir	SW
I39	13 Jan 2016	Water Color	Green
I39	13 Jan 2016	Wave Ht Low (ft)	3
I39	13 Jan 2016	Wave Period (sec)	9
I39	13 Jan 2016	Sea State	Calm
I39	13 Jan 2016	High Tide (ft)	5.34
I39	13 Jan 2016	High Tide Time	1039
I39	13 Jan 2016	Low Tide (ft)	1.59
I39	13 Jan 2016	Low Tide Time	445
I39	13 Jan 2016	Comments	Kelp
I39	19 Jan 2016	Depth (m)	17
I39	19 Jan 2016	Arrive Time	1226
I39	19 Jan 2016	Depart Time	1231
I39	19 Jan 2016	Air Temp (C)	15
I39	19 Jan 2016	Weather	Overcast
I39	19 Jan 2016	Visibility (mi)	6
I39	19 Jan 2016	Wind Speed (kts)	12
I39	19 Jan 2016	Wind Dir	NE
I39	19 Jan 2016	Water Color	Green
I39	19 Jan 2016	Wave Ht Low (ft)	7
I39	19 Jan 2016	Wave Period (sec)	13
I39	19 Jan 2016	Sea State	Heavy chop
I39	19 Jan 2016	High Tide (ft)	5.54
I39	19 Jan 2016	High Tide Time	505
I39	19 Jan 2016	Low Tide (ft)	-0.22
I39	19 Jan 2016	Low Tide Time	1227
I39	19 Jan 2016	Comments	Pelican on station

Station	Date	Parameter	Value
I39	28 Jan 2016	Depth (m)	19
I39	28 Jan 2016	Arrive Time	1119
I39	28 Jan 2016	Depart Time	1123
I39	28 Jan 2016	Air Temp (C)	16
I39	28 Jan 2016	Weather	Clear
I39	28 Jan 2016	Visibility (mi)	10
I39	28 Jan 2016	Wind Speed (kts)	6
I39	28 Jan 2016	Wind Dir	NE
I39	28 Jan 2016	Water Color	Green
I39	28 Jan 2016	Wave Ht Low (ft)	3
I39	28 Jan 2016	Wave Period (sec)	9
I39	28 Jan 2016	Sea State	Calm
I39	28 Jan 2016	High Tide (ft)	4.24
I39	28 Jan 2016	High Tide Time	1105
I39	28 Jan 2016	Low Tide (ft)	1.69
I39	28 Jan 2016	Low Tide Time	525
I39	28 Jan 2016	Comments	
I40	04 Jan 2016	Depth (m)	9
I40	04 Jan 2016	Arrive Time	1407
I40	04 Jan 2016	Depart Time	1418
I40	04 Jan 2016	Air Temp (C)	15
I40	04 Jan 2016	Weather	Rain
I40	04 Jan 2016	Visibility (mi)	1
I40	04 Jan 2016	Wind Speed (kts)	2
I40	04 Jan 2016	Wind Dir	N
I40	04 Jan 2016	Water Color	Green
I40	04 Jan 2016	Wave Ht Low (ft)	5
I40	04 Jan 2016	Wave Period (sec)	7
I40	04 Jan 2016	Sea State	Confused swell
I40	04 Jan 2016	High Tide (ft)	4.74
I40	04 Jan 2016	High Tide Time	458
I40	04 Jan 2016	Low Tide (ft)	0.87
I40	04 Jan 2016	Low Tide Time	1213
I40	04 Jan 2016	Comments	
I40	13 Jan 2016	Depth (m)	10
I40	13 Jan 2016	Arrive Time	1215
I40	13 Jan 2016	Depart Time	1226
I40	13 Jan 2016	Air Temp (C)	14
I40	13 Jan 2016	Weather	Partly Cloudy
I40	13 Jan 2016	Visibility (mi)	8
I40	13 Jan 2016	Wind Speed (kts)	8
I40	13 Jan 2016	Wind Dir	W
I40	13 Jan 2016	Water Color	Brownish-Green
I40	13 Jan 2016	Wave Ht Low (ft)	3
I40	13 Jan 2016	Wave Period (sec)	9
I40	13 Jan 2016	Sea State	Calm
I40	13 Jan 2016	High Tide (ft)	5.34
I40	13 Jan 2016	High Tide Time	1039
I40	13 Jan 2016	Low Tide (ft)	1.59
I40	13 Jan 2016	Low Tide Time	445
I40	13 Jan 2016	Comments	Low transmissivity all depths possibly TJ river output
I40	19 Jan 2016	Depth (m)	9

Station	Date	Parameter	Value
I40	19 Jan 2016	Arrive Time	1314
I40	19 Jan 2016	Depart Time	1317
I40	19 Jan 2016	Air Temp (C)	15
I40	19 Jan 2016	Weather	Overcast
I40	19 Jan 2016	Visibility (mi)	6
I40	19 Jan 2016	Wind Speed (kts)	12
I40	19 Jan 2016	Wind Dir	NW
I40	19 Jan 2016	Water Color	Green
I40	19 Jan 2016	Wave Ht Low (ft)	8
I40	19 Jan 2016	Wave Period (sec)	13
I40	19 Jan 2016	Sea State	Heavy chop
I40	19 Jan 2016	High Tide (ft)	5.54
I40	19 Jan 2016	High Tide Time	505
I40	19 Jan 2016	Low Tide (ft)	-0.22
I40	19 Jan 2016	Low Tide Time	1227
I40	19 Jan 2016	Comments	Freshwater lense from TJ river present at surface 1-2m depth
I40	28 Jan 2016	Depth (m)	11
I40	28 Jan 2016	Arrive Time	1154
I40	28 Jan 2016	Depart Time	1159
I40	28 Jan 2016	Air Temp (C)	16
I40	28 Jan 2016	Weather	Clear
I40	28 Jan 2016	Visibility (mi)	10
I40	28 Jan 2016	Wind Speed (kts)	5
I40	28 Jan 2016	Wind Dir	NE
I40	28 Jan 2016	Water Color	Green
I40	28 Jan 2016	Wave Ht Low (ft)	3
I40	28 Jan 2016	Wave Period (sec)	9
I40	28 Jan 2016	Sea State	Calm
I40	28 Jan 2016	High Tide (ft)	4.24
I40	28 Jan 2016	High Tide Time	1105
I40	28 Jan 2016	Low Tide (ft)	1.69
I40	28 Jan 2016	Low Tide Time	525
I40	28 Jan 2016	Comments	

Table 3.10

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

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
I19	04 Jan 2016	1	16.44	81.97	7.0	33.49	8.2	24.5	1.39
I19	04 Jan 2016	2	16.44	82.14	6.9	33.52	8.2	24.5	1.44
I19	04 Jan 2016	3	16.45	82.10	6.6	33.35	8.2	24.2	1.43
I19	04 Jan 2016	4	16.43	82.26	6.6	33.40	8.2	24.3	1.38
I19	04 Jan 2016	5	16.41	82.20	6.5	33.40	8.2	24.3	1.33
I19	04 Jan 2016	6	16.39	82.14	6.5	33.60	8.2	24.6	1.40
I19	04 Jan 2016	7	16.27	80.38	6.3	33.66	8.2	24.7	1.52
I19	04 Jan 2016	8	16.18	73.55	6.1	33.71	8.2	24.7	1.52
I19	04 Jan 2016	9	16.16	71.23	6.1	33.72	8.2	24.7	1.37
I19	04 Jan 2016	10	16.14	60.71	5.9	33.74	8.2	24.7	1.43
I19	13 Jan 2016	1	15.45	34.03	7.3	33.44	8.1	24.7	1.61
I19	13 Jan 2016	2	15.43	33.24	7.3	33.44	8.1	24.7	1.72
I19	13 Jan 2016	3	15.35	33.45	7.6	33.43	8.1	24.7	1.96
I19	13 Jan 2016	4	15.33	28.24	7.7	33.43	8.1	24.7	2.05
I19	13 Jan 2016	5	15.32	24.26	7.7	33.43	8.1	24.7	2.11
I19	13 Jan 2016	6	15.31	22.47	7.7	33.43	8.1	24.7	2.07
I19	13 Jan 2016	7	15.31	22.49	7.7	33.43	8.1	24.7	2.05
I19	13 Jan 2016	8	15.30	21.61	7.8	33.43	8.1	24.7	2.08
I19	13 Jan 2016	9	15.30	20.68	7.8	33.43	8.1	24.7	2.13
I19	13 Jan 2016	10	15.29	20.76	7.8	33.43	8.1	24.7	2.12
I19	19 Jan 2016	1	15.70	26.35	8.2	33.05	8.2	24.3	2.51
I19	19 Jan 2016	2	15.70	27.27	8.2	33.53	8.2	24.7	2.84
I19	19 Jan 2016	3	15.70	30.02	8.2	33.53	8.2	24.7	3.20
I19	19 Jan 2016	4	15.68	29.40	8.1	33.53	8.2	24.7	3.37
I19	19 Jan 2016	5	15.66	28.86	8.1	33.53	8.2	24.7	3.41
I19	19 Jan 2016	6	15.65	27.56	8.0	33.53	8.2	24.7	3.44
I19	19 Jan 2016	7	15.63	26.26	8.0	33.53	8.2	24.7	3.41
I19	19 Jan 2016	8	15.64	26.83	8.1	33.53	8.2	24.7	3.46
I19	19 Jan 2016	9	15.66	25.26	8.1	33.52	8.2	24.7	3.48
I19	19 Jan 2016	10	15.68	23.67	8.2	33.51	8.2	24.7	3.57
I19	28 Jan 2016	1	15.37	70.75	7.6	33.56	8.1	24.8	0.75
I19	28 Jan 2016	2	15.33	71.27	7.6	33.56	8.1	24.8	0.77
I19	28 Jan 2016	3	15.31	72.52	7.6	33.56	8.1	24.8	0.91
I19	28 Jan 2016	4	15.26	73.39	7.6	33.56	8.1	24.8	1.31
I19	28 Jan 2016	5	15.24	75.32	7.5	33.56	8.1	24.8	1.57
I19	28 Jan 2016	6	15.15	75.61	7.5	33.56	8.1	24.8	1.81
I19	28 Jan 2016	7	15.14	75.08	7.6	33.56	8.1	24.8	2.29
I19	28 Jan 2016	8	15.12	72.15	7.5	33.56	8.1	24.8	2.50
I19	28 Jan 2016	9	15.11	65.93	7.6	33.56	8.1	24.8	2.46
I19	28 Jan 2016	10	15.10	62.67	7.6	33.56	8.1	24.8	2.25
I24	04 Jan 2016	1	16.53	85.37	7.5	33.51	8.2	24.5	1.31
I24	04 Jan 2016	2	16.53	85.35	8.2	33.60	8.2	24.6	1.34
I24	04 Jan 2016	3	16.51	85.30	7.7	33.61	8.2	24.6	1.26
I24	04 Jan 2016	4	16.47	85.20	7.5	33.64	8.2	24.6	1.25
I24	04 Jan 2016	5	16.39	84.98	7.4	33.65	8.2	24.6	1.29
I24	04 Jan 2016	6	16.33	84.60	7.4	33.64	8.2	24.6	1.33
I24	04 Jan 2016	7	16.20	82.15	7.2	33.66	8.2	24.7	1.29

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
I24	04 Jan 2016	8	16.11	72.96	7.0	33.64	8.2	24.7	1.27
I24	04 Jan 2016	9	16.09	66.33	7.1	33.62	8.2	24.7	0.00
I24	04 Jan 2016	10	16.14	65.12	7.1	33.62	8.2	24.7	0.00
I24	13 Jan 2016	1	15.64	45.94	7.6	33.48	8.1	24.7	1.32
I24	13 Jan 2016	2	15.62	45.56	7.6	33.48	8.1	24.7	1.73
I24	13 Jan 2016	3	15.58	45.42	7.6	33.48	8.1	24.7	2.13
I24	13 Jan 2016	4	15.48	45.48	7.5	33.47	8.1	24.7	2.18
I24	13 Jan 2016	5	15.43	45.87	7.5	33.47	8.1	24.7	2.00
I24	13 Jan 2016	6	15.42	46.02	7.5	33.47	8.1	24.7	1.93
I24	13 Jan 2016	7	15.41	45.54	7.5	33.47	8.1	24.7	1.79
I24	13 Jan 2016	8	15.39	44.62	7.5	33.47	8.1	24.7	1.71
I24	13 Jan 2016	9	15.38	41.10	7.6	33.47	8.1	24.7	1.69
I24	13 Jan 2016	10	15.38	37.08	7.6	33.47	8.1	24.7	1.68
I24	13 Jan 2016	11	15.37	35.26	7.6	33.47	8.1	24.7	1.74
I24	19 Jan 2016	1	15.72	44.29	7.6	33.53	8.2	24.7	2.35
I24	19 Jan 2016	2	15.72	43.56	7.6	33.53	8.2	24.7	2.54
I24	19 Jan 2016	3	15.71	43.07	7.6	33.53	8.2	24.7	2.93
I24	19 Jan 2016	4	15.71	43.65	7.6	33.53	8.2	24.7	3.13
I24	19 Jan 2016	5	15.71	43.42	7.6	33.53	8.2	24.7	3.18
I24	19 Jan 2016	6	15.71	43.48	7.6	33.53	8.2	24.7	3.28
I24	19 Jan 2016	7	15.71	43.77	7.6	33.53	8.2	24.7	3.33
I24	19 Jan 2016	8	15.70	42.73	7.5	33.53	8.2	24.7	3.30
I24	19 Jan 2016	9	15.70	43.69	7.6	33.53	8.2	24.7	3.29
I24	28 Jan 2016	1	15.35	56.97	7.3	33.56	8.1	24.8	1.54
I24	28 Jan 2016	2	15.36	57.06	7.3	33.56	8.1	24.8	1.72
I24	28 Jan 2016	3	15.27	56.91	7.3	33.56	8.1	24.8	1.85
I24	28 Jan 2016	4	15.10	52.41	7.2	33.55	8.1	24.8	2.46
I24	28 Jan 2016	5	15.04	47.40	7.5	33.56	8.1	24.9	2.55
I24	28 Jan 2016	6	15.00	48.60	7.7	33.56	8.1	24.9	2.63
I24	28 Jan 2016	7	15.00	42.40	7.7	33.56	8.1	24.9	2.70
I24	28 Jan 2016	8	14.99	37.10	7.7	33.56	8.1	24.9	2.84
I24	28 Jan 2016	9	14.99	34.59	7.7	33.56	8.1	24.9	2.88
I24	28 Jan 2016	10	15.00	28.79	7.6	33.56	8.1	24.9	2.98
I24	28 Jan 2016	11	15.00	26.81	7.6	33.56	8.1	24.9	3.01
I25	13 Jan 2016	1	15.68	46.59	7.6	33.48	8.1	24.7	1.19
I25	13 Jan 2016	2	15.64	46.44	7.5	33.47	8.1	24.7	1.48
I25	13 Jan 2016	3	15.46	45.95	7.5	33.47	8.1	24.7	1.74
I25	13 Jan 2016	4	15.42	46.01	7.5	33.48	8.1	24.7	1.84
I25	13 Jan 2016	5	15.41	45.00	7.5	33.47	8.1	24.7	1.78
I25	13 Jan 2016	6	15.40	42.66	7.4	33.47	8.1	24.7	1.72
I25	13 Jan 2016	7	15.40	39.58	7.4	33.47	8.1	24.7	1.73
I25	13 Jan 2016	8	15.40	33.52	7.4	33.47	8.1	24.7	1.78
I25	13 Jan 2016	9	15.40	31.34	7.4	33.47	8.1	24.7	1.82
I25	19 Jan 2016	1	15.70	48.86	7.6	33.49	8.2	24.7	2.53
I25	19 Jan 2016	2	15.70	48.18	7.6	33.53	8.2	24.7	2.83
I25	19 Jan 2016	3	15.70	49.35	7.6	33.53	8.2	24.7	3.07
I25	19 Jan 2016	4	15.70	48.61	7.6	33.53	8.2	24.7	3.13
I25	19 Jan 2016	5	15.70	49.16	7.6	33.53	8.2	24.7	3.16
I25	19 Jan 2016	6	15.69	48.88	7.6	33.53	8.2	24.7	3.14
I25	19 Jan 2016	7	15.69	48.33	7.5	33.53	8.2	24.7	3.13

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
I25	19 Jan 2016	8	15.69	48.12	7.6	33.53	8.2	24.7	3.22
I25	28 Jan 2016	1	15.36	58.28	7.5	33.56	8.1	24.8	1.36
I25	28 Jan 2016	2	15.34	58.21	7.4	33.56	8.1	24.8	1.51
I25	28 Jan 2016	3	15.19	59.25	7.3	33.56	8.1	24.8	1.92
I25	28 Jan 2016	4	15.15	59.65	7.3	33.55	8.1	24.8	2.15
I25	28 Jan 2016	5	15.13	59.49	7.3	33.55	8.1	24.8	2.52
I25	28 Jan 2016	6	15.11	56.39	7.3	33.55	8.1	24.8	2.89
I25	28 Jan 2016	7	15.10	54.30	7.4	33.55	8.1	24.8	2.75
I25	28 Jan 2016	8	15.08	52.62	7.4	33.55	8.1	24.8	2.84
I25	28 Jan 2016	9	15.07	47.92	7.4	33.55	8.1	24.8	2.91
I26	13 Jan 2016	1	15.64	40.58	7.4	33.48	8.1	24.7	1.43
I26	13 Jan 2016	2	15.55	40.00	7.4	33.48	8.1	24.7	1.73
I26	13 Jan 2016	3	15.52	41.49	7.4	33.48	8.1	24.7	1.95
I26	13 Jan 2016	4	15.49	42.31	7.4	33.48	8.1	24.7	1.90
I26	13 Jan 2016	5	15.49	38.90	7.4	33.48	8.1	24.7	1.75
I26	13 Jan 2016	6	15.49	34.28	7.4	33.48	8.1	24.7	1.71
I26	13 Jan 2016	7	15.49	34.30	7.4	33.48	8.1	24.7	1.68
I26	13 Jan 2016	8	15.49	30.85	7.3	33.48	8.1	24.7	1.66
I26	13 Jan 2016	9	15.50	26.08	7.2	33.49	8.1	24.7	1.71
I26	19 Jan 2016	1	15.73	48.97	7.7	33.49	8.2	24.6	1.70
I26	19 Jan 2016	2	15.73	41.24	7.7	33.48	8.2	24.6	1.84
I26	19 Jan 2016	3	15.73	65.14	7.7	33.53	8.2	24.7	2.02
I26	19 Jan 2016	4	15.73	66.49	7.6	33.53	8.2	24.7	2.16
I26	19 Jan 2016	5	15.73	66.80	7.7	33.53	8.2	24.7	2.35
I26	19 Jan 2016	6	15.71	64.67	7.6	33.53	8.2	24.7	2.70
I26	19 Jan 2016	7	15.68	53.92	7.5	33.53	8.2	24.7	2.92
I26	19 Jan 2016	8	15.67	50.36	7.5	33.53	8.2	24.7	3.00
I26	19 Jan 2016	9	15.65	46.77	7.5	33.53	8.2	24.7	2.98
I26	28 Jan 2016	1	15.48	71.40	7.7	33.57	8.1	24.8	0.74
I26	28 Jan 2016	2	15.40	70.77	7.6	33.57	8.1	24.8	0.79
I26	28 Jan 2016	3	15.18	65.63	7.5	33.56	8.1	24.8	0.98
I26	28 Jan 2016	4	15.13	62.69	7.4	33.56	8.1	24.8	1.30
I26	28 Jan 2016	5	15.08	59.97	7.4	33.55	8.1	24.8	1.87
I26	28 Jan 2016	6	15.06	59.03	7.3	33.55	8.1	24.8	2.14
I26	28 Jan 2016	7	15.03	58.51	7.4	33.55	8.1	24.9	2.23
I26	28 Jan 2016	8	15.02	58.45	7.3	33.55	8.1	24.9	2.31
I26	28 Jan 2016	9	15.00	57.08	7.3	33.56	8.1	24.9	2.22
I32	13 Jan 2016	1	15.67	47.95	7.5	33.51	8.1	24.7	1.76
I32	13 Jan 2016	2	15.66	47.63	7.6	33.51	8.1	24.7	2.06
I32	13 Jan 2016	3	15.63	47.43	7.6	33.51	8.1	24.7	2.34
I32	13 Jan 2016	4	15.63	47.28	7.6	33.51	8.1	24.7	2.45
I32	13 Jan 2016	5	15.60	46.78	7.6	33.51	8.1	24.7	2.40
I32	13 Jan 2016	6	15.57	46.58	7.6	33.51	8.1	24.7	2.37
I32	13 Jan 2016	7	15.56	46.46	7.7	33.51	8.1	24.7	2.33
I32	13 Jan 2016	8	15.55	45.37	7.7	33.51	8.1	24.7	2.31
I32	13 Jan 2016	9	15.56	44.58	7.7	33.51	8.1	24.7	2.33
I32	13 Jan 2016	10	15.57	42.44	7.7	33.51	8.1	24.7	2.36
I32	19 Jan 2016	1	15.82	62.70	7.7	33.54	8.2	24.7	2.13
I32	19 Jan 2016	2	15.82	62.32	7.7	33.54	8.2	24.7	2.31

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
I32	19 Jan 2016	3	15.82	62.11	7.7	33.54	8.2	24.7	2.69
I32	19 Jan 2016	4	15.82	62.32	7.7	33.54	8.2	24.7	3.01
I32	19 Jan 2016	5	15.82	62.32	7.7	33.54	8.2	24.7	3.09
I32	19 Jan 2016	6	15.81	61.79	7.7	33.54	8.2	24.7	3.20
I32	19 Jan 2016	7	15.80	60.15	7.7	33.54	8.2	24.7	3.31
I32	19 Jan 2016	8	15.79	55.69	7.7	33.54	8.2	24.7	3.34
I32	19 Jan 2016	9	15.77	49.69	7.8	33.54	8.2	24.7	3.49
I32	19 Jan 2016	10	15.76	45.25	7.8	33.54	8.2	24.7	3.57
I32	28 Jan 2016	1	15.67	71.31	7.7	33.56	8.2	24.7	0.80
I32	28 Jan 2016	2	15.67	71.34	7.6	33.56	8.2	24.7	0.78
I32	28 Jan 2016	3	15.60	71.16	7.6	33.56	8.2	24.7	0.99
I32	28 Jan 2016	4	15.37	69.43	7.7	33.55	8.2	24.8	1.54
I32	28 Jan 2016	5	15.29	68.75	7.6	33.55	8.2	24.8	2.57
I32	28 Jan 2016	6	15.22	69.17	7.6	33.55	8.2	24.8	2.84
I32	28 Jan 2016	7	15.14	67.97	7.7	33.55	8.2	24.8	2.96
I32	28 Jan 2016	8	15.11	66.21	7.6	33.55	8.2	24.8	2.88
I32	28 Jan 2016	9	15.11	66.84	7.6	33.55	8.2	24.8	2.87
I32	28 Jan 2016	10	15.10	65.90	7.5	33.55	8.2	24.8	3.01
I39	04 Jan 2016	1	16.56	82.89	7.4	33.59	8.2	24.5	0.88
I39	04 Jan 2016	2	16.55	80.31	6.5	33.58	8.2	24.5	0.89
I39	04 Jan 2016	3	16.54	84.97	6.1	33.65	8.2	24.6	0.89
I39	04 Jan 2016	4	16.53	85.27	6.1	33.66	8.2	24.6	1.19
I39	04 Jan 2016	5	16.50	85.18	6.3	33.67	8.2	24.6	1.08
I39	04 Jan 2016	6	16.48	85.02	6.7	33.68	8.2	24.6	1.09
I39	04 Jan 2016	7	16.46	84.94	6.8	33.68	8.2	24.6	1.11
I39	04 Jan 2016	8	16.44	84.84	6.9	33.67	8.2	24.6	1.10
I39	04 Jan 2016	9	16.43	84.86	6.7	33.68	8.2	24.6	1.12
I39	04 Jan 2016	10	16.42	84.78	6.5	33.66	8.2	24.6	1.11
I39	04 Jan 2016	11	16.41	84.85	6.9	33.67	8.2	24.6	1.12
I39	04 Jan 2016	12	16.40	84.96	7.3	33.67	8.2	24.6	1.11
I39	04 Jan 2016	13	16.39	84.95	7.2	33.66	8.2	24.6	1.18
I39	04 Jan 2016	14	16.35	84.44	6.8	33.67	8.2	24.6	1.17
I39	04 Jan 2016	15	16.29	84.33	6.7	33.68	8.2	24.7	1.18
I39	04 Jan 2016	16	16.19	82.65	6.4	33.72	8.2	24.7	1.12
I39	04 Jan 2016	17	16.13	78.24	6.0	33.70	8.2	24.7	1.07
I39	04 Jan 2016	18	16.14	74.76	5.9	33.69	8.2	24.7	1.13
I39	13 Jan 2016	1	15.72	78.21	7.1	33.54	8.1	24.7	1.66
I39	13 Jan 2016	2	15.71	77.97	7.1	33.54	8.1	24.7	1.77
I39	13 Jan 2016	3	15.69	77.72	7.1	33.54	8.1	24.7	1.87
I39	13 Jan 2016	4	15.69	77.50	7.1	33.54	8.1	24.7	1.95
I39	13 Jan 2016	5	15.68	76.91	7.1	33.54	8.1	24.7	2.04
I39	13 Jan 2016	6	15.68	76.79	7.1	33.54	8.1	24.7	2.08
I39	13 Jan 2016	7	15.67	76.64	7.1	33.54	8.1	24.7	2.15
I39	13 Jan 2016	8	15.66	76.45	7.1	33.54	8.1	24.7	2.09
I39	13 Jan 2016	9	15.65	76.27	7.0	33.54	8.1	24.7	2.06
I39	13 Jan 2016	10	15.65	76.71	7.0	33.54	8.1	24.7	1.98
I39	13 Jan 2016	11	15.65	76.38	6.9	33.54	8.1	24.7	1.82
I39	13 Jan 2016	12	15.63	75.04	6.8	33.55	8.1	24.7	1.61
I39	13 Jan 2016	13	15.62	72.35	6.7	33.55	8.1	24.7	1.46
I39	13 Jan 2016	14	15.61	69.48	6.6	33.55	8.1	24.7	1.38
I39	13 Jan 2016	15	15.58	67.86	6.4	33.56	8.1	24.7	1.25
I39	13 Jan 2016	16	15.57	65.59	6.3	33.56	8.1	24.7	1.22

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
I39	13 Jan 2016	17	15.57	59.38	6.2	33.57	8.1	24.7	1.41
I39	13 Jan 2016	18	15.57	42.72	6.1	33.57	8.0	24.7	1.73
I39	19 Jan 2016	1	15.79	71.39	7.6	33.53	8.2	24.7	1.75
I39	19 Jan 2016	2	15.79	70.61	7.6	33.53	8.2	24.7	1.82
I39	19 Jan 2016	3	15.79	71.55	7.7	33.53	8.2	24.7	1.90
I39	19 Jan 2016	4	15.78	71.61	7.7	33.53	8.2	24.7	2.06
I39	19 Jan 2016	5	15.76	71.50	7.7	33.53	8.2	24.7	2.25
I39	19 Jan 2016	6	15.72	71.52	7.6	33.53	8.2	24.7	2.36
I39	19 Jan 2016	7	15.65	71.69	7.6	33.53	8.2	24.7	2.39
I39	19 Jan 2016	8	15.61	72.61	7.6	33.53	8.2	24.7	2.40
I39	19 Jan 2016	9	15.58	73.56	7.5	33.53	8.2	24.7	2.36
I39	19 Jan 2016	10	15.56	74.96	7.5	33.53	8.2	24.7	2.31
I39	19 Jan 2016	11	15.54	75.79	7.4	33.53	8.2	24.7	2.31
I39	19 Jan 2016	12	15.52	76.02	7.2	33.53	8.2	24.7	1.97
I39	19 Jan 2016	13	15.34	78.36	6.8	33.54	8.2	24.8	1.58
I39	19 Jan 2016	14	15.24	79.15	6.5	33.53	8.1	24.8	1.32
I39	19 Jan 2016	15	15.11	75.93	6.4	33.53	8.1	24.8	1.16
I39	19 Jan 2016	16	15.06	72.85	6.4	33.52	8.1	24.8	1.02
I39	19 Jan 2016	17	15.04	68.59	6.3	33.52	8.1	24.8	0.93
I39	19 Jan 2016	18	15.04	61.33	6.3	33.52	8.1	24.8	0.91
I39	28 Jan 2016	1	15.33	83.43	7.4	33.56	8.1	24.8	0.65
I39	28 Jan 2016	2	15.26	82.95	7.3	33.56	8.1	24.8	0.71
I39	28 Jan 2016	3	15.20	83.54	7.3	33.55	8.1	24.8	0.77
I39	28 Jan 2016	4	15.19	83.62	7.3	33.55	8.1	24.8	0.79
I39	28 Jan 2016	5	15.17	83.31	7.2	33.55	8.1	24.8	1.07
I39	28 Jan 2016	6	15.16	82.18	7.2	33.55	8.1	24.8	1.14
I39	28 Jan 2016	7	15.15	81.36	7.2	33.55	8.1	24.8	1.20
I39	28 Jan 2016	8	15.15	80.73	7.2	33.55	8.1	24.8	1.30
I39	28 Jan 2016	9	15.15	80.52	7.2	33.55	8.1	24.8	1.52
I39	28 Jan 2016	10	15.15	80.09	7.2	33.56	8.1	24.8	1.62
I39	28 Jan 2016	11	15.14	79.95	7.2	33.56	8.1	24.8	1.73
I39	28 Jan 2016	12	15.14	79.77	7.1	33.55	8.1	24.8	1.97
I39	28 Jan 2016	13	15.13	79.94	7.1	33.55	8.1	24.8	1.79
I39	28 Jan 2016	14	15.13	80.21	7.0	33.55	8.1	24.8	1.87
I39	28 Jan 2016	15	15.11	80.92	7.0	33.55	8.1	24.8	1.62
I39	28 Jan 2016	16	15.11	80.90	7.0	33.55	8.1	24.8	1.50
I39	28 Jan 2016	17	15.09	81.21	6.9	33.55	8.1	24.8	1.65
I39	28 Jan 2016	18	15.07	80.77	6.8	33.55	8.1	24.8	1.66
I40	04 Jan 2016	1	16.50	85.22	7.2	33.62	8.2	24.6	1.38
I40	04 Jan 2016	2	16.50	85.24	7.5	33.63	8.2	24.6	1.55
I40	04 Jan 2016	3	16.50	85.18	7.4	33.63	8.2	24.6	1.57
I40	04 Jan 2016	4	16.50	85.10	7.4	33.64	8.2	24.6	1.72
I40	04 Jan 2016	5	16.49	85.12	7.3	33.64	8.2	24.6	1.52
I40	04 Jan 2016	6	16.49	85.04	7.1	33.64	8.2	24.6	1.62
I40	04 Jan 2016	7	16.49	85.03	6.8	33.64	8.2	24.6	1.71
I40	04 Jan 2016	8	16.46	84.90	6.3	33.65	8.2	24.6	1.54
I40	04 Jan 2016	9	16.31	83.06	6.0	33.69	8.2	24.7	1.43
I40	04 Jan 2016	10	16.23	81.50	5.8	33.77	8.2	24.7	1.56
I40	13 Jan 2016	1	15.53	39.29	7.6	33.44	8.1	24.7	1.52
I40	13 Jan 2016	2	15.40	39.47	7.6	33.45	8.1	24.7	1.61
I40	13 Jan 2016	3	15.36	39.18	7.7	33.45	8.1	24.7	1.90

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
I40	13 Jan 2016	4	15.35	38.16	7.7	33.45	8.1	24.7	2.02
I40	13 Jan 2016	5	15.35	35.66	7.7	33.46	8.1	24.7	2.17
I40	13 Jan 2016	6	15.36	33.73	7.7	33.46	8.1	24.7	2.23
I40	13 Jan 2016	7	15.36	33.24	7.8	33.47	8.1	24.7	2.36
I40	13 Jan 2016	8	15.35	33.31	7.9	33.47	8.1	24.7	2.53
I40	13 Jan 2016	9	15.34	31.61	7.8	33.47	8.1	24.7	2.69
I40	13 Jan 2016	10	15.32	25.99	7.8	33.47	8.1	24.7	2.82
I40	19 Jan 2016	1	15.76	41.29	7.8	33.34	8.2	24.5	2.78
I40	19 Jan 2016	2	15.76	43.69	7.7	33.50	8.2	24.7	2.86
I40	19 Jan 2016	3	15.76	43.70	7.6	33.54	8.2	24.7	3.13
I40	19 Jan 2016	4	15.75	44.48	7.9	33.54	8.2	24.7	3.45
I40	19 Jan 2016	5	15.71	43.83	7.8	33.54	8.2	24.7	3.43
I40	19 Jan 2016	6	15.66	40.85	7.7	33.54	8.2	24.7	3.34
I40	19 Jan 2016	7	15.54	34.46	7.1	33.54	8.2	24.7	2.98
I40	19 Jan 2016	8	15.36	16.42	6.5	33.53	8.1	24.8	2.71
I40	19 Jan 2016	9	15.34	10.89	6.4	33.53	8.1	24.8	2.72
I40	28 Jan 2016	1	15.40	53.83	7.8	33.56	8.1	24.8	0.97
I40	28 Jan 2016	2	15.32	54.46	7.9	33.57	8.1	24.8	1.13
I40	28 Jan 2016	3	15.22	55.80	8.0	33.57	8.1	24.8	1.53
I40	28 Jan 2016	4	15.19	56.99	8.1	33.57	8.1	24.8	1.94
I40	28 Jan 2016	5	15.14	57.74	8.0	33.56	8.1	24.8	2.23
I40	28 Jan 2016	6	15.12	58.25	7.9	33.56	8.1	24.8	2.36
I40	28 Jan 2016	7	15.10	58.18	7.9	33.56	8.1	24.8	2.54
I40	28 Jan 2016	8	15.09	57.76	7.8	33.56	8.1	24.8	2.68
I40	28 Jan 2016	9	15.04	57.48	7.8	33.56	8.1	24.9	2.67

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	04 Jan 2016	6	JT	LAB DUPLICATE	80e	8e	16e
I19	13 Jan 2016	6	ZV	LAB DUPLICATE	60e	26e	36e
I19	19 Jan 2016	6	LMA	LAB DUPLICATE	100e	<2	24e
I19	28 Jan 2016	6	AR	LAB DUPLICATE	ns	<2	<2
I19	28 Jan 2016	6	SR	LAB DUPLICATE	<2	ns	ns
I40	04 Jan 2016	6	JT	LAB DUPLICATE	44	12e	20e
I40	13 Jan 2016	6	SR	LAB DUPLICATE	120e	14e	20e
I40	19 Jan 2016	6	JT	LAB DUPLICATE	<20	<2	20e
I40	28 Jan 2016	6	AR	LAB DUPLICATE	ns	<2	<2
I40	28 Jan 2016	6	SR	LAB DUPLICATE	4e	ns	ns
S12	05 Jan 2016		ZV	FIELD DUPLICATE	>16000	8800	1800e
S12	05 Jan 2016		ZV	LAB DUPLICATE	>16000	11000	2400e
S12	08 Jan 2016			FIELD DUPLICATE	ns	ns	ns
S12	08 Jan 2016			LAB DUPLICATE	ns	ns	ns
S12	12 Jan 2016		AR	FIELD DUPLICATE	20e	60	<2
S12	12 Jan 2016		AR	LAB DUPLICATE	<200	32e	8e
S12	19 Jan 2016		GA	FIELD DUPLICATE	<20	<2	4e
S12	19 Jan 2016		GA	LAB DUPLICATE	2e	<2	<2
S12	26 Jan 2016		JT	FIELD DUPLICATE	<20	<2	<2
S12	26 Jan 2016		JT	LAB DUPLICATE	<20	<2	<2

ns = not sampled
ND = no data

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