



# Monthly Receiving Waters Monitoring Report for the South Bay Ocean Outfall

(South Bay Water Reclamation Plant)

NPDES Permit No. CA0109045

## October 2015



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





## THE CITY OF SAN DIEGO

November 30, 2015

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 October 2015 Monthly Receiving Waters Monitoring Report for the South Bay Ocean Outfall, South Bay Water Reclamation Plant as required per Order No. R9-2013-0006, NPDES Permit No. CA0109045.

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

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

Sincerely,

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

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

TDS:asb

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





## 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 S8–12).

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 stations (I19, I24, I25, I26, I32, I39, I40) were sampled according to NPDES permit specifications in order to monitor water quality compliance within a kelp bed-suitable area. The seven kelp stations 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 seven stations are only occasionally located within an area where kelp is actually found. 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.

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.

All water samples were collected using Van Dorn bottles arrayed at the required depths and messenger-tripped in series. 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. However, it should be noted that the CTD measurements and bacteriological samples were taken from separate hydrocasts.

### ***Offshore Stations***

Quarterly offshore water quality sampling was 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 three stations are reported within the kelp bed station section of the report with the other four days of kelp bed water quality sampling. Monitoring at all sites included measurements of various physical/chemical parameters, including water temperature, salinity, density, dissolved oxygen, pH, chlorophyll *a*, transmissivity, and chromomorphic dissolved organic matter (CDOM). Visual observations of weather and water conditions were also recorded at all stations. Seawater samples for the analysis of indicator bacteria, suspended solids, and oil and grease concentrations were collected at 28 of the stations.

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

### ***Bacteriological Reporting and Quality Assurance***

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

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

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

- (1) Total coliform density shall not exceed 1000 CFU/100 mL;
- (2) Fecal coliform density shall not exceed 200 CFU/100 mL;

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

(3) *Enterococcus* density shall not exceed 35 CFU/100 mL.

**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 2015 Quality Assurance Report, which will be completed in March 2016.

## SUMMARY OF RESULTS

➤ **Shoreline Water Quality Sampling**

- Because of site access restrictions in Mexico, the South Bay shoreline sampling is carried out on the same day each week (i.e., Tuesday) in order to coordinate sampling between the Mexican and USA based stations. Seawater samples at the three shore stations located south of the USA/Mexico border (i.e., stations S0, S2 and S3) are presently collected by the Comisión Internacional de Límites y Aguas (CILA) and transported to the IBWC for subsequent delivery to the City's Marine Microbiology Lab, while samples from the eight stations located in USA waters are sampled by City staff.
- During October, four 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 *Enterococcus* was exceeded at stations S5 and S11 on multiple days during the month.

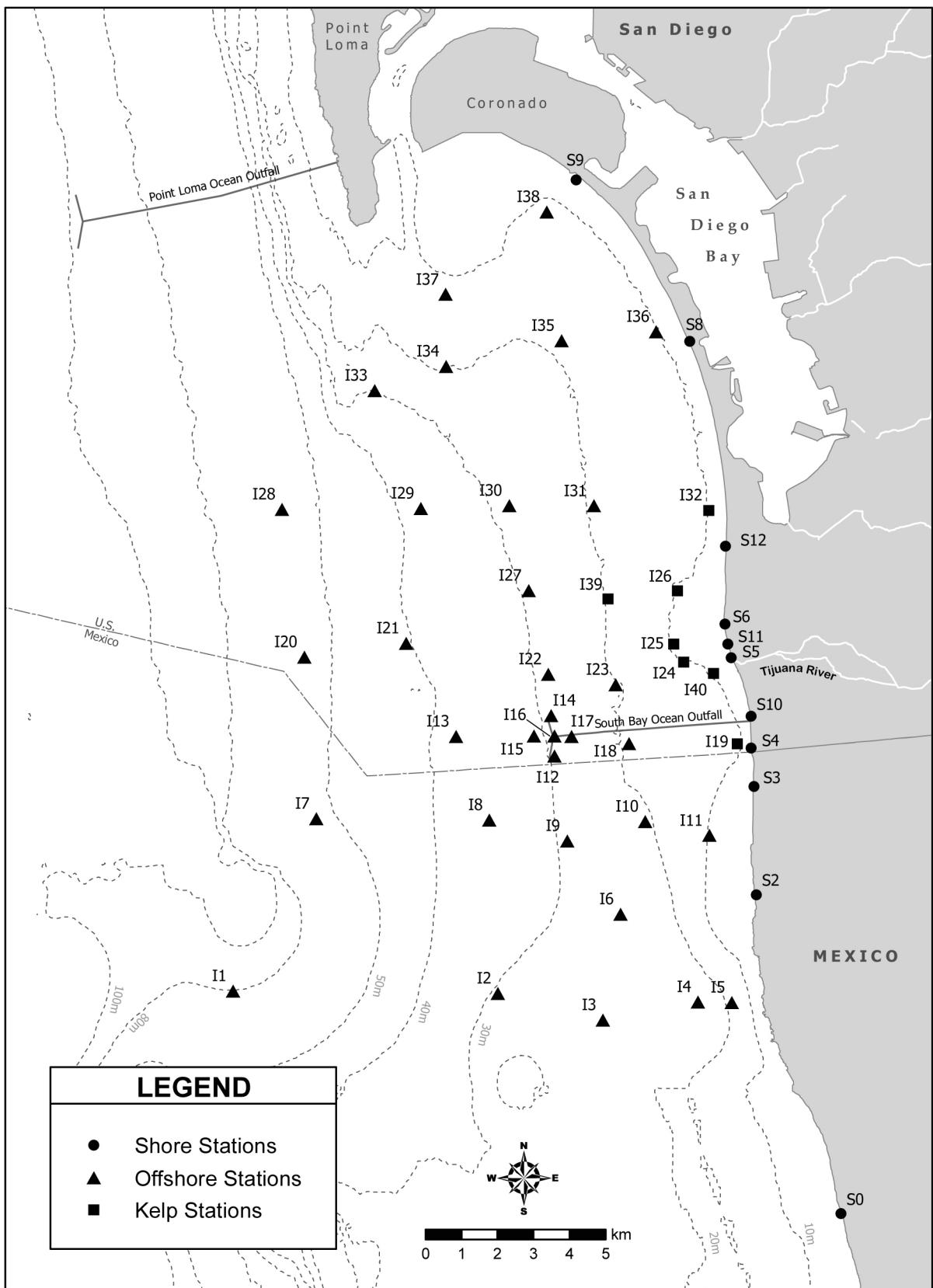
- The single sample maximum (SSM) standards for total coliform, fecal coliform, and *Enterococcus* were each exceeded at stations S5, S6, S11, and S12 on October 6.
  - The SSM standard that states total coliform densities shall not exceed 1000 CFU/100 mL when the fecal:total ratio exceeds 0.1 was exceeded at stations S5, S6, and S11 on October 6.
  - Per Ocean Plan requirements, resamples were collected in response to the 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 and S2 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 October included: water flowing from a storm drain at stations S0 and S3. These observations were made on one or more days during the month.

➤ **Kelp Bed Water Quality Sampling**

- The seven kelp bed water quality stations (I19, I24, I25, I26, I32, I39, I40) were sampled five times during October (i.e. October 1, 7, 13, 24, 26).
- During October, all seven of these stations were in compliance with all Ocean Plan standards.
- Water column temperatures ranged from 17.87 to 22.30°C. The difference between surface and bottom waters ranged from approximately 0.2 to 3.9°C, indicating the water column was stratified at these sites.
- Chlorophyll *a* concentrations ranged from 0.28 to 4.92 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 October at the offshore stations. The next quarterly sampling is scheduled for November 2015.



**Figure 1.1** Station Map



# Shore Stations



**Table 2.1**

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

Date	S4	S5	S6	S8	S9	S10	S11	S12
01 Oct 2015	36*	44*	36*	36*	24*	36*	20*	112*
02 Oct 2015	36*	44*	36*	36*	24*	36*	20*	112*
03 Oct 2015	36*	44*	36*	36*	24*	36*	20*	112*
04 Oct 2015	36*	44*	36*	36*	24*	36*	20*	112*
05 Oct 2015	36*	44*	36*	36*	24*	36*	20*	112*
06 Oct 2015	51	144	121	39	14	52	76	303
07 Oct 2015	51	144	121	39	14	52	76	303
08 Oct 2015	65*	634	470	47*	13*	66*	329	459
09 Oct 2015	65*	634	470	47*	13*	66*	329	459
10 Oct 2015	65*	634	470	47*	13*	66*	329	459
11 Oct 2015	65*	634	470	47*	13*	66*	329	459
12 Oct 2015	65*	634	470	47*	13*	66*	329	459
13 Oct 2015	71	480	312	25	14	52	248	400
14 Oct 2015	71	480	312	25	14	52	248	400
15 Oct 2015	54*	572	341	26*	13*	66*	410	459
16 Oct 2015	54*	572	341	26*	13*	66*	410	459
17 Oct 2015	54*	572	341	26*	13*	66*	410	459
18 Oct 2015	54*	572	341	26*	13*	66*	410	459
19 Oct 2015	54*	572	341	26*	13*	66*	410	459
20 Oct 2015	28	327	213	25	14	33	213	186
21 Oct 2015	28	327	213	25	14	33	213	186
22 Oct 2015	54*	378	341	26*	11*	37*	341	183
23 Oct 2015	54*	378	341	26*	11*	37*	341	183
24 Oct 2015	54*	378	341	26*	11*	37*	341	183
25 Oct 2015	54*	378	341	26*	11*	37*	341	183
26 Oct 2015	54*	378	341	26*	11*	37*	341	183
27 Oct 2015	51	177	213	25	13	33	213	208
28 Oct 2015	51	177	213	25	13	33	213	208
29 Oct 2015	36*	274	215	15*	11*	21*	215	210
30 Oct 2015	36*	274	215	15*	11*	21*	215	210
31 Oct 2015	36*	274	215	15*	11*	21*	215	210

\* Geometric mean calculated using n<5

**Table 2.2**

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

Date	S4	S5	S6	S8	S9	S10	S11	S12
01 Oct 2015	3*	3*	2*	2*	2*	2*	2*	5*
02 Oct 2015	3*	3*	2*	2*	2*	2*	2*	5*
03 Oct 2015	3*	3*	2*	2*	2*	2*	2*	5*
04 Oct 2015	3*	3*	2*	2*	2*	2*	2*	5*
05 Oct 2015	3*	3*	2*	2*	2*	2*	2*	5*
06 Oct 2015	4	16	11	3	2	3	11	14
07 Oct 2015	4	16	11	3	2	3	11	14
08 Oct 2015	5*	45	17	3*	2*	4*	24	17
09 Oct 2015	5*	45	17	3*	2*	4*	24	17
10 Oct 2015	5*	45	17	3*	2*	4*	24	17
11 Oct 2015	5*	45	17	3*	2*	4*	24	17
12 Oct 2015	5*	45	17	3*	2*	4*	24	17
13 Oct 2015	6	35	12	3	2	3	21	16
14 Oct 2015	6	35	12	3	2	3	21	16
15 Oct 2015	8*	63	17	3*	2*	4*	33	22
16 Oct 2015	8*	63	17	3*	2*	4*	33	22
17 Oct 2015	8*	63	17	3*	2*	4*	33	22
18 Oct 2015	8*	63	17	3*	2*	4*	33	22
19 Oct 2015	8*	63	17	3*	2*	4*	33	22
20 Oct 2015	6	35	12	3	2	3	21	15
21 Oct 2015	6	35	12	3	2	3	21	15
22 Oct 2015	8*	45	17	3*	3*	4*	33	14
23 Oct 2015	8*	45	17	3*	3*	4*	33	14
24 Oct 2015	8*	45	17	3*	3*	4*	33	14
25 Oct 2015	8*	45	17	3*	3*	4*	33	14
26 Oct 2015	8*	45	17	3*	3*	4*	33	14
27 Oct 2015	7	27	12	3	3	3	21	13
28 Oct 2015	7	27	12	3	3	3	21	13
29 Oct 2015	6*	45	17	3*	3*	4*	33	18
30 Oct 2015	6*	45	17	3*	3*	4*	33	18
31 Oct 2015	6*	45	17	3*	3*	4*	33	18

\* Geometric mean calculated using n<5

**Table 2.3**

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

Date	S4	S5	S6	S8	S9	S10	S11	S12
01 Oct 2015	7*	5*	3*	2*	3*	8*	5*	3*
02 Oct 2015	7*	5*	3*	2*	3*	8*	5*	3*
03 Oct 2015	7*	5*	3*	2*	3*	8*	5*	3*
04 Oct 2015	7*	5*	3*	2*	3*	8*	5*	3*
05 Oct 2015	7*	5*	3*	2*	3*	8*	5*	3*
06 Oct 2015	9	24	13	3	3	11	22	8
07 Oct 2015	9	24	13	3	3	11	22	8
08 Oct 2015	13*	41	19	3*	4*	16*	40	8
09 Oct 2015	13*	41	19	3*	4*	16*	40	8
10 Oct 2015	13*	41	19	3*	4*	16*	40	8
11 Oct 2015	13*	41	19	3*	4*	16*	40	8
12 Oct 2015	13*	41	19	3*	4*	16*	40	8
13 Oct 2015	17	38	18	3	3	15	43	9
14 Oct 2015	17	38	18	3	3	15	43	9
15 Oct 2015	19*	55	24	3*	3*	9*	70	9
16 Oct 2015	19*	55	24	3*	3*	9*	70	9
17 Oct 2015	19*	55	24	3*	3*	9*	70	9
18 Oct 2015	19*	55	24	3*	3*	9*	70	9
19 Oct 2015	19*	55	24	3*	3*	9*	70	9
20 Oct 2015	12	31	16	3	3	7	39	7
21 Oct 2015	12	31	16	3	3	7	39	7
22 Oct 2015	19*	33	24	3*	3*	6*	56	9
23 Oct 2015	19*	33	24	3*	3*	6*	56	9
24 Oct 2015	19*	33	24	3*	3*	6*	56	9
25 Oct 2015	19*	33	24	3*	3*	6*	56	9
26 Oct 2015	19*	33	24	3*	3*	6*	56	9
27 Oct 2015	26	25	16	3	3	6	32	9
28 Oct 2015	26	25	16	3	3	6	32	9
29 Oct 2015	22*	41	21	3*	2*	8*	41	13
30 Oct 2015	22*	41	21	3*	2*	8*	41	13
31 Oct 2015	22*	41	21	3*	2*	8*	41	13

\* 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
06 Oct 2015	IC	E	E	IC	IC	IC	E	E
08 Oct 2015	ns	IC	IC	ns	ns	ns	IC	IC
13 Oct 2015	IC	IC	IC	IC	IC	IC	IC	IC
20 Oct 2015	IC	IC	IC	IC	IC	IC	IC	IC
27 Oct 2015	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
06 Oct 2015	IC	E	E	IC	IC	IC	E	E
08 Oct 2015	ns	IC	IC	ns	ns	ns	IC	IC
13 Oct 2015	IC	IC	IC	IC	IC	IC	IC	IC
20 Oct 2015	IC	IC	IC	IC	IC	IC	IC	IC
27 Oct 2015	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
06 Oct 2015	IC	E	E	IC	IC	IC	E	E
08 Oct 2015	ns	IC	IC	ns	ns	ns	IC	IC
13 Oct 2015	IC	IC	IC	IC	IC	IC	IC	IC
20 Oct 2015	IC	IC	IC	IC	IC	IC	IC	IC
27 Oct 2015	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
06 Oct 2015	IC	E	E	IC	IC	IC	E	IC
08 Oct 2015	ns	IC	IC	ns	ns	ns	IC	IC
13 Oct 2015	IC	IC	IC	IC	IC	IC	IC	IC
20 Oct 2015	IC	IC	IC	IC	IC	IC	IC	IC
27 Oct 2015	IC	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

**Table 2.8**

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

<b>Station</b>	<b>Date</b>	<b>Time</b>	<b>Total</b>	<b>Fecal</b>	<b>Enter</b>	<b>F:T</b>
S0	06 Oct 2015	1125	600e	56	300e	0.09
S0	13 Oct 2015	1125	<20	<2	12e	0.10
S0	20 Oct 2015	1020	78	<2	2600e	0.03
S0	27 Oct 2015	1059	40e	<2	36e	0.05
S2	06 Oct 2015	1108	100e	18e	22e	0.18
S2	13 Oct 2015	1015	400e	40	120e	0.10
S2	20 Oct 2015	1210	260e	32e	180e	0.12
S2	27 Oct 2015	1208	24e	<2	6e	0.08
S3	06 Oct 2015	947	140e	16e	6e	0.11
S3	13 Oct 2015	940	160e	14e	56	0.09
S3	20 Oct 2015	1250	<2	<2	4e	1.00
S3	27 Oct 2015	1130	20e	2e	52	0.10
S4	06 Oct 2015	1004	220e	10e	24e	0.05
S4	13 Oct 2015	1109	100e	12e	50	0.12
S4	20 Oct 2015	1114	<2	<2	<2	1.00
S4	27 Oct 2015	1003	40e	4e	98	0.10
S5	06 Oct 2015	842	>16000	>12000	>12000	0.75
S5	08 Oct 2015	1223	10000	400	30e	0.04
S5	13 Oct 2015	915	120e	10e	26e	0.08
S5	20 Oct 2015	923	<20	<2	<2	0.10
S5	27 Oct 2015	1205	4e	<2	6e	0.50
S6	06 Oct 2015	852	>16000	9800	6400	0.61
S6	08 Oct 2015	1234	1800e	20e	12e	0.01
S6	13 Oct 2015	930	40e	2e	14e	0.05
S6	20 Oct 2015	942	<20	2e	2e	0.10
S6	27 Oct 2015	1151	<20	2e	<2	0.10
S8	06 Oct 2015	807	60e	8e	8e	0.13
S8	13 Oct 2015	836	2e	<2	<2	1.00
S8	20 Oct 2015	838	<20	2e	<2	0.10
S8	27 Oct 2015	832	<20	<2	4e	0.10
S9	06 Oct 2015	749	2e	<2	4e	1.00
S9	13 Oct 2015	815	20e	<2	<2	0.10
S9	20 Oct 2015	813	<20	6e	<2	0.30
S9	27 Oct 2015	814	<20	4e	<2	0.20
S10	06 Oct 2015	1008	240e	20e	30e	0.08
S10	13 Oct 2015	1120	<20	2e	10e	0.10
S10	20 Oct 2015	1123	<2	<2	2e	1.00
S10	27 Oct 2015	1011	<20	2e	6e	0.10
S11	06 Oct 2015	847	>16000	>12000	>12000	0.75
S11	08 Oct 2015	1230	3000e	80e	36e	0.03

<b>Station</b>	<b>Date</b>	<b>Time</b>	<b>Total</b>	<b>Fecal</b>	<b>Enter</b>	<b>F:T</b>
S11	13 Oct 2015	923	60e	10e	64	0.17
S11	20 Oct 2015	932	8e	2e	2e	0.25
S11	27 Oct 2015	1156	<20	<2	2e	0.10
S12	06 Oct 2015	903	>16000	980	500	0.06
S12	08 Oct 2015	1243	160e	8e	<2	0.05
S12	13 Oct 2015	948	<200	16e	16e	0.08
S12	20 Oct 2015	958	<2	<2	<2	1.00
S12	27 Oct 2015	1139	400e	8e	10e	0.02

ns = not sampled

**Comments**

Station	Date	Depth	Parameter	Comments
S5	08 Oct 2015			Resample
S6	08 Oct 2015			Resample
S11	08 Oct 2015			Resample
S12	08 Oct 2015			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	06 Oct 2015	Arrive Time	1125
S0	06 Oct 2015	Weather	Sunny
S0	06 Oct 2015	Wind Speed (kts)	4.6
S0	06 Oct 2015	Wind Dir	NE
S0	06 Oct 2015	Animal Life	5 Shorebirds
S0	06 Oct 2015	Floatables	None
S0	06 Oct 2015	Water Color	Green
S0	06 Oct 2015	Current Direction	N
S0	06 Oct 2015	Water Temp (C)	22.5
S0	06 Oct 2015	Wave Height Low (ft)	3
S0	06 Oct 2015	High Tide (ft)	4.2
S0	06 Oct 2015	High Tide Time	635
S0	06 Oct 2015	Low Tide (ft)	2.3
S0	06 Oct 2015	Low Tide Time	1202
S0	06 Oct 2015	Comments	Kelp; Water clear; Flow from stormdrain 0.5 L/sec
S0	13 Oct 2015	Arrive Time	1125
S0	13 Oct 2015	Weather	Sunny
S0	13 Oct 2015	Wind Speed (kts)	3.62
S0	13 Oct 2015	Wind Dir	SW
S0	13 Oct 2015	Animal Life	2 Dogs; >20 Seagulls
S0	13 Oct 2015	Floatables	None
S0	13 Oct 2015	Water Color	Green
S0	13 Oct 2015	Current Direction	N
S0	13 Oct 2015	Water Temp (C)	22.4
S0	13 Oct 2015	Wave Height Low (ft)	2
S0	13 Oct 2015	High Tide (ft)	5.5
S0	13 Oct 2015	High Tide Time	935
S0	13 Oct 2015	Low Tide (ft)	0.3
S0	13 Oct 2015	Low Tide Time	1612
S0	13 Oct 2015	Comments	Kelp; Water turbid; Flow from stormdrain 0.5 L/sec
S0	20 Oct 2015	Arrive Time	1020
S0	20 Oct 2015	Weather	Sunny
S0	20 Oct 2015	Wind Speed (kts)	2.9
S0	20 Oct 2015	Wind Dir	NE
S0	20 Oct 2015	Animal Life	10 Shorebirds
S0	20 Oct 2015	Floatables	None
S0	20 Oct 2015	Water Color	Green
S0	20 Oct 2015	Current Direction	S
S0	20 Oct 2015	Water Temp (C)	20.5
S0	20 Oct 2015	Wave Height Low (ft)	6
S0	20 Oct 2015	High Tide (ft)	4.4
S0	20 Oct 2015	High Tide Time	1451
S0	20 Oct 2015	Low Tide (ft)	3
S0	20 Oct 2015	Low Tide Time	857
S0	20 Oct 2015	Comments	Kelp; 4 Persons; Water clear; Flow from stormdrain 0.1 L/sec
S0	27 Oct 2015	Arrive Time	1059
S0	27 Oct 2015	Weather	Sunny
S0	27 Oct 2015	Wind Speed (kts)	1.9

Station	Date	Parameter	Value
S0	27 Oct 2015	Wind Dir	NW
S0	27 Oct 2015	Animal Life	>20 Shorebirds
S0	27 Oct 2015	Floatables	None
S0	27 Oct 2015	Water Color	Green
S0	27 Oct 2015	Current Direction	N
S0	27 Oct 2015	Water Temp (C)	18.5
S0	27 Oct 2015	Wave Height Low (ft)	3
S0	27 Oct 2015	High Tide (ft)	6.7
S0	27 Oct 2015	High Tide Time	909
S0	27 Oct 2015	Low Tide (ft)	-0.9
S0	27 Oct 2015	Low Tide Time	1555
S0	27 Oct 2015	Comments	Kelp; 2 Persons; Water clear; No flow from stormdrain
S2	06 Oct 2015	Arrive Time	1108
S2	06 Oct 2015	Weather	Sunny
S2	06 Oct 2015	Wind Speed (kts)	2.6
S2	06 Oct 2015	Wind Dir	NE
S2	06 Oct 2015	Animal Life	5 Shorebirds
S2	06 Oct 2015	Floatables	None
S2	06 Oct 2015	Water Color	Green
S2	06 Oct 2015	Current Direction	N
S2	06 Oct 2015	Water Temp (C)	21
S2	06 Oct 2015	Wave Height Low (ft)	2
S2	06 Oct 2015	High Tide (ft)	4.2
S2	06 Oct 2015	High Tide Time	635
S2	06 Oct 2015	Low Tide (ft)	2.3
S2	06 Oct 2015	Low Tide Time	1202
S2	06 Oct 2015	Comments	Kelp; 1 Person; Water clear; No flow from stormdrain
S2	13 Oct 2015	Arrive Time	1015
S2	13 Oct 2015	Weather	Sunny
S2	13 Oct 2015	Wind Speed (kts)	3.8
S2	13 Oct 2015	Wind Dir	NW
S2	13 Oct 2015	Animal Life	3 Dogs; >20 Seagulls
S2	13 Oct 2015	Floatables	None
S2	13 Oct 2015	Water Color	Green
S2	13 Oct 2015	Current Direction	N
S2	13 Oct 2015	Water Temp (C)	20.7
S2	13 Oct 2015	Wave Height Low (ft)	2
S2	13 Oct 2015	High Tide (ft)	5.5
S2	13 Oct 2015	High Tide Time	935
S2	13 Oct 2015	Low Tide (ft)	0.3
S2	13 Oct 2015	Low Tide Time	1612
S2	13 Oct 2015	Comments	Water turbid; No flow from stormdrain
S2	20 Oct 2015	Arrive Time	1210
S2	20 Oct 2015	Weather	Sunny
S2	20 Oct 2015	Wind Speed (kts)	4.8
S2	20 Oct 2015	Wind Dir	SE
S2	20 Oct 2015	Animal Life	5 Shorebirds
S2	20 Oct 2015	Floatables	None
S2	20 Oct 2015	Water Color	Green
S2	20 Oct 2015	Current Direction	S
S2	20 Oct 2015	Water Temp (C)	20.5
S2	20 Oct 2015	Wave Height Low (ft)	6

Station	Date	Parameter	Value
S2	20 Oct 2015	High Tide (ft)	4.4
S2	20 Oct 2015	High Tide Time	1451
S2	20 Oct 2015	Low Tide (ft)	3
S2	20 Oct 2015	Low Tide Time	857
S2	20 Oct 2015	Comments	Kelp; 2 Persons; Water clear; No flow from stormdrain
S2	27 Oct 2015	Arrive Time	1208
S2	27 Oct 2015	Weather	Sunny
S2	27 Oct 2015	Wind Speed (kts)	2.7
S2	27 Oct 2015	Wind Dir	NW
S2	27 Oct 2015	Animal Life	1 Pelican; 5 Seagulls
S2	27 Oct 2015	Floatables	None
S2	27 Oct 2015	Water Color	Green
S2	27 Oct 2015	Current Direction	N
S2	27 Oct 2015	Water Temp (C)	18
S2	27 Oct 2015	Wave Height Low (ft)	3
S2	27 Oct 2015	High Tide (ft)	6.7
S2	27 Oct 2015	High Tide Time	909
S2	27 Oct 2015	Low Tide (ft)	-0.9
S2	27 Oct 2015	Low Tide Time	1555
S2	27 Oct 2015	Comments	Kelp; 7 Persons; 2 Surfers; Water clear; No flow from stormdrain
S3	06 Oct 2015	Arrive Time	947
S3	06 Oct 2015	Weather	Sunny
S3	06 Oct 2015	Wind Speed (kts)	2.8
S3	06 Oct 2015	Wind Dir	NE
S3	06 Oct 2015	Animal Life	5 Shorebirds; 2 Dogs
S3	06 Oct 2015	Floatables	None
S3	06 Oct 2015	Water Color	Green
S3	06 Oct 2015	Current Direction	N
S3	06 Oct 2015	Water Temp (C)	21
S3	06 Oct 2015	Wave Height Low (ft)	3
S3	06 Oct 2015	High Tide (ft)	4.2
S3	06 Oct 2015	High Tide Time	635
S3	06 Oct 2015	Low Tide (ft)	2.3
S3	06 Oct 2015	Low Tide Time	1202
S3	06 Oct 2015	Comments	Kelp; 4 Persons; Water clear; Flow from stormdrain 0.2 L/sec
S3	13 Oct 2015	Arrive Time	940
S3	13 Oct 2015	Weather	Sunny
S3	13 Oct 2015	Wind Speed (kts)	4.2
S3	13 Oct 2015	Wind Dir	NW
S3	13 Oct 2015	Animal Life	3 Dogs; >20 Seagulls
S3	13 Oct 2015	Floatables	None
S3	13 Oct 2015	Water Color	Green
S3	13 Oct 2015	Current Direction	N
S3	13 Oct 2015	Water Temp (C)	20.4
S3	13 Oct 2015	Wave Height Low (ft)	2
S3	13 Oct 2015	High Tide (ft)	5.5
S3	13 Oct 2015	High Tide Time	935
S3	13 Oct 2015	Low Tide (ft)	1.1
S3	13 Oct 2015	Low Tide Time	332
S3	13 Oct 2015	Comments	Kelp; Water turbid; Flow from stormdrain 0.5 L/sec
S3	20 Oct 2015	Arrive Time	1250

Station	Date	Parameter	Value
S3	20 Oct 2015	Weather	Sunny
S3	20 Oct 2015	Wind Speed (kts)	5.2
S3	20 Oct 2015	Wind Dir	SE
S3	20 Oct 2015	Animal Life	5 Shorebirds
S3	20 Oct 2015	Floatables	None
S3	20 Oct 2015	Water Color	Green
S3	20 Oct 2015	Current Direction	S
S3	20 Oct 2015	Water Temp (C)	20.5
S3	20 Oct 2015	Wave Height Low (ft)	6
S3	20 Oct 2015	High Tide (ft)	4.4
S3	20 Oct 2015	High Tide Time	1451
S3	20 Oct 2015	Low Tide (ft)	3
S3	20 Oct 2015	Low Tide Time	857
S3	20 Oct 2015	Comments	Kelp; Water clear; Flow from stormdrain 0.1 L/sec
S3	27 Oct 2015	Arrive Time	1130
S3	27 Oct 2015	Weather	Sunny
S3	27 Oct 2015	Wind Speed (kts)	2.3
S3	27 Oct 2015	Wind Dir	NW
S3	27 Oct 2015	Animal Life	10 Shorebirds
S3	27 Oct 2015	Floatables	None
S3	27 Oct 2015	Water Color	Green
S3	27 Oct 2015	Current Direction	N
S3	27 Oct 2015	Water Temp (C)	20
S3	27 Oct 2015	Wave Height Low (ft)	3
S3	27 Oct 2015	High Tide (ft)	6.7
S3	27 Oct 2015	High Tide Time	909
S3	27 Oct 2015	Low Tide (ft)	-0.9
S3	27 Oct 2015	Low Tide Time	1555
S3	27 Oct 2015	Comments	Kelp; >17 Persons; Water clear; No flow from stormdrain
S4	06 Oct 2015	Arrive Time	1004
S4	06 Oct 2015	Weather	Sunny
S4	06 Oct 2015	Wind Speed (kts)	4.4
S4	06 Oct 2015	Wind Dir	SW
S4	06 Oct 2015	Animal Life	None
S4	06 Oct 2015	Floatables	None
S4	06 Oct 2015	Water Color	Green
S4	06 Oct 2015	Current Direction	S
S4	06 Oct 2015	Water Temp (C)	22.4
S4	06 Oct 2015	Wave Height Low (ft)	2
S4	06 Oct 2015	High Tide (ft)	4.2
S4	06 Oct 2015	High Tide Time	635
S4	06 Oct 2015	Low Tide (ft)	2.3
S4	06 Oct 2015	Low Tide Time	1202
S4	06 Oct 2015	Comments	Kelp; Seagrass; Water clear
S4	13 Oct 2015	Arrive Time	1109
S4	13 Oct 2015	Weather	Sunny
S4	13 Oct 2015	Wind Speed (kts)	3.4
S4	13 Oct 2015	Wind Dir	SW
S4	13 Oct 2015	Animal Life	None
S4	13 Oct 2015	Floatables	None
S4	13 Oct 2015	Water Color	Green
S4	13 Oct 2015	Current Direction	SW

Station	Date	Parameter	Value
S4	13 Oct 2015	Water Temp (C)	23.4
S4	13 Oct 2015	Wave Height Low (ft)	5
S4	13 Oct 2015	High Tide (ft)	5.5
S4	13 Oct 2015	High Tide Time	935
S4	13 Oct 2015	Low Tide (ft)	0.3
S4	13 Oct 2015	Low Tide Time	1612
S4	13 Oct 2015	Comments	Kelp; Water clear
S4	20 Oct 2015	Arrive Time	1114
S4	20 Oct 2015	Weather	Partly Cloudy
S4	20 Oct 2015	Wind Speed (kts)	5.2
S4	20 Oct 2015	Wind Dir	W
S4	20 Oct 2015	Animal Life	None
S4	20 Oct 2015	Floatables	None
S4	20 Oct 2015	Water Color	Green
S4	20 Oct 2015	Current Direction	S
S4	20 Oct 2015	Water Temp (C)	22.4
S4	20 Oct 2015	Wave Height Low (ft)	3
S4	20 Oct 2015	High Tide (ft)	4.4
S4	20 Oct 2015	High Tide Time	1451
S4	20 Oct 2015	Low Tide (ft)	3
S4	20 Oct 2015	Low Tide Time	857
S4	20 Oct 2015	Comments	Kelp; Seagrass; Water clear; Excess kelp
S4	27 Oct 2015	Arrive Time	1003
S4	27 Oct 2015	Weather	Sunny
S4	27 Oct 2015	Wind Speed (kts)	2.7
S4	27 Oct 2015	Wind Dir	NW
S4	27 Oct 2015	Animal Life	None
S4	27 Oct 2015	Floatables	None
S4	27 Oct 2015	Water Color	Green
S4	27 Oct 2015	Current Direction	S
S4	27 Oct 2015	Water Temp (C)	21.2
S4	27 Oct 2015	Wave Height Low (ft)	2
S4	27 Oct 2015	High Tide (ft)	6.7
S4	27 Oct 2015	High Tide Time	909
S4	27 Oct 2015	Low Tide (ft)	-0.9
S4	27 Oct 2015	Low Tide Time	1555
S4	27 Oct 2015	Comments	Kelp; Seagrass; Water clear
S5	06 Oct 2015	Arrive Time	842
S5	06 Oct 2015	Weather	Sunny
S5	06 Oct 2015	Wind Speed (kts)	3.6
S5	06 Oct 2015	Wind Dir	S
S5	06 Oct 2015	Animal Life	None
S5	06 Oct 2015	Floatables	None
S5	06 Oct 2015	Water Color	Green
S5	06 Oct 2015	Current Direction	S
S5	06 Oct 2015	Water Temp (C)	20
S5	06 Oct 2015	Wave Height Low (ft)	2
S5	06 Oct 2015	High Tide (ft)	4.2
S5	06 Oct 2015	High Tide Time	635
S5	06 Oct 2015	Low Tide (ft)	2.3
S5	06 Oct 2015	Low Tide Time	1202
S5	06 Oct 2015	Comments	Kelp; Seagrass; Water clear

Station	Date	Parameter	Value
S5	08 Oct 2015	Arrive Time	1223
S5	08 Oct 2015	Weather	Sunny
S5	08 Oct 2015	Wind Speed (kts)	5.4
S5	08 Oct 2015	Wind Dir	N
S5	08 Oct 2015	Animal Life	None
S5	08 Oct 2015	Floatables	None
S5	08 Oct 2015	Water Color	Green
S5	08 Oct 2015	Current Direction	S
S5	08 Oct 2015	Water Temp (C)	23.6
S5	08 Oct 2015	Wave Height Low (ft)	3
S5	08 Oct 2015	High Tide (ft)	4.7
S5	08 Oct 2015	High Tide Time	739
S5	08 Oct 2015	Low Tide (ft)	1.5
S5	08 Oct 2015	Low Tide Time	1335
S5	08 Oct 2015	Comments	Resample; Seagrass; Water clear
S5	13 Oct 2015	Arrive Time	915
S5	13 Oct 2015	Weather	Sunny
S5	13 Oct 2015	Wind Speed (kts)	2.1
S5	13 Oct 2015	Wind Dir	SE
S5	13 Oct 2015	Animal Life	None
S5	13 Oct 2015	Floatables	None
S5	13 Oct 2015	Water Color	Green
S5	13 Oct 2015	Current Direction	SE
S5	13 Oct 2015	Water Temp (C)	23.2
S5	13 Oct 2015	Wave Height Low (ft)	5
S5	13 Oct 2015	High Tide (ft)	5.5
S5	13 Oct 2015	High Tide Time	935
S5	13 Oct 2015	Low Tide (ft)	1.1
S5	13 Oct 2015	Low Tide Time	332
S5	13 Oct 2015	Comments	Kelp; Water clear
S5	20 Oct 2015	Arrive Time	923
S5	20 Oct 2015	Weather	Partly Cloudy
S5	20 Oct 2015	Wind Speed (kts)	1.9
S5	20 Oct 2015	Wind Dir	W
S5	20 Oct 2015	Animal Life	None
S5	20 Oct 2015	Floatables	None
S5	20 Oct 2015	Water Color	Green
S5	20 Oct 2015	Current Direction	S
S5	20 Oct 2015	Water Temp (C)	20.8
S5	20 Oct 2015	Wave Height Low (ft)	3
S5	20 Oct 2015	High Tide (ft)	3.5
S5	20 Oct 2015	High Tide Time	425
S5	20 Oct 2015	Low Tide (ft)	3
S5	20 Oct 2015	Low Tide Time	857
S5	20 Oct 2015	Comments	Kelp; Seagrass; Water clear
S5	27 Oct 2015	Arrive Time	1205
S5	27 Oct 2015	Weather	Sunny
S5	27 Oct 2015	Wind Speed (kts)	6.2
S5	27 Oct 2015	Wind Dir	NW
S5	27 Oct 2015	Animal Life	None
S5	27 Oct 2015	Floatables	None

Station	Date	Parameter	Value
S5	27 Oct 2015	Water Color	Green
S5	27 Oct 2015	Current Direction	S
S5	27 Oct 2015	Water Temp (C)	20.6
S5	27 Oct 2015	Wave Height Low (ft)	2
S5	27 Oct 2015	High Tide (ft)	6.7
S5	27 Oct 2015	High Tide Time	909
S5	27 Oct 2015	Low Tide (ft)	-0.9
S5	27 Oct 2015	Low Tide Time	1555
S5	27 Oct 2015	Comments	Kelp; Seagrass; Debris; 1 Jogger; Water clear
S6	06 Oct 2015	Arrive Time	852
S6	06 Oct 2015	Weather	Sunny
S6	06 Oct 2015	Wind Speed (kts)	0
S6	06 Oct 2015	Wind Dir	
S6	06 Oct 2015	Animal Life	None
S6	06 Oct 2015	Floatables	None
S6	06 Oct 2015	Water Color	Green
S6	06 Oct 2015	Current Direction	
S6	06 Oct 2015	Water Temp (C)	20
S6	06 Oct 2015	Wave Height Low (ft)	2
S6	06 Oct 2015	High Tide (ft)	4.2
S6	06 Oct 2015	High Tide Time	635
S6	06 Oct 2015	Low Tide (ft)	2.3
S6	06 Oct 2015	Low Tide Time	1202
S6	06 Oct 2015	Comments	Kelp; Seagrass; Water clear
S6	08 Oct 2015	Arrive Time	1234
S6	08 Oct 2015	Weather	Sunny
S6	08 Oct 2015	Wind Speed (kts)	5.4
S6	08 Oct 2015	Wind Dir	N
S6	08 Oct 2015	Animal Life	None
S6	08 Oct 2015	Floatables	None
S6	08 Oct 2015	Water Color	Green
S6	08 Oct 2015	Current Direction	S
S6	08 Oct 2015	Water Temp (C)	22.6
S6	08 Oct 2015	Wave Height Low (ft)	3
S6	08 Oct 2015	High Tide (ft)	4.7
S6	08 Oct 2015	High Tide Time	739
S6	08 Oct 2015	Low Tide (ft)	1.5
S6	08 Oct 2015	Low Tide Time	1335
S6	08 Oct 2015	Comments	Resample; Kelp; Water clear
S6	13 Oct 2015	Arrive Time	930
S6	13 Oct 2015	Weather	Sunny
S6	13 Oct 2015	Wind Speed (kts)	5
S6	13 Oct 2015	Wind Dir	SW
S6	13 Oct 2015	Animal Life	None
S6	13 Oct 2015	Floatables	None
S6	13 Oct 2015	Water Color	Green
S6	13 Oct 2015	Current Direction	SW
S6	13 Oct 2015	Water Temp (C)	22.3
S6	13 Oct 2015	Wave Height Low (ft)	6
S6	13 Oct 2015	High Tide (ft)	5.5
S6	13 Oct 2015	High Tide Time	935
S6	13 Oct 2015	Low Tide (ft)	1.1

Station	Date	Parameter	Value
S6	13 Oct 2015	Low Tide Time	332
S6	13 Oct 2015	Comments	Kelp; 6 Surfers; Water clear
S6	20 Oct 2015	Arrive Time	942
S6	20 Oct 2015	Weather	Partly Cloudy
S6	20 Oct 2015	Wind Speed (kts)	2.7
S6	20 Oct 2015	Wind Dir	W
S6	20 Oct 2015	Animal Life	None
S6	20 Oct 2015	Floatables	None
S6	20 Oct 2015	Water Color	Green
S6	20 Oct 2015	Current Direction	S
S6	20 Oct 2015	Water Temp (C)	22.8
S6	20 Oct 2015	Wave Height Low (ft)	4
S6	20 Oct 2015	High Tide (ft)	4.4
S6	20 Oct 2015	High Tide Time	1451
S6	20 Oct 2015	Low Tide (ft)	3
S6	20 Oct 2015	Low Tide Time	857
S6	20 Oct 2015	Comments	Kelp; Seagrass; Water clear
S6	27 Oct 2015	Arrive Time	1151
S6	27 Oct 2015	Weather	Sunny
S6	27 Oct 2015	Wind Speed (kts)	5.4
S6	27 Oct 2015	Wind Dir	NW
S6	27 Oct 2015	Animal Life	3 Dogs
S6	27 Oct 2015	Floatables	None
S6	27 Oct 2015	Water Color	Green
S6	27 Oct 2015	Current Direction	S
S6	27 Oct 2015	Water Temp (C)	21.2
S6	27 Oct 2015	Wave Height Low (ft)	3
S6	27 Oct 2015	High Tide (ft)	6.7
S6	27 Oct 2015	High Tide Time	909
S6	27 Oct 2015	Low Tide (ft)	-0.9
S6	27 Oct 2015	Low Tide Time	1555
S6	27 Oct 2015	Comments	Kelp; Seagrass; 5 Persons; 2 Surfers; Water clear
S8	06 Oct 2015	Arrive Time	807
S8	06 Oct 2015	Weather	Sunny
S8	06 Oct 2015	Wind Speed (kts)	2.4
S8	06 Oct 2015	Wind Dir	SW
S8	06 Oct 2015	Animal Life	None
S8	06 Oct 2015	Floatables	None
S8	06 Oct 2015	Water Color	Green
S8	06 Oct 2015	Current Direction	S
S8	06 Oct 2015	Water Temp (C)	19.6
S8	06 Oct 2015	Wave Height Low (ft)	2
S8	06 Oct 2015	High Tide (ft)	4.2
S8	06 Oct 2015	High Tide Time	635
S8	06 Oct 2015	Low Tide (ft)	2.3
S8	06 Oct 2015	Low Tide Time	1202
S8	06 Oct 2015	Comments	Kelp; Seagrass; 3 Persons; Water clear
S8	13 Oct 2015	Arrive Time	836
S8	13 Oct 2015	Weather	Sunny
S8	13 Oct 2015	Wind Speed (kts)	2.1
S8	13 Oct 2015	Wind Dir	SE

Station	Date	Parameter	Value
S8	13 Oct 2015	Animal Life	3 Birds
S8	13 Oct 2015	Floatables	None
S8	13 Oct 2015	Water Color	Green
S8	13 Oct 2015	Current Direction	SE
S8	13 Oct 2015	Water Temp (C)	23.2
S8	13 Oct 2015	Wave Height Low (ft)	4
S8	13 Oct 2015	High Tide (ft)	5.5
S8	13 Oct 2015	High Tide Time	935
S8	13 Oct 2015	Low Tide (ft)	1.1
S8	13 Oct 2015	Low Tide Time	332
S8	13 Oct 2015	Comments	Kelp; Seagrass; 1 Surfer; 1 Fisherman; Water clear
S8	20 Oct 2015	Arrive Time	838
S8	20 Oct 2015	Weather	Partly Cloudy
S8	20 Oct 2015	Wind Speed (kts)	2.3
S8	20 Oct 2015	Wind Dir	S
S8	20 Oct 2015	Animal Life	None
S8	20 Oct 2015	Floatables	None
S8	20 Oct 2015	Water Color	Green
S8	20 Oct 2015	Current Direction	S
S8	20 Oct 2015	Water Temp (C)	19.5
S8	20 Oct 2015	Wave Height Low (ft)	2
S8	20 Oct 2015	High Tide (ft)	3.5
S8	20 Oct 2015	High Tide Time	425
S8	20 Oct 2015	Low Tide (ft)	3
S8	20 Oct 2015	Low Tide Time	857
S8	20 Oct 2015	Comments	Kelp; Seagrass; 2 Persons; Water clear
S8	27 Oct 2015	Arrive Time	832
S8	27 Oct 2015	Weather	Sunny
S8	27 Oct 2015	Wind Speed (kts)	2.2
S8	27 Oct 2015	Wind Dir	SW
S8	27 Oct 2015	Animal Life	None
S8	27 Oct 2015	Floatables	None
S8	27 Oct 2015	Water Color	Green
S8	27 Oct 2015	Current Direction	SW
S8	27 Oct 2015	Water Temp (C)	20.6
S8	27 Oct 2015	Wave Height Low (ft)	2
S8	27 Oct 2015	High Tide (ft)	6.7
S8	27 Oct 2015	High Tide Time	909
S8	27 Oct 2015	Low Tide (ft)	0.5
S8	27 Oct 2015	Low Tide Time	304
S8	27 Oct 2015	Comments	Kelp; Seagrass; 4 Persons; Water clear
S9	06 Oct 2015	Arrive Time	749
S9	06 Oct 2015	Weather	Sunny
S9	06 Oct 2015	Wind Speed (kts)	3.1
S9	06 Oct 2015	Wind Dir	SW
S9	06 Oct 2015	Animal Life	None
S9	06 Oct 2015	Floatables	None
S9	06 Oct 2015	Water Color	Green
S9	06 Oct 2015	Current Direction	S
S9	06 Oct 2015	Water Temp (C)	18.8
S9	06 Oct 2015	Wave Height Low (ft)	2
S9	06 Oct 2015	High Tide (ft)	4.2

Station	Date	Parameter	Value
S9	06 Oct 2015	High Tide Time	635
S9	06 Oct 2015	Low Tide (ft)	2.3
S9	06 Oct 2015	Low Tide Time	1202
S9	06 Oct 2015	Comments	Kelp; Seagrass; 10 Joggers; 10 Persons; Water clear
S9	13 Oct 2015	Arrive Time	815
S9	13 Oct 2015	Weather	Sunny
S9	13 Oct 2015	Wind Speed (kts)	2.7
S9	13 Oct 2015	Wind Dir	E
S9	13 Oct 2015	Animal Life	1 Bird
S9	13 Oct 2015	Floatables	None
S9	13 Oct 2015	Water Color	Green
S9	13 Oct 2015	Current Direction	E
S9	13 Oct 2015	Water Temp (C)	23
S9	13 Oct 2015	Wave Height Low (ft)	3
S9	13 Oct 2015	High Tide (ft)	5.5
S9	13 Oct 2015	High Tide Time	935
S9	13 Oct 2015	Low Tide (ft)	1.1
S9	13 Oct 2015	Low Tide Time	332
S9	13 Oct 2015	Comments	Kelp; 5 Persons; Water clear
S9	20 Oct 2015	Arrive Time	813
S9	20 Oct 2015	Weather	Partly Cloudy
S9	20 Oct 2015	Wind Speed (kts)	1.7
S9	20 Oct 2015	Wind Dir	S
S9	20 Oct 2015	Animal Life	None
S9	20 Oct 2015	Floatables	None
S9	20 Oct 2015	Water Color	Blue
S9	20 Oct 2015	Current Direction	S
S9	20 Oct 2015	Water Temp (C)	20
S9	20 Oct 2015	Wave Height Low (ft)	2
S9	20 Oct 2015	High Tide (ft)	3.5
S9	20 Oct 2015	High Tide Time	425
S9	20 Oct 2015	Low Tide (ft)	3
S9	20 Oct 2015	Low Tide Time	857
S9	20 Oct 2015	Comments	Kelp; Seagrass; 6 Joggers; 5 Persons; Water clear
S9	27 Oct 2015	Arrive Time	814
S9	27 Oct 2015	Weather	Sunny
S9	27 Oct 2015	Wind Speed (kts)	0
S9	27 Oct 2015	Wind Dir	
S9	27 Oct 2015	Animal Life	None
S9	27 Oct 2015	Floatables	None
S9	27 Oct 2015	Water Color	Green
S9	27 Oct 2015	Current Direction	S
S9	27 Oct 2015	Water Temp (C)	19.4
S9	27 Oct 2015	Wave Height Low (ft)	2
S9	27 Oct 2015	High Tide (ft)	6.7
S9	27 Oct 2015	High Tide Time	909
S9	27 Oct 2015	Low Tide (ft)	0.5
S9	27 Oct 2015	Low Tide Time	304
S9	27 Oct 2015	Comments	Kelp; Seagrass; 10 Joggers; 7 Persons; Water clear
S10	06 Oct 2015	Arrive Time	1008
S10	06 Oct 2015	Weather	Sunny

Station	Date	Parameter	Value
S10	06 Oct 2015	Wind Speed (kts)	4.6
S10	06 Oct 2015	Wind Dir	SW
S10	06 Oct 2015	Animal Life	None
S10	06 Oct 2015	Floatables	None
S10	06 Oct 2015	Water Color	Green
S10	06 Oct 2015	Current Direction	S
S10	06 Oct 2015	Water Temp (C)	21
S10	06 Oct 2015	Wave Height Low (ft)	3
S10	06 Oct 2015	High Tide (ft)	4.2
S10	06 Oct 2015	High Tide Time	635
S10	06 Oct 2015	Low Tide (ft)	2.3
S10	06 Oct 2015	Low Tide Time	1202
S10	06 Oct 2015	Comments	Kelp; Seagrass; Water clear; Flow at dairy mart rd 10/6/15 @ 1035
S10	13 Oct 2015	Arrive Time	1120
S10	13 Oct 2015	Weather	Sunny
S10	13 Oct 2015	Wind Speed (kts)	3.2
S10	13 Oct 2015	Wind Dir	SW
S10	13 Oct 2015	Animal Life	None
S10	13 Oct 2015	Floatables	None
S10	13 Oct 2015	Water Color	Green
S10	13 Oct 2015	Current Direction	SW
S10	13 Oct 2015	Water Temp (C)	23.6
S10	13 Oct 2015	Wave Height Low (ft)	4
S10	13 Oct 2015	High Tide (ft)	5.5
S10	13 Oct 2015	High Tide Time	935
S10	13 Oct 2015	Low Tide (ft)	0.3
S10	13 Oct 2015	Low Tide Time	1612
S10	13 Oct 2015	Comments	Kelp; Water clear
S10	20 Oct 2015	Arrive Time	1123
S10	20 Oct 2015	Weather	Partly Cloudy
S10	20 Oct 2015	Wind Speed (kts)	5
S10	20 Oct 2015	Wind Dir	SW
S10	20 Oct 2015	Animal Life	None
S10	20 Oct 2015	Floatables	None
S10	20 Oct 2015	Water Color	Green
S10	20 Oct 2015	Current Direction	S
S10	20 Oct 2015	Water Temp (C)	21.6
S10	20 Oct 2015	Wave Height Low (ft)	3
S10	20 Oct 2015	High Tide (ft)	4.4
S10	20 Oct 2015	High Tide Time	1451
S10	20 Oct 2015	Low Tide (ft)	3
S10	20 Oct 2015	Low Tide Time	857
S10	20 Oct 2015	Comments	Kelp; Seagrass; Water clear; Excess kelp
S10	27 Oct 2015	Arrive Time	1011
S10	27 Oct 2015	Weather	Sunny
S10	27 Oct 2015	Wind Speed (kts)	4.4
S10	27 Oct 2015	Wind Dir	NW
S10	27 Oct 2015	Animal Life	None
S10	27 Oct 2015	Floatables	None
S10	27 Oct 2015	Water Color	Green
S10	27 Oct 2015	Current Direction	S
S10	27 Oct 2015	Water Temp (C)	19.6

Station	Date	Parameter	Value
S10	27 Oct 2015	Wave Height Low (ft)	3
S10	27 Oct 2015	High Tide (ft)	6.7
S10	27 Oct 2015	High Tide Time	909
S10	27 Oct 2015	Low Tide (ft)	-0.9
S10	27 Oct 2015	Low Tide Time	1555
S10	27 Oct 2015	Comments	Kelp; Seagrass; Water clear
S11	06 Oct 2015	Arrive Time	847
S11	06 Oct 2015	Weather	Sunny
S11	06 Oct 2015	Wind Speed (kts)	3.2
S11	06 Oct 2015	Wind Dir	S
S11	06 Oct 2015	Animal Life	None
S11	06 Oct 2015	Floatables	None
S11	06 Oct 2015	Water Color	Green
S11	06 Oct 2015	Current Direction	S
S11	06 Oct 2015	Water Temp (C)	20.1
S11	06 Oct 2015	Wave Height Low (ft)	2
S11	06 Oct 2015	High Tide (ft)	4.2
S11	06 Oct 2015	High Tide Time	635
S11	06 Oct 2015	Low Tide (ft)	2.3
S11	06 Oct 2015	Low Tide Time	1202
S11	06 Oct 2015	Comments	Kelp; Seagrass; Water clear
S11	08 Oct 2015	Arrive Time	1230
S11	08 Oct 2015	Weather	Sunny
S11	08 Oct 2015	Wind Speed (kts)	5.2
S11	08 Oct 2015	Wind Dir	N
S11	08 Oct 2015	Animal Life	None
S11	08 Oct 2015	Floatables	None
S11	08 Oct 2015	Water Color	Green
S11	08 Oct 2015	Current Direction	S
S11	08 Oct 2015	Water Temp (C)	23.4
S11	08 Oct 2015	Wave Height Low (ft)	3
S11	08 Oct 2015	High Tide (ft)	4.7
S11	08 Oct 2015	High Tide Time	739
S11	08 Oct 2015	Low Tide (ft)	1.5
S11	08 Oct 2015	Low Tide Time	1335
S11	08 Oct 2015	Comments	Resample; Seagrass; Water clear
S11	13 Oct 2015	Arrive Time	923
S11	13 Oct 2015	Weather	Sunny
S11	13 Oct 2015	Wind Speed (kts)	2.2
S11	13 Oct 2015	Wind Dir	SE
S11	13 Oct 2015	Animal Life	None
S11	13 Oct 2015	Floatables	None
S11	13 Oct 2015	Water Color	Green
S11	13 Oct 2015	Current Direction	SE
S11	13 Oct 2015	Water Temp (C)	23.8
S11	13 Oct 2015	Wave Height Low (ft)	5
S11	13 Oct 2015	High Tide (ft)	5.5
S11	13 Oct 2015	High Tide Time	935
S11	13 Oct 2015	Low Tide (ft)	1.1
S11	13 Oct 2015	Low Tide Time	332
S11	13 Oct 2015	Comments	Kelp; Water clear

Station	Date	Parameter	Value
S11	20 Oct 2015	Arrive Time	932
S11	20 Oct 2015	Weather	Partly Cloudy
S11	20 Oct 2015	Wind Speed (kts)	2.2
S11	20 Oct 2015	Wind Dir	W
S11	20 Oct 2015	Animal Life	None
S11	20 Oct 2015	Floatables	None
S11	20 Oct 2015	Water Color	Green
S11	20 Oct 2015	Current Direction	S
S11	20 Oct 2015	Water Temp (C)	20.4
S11	20 Oct 2015	Wave Height Low (ft)	3
S11	20 Oct 2015	High Tide (ft)	3.5
S11	20 Oct 2015	High Tide Time	425
S11	20 Oct 2015	Low Tide (ft)	3
S11	20 Oct 2015	Low Tide Time	857
S11	20 Oct 2015	Comments	Kelp; Seagrass; Algae; Water turbid; Green with red algae
S11	27 Oct 2015	Arrive Time	1156
S11	27 Oct 2015	Weather	Sunny
S11	27 Oct 2015	Wind Speed (kts)	5.2
S11	27 Oct 2015	Wind Dir	NW
S11	27 Oct 2015	Animal Life	None
S11	27 Oct 2015	Floatables	None
S11	27 Oct 2015	Water Color	Green
S11	27 Oct 2015	Current Direction	S
S11	27 Oct 2015	Water Temp (C)	20
S11	27 Oct 2015	Wave Height Low (ft)	3
S11	27 Oct 2015	High Tide (ft)	6.7
S11	27 Oct 2015	High Tide Time	909
S11	27 Oct 2015	Low Tide (ft)	-0.9
S11	27 Oct 2015	Low Tide Time	1555
S11	27 Oct 2015	Comments	Kelp; Seagrass; Water clear
S12	06 Oct 2015	Arrive Time	903
S12	06 Oct 2015	Weather	Sunny
S12	06 Oct 2015	Wind Speed (kts)	3.6
S12	06 Oct 2015	Wind Dir	S
S12	06 Oct 2015	Animal Life	None
S12	06 Oct 2015	Floatables	None
S12	06 Oct 2015	Water Color	Green
S12	06 Oct 2015	Current Direction	S
S12	06 Oct 2015	Water Temp (C)	20.8
S12	06 Oct 2015	Wave Height Low (ft)	2
S12	06 Oct 2015	High Tide (ft)	4.2
S12	06 Oct 2015	High Tide Time	635
S12	06 Oct 2015	Low Tide (ft)	2.3
S12	06 Oct 2015	Low Tide Time	1202
S12	06 Oct 2015	Comments	Kelp; Seagrass; 4 Persons; Water clear
S12	08 Oct 2015	Arrive Time	1243
S12	08 Oct 2015	Weather	Sunny
S12	08 Oct 2015	Wind Speed (kts)	5.4
S12	08 Oct 2015	Wind Dir	NW
S12	08 Oct 2015	Animal Life	None
S12	08 Oct 2015	Floatables	None
S12	08 Oct 2015	Water Color	Green

Station	Date	Parameter	Value
S12	08 Oct 2015	Current Direction	S
S12	08 Oct 2015	Water Temp (C)	23.6
S12	08 Oct 2015	Wave Height Low (ft)	3
S12	08 Oct 2015	High Tide (ft)	4.7
S12	08 Oct 2015	High Tide Time	739
S12	08 Oct 2015	Low Tide (ft)	1.5
S12	08 Oct 2015	Low Tide Time	1335
S12	08 Oct 2015	Comments	Resample; Seagrass; Water clear
S12	13 Oct 2015	Arrive Time	948
S12	13 Oct 2015	Weather	Sunny
S12	13 Oct 2015	Wind Speed (kts)	3.1
S12	13 Oct 2015	Wind Dir	SW
S12	13 Oct 2015	Animal Life	None
S12	13 Oct 2015	Floatables	None
S12	13 Oct 2015	Water Color	Green
S12	13 Oct 2015	Current Direction	SW
S12	13 Oct 2015	Water Temp (C)	23.4
S12	13 Oct 2015	Wave Height Low (ft)	4
S12	13 Oct 2015	High Tide (ft)	5.5
S12	13 Oct 2015	High Tide Time	935
S12	13 Oct 2015	Low Tide (ft)	1.1
S12	13 Oct 2015	Low Tide Time	332
S12	13 Oct 2015	Comments	Kelp; Seagrass; 2 Surfers; Water clear
S12	20 Oct 2015	Arrive Time	958
S12	20 Oct 2015	Weather	Partly Cloudy
S12	20 Oct 2015	Wind Speed (kts)	2
S12	20 Oct 2015	Wind Dir	W
S12	20 Oct 2015	Animal Life	None
S12	20 Oct 2015	Floatables	None
S12	20 Oct 2015	Water Color	Green
S12	20 Oct 2015	Current Direction	S
S12	20 Oct 2015	Water Temp (C)	23.4
S12	20 Oct 2015	Wave Height Low (ft)	4
S12	20 Oct 2015	High Tide (ft)	4.4
S12	20 Oct 2015	High Tide Time	1451
S12	20 Oct 2015	Low Tide (ft)	3
S12	20 Oct 2015	Low Tide Time	857
S12	20 Oct 2015	Comments	Kelp; Seagrass; Water clear
S12	27 Oct 2015	Arrive Time	1139
S12	27 Oct 2015	Weather	Sunny
S12	27 Oct 2015	Wind Speed (kts)	4.4
S12	27 Oct 2015	Wind Dir	NW
S12	27 Oct 2015	Animal Life	None
S12	27 Oct 2015	Floatables	None
S12	27 Oct 2015	Water Color	Green
S12	27 Oct 2015	Current Direction	S
S12	27 Oct 2015	Water Temp (C)	22
S12	27 Oct 2015	Wave Height Low (ft)	3
S12	27 Oct 2015	High Tide (ft)	6.7
S12	27 Oct 2015	High Tide Time	909
S12	27 Oct 2015	Low Tide (ft)	-0.9
S12	27 Oct 2015	Low Tide Time	1555

Station	Date	Parameter	Value
S12	27 Oct 2015	Comments	Kelp; Seagrass; 1 Fisherman; Water clear



# Kelp Stations



**Table 3.1**

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

Date	I19	I24	I25	I26	I32	I39	I40
01 Oct 2015	5	9	12	3	7	2	9
02 Oct 2015	5	9	12	3	7	2	9
03 Oct 2015	5	9	12	3	7	2	9
04 Oct 2015	5	8	13	3	6	2	7
05 Oct 2015	5	8	13	3	6	2	7
06 Oct 2015	5	8	13	3	6	2	7
07 Oct 2015	8	8	15	4	8	4	7
08 Oct 2015	8	8	15	4	8	4	7
09 Oct 2015	8	8	15	4	8	4	7
10 Oct 2015	10	5	15	4	10	4	9
11 Oct 2015	10	5	15	4	10	4	9
12 Oct 2015	10	5	15	4	10	4	9
13 Oct 2015	14	6	13	5	13	4	12
14 Oct 2015	14	6	13	5	13	4	12
15 Oct 2015	12	7	10	5	14	4	11
16 Oct 2015	12	7	10	5	14	4	11
17 Oct 2015	12	7	10	5	14	4	11
18 Oct 2015	12	7	10	5	14	4	11
19 Oct 2015	12	7	10	5	14	4	11
20 Oct 2015	12	7	10	5	14	4	11
21 Oct 2015	19*	9*	11*	5*	13*	4*	12*
22 Oct 2015	19*	9*	11*	5*	13*	4*	12*
23 Oct 2015	19*	9*	11*	5*	13*	4*	12*
24 Oct 2015	16	9	8	4	9	4	11
25 Oct 2015	16	9	8	4	9	4	11
26 Oct 2015	14	7	6	4	9	4	12
27 Oct 2015	16	6	7	4	8	4	13
28 Oct 2015	16	6	7	4	8	4	13
29 Oct 2015	16	6	7	4	8	4	13
30 Oct 2015	16	6	7	4	8	4	13
31 Oct 2015	26*	6*	5*	5*	12*	5*	14*

\* Geometric mean calculated using n<5

**Table 3.2**

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

Date	I19	I24	I25	I26	I32	I39	I40
01 Oct 2015	2	2	2	2	2	2	2
02 Oct 2015	2	2	2	2	2	2	2
03 Oct 2015	2	2	2	2	2	2	2
04 Oct 2015	2	2	2	2	2	2	2
05 Oct 2015	2	2	2	2	2	2	2
06 Oct 2015	2	2	2	2	2	2	2
07 Oct 2015	2	2	2	2	3	2	2
08 Oct 2015	2	2	2	2	3	2	2
09 Oct 2015	2	2	2	2	3	2	2
10 Oct 2015	2	2	2	2	3	3	2
11 Oct 2015	2	2	2	2	3	3	2
12 Oct 2015	2	2	2	2	3	3	2
13 Oct 2015	2	2	2	2	3	2	2
14 Oct 2015	2	2	2	2	3	2	2
15 Oct 2015	2	2	2	2	3	3	2
16 Oct 2015	2	2	2	2	3	3	2
17 Oct 2015	2	2	2	2	3	3	2
18 Oct 2015	2	2	2	2	3	3	2
19 Oct 2015	2	2	2	2	3	3	2
20 Oct 2015	2	2	2	2	3	3	2
21 Oct 2015	2*	2*	2*	2*	3*	3*	2*
22 Oct 2015	2*	2*	2*	2*	3*	3*	2*
23 Oct 2015	2*	2*	2*	2*	3*	3*	2*
24 Oct 2015	2	2	2	2	3	3	2
25 Oct 2015	2	2	2	2	3	3	2
26 Oct 2015	2	2	2	2	3	2	2
27 Oct 2015	2	2	2	2	3	3	2
28 Oct 2015	2	2	2	2	3	3	2
29 Oct 2015	2	2	2	2	3	3	2
30 Oct 2015	2	2	2	2	3	3	2
31 Oct 2015	2*	2*	2*	2*	3*	3*	2*

\* Geometric mean calculated using n<5

**Table 3.3**

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

Date	I19	I24	I25	I26	I32	I39	I40
01 Oct 2015	3	2	3	2	2	2	3
02 Oct 2015	3	2	3	2	2	2	3
03 Oct 2015	3	2	3	2	2	2	3
04 Oct 2015	3	2	3	2	2	2	3
05 Oct 2015	3	2	3	2	2	2	3
06 Oct 2015	3	2	3	2	2	2	3
07 Oct 2015	3	2	3	2	2	2	3
08 Oct 2015	3	2	3	2	2	2	3
09 Oct 2015	3	2	3	2	2	2	3
10 Oct 2015	3	2	3	2	2	2	2
11 Oct 2015	3	2	3	2	2	2	2
12 Oct 2015	3	2	3	2	2	2	2
13 Oct 2015	4	2	3	2	2	2	2
14 Oct 2015	4	2	3	2	2	2	2
15 Oct 2015	3	2	2	2	2	2	2
16 Oct 2015	3	2	2	2	2	2	2
17 Oct 2015	3	2	2	2	2	2	2
18 Oct 2015	3	2	2	2	2	2	2
19 Oct 2015	3	2	2	2	2	2	2
20 Oct 2015	3	2	2	2	2	2	2
21 Oct 2015	3*	2*	2*	2*	2*	2*	3*
22 Oct 2015	3*	2*	2*	2*	2*	2*	3*
23 Oct 2015	3*	2*	2*	2*	2*	2*	3*
24 Oct 2015	3	2	2	2	2	2	2
25 Oct 2015	3	2	2	2	2	2	2
26 Oct 2015	3	2	2	2	2	2	2
27 Oct 2015	3	2	2	2	2	2	2
28 Oct 2015	3	2	2	2	2	2	2
29 Oct 2015	3	2	2	2	2	2	2
30 Oct 2015	3	2	2	2	2	2	2
31 Oct 2015	4*	2*	2*	2*	2*	2*	3*

\* 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
01 Oct 2015	IC						
07 Oct 2015	IC						
13 Oct 2015	IC						
24 Oct 2015	IC						
26 Oct 2015	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
01 Oct 2015	IC						
07 Oct 2015	IC						
13 Oct 2015	IC						
24 Oct 2015	IC						
26 Oct 2015	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
01 Oct 2015	IC						
07 Oct 2015	IC						
13 Oct 2015	IC						
24 Oct 2015	IC						
26 Oct 2015	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
01 Oct 2015	IC						
07 Oct 2015	IC						
13 Oct 2015	IC						
24 Oct 2015	IC						
26 Oct 2015	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	01 Oct 2015	1244	2	<2	<2	<2	1.00	21.6	89.79	7.4	33.37	8.2	ns	ns
I19	01 Oct 2015	1244	6	<2	<2	<2	1.00	19.6	88.83	7.6	33.33	8.2	ns	ns
I19	01 Oct 2015	1244	11	<2	<2	<2	1.00	19.0	87.54	7.3	33.34	8.2	ns	ns
I19	07 Oct 2015	1049	2	2e	<2	<2	1.00	20.7	81.49	7.8	33.28	8.2	ns	ns
I19	07 Oct 2015	1049	6	40e	<2	2e	0.05	20.2	82.36	7.7	33.27	8.2	ns	ns
I19	07 Oct 2015	1049	11	<200	<2	2e	0.01	20.0	87.17	7.3	33.30	8.2	ns	ns
I19	13 Oct 2015	1041	2	<20	<2	<2	0.10	21.0	87.02	7.2	33.38	8.2	ns	ns
I19	13 Oct 2015	1041	6	<20	<2	2e	0.10	20.9	86.08	7.2	33.38	8.1	ns	ns
I19	13 Oct 2015	1041	11	200e	6e	16e	0.03	20.9	78.47	7.1	33.38	8.1	ns	ns
I19	24 Oct 2015	1035	2	<2	<2	<2	1.00	20.8	81.27	7.0	33.43	8.1	ns	ns
I19	24 Oct 2015	1035	6	20e	<2	2e	0.10	19.9	67.59	7.1	33.41	8.1	ns	ns
I19	24 Oct 2015	1035	11	<2	<2	<2	1.00	19.8	73.03	7.0	33.41	8.1	ns	ns
I19	26 Oct 2015	1202	2	<2	<2	<2	1.00	20.8	82.94	6.9	33.45	8.1	ns	ns
I19	26 Oct 2015	1202	6	20e	2e	4e	0.10	20.4	78.60	6.8	33.43	8.1	ns	ns
I19	26 Oct 2015	1202	11	6e	2e	14e	0.33	20.0	72.76	6.8	33.41	8.1	ns	ns
I24	01 Oct 2015	1316	2	<20	<2	<2	0.10	21.8	88.76	7.3	33.37	8.2	ns	ns
I24	01 Oct 2015	1316	6	<2	<2	<2	1.00	20.9	86.57	7.4	33.35	8.2	ns	ns
I24	01 Oct 2015	1316	11	<2	<2	<2	1.00	18.8	83.85	7.4	33.34	8.2	ns	ns
I24	07 Oct 2015	1112	2	6e	4e	<2	0.67	21.0	83.75	7.4	33.27	8.2	ns	ns
I24	07 Oct 2015	1112	6	18e	<2	<2	0.11	20.5	84.85	7.5	33.30	8.2	ns	ns
I24	07 Oct 2015	1112	11	8e	<2	<2	0.25	19.8	86.83	7.5	33.31	8.2	ns	ns
I24	13 Oct 2015	1101	2	<2	<2	<2	1.00	21.3	90.24	7.4	33.37	8.2	ns	ns
I24	13 Oct 2015	1101	6	2e	<2	<2	1.00	20.8	89.93	7.3	33.37	8.2	ns	ns
I24	13 Oct 2015	1101	11	<20	<2	<2	0.10	20.5	77.27	7.1	33.36	8.1	ns	ns
I24	24 Oct 2015	1058	2	<2	<2	<2	1.00	21.6	83.34	6.7	33.46	8.1	ns	ns
I24	24 Oct 2015	1058	6	<2	<2	4e	1.00	20.8	76.65	7.1	33.41	8.2	ns	ns
I24	24 Oct 2015	1058	11	<20	<2	<2	0.10	19.9	64.24	6.6	33.41	8.1	ns	ns
I24	26 Oct 2015	1227	2	<2	<2	<2	1.00	21.2	77.33	6.8	33.46	8.1	ns	ns
I24	26 Oct 2015	1227	6	<2	<2	<2	1.00	20.7	81.93	6.6	33.40	8.2	ns	ns
I24	26 Oct 2015	1227	11	<2	<2	<2	1.00	19.1	69.60	6.4	33.39	8.1	ns	ns
I25	01 Oct 2015	1325	2	<20	<2	<2	0.10	21.9	91.29	7.2	33.36	8.2	ns	ns
I25	01 Oct 2015	1325	6	<20	<2	<2	0.10	20.4	85.57	7.5	33.33	8.2	ns	ns
I25	01 Oct 2015	1325	9	<20	<2	<2	0.10	19.1	83.61	7.8	33.34	8.2	ns	ns
I25	07 Oct 2015	1122	2	30e	2e	<2	0.07	21.2	83.90	6.8	33.33	8.1	ns	ns
I25	07 Oct 2015	1122	6	40e	8e	<2	0.20	20.6	82.12	7.5	33.30	8.2	ns	ns

Station	Date	Time	Depth	Total	Fecal	Enterο	F:T	Temp	XMS	DO	Sal	pH	OG	SUSO
I25	07 Oct 2015	1122	9	12e	2e	<2	0.17	19.9	85.48	7.6	33.32	8.2	ns	ns
I25	13 Oct 2015	1108	2	<2	<2	<2	1.00	21.3	90.21	6.9	33.44	8.2	ns	ns
I25	13 Oct 2015	1108	6	2e	<2	<2	1.00	21.2	89.87	7.0	33.39	8.2	ns	ns
I25	13 Oct 2015	1108	9	16e	<2	<2	0.12	21.1	89.29	7.1	33.40	8.2	ns	ns
I25	24 Oct 2015	1107	2	<2	<2	<2	1.00	21.6	86.56	6.7	33.46	8.1	ns	ns
I25	24 Oct 2015	1107	6	<2	<2	<2	1.00	21.1	84.68	6.2	33.44	8.1	ns	ns
I25	24 Oct 2015	1107	9	<2	<2	<2	1.00	20.3	75.02	6.7	33.41	8.1	ns	ns
I25	26 Oct 2015	1236	2	<2	<2	<2	1.00	21.1	84.16	6.9	33.45	8.1	ns	ns
I25	26 Oct 2015	1236	6	<2	<2	<2	1.00	20.4	77.12	6.4	33.41	8.1	ns	ns
I25	26 Oct 2015	1236	9	<2	2e	<2	1.00	19.6	59.82	6.4	33.40	8.1	ns	ns
I26	01 Oct 2015	1336	2	<2	<2	<2	1.00	22.2	91.94	7.3	33.38	8.2	ns	ns
I26	01 Oct 2015	1336	6	<2	<2	<2	1.00	20.3	90.26	7.5	33.34	8.2	ns	ns
I26	01 Oct 2015	1336	9	<2	<2	<2	1.00	19.4	84.89	7.1	33.31	8.2	ns	ns
I26	07 Oct 2015	1135	2	20e	4e	2e	0.20	21.4	82.37	7.0	33.28	8.1	ns	ns
I26	07 Oct 2015	1135	6	4e	<2	<2	0.50	21.0	89.18	7.0	33.36	8.1	ns	ns
I26	07 Oct 2015	1135	9	14	<2	<2	0.14	20.0	88.49	7.2	33.34	8.1	ns	ns
I26	13 Oct 2015	1117	2	<2	<2	<2	1.00	21.3	91.47	7.2	33.38	8.2	ns	ns
I26	13 Oct 2015	1117	6	4e	<2	<2	0.50	21.1	89.62	7.3	33.37	8.2	ns	ns
I26	13 Oct 2015	1117	9	20e	4e	<2	0.20	21.0	84.88	7.2	33.37	8.1	ns	ns
I26	24 Oct 2015	1119	2	<2	<2	<2	1.00	21.6	89.42	6.8	33.46	8.2	ns	ns
I26	24 Oct 2015	1119	6	<2	<2	<2	1.00	21.1	89.93	6.6	33.43	8.1	ns	ns
I26	24 Oct 2015	1119	9	<2	<2	<2	1.00	20.2	81.76	6.4	33.41	8.1	ns	ns
I26	26 Oct 2015	1301	2	<2	<2	<2	1.00	21.2	89.53	7.0	33.45	8.2	ns	ns
I26	26 Oct 2015	1301	6	<2	<2	<2	1.00	20.0	77.84	6.4	33.40	8.1	ns	ns
I26	26 Oct 2015	1301	9	<2	<2	<2	1.00	19.9	62.10	6.3	33.40	8.1	ns	ns
I32	01 Oct 2015	1345	2	<2	<2	<2	1.00	22.3	88.67	7.3	33.39	8.2	ns	ns
I32	01 Oct 2015	1345	6	<2	<2	<2	1.00	21.5	91.83	7.4	33.37	8.2	ns	ns
I32	01 Oct 2015	1345	9	<2	<2	<2	1.00	20.8	90.09	7.4	33.33	8.2	ns	ns
I32	07 Oct 2015	1150	2	10e	<2	<2	0.20	21.3	84.38	7.0	33.35	8.2	ns	ns
I32	07 Oct 2015	1150	6	60e	22e	<2	0.37	20.2	76.12	6.8	33.34	8.1	ns	ns
I32	07 Oct 2015	1150	9	6e	<2	<2	0.33	19.8	79.93	6.8	33.34	8.1	ns	ns
I32	13 Oct 2015	1129	2	<2	<2	<2	1.00	21.6	88.83	6.9	33.53	8.2	ns	ns
I32	13 Oct 2015	1129	6	<2	<2	<2	1.00	21.2	86.03	7.0	33.39	8.2	ns	ns
I32	13 Oct 2015	1129	9	100e	<2	4e	0.02	21.2	83.83	7.0	33.36	8.1	ns	ns
I32	24 Oct 2015	1131	2	<2	<2	<2	1.00	21.5	89.02	6.9	33.46	8.2	ns	ns
I32	24 Oct 2015	1131	6	4e	<2	2e	0.50	20.6	73.37	6.1	33.41	8.1	ns	ns
I32	24 Oct 2015	1131	9	<2	4e	<2	2.00	19.7	55.25	6.0	33.40	8.1	ns	ns
I32	26 Oct 2015	1314	2	<2	<2	<2	1.00	21.5	86.51	7.0	33.47	8.2	ns	ns
I32	26 Oct 2015	1314	6	<2	<2	<2	1.00	21.2	84.30	7.1	33.46	8.2	ns	ns
I32	26 Oct 2015	1314	9	<20	<2	2e	0.10	20.8	76.81	7.0	33.45	8.2	ns	ns
I39	01 Oct 2015	1202	2	<2	<2	<2	1.00	21.5	91.43	7.4	33.38	8.2	ns	ns

Station	Date	Time	Depth	Total	Fecal	Enterο	F:T	Temp	XMS	DO	Sal	pH	OG	SUSO
I39	01 Oct 2015	1202	12	<2	<2	<2	1.00	18.5	89.58	7.6	33.32	8.2	ns	ns
I39	01 Oct 2015	1202	18	<2	<2	<2	1.00	17.9	88.63	7.4	33.33	8.2	ns	ns
I39	07 Oct 2015	1026	2	80e	12e	2e	0.15	21.2	88.66	6.6	33.40	8.1	ns	ns
I39	07 Oct 2015	1026	12	16e	4e	<2	0.25	19.9	90.74	7.4	33.32	8.2	ns	ns
I39	07 Oct 2015	1026	18	40	6e	<2	0.15	19.3	90.36	6.9	33.33	8.1	ns	ns
I39	13 Oct 2015	1017	2	<2	<2	<2	1.00	21.2	90.80	7.3	33.38	8.2	ns	ns
I39	13 Oct 2015	1017	12	<2	<2	<2	1.00	21.0	90.20	7.4	33.36	8.2	ns	ns
I39	13 Oct 2015	1017	18	2e	<2	<2	1.00	19.8	87.37	6.5	33.34	8.1	ns	ns
I39	24 Oct 2015	1015	2	<2	<2	<2	1.00	21.5	92.67	6.9	33.46	8.1	ns	ns
I39	24 Oct 2015	1015	12	<2	<2	<2	1.00	20.1	89.07	6.7	33.41	8.1	ns	ns
I39	24 Oct 2015	1015	18	<2	<2	2e	1.00	18.9	75.95	6.4	33.40	8.1	ns	ns
I39	26 Oct 2015	1139	2	6e	<2	<2	0.33	21.0	89.72	6.9	33.44	8.1	ns	ns
I39	26 Oct 2015	1139	12	<2	<2	2e	1.00	18.6	84.07	6.5	33.38	8.1	ns	ns
I39	26 Oct 2015	1139	18	4e	<2	2e	0.50	17.9	80.43	6.6	33.39	8.1	ns	ns
I40	01 Oct 2015	1302	2	<2	<2	<2	1.00	21.8	86.85	6.9	33.46	8.2	ns	ns
I40	01 Oct 2015	1302	6	<2	<2	<2	1.00	19.6	82.11	7.4	33.37	8.2	ns	ns
I40	01 Oct 2015	1302	9	<20	<2	<2	0.10	19.0	82.12	7.3	33.35	8.2	ns	ns
I40	07 Oct 2015	1102	2	<2	<2	<2	1.00	20.7	85.30	7.8	33.29	8.2	ns	ns
I40	07 Oct 2015	1102	6	18e	<2	<2	0.11	20.3	83.81	7.5	33.30	8.2	ns	ns
I40	07 Oct 2015	1102	9	12e	2e	<2	0.17	20.2	80.58	7.4	33.31	8.2	ns	ns
I40	13 Oct 2015	1053	2	<20	2e	2e	0.10	21.2	85.57	7.2	33.37	8.2	ns	ns
I40	13 Oct 2015	1053	6	20e	<2	<2	0.10	21.0	80.68	7.2	33.37	8.2	ns	ns
I40	13 Oct 2015	1053	9	60e	4e	12e	0.07	20.9	81.24	7.1	33.37	8.1	ns	ns
I40	24 Oct 2015	1050	2	2e	2e	<2	1.00	21.4	77.62	6.7	33.48	8.1	ns	ns
I40	24 Oct 2015	1050	6	<20	<2	<2	0.10	20.5	75.37	7.1	33.45	8.2	ns	ns
I40	24 Oct 2015	1050	9	<2	<2	<2	1.00	20.1	85.56	6.9	33.42	8.1	ns	ns
I40	26 Oct 2015	1216	2	<20	2e	2e	0.10	20.9	67.34	6.5	33.51	8.1	ns	ns
I40	26 Oct 2015	1216	6	<20	<2	<2	0.10	19.5	62.87	6.7	33.52	8.1	ns	ns
I40	26 Oct 2015	1216	9	6e	2e	<2	0.33	19.2	45.87	6.6	33.41	8.1	ns	ns

NA = not available

ns = not sampled

**Table 3.9**

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

Station	Date	Parameter	Value
I19	01 Oct 2015	Depth (m)	12
I19	01 Oct 2015	Arrive Time	1244
I19	01 Oct 2015	Depart Time	1250
I19	01 Oct 2015	Air Temp (C)	23
I19	01 Oct 2015	Weather	Partly Cloudy
I19	01 Oct 2015	Visibility (mi)	10
I19	01 Oct 2015	Wind Speed (kts)	2
I19	01 Oct 2015	Wind Dir	NW
I19	01 Oct 2015	Water Color	Bluish-Green
I19	01 Oct 2015	Wave Ht Low (ft)	3
I19	01 Oct 2015	Wave Period (sec)	9
I19	01 Oct 2015	Sea State	Calm
I19	01 Oct 2015	High Tide (ft)	5.93
I19	01 Oct 2015	High Tide Time	1143
I19	01 Oct 2015	Low Tide (ft)	1.3
I19	01 Oct 2015	Low Tide Time	534
I19	01 Oct 2015	Comments	
I19	07 Oct 2015	Depth (m)	11
I19	07 Oct 2015	Arrive Time	1049
I19	07 Oct 2015	Depart Time	1054
I19	07 Oct 2015	Air Temp (C)	21
I19	07 Oct 2015	Weather	Haze
I19	07 Oct 2015	Visibility (mi)	10
I19	07 Oct 2015	Wind Speed (kts)	4
I19	07 Oct 2015	Wind Dir	E
I19	07 Oct 2015	Water Color	Green
I19	07 Oct 2015	Wave Ht Low (ft)	2
I19	07 Oct 2015	Wave Period (sec)	7
I19	07 Oct 2015	Sea State	Calm
I19	07 Oct 2015	High Tide (ft)	4.5
I19	07 Oct 2015	High Tide Time	711
I19	07 Oct 2015	Low Tide (ft)	1.9
I19	07 Oct 2015	Low Tide Time	1255
I19	07 Oct 2015	Comments	
I19	13 Oct 2015	Depth (m)	12
I19	13 Oct 2015	Arrive Time	1041
I19	13 Oct 2015	Depart Time	1045
I19	13 Oct 2015	Air Temp (C)	24
I19	13 Oct 2015	Weather	Partly Cloudy
I19	13 Oct 2015	Visibility (mi)	5
I19	13 Oct 2015	Wind Speed (kts)	2
I19	13 Oct 2015	Wind Dir	S
I19	13 Oct 2015	Water Color	Green
I19	13 Oct 2015	Wave Ht Low (ft)	2
I19	13 Oct 2015	Wave Period (sec)	9
I19	13 Oct 2015	Sea State	Wind ripples
I19	13 Oct 2015	High Tide (ft)	5.5
I19	13 Oct 2015	High Tide Time	935
I19	13 Oct 2015	Low Tide (ft)	0.32

Station	Date	Parameter	Value
I19	13 Oct 2015	Low Tide Time	1612
I19	13 Oct 2015	Comments	
I19	24 Oct 2015	Depth (m)	11
I19	24 Oct 2015	Arrive Time	1035
I19	24 Oct 2015	Depart Time	1039
I19	24 Oct 2015	Air Temp (C)	22
I19	24 Oct 2015	Weather	Clear
I19	24 Oct 2015	Visibility (mi)	14
I19	24 Oct 2015	Wind Speed (kts)	1
I19	24 Oct 2015	Wind Dir	NE
I19	24 Oct 2015	Water Color	Green
I19	24 Oct 2015	Wave Ht Low (ft)	4
I19	24 Oct 2015	Wave Period (sec)	13
I19	24 Oct 2015	Sea State	Calm
I19	24 Oct 2015	High Tide (ft)	5.51
I19	24 Oct 2015	High Tide Time	719
I19	24 Oct 2015	Low Tide (ft)	0.56
I19	24 Oct 2015	Low Tide Time	1337
I19	24 Oct 2015	Comments	
I19	26 Oct 2015	Depth (m)	11
I19	26 Oct 2015	Arrive Time	1202
I19	26 Oct 2015	Depart Time	1208
I19	26 Oct 2015	Air Temp (C)	22
I19	26 Oct 2015	Weather	Partly Cloudy
I19	26 Oct 2015	Visibility (mi)	10
I19	26 Oct 2015	Wind Speed (kts)	1
I19	26 Oct 2015	Wind Dir	SW
I19	26 Oct 2015	Water Color	Green
I19	26 Oct 2015	Wave Ht Low (ft)	3
I19	26 Oct 2015	Wave Period (sec)	13
I19	26 Oct 2015	Sea State	Calm
I19	26 Oct 2015	High Tide (ft)	6.42
I19	26 Oct 2015	High Tide Time	832
I19	26 Oct 2015	Low Tide (ft)	-0.61
I19	26 Oct 2015	Low Tide Time	1509
I19	26 Oct 2015	Comments	
I24	01 Oct 2015	Depth (m)	11
I24	01 Oct 2015	Arrive Time	1316
I24	01 Oct 2015	Depart Time	1322
I24	01 Oct 2015	Air Temp (C)	23
I24	01 Oct 2015	Weather	Partly Cloudy
I24	01 Oct 2015	Visibility (mi)	10
I24	01 Oct 2015	Wind Speed (kts)	3
I24	01 Oct 2015	Wind Dir	S
I24	01 Oct 2015	Water Color	Bluish-Green
I24	01 Oct 2015	Wave Ht Low (ft)	3
I24	01 Oct 2015	Wave Period (sec)	9
I24	01 Oct 2015	Sea State	Calm
I24	01 Oct 2015	High Tide (ft)	5.93
I24	01 Oct 2015	High Tide Time	1143
I24	01 Oct 2015	Low Tide (ft)	1.3
I24	01 Oct 2015	Low Tide Time	534

Station	Date	Parameter	Value
I24	01 Oct 2015	Comments	
I24	07 Oct 2015	Depth (m)	11
I24	07 Oct 2015	Arrive Time	1112
I24	07 Oct 2015	Depart Time	1119
I24	07 Oct 2015	Air Temp (C)	21
I24	07 Oct 2015	Weather	Haze
I24	07 Oct 2015	Visibility (mi)	10
I24	07 Oct 2015	Wind Speed (kts)	8
I24	07 Oct 2015	Wind Dir	SE
I24	07 Oct 2015	Water Color	Greenish-Blue
I24	07 Oct 2015	Wave Ht Low (ft)	2
I24	07 Oct 2015	Wave Period (sec)	7
I24	07 Oct 2015	Sea State	Calm
I24	07 Oct 2015	High Tide (ft)	4.5
I24	07 Oct 2015	High Tide Time	711
I24	07 Oct 2015	Low Tide (ft)	1.9
I24	07 Oct 2015	Low Tide Time	1255
I24	07 Oct 2015	Comments	
I24	13 Oct 2015	Depth (m)	11
I24	13 Oct 2015	Arrive Time	1101
I24	13 Oct 2015	Depart Time	1105
I24	13 Oct 2015	Air Temp (C)	24
I24	13 Oct 2015	Weather	Partly Cloudy
I24	13 Oct 2015	Visibility (mi)	5
I24	13 Oct 2015	Wind Speed (kts)	4
I24	13 Oct 2015	Wind Dir	N
I24	13 Oct 2015	Water Color	Green
I24	13 Oct 2015	Wave Ht Low (ft)	3
I24	13 Oct 2015	Wave Period (sec)	9
I24	13 Oct 2015	Sea State	Calm
I24	13 Oct 2015	High Tide (ft)	5.5
I24	13 Oct 2015	High Tide Time	935
I24	13 Oct 2015	Low Tide (ft)	0.32
I24	13 Oct 2015	Low Tide Time	1612
I24	13 Oct 2015	Comments	
I24	24 Oct 2015	Depth (m)	11
I24	24 Oct 2015	Arrive Time	1058
I24	24 Oct 2015	Depart Time	1102
I24	24 Oct 2015	Air Temp (C)	22
I24	24 Oct 2015	Weather	Clear
I24	24 Oct 2015	Visibility (mi)	14
I24	24 Oct 2015	Wind Speed (kts)	5
I24	24 Oct 2015	Wind Dir	N
I24	24 Oct 2015	Water Color	Green
I24	24 Oct 2015	Wave Ht Low (ft)	4
I24	24 Oct 2015	Wave Period (sec)	13
I24	24 Oct 2015	Sea State	Wind ripples
I24	24 Oct 2015	High Tide (ft)	5.51
I24	24 Oct 2015	High Tide Time	719
I24	24 Oct 2015	Low Tide (ft)	0.56
I24	24 Oct 2015	Low Tide Time	1337
I24	24 Oct 2015	Comments	

Station	Date	Parameter	Value
I24	26 Oct 2015	Depth (m)	11
I24	26 Oct 2015	Arrive Time	1227
I24	26 Oct 2015	Depart Time	1231
I24	26 Oct 2015	Air Temp (C)	22
I24	26 Oct 2015	Weather	Haze
I24	26 Oct 2015	Visibility (mi)	10
I24	26 Oct 2015	Wind Speed (kts)	5
I24	26 Oct 2015	Wind Dir	S
I24	26 Oct 2015	Water Color	Green
I24	26 Oct 2015	Wave Ht Low (ft)	3
I24	26 Oct 2015	Wave Period (sec)	13
I24	26 Oct 2015	Sea State	Calm
I24	26 Oct 2015	High Tide (ft)	6.42
I24	26 Oct 2015	High Tide Time	832
I24	26 Oct 2015	Low Tide (ft)	-0.61
I24	26 Oct 2015	Low Tide Time	1509
I24	26 Oct 2015	Comments	
I25	01 Oct 2015	Depth (m)	10
I25	01 Oct 2015	Arrive Time	1325
I25	01 Oct 2015	Depart Time	1330
I25	01 Oct 2015	Air Temp (C)	24
I25	01 Oct 2015	Weather	Partly Cloudy
I25	01 Oct 2015	Visibility (mi)	10
I25	01 Oct 2015	Wind Speed (kts)	2
I25	01 Oct 2015	Wind Dir	SW
I25	01 Oct 2015	Water Color	Bluish-Green
I25	01 Oct 2015	Wave Ht Low (ft)	3
I25	01 Oct 2015	Wave Period (sec)	9
I25	01 Oct 2015	Sea State	Calm
I25	01 Oct 2015	High Tide (ft)	5.93
I25	01 Oct 2015	High Tide Time	1143
I25	01 Oct 2015	Low Tide (ft)	1.3
I25	01 Oct 2015	Low Tide Time	534
I25	01 Oct 2015	Comments	
I25	07 Oct 2015	Depth (m)	9
I25	07 Oct 2015	Arrive Time	1122
I25	07 Oct 2015	Depart Time	1130
I25	07 Oct 2015	Air Temp (C)	21
I25	07 Oct 2015	Weather	Haze
I25	07 Oct 2015	Visibility (mi)	10
I25	07 Oct 2015	Wind Speed (kts)	5
I25	07 Oct 2015	Wind Dir	N
I25	07 Oct 2015	Water Color	Greenish-Blue
I25	07 Oct 2015	Wave Ht Low (ft)	2
I25	07 Oct 2015	Wave Period (sec)	7
I25	07 Oct 2015	Sea State	Calm
I25	07 Oct 2015	High Tide (ft)	4.5
I25	07 Oct 2015	High Tide Time	711
I25	07 Oct 2015	Low Tide (ft)	1.9
I25	07 Oct 2015	Low Tide Time	1255
I25	07 Oct 2015	Comments	

Station	Date	Parameter	Value
I25	13 Oct 2015	Depth (m)	10
I25	13 Oct 2015	Arrive Time	1108
I25	13 Oct 2015	Depart Time	1111
I25	13 Oct 2015	Air Temp (C)	24
I25	13 Oct 2015	Weather	Partly Cloudy
I25	13 Oct 2015	Visibility (mi)	5
I25	13 Oct 2015	Wind Speed (kts)	5
I25	13 Oct 2015	Wind Dir	SE
I25	13 Oct 2015	Water Color	Green
I25	13 Oct 2015	Wave Ht Low (ft)	2
I25	13 Oct 2015	Wave Period (sec)	9
I25	13 Oct 2015	Sea State	Calm
I25	13 Oct 2015	High Tide (ft)	5.5
I25	13 Oct 2015	High Tide Time	935
I25	13 Oct 2015	Low Tide (ft)	0.32
I25	13 Oct 2015	Low Tide Time	1612
I25	13 Oct 2015	Comments	
I25	24 Oct 2015	Depth (m)	9
I25	24 Oct 2015	Arrive Time	1107
I25	24 Oct 2015	Depart Time	1110
I25	24 Oct 2015	Air Temp (C)	22
I25	24 Oct 2015	Weather	Clear
I25	24 Oct 2015	Visibility (mi)	14
I25	24 Oct 2015	Wind Speed (kts)	5
I25	24 Oct 2015	Wind Dir	W
I25	24 Oct 2015	Water Color	Green
I25	24 Oct 2015	Wave Ht Low (ft)	4
I25	24 Oct 2015	Wave Period (sec)	13
I25	24 Oct 2015	Sea State	Wind ripples
I25	24 Oct 2015	High Tide (ft)	5.51
I25	24 Oct 2015	High Tide Time	719
I25	24 Oct 2015	Low Tide (ft)	0.56
I25	24 Oct 2015	Low Tide Time	1337
I25	24 Oct 2015	Comments	
I25	26 Oct 2015	Depth (m)	9
I25	26 Oct 2015	Arrive Time	1236
I25	26 Oct 2015	Depart Time	1259
I25	26 Oct 2015	Air Temp (C)	22
I25	26 Oct 2015	Weather	Haze
I25	26 Oct 2015	Visibility (mi)	10
I25	26 Oct 2015	Wind Speed (kts)	6
I25	26 Oct 2015	Wind Dir	SE
I25	26 Oct 2015	Water Color	Green
I25	26 Oct 2015	Wave Ht Low (ft)	3
I25	26 Oct 2015	Wave Period (sec)	13
I25	26 Oct 2015	Sea State	Calm
I25	26 Oct 2015	High Tide (ft)	6.42
I25	26 Oct 2015	High Tide Time	832
I25	26 Oct 2015	Low Tide (ft)	-0.61
I25	26 Oct 2015	Low Tide Time	1509
I25	26 Oct 2015	Comments	
I26	01 Oct 2015	Depth (m)	10

Station	Date	Parameter	Value
I26	01 Oct 2015	Arrive Time	1336
I26	01 Oct 2015	Depart Time	1339
I26	01 Oct 2015	Air Temp (C)	24
I26	01 Oct 2015	Weather	Partly Cloudy
I26	01 Oct 2015	Visibility (mi)	12
I26	01 Oct 2015	Wind Speed (kts)	4
I26	01 Oct 2015	Wind Dir	E
I26	01 Oct 2015	Water Color	Blue
I26	01 Oct 2015	Wave Ht Low (ft)	3
I26	01 Oct 2015	Wave Period (sec)	9
I26	01 Oct 2015	Sea State	Calm
I26	01 Oct 2015	High Tide (ft)	5.93
I26	01 Oct 2015	High Tide Time	1143
I26	01 Oct 2015	Low Tide (ft)	1.3
I26	01 Oct 2015	Low Tide Time	534
I26	01 Oct 2015	Comments	
I26	07 Oct 2015	Depth (m)	9
I26	07 Oct 2015	Arrive Time	1135
I26	07 Oct 2015	Depart Time	1141
I26	07 Oct 2015	Air Temp (C)	21
I26	07 Oct 2015	Weather	Haze
I26	07 Oct 2015	Visibility (mi)	10
I26	07 Oct 2015	Wind Speed (kts)	6
I26	07 Oct 2015	Wind Dir	SE
I26	07 Oct 2015	Water Color	Greenish-Blue
I26	07 Oct 2015	Wave Ht Low (ft)	2
I26	07 Oct 2015	Wave Period (sec)	7
I26	07 Oct 2015	Sea State	Calm
I26	07 Oct 2015	High Tide (ft)	4.5
I26	07 Oct 2015	High Tide Time	711
I26	07 Oct 2015	Low Tide (ft)	1.9
I26	07 Oct 2015	Low Tide Time	1255
I26	07 Oct 2015	Comments	
I26	13 Oct 2015	Depth (m)	10
I26	13 Oct 2015	Arrive Time	1117
I26	13 Oct 2015	Depart Time	1121
I26	13 Oct 2015	Air Temp (C)	24
I26	13 Oct 2015	Weather	Partly Cloudy
I26	13 Oct 2015	Visibility (mi)	5
I26	13 Oct 2015	Wind Speed (kts)	6
I26	13 Oct 2015	Wind Dir	SE
I26	13 Oct 2015	Water Color	Green
I26	13 Oct 2015	Wave Ht Low (ft)	2
I26	13 Oct 2015	Wave Period (sec)	9
I26	13 Oct 2015	Sea State	Wind ripples
I26	13 Oct 2015	High Tide (ft)	5.5
I26	13 Oct 2015	High Tide Time	935
I26	13 Oct 2015	Low Tide (ft)	0.32
I26	13 Oct 2015	Low Tide Time	1612
I26	13 Oct 2015	Comments	Kelp debris
I26	24 Oct 2015	Depth (m)	9
I26	24 Oct 2015	Arrive Time	1119

Station	Date	Parameter	Value
I26	24 Oct 2015	Depart Time	1122
I26	24 Oct 2015	Air Temp (C)	22
I26	24 Oct 2015	Weather	Clear
I26	24 Oct 2015	Visibility (mi)	14
I26	24 Oct 2015	Wind Speed (kts)	4
I26	24 Oct 2015	Wind Dir	SE
I26	24 Oct 2015	Water Color	Green
I26	24 Oct 2015	Wave Ht Low (ft)	4
I26	24 Oct 2015	Wave Period (sec)	13
I26	24 Oct 2015	Sea State	Wind ripples
I26	24 Oct 2015	High Tide (ft)	5.51
I26	24 Oct 2015	High Tide Time	719
I26	24 Oct 2015	Low Tide (ft)	0.56
I26	24 Oct 2015	Low Tide Time	1337
I26	24 Oct 2015	Comments	
I26	26 Oct 2015	Depth (m)	9
I26	26 Oct 2015	Arrive Time	1301
I26	26 Oct 2015	Depart Time	1305
I26	26 Oct 2015	Air Temp (C)	22
I26	26 Oct 2015	Weather	Haze
I26	26 Oct 2015	Visibility (mi)	10
I26	26 Oct 2015	Wind Speed (kts)	9
I26	26 Oct 2015	Wind Dir	S
I26	26 Oct 2015	Water Color	Green
I26	26 Oct 2015	Wave Ht Low (ft)	3
I26	26 Oct 2015	Wave Period (sec)	13
I26	26 Oct 2015	Sea State	Calm
I26	26 Oct 2015	High Tide (ft)	6.42
I26	26 Oct 2015	High Tide Time	832
I26	26 Oct 2015	Low Tide (ft)	-0.61
I26	26 Oct 2015	Low Tide Time	1509
I26	26 Oct 2015	Comments	
I32	01 Oct 2015	Depth (m)	11
I32	01 Oct 2015	Arrive Time	1345
I32	01 Oct 2015	Depart Time	1350
I32	01 Oct 2015	Air Temp (C)	23
I32	01 Oct 2015	Weather	Partly Cloudy
I32	01 Oct 2015	Visibility (mi)	12
I32	01 Oct 2015	Wind Speed (kts)	4
I32	01 Oct 2015	Wind Dir	NE
I32	01 Oct 2015	Water Color	Blue
I32	01 Oct 2015	Wave Ht Low (ft)	3
I32	01 Oct 2015	Wave Period (sec)	9
I32	01 Oct 2015	Sea State	Calm
I32	01 Oct 2015	High Tide (ft)	5.93
I32	01 Oct 2015	High Tide Time	1143
I32	01 Oct 2015	Low Tide (ft)	1.3
I32	01 Oct 2015	Low Tide Time	534
I32	01 Oct 2015	Comments	
I32	07 Oct 2015	Depth (m)	11
I32	07 Oct 2015	Arrive Time	1150
I32	07 Oct 2015	Depart Time	1156

Station	Date	Parameter	Value
I32	07 Oct 2015	Air Temp (C)	21
I32	07 Oct 2015	Weather	Haze
I32	07 Oct 2015	Visibility (mi)	10
I32	07 Oct 2015	Wind Speed (kts)	2
I32	07 Oct 2015	Wind Dir	S
I32	07 Oct 2015	Water Color	Greenish-Blue
I32	07 Oct 2015	Wave Ht Low (ft)	2
I32	07 Oct 2015	Wave Period (sec)	7
I32	07 Oct 2015	Sea State	Calm
I32	07 Oct 2015	High Tide (ft)	4.5
I32	07 Oct 2015	High Tide Time	711
I32	07 Oct 2015	Low Tide (ft)	1.9
I32	07 Oct 2015	Low Tide Time	1255
I32	07 Oct 2015	Comments	Kelp debris; Boats
I32	13 Oct 2015	Depth (m)	11
I32	13 Oct 2015	Arrive Time	1129
I32	13 Oct 2015	Depart Time	1134
I32	13 Oct 2015	Air Temp (C)	24
I32	13 Oct 2015	Weather	Partly Cloudy
I32	13 Oct 2015	Visibility (mi)	5
I32	13 Oct 2015	Wind Speed (kts)	5
I32	13 Oct 2015	Wind Dir	N
I32	13 Oct 2015	Water Color	Green
I32	13 Oct 2015	Wave Ht Low (ft)	2
I32	13 Oct 2015	Wave Period (sec)	9
I32	13 Oct 2015	Sea State	Wind ripples
I32	13 Oct 2015	High Tide (ft)	5.5
I32	13 Oct 2015	High Tide Time	935
I32	13 Oct 2015	Low Tide (ft)	0.32
I32	13 Oct 2015	Low Tide Time	1612
I32	13 Oct 2015	Comments	
I32	24 Oct 2015	Depth (m)	10
I32	24 Oct 2015	Arrive Time	1131
I32	24 Oct 2015	Depart Time	1135
I32	24 Oct 2015	Air Temp (C)	22
I32	24 Oct 2015	Weather	Clear
I32	24 Oct 2015	Visibility (mi)	14
I32	24 Oct 2015	Wind Speed (kts)	4
I32	24 Oct 2015	Wind Dir	W
I32	24 Oct 2015	Water Color	Green
I32	24 Oct 2015	Wave Ht Low (ft)	4
I32	24 Oct 2015	Wave Period (sec)	13
I32	24 Oct 2015	Sea State	Wind ripples
I32	24 Oct 2015	High Tide (ft)	5.51
I32	24 Oct 2015	High Tide Time	719
I32	24 Oct 2015	Low Tide (ft)	0.56
I32	24 Oct 2015	Low Tide Time	1337
I32	24 Oct 2015	Comments	
I32	26 Oct 2015	Depth (m)	9
I32	26 Oct 2015	Arrive Time	1314
I32	26 Oct 2015	Depart Time	1318
I32	26 Oct 2015	Air Temp (C)	22

Station	Date	Parameter	Value
I32	26 Oct 2015	Weather	Haze
I32	26 Oct 2015	Visibility (mi)	10
I32	26 Oct 2015	Wind Speed (kts)	12
I32	26 Oct 2015	Wind Dir	NE
I32	26 Oct 2015	Water Color	Green
I32	26 Oct 2015	Wave Ht Low (ft)	3
I32	26 Oct 2015	Wave Period (sec)	13
I32	26 Oct 2015	Sea State	Calm
I32	26 Oct 2015	High Tide (ft)	6.42
I32	26 Oct 2015	High Tide Time	832
I32	26 Oct 2015	Low Tide (ft)	-0.61
I32	26 Oct 2015	Low Tide Time	1509
I32	26 Oct 2015	Comments	birds on station
I39	01 Oct 2015	Depth (m)	20
I39	01 Oct 2015	Arrive Time	1202
I39	01 Oct 2015	Depart Time	1212
I39	01 Oct 2015	Air Temp (C)	23
I39	01 Oct 2015	Weather	Partly Cloudy
I39	01 Oct 2015	Visibility (mi)	10
I39	01 Oct 2015	Wind Speed (kts)	4
I39	01 Oct 2015	Wind Dir	W
I39	01 Oct 2015	Water Color	Bluish-Green
I39	01 Oct 2015	Wave Ht Low (ft)	3
I39	01 Oct 2015	Wave Period (sec)	9
I39	01 Oct 2015	Sea State	Calm
I39	01 Oct 2015	High Tide (ft)	5.93
I39	01 Oct 2015	High Tide Time	1143
I39	01 Oct 2015	Low Tide (ft)	1.3
I39	01 Oct 2015	Low Tide Time	534
I39	01 Oct 2015	Comments	Kelp debris; Lobster floats
I39	07 Oct 2015	Depth (m)	19
I39	07 Oct 2015	Arrive Time	1026
I39	07 Oct 2015	Depart Time	1034
I39	07 Oct 2015	Air Temp (C)	21
I39	07 Oct 2015	Weather	Haze
I39	07 Oct 2015	Visibility (mi)	8
I39	07 Oct 2015	Wind Speed (kts)	2
I39	07 Oct 2015	Wind Dir	NE
I39	07 Oct 2015	Water Color	Green
I39	07 Oct 2015	Wave Ht Low (ft)	2
I39	07 Oct 2015	Wave Period (sec)	7
I39	07 Oct 2015	Sea State	Calm
I39	07 Oct 2015	High Tide (ft)	4.5
I39	07 Oct 2015	High Tide Time	711
I39	07 Oct 2015	Low Tide (ft)	1.9
I39	07 Oct 2015	Low Tide Time	1255
I39	07 Oct 2015	Comments	Lobster floats; Kelp debris
I39	13 Oct 2015	Depth (m)	20
I39	13 Oct 2015	Arrive Time	1017
I39	13 Oct 2015	Depart Time	1024
I39	13 Oct 2015	Air Temp (C)	24
I39	13 Oct 2015	Weather	Partly Cloudy

Station	Date	Parameter	Value
I39	13 Oct 2015	Visibility (mi)	5
I39	13 Oct 2015	Wind Speed (kts)	3
I39	13 Oct 2015	Wind Dir	S
I39	13 Oct 2015	Water Color	Brownish-Green
I39	13 Oct 2015	Wave Ht Low (ft)	3
I39	13 Oct 2015	Wave Period (sec)	9
I39	13 Oct 2015	Sea State	Calm
I39	13 Oct 2015	High Tide (ft)	5.5
I39	13 Oct 2015	High Tide Time	935
I39	13 Oct 2015	Low Tide (ft)	0.32
I39	13 Oct 2015	Low Tide Time	1612
I39	13 Oct 2015	Comments	Lobster buoys; Kelp
I39	24 Oct 2015	Depth (m)	19
I39	24 Oct 2015	Arrive Time	1015
I39	24 Oct 2015	Depart Time	1018
I39	24 Oct 2015	Air Temp (C)	22
I39	24 Oct 2015	Weather	Clear
I39	24 Oct 2015	Visibility (mi)	14
I39	24 Oct 2015	Wind Speed (kts)	2
I39	24 Oct 2015	Wind Dir	W
I39	24 Oct 2015	Water Color	Green
I39	24 Oct 2015	Wave Ht Low (ft)	4
I39	24 Oct 2015	Wave Period (sec)	13
I39	24 Oct 2015	Sea State	Calm
I39	24 Oct 2015	High Tide (ft)	5.51
I39	24 Oct 2015	High Tide Time	719
I39	24 Oct 2015	Low Tide (ft)	0.56
I39	24 Oct 2015	Low Tide Time	1337
I39	24 Oct 2015	Comments	Lobster floats; Kelp debris
I39	26 Oct 2015	Depth (m)	18
I39	26 Oct 2015	Arrive Time	1139
I39	26 Oct 2015	Depart Time	1147
I39	26 Oct 2015	Air Temp (C)	21
I39	26 Oct 2015	Weather	Partly Cloudy
I39	26 Oct 2015	Visibility (mi)	8
I39	26 Oct 2015	Wind Speed (kts)	6
I39	26 Oct 2015	Wind Dir	SW
I39	26 Oct 2015	Water Color	Green
I39	26 Oct 2015	Wave Ht Low (ft)	3
I39	26 Oct 2015	Wave Period (sec)	13
I39	26 Oct 2015	Sea State	Calm
I39	26 Oct 2015	High Tide (ft)	6.42
I39	26 Oct 2015	High Tide Time	832
I39	26 Oct 2015	Low Tide (ft)	-0.61
I39	26 Oct 2015	Low Tide Time	1509
I39	26 Oct 2015	Comments	Kelp debris; Lobster floats
I40	01 Oct 2015	Depth (m)	12
I40	01 Oct 2015	Arrive Time	1302
I40	01 Oct 2015	Depart Time	1311
I40	01 Oct 2015	Air Temp (C)	23
I40	01 Oct 2015	Weather	Partly Cloudy
I40	01 Oct 2015	Visibility (mi)	10

Station	Date	Parameter	Value
I40	01 Oct 2015	Wind Speed (kts)	2
I40	01 Oct 2015	Wind Dir	S
I40	01 Oct 2015	Water Color	Bluish-Green
I40	01 Oct 2015	Wave Ht Low (ft)	3
I40	01 Oct 2015	Wave Period (sec)	9
I40	01 Oct 2015	Sea State	Calm
I40	01 Oct 2015	High Tide (ft)	5.93
I40	01 Oct 2015	High Tide Time	1143
I40	01 Oct 2015	Low Tide (ft)	1.3
I40	01 Oct 2015	Low Tide Time	534
I40	01 Oct 2015	Comments	
I40	07 Oct 2015	Depth (m)	11
I40	07 Oct 2015	Arrive Time	1102
I40	07 Oct 2015	Depart Time	1108
I40	07 Oct 2015	Air Temp (C)	21
I40	07 Oct 2015	Weather	Haze
I40	07 Oct 2015	Visibility (mi)	10
I40	07 Oct 2015	Wind Speed (kts)	7
I40	07 Oct 2015	Wind Dir	E
I40	07 Oct 2015	Water Color	Greenish-Blue
I40	07 Oct 2015	Wave Ht Low (ft)	2
I40	07 Oct 2015	Wave Period (sec)	7
I40	07 Oct 2015	Sea State	Calm
I40	07 Oct 2015	High Tide (ft)	4.5
I40	07 Oct 2015	High Tide Time	711
I40	07 Oct 2015	Low Tide (ft)	1.9
I40	07 Oct 2015	Low Tide Time	1255
I40	07 Oct 2015	Comments	Boats
I40	13 Oct 2015	Depth (m)	11
I40	13 Oct 2015	Arrive Time	1053
I40	13 Oct 2015	Depart Time	1056
I40	13 Oct 2015	Air Temp (C)	24
I40	13 Oct 2015	Weather	Partly Cloudy
I40	13 Oct 2015	Visibility (mi)	5
I40	13 Oct 2015	Wind Speed (kts)	7
I40	13 Oct 2015	Wind Dir	NE
I40	13 Oct 2015	Water Color	Green
I40	13 Oct 2015	Wave Ht Low (ft)	2
I40	13 Oct 2015	Wave Period (sec)	9
I40	13 Oct 2015	Sea State	Wind ripples
I40	13 Oct 2015	High Tide (ft)	5.5
I40	13 Oct 2015	High Tide Time	935
I40	13 Oct 2015	Low Tide (ft)	0.32
I40	13 Oct 2015	Low Tide Time	1612
I40	13 Oct 2015	Comments	Jet ski nearby
I40	24 Oct 2015	Depth (m)	10
I40	24 Oct 2015	Arrive Time	1050
I40	24 Oct 2015	Depart Time	1053
I40	24 Oct 2015	Air Temp (C)	22
I40	24 Oct 2015	Weather	Clear
I40	24 Oct 2015	Visibility (mi)	14
I40	24 Oct 2015	Wind Speed (kts)	6

Station	Date	Parameter	Value
I40	24 Oct 2015	Wind Dir	SW
I40	24 Oct 2015	Water Color	Green
I40	24 Oct 2015	Wave Ht Low (ft)	4
I40	24 Oct 2015	Wave Period (sec)	13
I40	24 Oct 2015	Sea State	Calm
I40	24 Oct 2015	High Tide (ft)	5.51
I40	24 Oct 2015	High Tide Time	719
I40	24 Oct 2015	Low Tide (ft)	0.56
I40	24 Oct 2015	Low Tide Time	1337
I40	24 Oct 2015	Comments	Lobster floats
I40	26 Oct 2015	Depth (m)	10
I40	26 Oct 2015	Arrive Time	1216
I40	26 Oct 2015	Depart Time	1221
I40	26 Oct 2015	Air Temp (C)	22
I40	26 Oct 2015	Weather	Haze
I40	26 Oct 2015	Visibility (mi)	10
I40	26 Oct 2015	Wind Speed (kts)	8
I40	26 Oct 2015	Wind Dir	N
I40	26 Oct 2015	Water Color	Green
I40	26 Oct 2015	Wave Ht Low (ft)	3
I40	26 Oct 2015	Wave Period (sec)	13
I40	26 Oct 2015	Sea State	Calm
I40	26 Oct 2015	High Tide (ft)	6.42
I40	26 Oct 2015	High Tide Time	832
I40	26 Oct 2015	Low Tide (ft)	-0.61
I40	26 Oct 2015	Low Tide Time	1509
I40	26 Oct 2015	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 ( $\sigma\text{-t}$ )	Chlor ( $\mu\text{g/L}$ )
I19	01 Oct 2015	1	21.92	89.73	7.4	33.35	8.2	23.0	0.39
I19	01 Oct 2015	2	21.65	89.79	7.4	33.37	8.2	23.1	0.43
I19	01 Oct 2015	3	21.39	89.62	7.3	33.34	8.2	23.1	0.49
I19	01 Oct 2015	4	20.67	88.89	7.4	33.33	8.2	23.3	0.56
I19	01 Oct 2015	5	19.97	88.92	7.5	33.33	8.2	23.5	0.58
I19	01 Oct 2015	6	19.65	88.83	7.6	33.33	8.2	23.6	0.64
I19	01 Oct 2015	7	19.40	89.01	7.4	33.33	8.2	23.6	0.86
I19	01 Oct 2015	8	19.26	88.73	7.4	33.34	8.2	23.7	1.11
I19	01 Oct 2015	9	19.18	87.75	7.3	33.34	8.2	23.7	1.28
I19	01 Oct 2015	10	19.02	87.54	7.3	33.34	8.2	23.7	1.46
I19	07 Oct 2015	1	20.78	81.41	7.8	33.29	8.2	23.3	2.45
I19	07 Oct 2015	2	20.73	81.49	7.8	33.28	8.2	23.3	2.39
I19	07 Oct 2015	3	20.46	81.45	7.8	33.28	8.2	23.3	2.66
I19	07 Oct 2015	4	20.41	81.89	7.8	33.28	8.2	23.3	2.96
I19	07 Oct 2015	5	20.24	81.49	7.7	33.27	8.2	23.4	3.00
I19	07 Oct 2015	6	20.18	82.36	7.7	33.27	8.2	23.4	3.00
I19	07 Oct 2015	7	20.12	83.54	7.6	33.27	8.2	23.4	2.81
I19	07 Oct 2015	8	20.11	85.55	7.6	33.29	8.2	23.4	2.45
I19	07 Oct 2015	9	20.07	87.16	7.4	33.29	8.2	23.4	2.47
I19	07 Oct 2015	10	20.00	87.17	7.3	33.30	8.2	23.5	2.78
I19	13 Oct 2015	1	21.18	87.14	7.2	33.37	8.2	23.2	0.57
I19	13 Oct 2015	2	21.02	87.02	7.2	33.38	8.2	23.3	0.55
I19	13 Oct 2015	3	20.96	87.02	7.2	33.38	8.2	23.3	0.56
I19	13 Oct 2015	4	20.93	86.94	7.2	33.38	8.2	23.3	0.61
I19	13 Oct 2015	5	20.91	86.60	7.2	33.38	8.2	23.3	0.66
I19	13 Oct 2015	6	20.90	86.08	7.2	33.38	8.1	23.3	0.75
I19	13 Oct 2015	7	20.89	85.79	7.2	33.38	8.2	23.3	0.85
I19	13 Oct 2015	8	20.88	85.38	7.2	33.38	8.1	23.3	1.00
I19	13 Oct 2015	9	20.85	84.38	7.1	33.38	8.1	23.3	1.26
I19	13 Oct 2015	10	20.85	78.47	7.1	33.38	8.1	23.3	1.54
I19	24 Oct 2015	1	20.96	82.28	7.1	33.44	8.2	23.3	0.98
I19	24 Oct 2015	2	20.82	81.27	7.0	33.43	8.1	23.3	1.15
I19	24 Oct 2015	3	20.43	78.40	6.9	33.40	8.1	23.4	1.36
I19	24 Oct 2015	4	20.00	71.92	7.0	33.41	8.1	23.5	1.60
I19	24 Oct 2015	5	19.93	68.23	7.1	33.41	8.1	23.6	1.87
I19	24 Oct 2015	6	19.90	67.59	7.1	33.41	8.1	23.6	1.91
I19	24 Oct 2015	7	19.88	69.20	7.2	33.40	8.1	23.6	1.86
I19	24 Oct 2015	8	19.83	70.69	7.2	33.41	8.1	23.6	1.79
I19	24 Oct 2015	9	19.81	72.34	7.2	33.41	8.1	23.6	1.81
I19	24 Oct 2015	10	19.82	73.03	7.0	33.41	8.1	23.6	2.27
I19	26 Oct 2015	1	20.85	82.59	7.0	33.45	8.1	23.4	0.72
I19	26 Oct 2015	2	20.80	82.94	6.9	33.45	8.1	23.4	0.80
I19	26 Oct 2015	3	20.69	83.05	6.9	33.43	8.1	23.4	0.97
I19	26 Oct 2015	4	20.48	82.03	6.8	33.43	8.1	23.4	1.15
I19	26 Oct 2015	5	20.43	80.30	6.8	33.43	8.1	23.5	1.32
I19	26 Oct 2015	6	20.36	78.60	6.8	33.43	8.1	23.5	1.48
I19	26 Oct 2015	7	20.23	75.70	6.7	33.41	8.1	23.5	1.56

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ( $\sigma\text{-t}$ )	Chlor ( $\mu\text{g/L}$ )
I19	26 Oct 2015	8	20.10	74.27	6.8	33.42	8.1	23.5	1.61
I19	26 Oct 2015	9	20.08	73.69	6.9	33.42	8.1	23.5	1.61
I19	26 Oct 2015	10	20.01	72.76	6.8	33.41	8.1	23.5	1.64
I24	01 Oct 2015	1	22.01	88.84	7.3	33.36	8.2	23.0	0.52
I24	01 Oct 2015	2	21.78	88.76	7.3	33.37	8.2	23.0	0.58
I24	01 Oct 2015	3	21.43	87.87	7.3	33.35	8.2	23.1	0.59
I24	01 Oct 2015	4	21.09	87.60	7.4	33.36	8.2	23.2	0.64
I24	01 Oct 2015	5	21.03	87.17	7.4	33.35	8.2	23.2	0.70
I24	01 Oct 2015	6	20.93	86.57	7.4	33.35	8.2	23.3	0.79
I24	01 Oct 2015	7	20.66	86.34	7.5	33.34	8.2	23.3	0.86
I24	01 Oct 2015	8	20.35	84.30	7.5	33.34	8.2	23.4	0.92
I24	01 Oct 2015	9	19.78	85.84	7.4	33.29	8.2	23.5	1.32
I24	01 Oct 2015	10	18.88	85.86	7.4	33.33	8.2	23.8	2.26
I24	01 Oct 2015	11	18.75	83.85	7.4	33.34	8.2	23.8	2.53
I24	07 Oct 2015	1	21.12	83.65	7.4	33.28	8.2	23.2	1.26
I24	07 Oct 2015	2	21.00	83.75	7.4	33.27	8.2	23.2	1.45
I24	07 Oct 2015	3	20.64	83.89	7.5	33.29	8.2	23.3	1.91
I24	07 Oct 2015	4	20.57	84.85	7.5	33.30	8.2	23.3	2.25
I24	07 Oct 2015	5	20.56	84.96	7.5	33.30	8.2	23.3	2.28
I24	07 Oct 2015	6	20.53	84.85	7.5	33.30	8.2	23.3	2.38
I24	07 Oct 2015	7	20.35	84.52	7.4	33.31	8.2	23.4	2.27
I24	07 Oct 2015	8	20.17	84.06	7.4	33.31	8.2	23.4	1.64
I24	07 Oct 2015	9	19.89	84.57	7.5	33.30	8.2	23.5	1.68
I24	07 Oct 2015	10	19.78	86.83	7.5	33.31	8.2	23.5	1.30
I24	13 Oct 2015	1	21.51	88.46	7.4	33.37	8.2	23.1	0.65
I24	13 Oct 2015	2	21.34	90.24	7.4	33.37	8.2	23.2	0.73
I24	13 Oct 2015	3	21.10	90.42	7.4	33.37	8.2	23.2	0.80
I24	13 Oct 2015	4	20.93	89.86	7.4	33.38	8.2	23.3	0.71
I24	13 Oct 2015	5	20.83	89.70	7.3	33.38	8.2	23.3	0.75
I24	13 Oct 2015	6	20.79	89.93	7.3	33.37	8.2	23.3	0.95
I24	13 Oct 2015	7	20.71	89.58	7.3	33.37	8.2	23.3	1.12
I24	13 Oct 2015	8	20.69	87.35	7.2	33.37	8.2	23.3	1.27
I24	13 Oct 2015	9	20.64	85.20	7.1	33.37	8.2	23.3	1.47
I24	13 Oct 2015	10	20.56	82.67	7.0	33.37	8.1	23.4	1.59
I24	13 Oct 2015	11	20.54	77.27	7.1	33.36	8.1	23.4	1.53
I24	24 Oct 2015	1	21.69	83.61	6.7	33.47	8.1	23.1	0.53
I24	24 Oct 2015	2	21.64	83.34	6.7	33.46	8.1	23.1	0.62
I24	24 Oct 2015	3	21.54	82.13	6.8	33.46	8.1	23.2	0.84
I24	24 Oct 2015	4	21.39	78.39	6.8	33.46	8.1	23.2	1.24
I24	24 Oct 2015	5	21.28	75.79	6.9	33.44	8.1	23.2	1.63
I24	24 Oct 2015	6	20.83	76.65	7.1	33.41	8.2	23.3	1.61
I24	24 Oct 2015	7	20.46	79.33	7.2	33.41	8.2	23.4	1.63
I24	24 Oct 2015	8	20.29	83.07	7.0	33.41	8.1	23.5	2.06
I24	24 Oct 2015	9	20.10	80.58	6.7	33.41	8.1	23.5	2.28
I24	24 Oct 2015	10	19.98	68.42	6.7	33.41	8.1	23.6	1.92
I24	24 Oct 2015	11	19.95	64.24	6.6	33.41	8.1	23.6	1.58
I24	26 Oct 2015	1	21.29	77.34	6.8	33.45	8.1	23.2	0.93
I24	26 Oct 2015	2	21.16	77.33	6.8	33.46	8.1	23.3	1.00
I24	26 Oct 2015	3	21.10	76.49	6.9	33.45	8.1	23.3	1.08
I24	26 Oct 2015	4	20.94	75.50	7.0	33.45	8.1	23.3	1.11

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ( $\sigma\text{-t}$ )	Chlor ( $\mu\text{g/L}$ )
I24	26 Oct 2015	5	20.86	78.00	6.9	33.45	8.2	23.4	1.23
I24	26 Oct 2015	6	20.67	81.93	6.6	33.40	8.2	23.4	1.42
I24	26 Oct 2015	7	20.01	82.86	6.6	33.39	8.1	23.5	1.71
I24	26 Oct 2015	8	19.80	73.05	6.7	33.40	8.1	23.6	2.03
I24	26 Oct 2015	9	19.39	68.90	6.5	33.38	8.1	23.7	2.07
I24	26 Oct 2015	10	19.10	69.60	6.4	33.39	8.1	23.8	2.16
I25	01 Oct 2015	1	22.24	91.39	7.2	33.38	8.2	22.9	0.33
I25	01 Oct 2015	2	21.93	91.29	7.2	33.36	8.2	23.0	0.38
I25	01 Oct 2015	3	21.41	89.71	7.3	33.36	8.2	23.1	0.53
I25	01 Oct 2015	4	21.27	84.63	7.3	33.35	8.2	23.2	0.66
I25	01 Oct 2015	5	20.99	82.61	7.3	33.33	8.2	23.2	0.72
I25	01 Oct 2015	6	20.36	85.57	7.5	33.33	8.2	23.4	0.87
I25	01 Oct 2015	7	19.94	85.76	7.5	33.33	8.2	23.5	0.99
I25	01 Oct 2015	8	19.57	84.98	7.6	33.32	8.2	23.6	1.25
I25	01 Oct 2015	9	19.10	83.61	7.8	33.34	8.2	23.7	1.37
I25	07 Oct 2015	1	21.45	83.94	6.9	33.31	8.1	23.1	0.67
I25	07 Oct 2015	2	21.16	83.90	6.8	33.33	8.1	23.2	0.70
I25	07 Oct 2015	3	20.99	83.70	7.0	33.33	8.1	23.2	0.86
I25	07 Oct 2015	4	20.84	83.25	7.2	33.31	8.1	23.2	1.15
I25	07 Oct 2015	5	20.70	82.09	7.4	33.29	8.2	23.3	1.69
I25	07 Oct 2015	6	20.57	82.12	7.5	33.30	8.2	23.3	2.16
I25	07 Oct 2015	7	20.35	81.97	7.5	33.32	8.2	23.4	2.01
I25	07 Oct 2015	8	20.04	83.49	7.6	33.30	8.2	23.5	1.46
I25	07 Oct 2015	9	19.89	85.48	7.6	33.32	8.2	23.5	1.11
I25	13 Oct 2015	1	21.34	90.38	6.8	33.42	8.2	23.2	0.46
I25	13 Oct 2015	2	21.29	90.21	6.9	33.44	8.2	23.2	0.44
I25	13 Oct 2015	3	21.22	90.54	6.7	33.44	8.2	23.2	0.45
I25	13 Oct 2015	4	21.21	90.50	6.8	33.42	8.2	23.2	0.47
I25	13 Oct 2015	5	21.14	90.41	7.0	33.41	8.2	23.2	0.48
I25	13 Oct 2015	6	21.18	89.87	7.0	33.39	8.2	23.2	0.52
I25	13 Oct 2015	7	21.16	89.74	7.0	33.39	8.2	23.2	0.58
I25	13 Oct 2015	8	21.28	89.43	7.1	33.38	8.2	23.2	0.61
I25	13 Oct 2015	9	21.14	89.29	7.1	33.40	8.2	23.2	0.60
I25	24 Oct 2015	1	21.64	86.34	6.7	33.46	8.1	23.1	0.45
I25	24 Oct 2015	2	21.62	86.56	6.7	33.46	8.1	23.2	0.46
I25	24 Oct 2015	3	21.59	86.85	6.7	33.46	8.1	23.2	0.49
I25	24 Oct 2015	4	21.51	86.46	6.6	33.45	8.1	23.2	0.55
I25	24 Oct 2015	5	21.40	85.82	6.5	33.45	8.1	23.2	0.66
I25	24 Oct 2015	6	21.13	84.68	6.2	33.44	8.1	23.3	0.89
I25	24 Oct 2015	7	20.52	83.77	6.5	33.42	8.1	23.4	1.32
I25	24 Oct 2015	8	20.29	76.23	6.6	33.41	8.1	23.5	1.33
I25	24 Oct 2015	9	20.28	75.02	6.7	33.41	8.1	23.5	1.26
I25	26 Oct 2015	1	21.24	84.31	6.9	33.45	8.1	23.2	0.82
I25	26 Oct 2015	2	21.07	84.16	6.9	33.45	8.1	23.3	0.96
I25	26 Oct 2015	3	20.93	84.33	6.8	33.45	8.1	23.3	1.22
I25	26 Oct 2015	4	20.80	82.84	6.8	33.44	8.1	23.4	1.43
I25	26 Oct 2015	5	20.72	80.40	6.7	33.44	8.1	23.4	1.60
I25	26 Oct 2015	6	20.39	77.12	6.4	33.41	8.1	23.4	1.47
I25	26 Oct 2015	7	19.96	74.98	6.3	33.38	8.1	23.5	1.38
I25	26 Oct 2015	8	19.61	66.66	6.4	33.40	8.1	23.6	1.32

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ( $\sigma\text{-t}$ )	Chlor ( $\mu\text{g/L}$ )
I25	26 Oct 2015	9	19.60	59.82	6.4	33.40	8.1	23.6	1.27
I26	01 Oct 2015	1	22.26	91.93	7.4	33.38	8.2	22.9	0.28
I26	01 Oct 2015	2	22.23	91.94	7.3	33.38	8.2	22.9	0.29
I26	01 Oct 2015	3	21.41	92.17	7.5	33.35	8.2	23.1	0.34
I26	01 Oct 2015	4	20.90	91.93	7.6	33.36	8.2	23.3	0.41
I26	01 Oct 2015	5	20.75	91.05	7.6	33.34	8.2	23.3	0.45
I26	01 Oct 2015	6	20.32	90.26	7.5	33.34	8.2	23.4	0.52
I26	01 Oct 2015	7	20.20	89.17	7.3	33.34	8.2	23.4	0.64
I26	01 Oct 2015	8	19.89	87.39	7.0	33.33	8.2	23.5	0.76
I26	01 Oct 2015	9	19.44	84.89	7.1	33.31	8.2	23.6	0.93
I26	07 Oct 2015	1	21.54	82.00	7.0	33.25	8.1	23.0	0.80
I26	07 Oct 2015	2	21.42	82.37	7.0	33.28	8.1	23.1	0.76
I26	07 Oct 2015	3	21.29	82.70	7.0	33.38	8.1	23.2	0.63
I26	07 Oct 2015	4	21.25	85.11	7.0	33.38	8.2	23.2	0.60
I26	07 Oct 2015	5	21.21	87.80	7.0	33.38	8.2	23.2	0.66
I26	07 Oct 2015	6	20.97	89.18	7.0	33.36	8.1	23.3	0.79
I26	07 Oct 2015	7	20.39	89.25	7.1	33.33	8.1	23.4	1.01
I26	07 Oct 2015	8	19.99	88.84	7.1	33.34	8.1	23.5	1.17
I26	07 Oct 2015	9	19.99	88.49	7.2	33.34	8.1	23.5	1.20
I26	13 Oct 2015	1	21.49	91.42	7.2	33.38	8.2	23.1	0.37
I26	13 Oct 2015	2	21.29	91.47	7.2	33.38	8.2	23.2	0.42
I26	13 Oct 2015	3	21.19	91.55	7.3	33.38	8.2	23.2	0.50
I26	13 Oct 2015	4	21.13	90.91	7.3	33.38	8.2	23.2	0.63
I26	13 Oct 2015	5	21.10	90.53	7.3	33.37	8.2	23.2	0.79
I26	13 Oct 2015	6	21.08	89.62	7.3	33.37	8.2	23.2	0.86
I26	13 Oct 2015	7	21.06	87.69	7.2	33.37	8.2	23.2	1.04
I26	13 Oct 2015	8	21.02	86.58	7.2	33.37	8.2	23.2	1.21
I26	13 Oct 2015	9	20.97	84.88	7.2	33.37	8.1	23.3	1.29
I26	24 Oct 2015	1	21.69	89.55	6.8	33.46	8.2	23.1	0.43
I26	24 Oct 2015	2	21.59	89.42	6.8	33.46	8.2	23.2	0.45
I26	24 Oct 2015	3	21.53	89.79	6.8	33.46	8.2	23.2	0.51
I26	24 Oct 2015	4	21.49	89.33	6.9	33.46	8.2	23.2	0.53
I26	24 Oct 2015	5	21.41	89.48	6.7	33.44	8.2	23.2	0.57
I26	24 Oct 2015	6	21.08	89.93	6.6	33.43	8.1	23.3	0.64
I26	24 Oct 2015	7	20.77	89.56	6.5	33.41	8.1	23.3	0.86
I26	24 Oct 2015	8	20.25	87.63	6.4	33.41	8.1	23.5	1.02
I26	24 Oct 2015	9	20.19	81.76	6.4	33.41	8.1	23.5	1.14
I26	26 Oct 2015	1	21.25	89.50	7.0	33.45	8.2	23.3	0.58
I26	26 Oct 2015	2	21.18	89.53	7.0	33.45	8.2	23.3	0.72
I26	26 Oct 2015	3	21.06	89.23	7.0	33.45	8.2	23.3	0.94
I26	26 Oct 2015	4	20.97	87.13	6.8	33.44	8.2	23.3	1.25
I26	26 Oct 2015	5	20.59	82.91	6.6	33.41	8.1	23.4	1.74
I26	26 Oct 2015	6	20.04	77.84	6.4	33.40	8.1	23.5	2.11
I26	26 Oct 2015	7	19.91	72.87	6.3	33.40	8.1	23.6	2.53
I26	26 Oct 2015	8	19.86	67.51	6.3	33.40	8.1	23.6	2.32
I26	26 Oct 2015	9	19.85	62.10	6.3	33.40	8.1	23.6	2.37
I32	01 Oct 2015	1	22.28	90.78	7.3	33.38	8.2	22.9	0.33
I32	01 Oct 2015	2	22.30	88.67	7.3	33.39	8.2	22.9	0.35
I32	01 Oct 2015	3	22.17	91.12	7.3	33.36	8.2	22.9	0.38

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ( $\sigma\text{-t}$ )	Chlor ( $\mu\text{g/L}$ )
I32	01 Oct 2015	4	21.88	92.30	7.4	33.38	8.2	23.0	0.40
I32	01 Oct 2015	5	21.77	92.20	7.4	33.37	8.2	23.0	0.45
I32	01 Oct 2015	6	21.51	91.83	7.4	33.37	8.2	23.1	0.52
I32	01 Oct 2015	7	21.39	91.37	7.4	33.36	8.2	23.1	0.55
I32	01 Oct 2015	8	21.18	90.68	7.4	33.36	8.2	23.2	0.60
I32	01 Oct 2015	9	20.77	90.09	7.4	33.33	8.2	23.3	0.79
I32	01 Oct 2015	10	19.46	87.71	7.6	33.31	8.2	23.6	1.51
I32	07 Oct 2015	1	21.53	84.43	7.0	33.37	8.2	23.1	0.69
I32	07 Oct 2015	2	21.32	84.38	7.0	33.35	8.2	23.2	0.73
I32	07 Oct 2015	3	20.98	84.29	7.1	33.36	8.2	23.3	0.89
I32	07 Oct 2015	4	20.86	84.02	7.0	33.36	8.2	23.3	1.15
I32	07 Oct 2015	5	20.71	81.15	6.9	33.34	8.1	23.3	1.37
I32	07 Oct 2015	6	20.23	76.12	6.8	33.34	8.1	23.4	1.44
I32	07 Oct 2015	7	19.92	73.72	6.9	33.34	8.1	23.5	1.50
I32	07 Oct 2015	8	19.78	76.57	6.9	33.34	8.1	23.6	1.50
I32	07 Oct 2015	9	19.75	79.93	6.8	33.34	8.1	23.6	1.64
I32	07 Oct 2015	10	19.74	80.66	6.9	33.34	8.1	23.6	1.68
I32	13 Oct 2015	1	21.90	89.05	6.3	33.34	8.2	23.0	0.70
I32	13 Oct 2015	2	21.58	88.83	6.9	33.53	8.2	23.2	0.63
I32	13 Oct 2015	3	21.30	88.70	6.8	33.48	8.2	23.3	0.70
I32	13 Oct 2015	4	21.27	86.30	6.8	33.40	8.2	23.2	0.81
I32	13 Oct 2015	5	21.24	86.19	7.0	33.39	8.2	23.2	0.84
I32	13 Oct 2015	6	21.22	86.03	7.0	33.39	8.2	23.2	0.83
I32	13 Oct 2015	7	21.21	85.66	7.0	33.38	8.2	23.2	0.97
I32	13 Oct 2015	8	21.18	84.82	6.9	33.37	8.2	23.2	1.15
I32	13 Oct 2015	9	21.16	83.83	7.0	33.36	8.1	23.2	1.31
I32	13 Oct 2015	10	21.10	80.89	6.9	33.35	8.1	23.2	1.37
I32	24 Oct 2015	1	21.64	89.02	7.0	33.46	8.2	23.1	0.66
I32	24 Oct 2015	2	21.51	89.02	6.9	33.46	8.2	23.2	0.70
I32	24 Oct 2015	3	21.36	88.79	6.8	33.45	8.2	23.2	0.79
I32	24 Oct 2015	4	21.08	86.79	6.6	33.44	8.1	23.3	0.97
I32	24 Oct 2015	5	20.82	81.79	6.4	33.43	8.1	23.3	1.24
I32	24 Oct 2015	6	20.57	73.37	6.1	33.41	8.1	23.4	1.58
I32	24 Oct 2015	7	19.92	65.74	6.0	33.41	8.1	23.6	1.89
I32	24 Oct 2015	8	19.76	57.91	6.0	33.41	8.1	23.6	2.08
I32	24 Oct 2015	9	19.74	55.25	6.0	33.40	8.1	23.6	2.10
I32	24 Oct 2015	10	19.72	53.96	5.9	33.41	8.1	23.6	2.13
I32	26 Oct 2015	1	21.52	86.56	7.0	33.47	8.2	23.2	0.73
I32	26 Oct 2015	2	21.51	86.51	7.0	33.47	8.2	23.2	0.81
I32	26 Oct 2015	3	21.44	86.42	7.0	33.47	8.2	23.2	1.02
I32	26 Oct 2015	4	21.35	85.86	7.0	33.46	8.2	23.2	1.34
I32	26 Oct 2015	5	21.21	85.26	7.1	33.46	8.2	23.3	1.60
I32	26 Oct 2015	6	21.20	84.30	7.1	33.46	8.2	23.3	1.75
I32	26 Oct 2015	7	21.17	81.94	7.0	33.46	8.2	23.3	1.86
I32	26 Oct 2015	8	21.04	79.10	7.0	33.44	8.2	23.3	2.05
I32	26 Oct 2015	9	20.76	76.81	7.0	33.45	8.2	23.4	2.32
I39	01 Oct 2015	1	21.77	91.28	7.4	33.39	8.2	23.1	0.34
I39	01 Oct 2015	2	21.53	91.43	7.4	33.38	8.2	23.1	0.36
I39	01 Oct 2015	3	21.73	92.53	7.4	33.38	8.2	23.1	0.32
I39	01 Oct 2015	4	21.50	92.71	7.4	33.38	8.2	23.1	0.34

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ( $\sigma\text{-t}$ )	Chlor ( $\mu\text{g/L}$ )
I39	01 Oct 2015	5	21.58	92.60	7.4	33.38	8.2	23.1	0.34
I39	01 Oct 2015	6	21.38	92.68	7.4	33.37	8.2	23.1	0.41
I39	01 Oct 2015	7	20.47	92.44	7.5	33.34	8.2	23.4	0.55
I39	01 Oct 2015	8	19.69	92.16	7.6	33.31	8.2	23.6	0.72
I39	01 Oct 2015	9	19.14	90.86	7.6	33.33	8.2	23.7	0.80
I39	01 Oct 2015	10	18.83	90.49	7.6	33.33	8.2	23.8	0.95
I39	01 Oct 2015	11	18.68	89.89	7.6	33.33	8.2	23.8	1.10
I39	01 Oct 2015	12	18.47	89.58	7.6	33.32	8.2	23.9	1.36
I39	01 Oct 2015	13	18.22	89.44	7.6	33.33	8.2	23.9	1.67
I39	01 Oct 2015	14	18.12	89.09	7.5	33.33	8.2	24.0	1.94
I39	01 Oct 2015	15	18.05	88.98	7.5	33.32	8.2	24.0	1.93
I39	01 Oct 2015	16	17.94	88.84	7.4	33.33	8.2	24.0	1.99
I39	01 Oct 2015	17	17.90	88.73	7.3	33.33	8.2	24.0	1.99
I39	01 Oct 2015	18	17.87	88.63	7.4	33.33	8.2	24.0	1.86
I39	07 Oct 2015	1	21.27	88.63	6.5	33.37	8.1	23.2	0.65
I39	07 Oct 2015	2	21.16	88.66	6.6	33.40	8.1	23.2	0.61
I39	07 Oct 2015	3	21.02	89.09	6.6	33.42	8.2	23.3	0.63
I39	07 Oct 2015	4	20.89	90.25	6.9	33.42	8.2	23.3	0.63
I39	07 Oct 2015	5	20.79	90.46	6.8	33.38	8.2	23.3	0.67
I39	07 Oct 2015	6	20.64	90.40	7.1	33.38	8.2	23.4	0.71
I39	07 Oct 2015	7	20.34	90.40	7.2	33.36	8.2	23.4	0.83
I39	07 Oct 2015	8	20.06	90.63	7.3	33.34	8.2	23.5	0.92
I39	07 Oct 2015	9	20.02	90.57	7.4	33.33	8.2	23.5	1.13
I39	07 Oct 2015	10	20.00	90.60	7.4	33.33	8.2	23.5	1.08
I39	07 Oct 2015	11	19.97	90.87	7.4	33.32	8.2	23.5	1.20
I39	07 Oct 2015	12	19.95	90.74	7.4	33.32	8.2	23.5	1.13
I39	07 Oct 2015	13	19.91	91.07	7.5	33.32	8.2	23.5	1.18
I39	07 Oct 2015	14	19.85	90.94	7.5	33.32	8.2	23.5	1.19
I39	07 Oct 2015	15	19.72	90.72	7.5	33.32	8.2	23.6	1.31
I39	07 Oct 2015	16	19.63	90.90	7.4	33.32	8.2	23.6	1.61
I39	07 Oct 2015	17	19.57	90.79	7.2	33.32	8.2	23.6	1.56
I39	07 Oct 2015	18	19.28	90.36	6.9	33.33	8.1	23.7	1.38
I39	13 Oct 2015	1	21.25	90.45	7.3	33.39	8.2	23.2	0.60
I39	13 Oct 2015	2	21.23	90.80	7.3	33.38	8.2	23.2	0.65
I39	13 Oct 2015	3	21.20	90.98	7.4	33.38	8.2	23.2	0.89
I39	13 Oct 2015	4	21.17	90.82	7.4	33.37	8.2	23.2	1.12
I39	13 Oct 2015	5	21.17	90.24	7.4	33.37	8.2	23.2	1.27
I39	13 Oct 2015	6	21.17	90.26	7.5	33.37	8.2	23.2	1.24
I39	13 Oct 2015	7	21.17	90.20	7.4	33.38	8.2	23.2	1.20
I39	13 Oct 2015	8	21.15	90.47	7.4	33.38	8.2	23.2	1.28
I39	13 Oct 2015	9	21.14	90.49	7.4	33.37	8.2	23.2	1.50
I39	13 Oct 2015	10	21.09	90.54	7.4	33.37	8.2	23.2	1.57
I39	13 Oct 2015	11	21.03	90.40	7.4	33.37	8.2	23.2	1.73
I39	13 Oct 2015	12	20.97	90.20	7.4	33.36	8.2	23.3	1.86
I39	13 Oct 2015	13	20.90	90.09	7.4	33.36	8.2	23.3	1.84
I39	13 Oct 2015	14	20.71	89.68	7.3	33.35	8.2	23.3	1.85
I39	13 Oct 2015	15	20.55	89.20	7.2	33.36	8.1	23.4	1.73
I39	13 Oct 2015	16	20.35	89.18	7.0	33.35	8.1	23.4	1.66
I39	13 Oct 2015	17	20.16	88.35	6.7	33.35	8.1	23.5	1.67
I39	13 Oct 2015	18	19.83	87.37	6.5	33.34	8.1	23.5	1.69
I39	24 Oct 2015	1	21.48	92.68	6.9	33.46	8.1	23.2	0.39
I39	24 Oct 2015	2	21.48	92.67	6.9	33.46	8.1	23.2	0.40

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ( $\sigma\text{-t}$ )	Chlor ( $\mu\text{g/L}$ )
I39	24 Oct 2015	3	21.45	92.81	6.8	33.46	8.1	23.2	0.43
I39	24 Oct 2015	4	21.42	92.61	6.9	33.46	8.1	23.2	0.46
I39	24 Oct 2015	5	21.38	92.55	6.8	33.45	8.1	23.2	0.50
I39	24 Oct 2015	6	21.24	92.51	6.9	33.45	8.1	23.2	0.56
I39	24 Oct 2015	7	21.07	92.35	6.8	33.43	8.1	23.3	0.62
I39	24 Oct 2015	8	20.78	91.78	6.8	33.42	8.1	23.4	0.71
I39	24 Oct 2015	9	20.58	91.59	6.8	33.42	8.1	23.4	0.79
I39	24 Oct 2015	10	20.37	90.60	6.8	33.41	8.1	23.4	0.87
I39	24 Oct 2015	11	20.18	90.09	6.8	33.41	8.1	23.5	0.97
I39	24 Oct 2015	12	20.08	89.07	6.7	33.41	8.1	23.5	1.08
I39	24 Oct 2015	13	19.88	88.64	6.5	33.41	8.1	23.6	1.29
I39	24 Oct 2015	14	19.80	86.16	6.4	33.40	8.1	23.6	1.44
I39	24 Oct 2015	15	19.49	84.48	6.2	33.39	8.1	23.7	1.47
I39	24 Oct 2015	16	19.26	81.17	6.2	33.40	8.1	23.7	1.48
I39	24 Oct 2015	17	19.07	77.86	6.3	33.39	8.1	23.8	1.36
I39	24 Oct 2015	18	18.89	75.95	6.4	33.40	8.1	23.8	1.28
I39	26 Oct 2015	1	21.11	89.64	6.9	33.45	8.1	23.3	0.69
I39	26 Oct 2015	2	20.96	89.72	6.9	33.44	8.1	23.3	0.71
I39	26 Oct 2015	3	20.69	89.65	6.7	33.43	8.1	23.4	0.84
I39	26 Oct 2015	4	20.29	89.44	6.7	33.40	8.1	23.5	1.09
I39	26 Oct 2015	5	19.96	87.53	6.8	33.41	8.1	23.6	1.13
I39	26 Oct 2015	6	19.84	86.42	6.8	33.40	8.1	23.6	1.25
I39	26 Oct 2015	7	19.71	86.46	6.8	33.40	8.1	23.6	1.36
I39	26 Oct 2015	8	19.58	85.98	6.8	33.40	8.1	23.6	1.43
I39	26 Oct 2015	9	19.47	86.18	6.8	33.39	8.1	23.7	1.46
I39	26 Oct 2015	10	19.24	86.37	6.6	33.39	8.1	23.7	1.59
I39	26 Oct 2015	11	19.00	85.90	6.5	33.39	8.1	23.8	1.53
I39	26 Oct 2015	12	18.63	84.07	6.5	33.38	8.1	23.9	1.49
I39	26 Oct 2015	13	18.35	80.56	6.6	33.38	8.1	23.9	1.55
I39	26 Oct 2015	14	18.25	78.57	6.7	33.39	8.1	24.0	1.76
I39	26 Oct 2015	15	18.18	81.13	6.7	33.38	8.1	24.0	1.67
I39	26 Oct 2015	16	18.06	83.31	6.6	33.39	8.1	24.0	1.51
I39	26 Oct 2015	17	17.98	83.74	6.5	33.38	8.1	24.0	1.37
I39	26 Oct 2015	18	17.88	80.43	6.6	33.39	8.1	24.1	1.34
I40	01 Oct 2015	1	21.94	86.64	6.8	33.50	8.2	23.1	0.86
I40	01 Oct 2015	2	21.75	86.85	6.9	33.46	8.2	23.1	0.78
I40	01 Oct 2015	3	21.42	86.88	7.1	33.48	8.2	23.2	0.67
I40	01 Oct 2015	4	21.13	85.56	7.1	33.43	8.2	23.3	0.63
I40	01 Oct 2015	5	20.14	83.42	7.2	33.44	8.2	23.5	0.73
I40	01 Oct 2015	6	19.55	82.11	7.4	33.37	8.2	23.6	1.00
I40	01 Oct 2015	7	19.22	82.19	7.4	33.36	8.2	23.7	1.34
I40	01 Oct 2015	8	19.11	83.04	7.4	33.35	8.2	23.7	1.68
I40	01 Oct 2015	9	19.03	82.12	7.3	33.35	8.2	23.8	1.84
I40	01 Oct 2015	10	18.94	82.60	7.2	33.35	8.2	23.8	2.34
I40	07 Oct 2015	1	20.79	85.56	7.7	33.29	8.2	23.2	1.43
I40	07 Oct 2015	2	20.69	85.30	7.8	33.29	8.2	23.3	1.82
I40	07 Oct 2015	3	20.59	85.09	7.8	33.30	8.2	23.3	2.17
I40	07 Oct 2015	4	20.51	84.59	7.8	33.30	8.2	23.3	2.64
I40	07 Oct 2015	5	20.43	84.21	7.6	33.30	8.2	23.4	3.06
I40	07 Oct 2015	6	20.27	83.81	7.5	33.30	8.2	23.4	3.37
I40	07 Oct 2015	7	20.25	82.84	7.5	33.31	8.2	23.4	3.81
I40	07 Oct 2015	8	20.22	81.92	7.5	33.31	8.2	23.4	4.03

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ( $\sigma\text{-t}$ )	Chlor ( $\mu\text{g/L}$ )
I40	07 Oct 2015	9	20.16	80.58	7.4	33.31	8.2	23.4	3.39
I40	07 Oct 2015	10	20.08	80.11	7.2	33.32	8.1	23.5	3.12
I40	13 Oct 2015	1	21.38	85.89	7.3	33.37	8.2	23.1	0.60
I40	13 Oct 2015	2	21.20	85.57	7.2	33.37	8.2	23.2	0.70
I40	13 Oct 2015	3	21.13	84.11	7.2	33.37	8.2	23.2	0.82
I40	13 Oct 2015	4	21.11	81.47	7.2	33.37	8.2	23.2	0.93
I40	13 Oct 2015	5	21.04	80.47	7.2	33.37	8.2	23.2	1.05
I40	13 Oct 2015	6	20.98	80.68	7.2	33.37	8.2	23.3	1.28
I40	13 Oct 2015	7	20.97	82.62	7.2	33.37	8.2	23.3	1.57
I40	13 Oct 2015	8	20.96	82.48	7.1	33.37	8.1	23.3	1.95
I40	13 Oct 2015	9	20.95	81.24	7.1	33.37	8.1	23.3	2.75
I40	13 Oct 2015	10	20.94	79.65	7.1	33.37	8.1	23.3	4.92
I40	24 Oct 2015	1	21.53	77.83	6.6	33.47	8.1	23.2	0.81
I40	24 Oct 2015	2	21.39	77.62	6.7	33.48	8.1	23.2	0.90
I40	24 Oct 2015	3	21.24	76.00	6.8	33.47	8.1	23.3	1.08
I40	24 Oct 2015	4	21.12	74.21	6.8	33.46	8.1	23.3	1.36
I40	24 Oct 2015	5	20.93	73.83	7.0	33.45	8.1	23.3	1.52
I40	24 Oct 2015	6	20.47	75.37	7.1	33.45	8.2	23.5	1.50
I40	24 Oct 2015	7	20.27	81.65	7.1	33.43	8.2	23.5	1.28
I40	24 Oct 2015	8	20.19	86.25	7.1	33.42	8.2	23.5	1.19
I40	24 Oct 2015	9	20.08	85.56	6.9	33.42	8.1	23.5	1.32
I40	24 Oct 2015	10	20.02	77.97	6.8	33.42	8.1	23.5	1.81
I40	26 Oct 2015	1	20.99	67.79	6.4	33.42	8.1	23.3	1.51
I40	26 Oct 2015	2	20.86	67.34	6.5	33.51	8.1	23.4	1.58
I40	26 Oct 2015	3	20.59	66.65	6.4	33.52	8.1	23.5	1.54
I40	26 Oct 2015	4	20.25	67.88	6.5	33.52	8.1	23.6	1.47
I40	26 Oct 2015	5	20.03	66.47	6.6	33.52	8.1	23.6	1.43
I40	26 Oct 2015	6	19.54	62.87	6.7	33.52	8.1	23.8	1.59
I40	26 Oct 2015	7	19.46	50.90	6.6	33.43	8.1	23.7	2.11
I40	26 Oct 2015	8	19.38	42.06	6.6	33.42	8.1	23.7	2.66
I40	26 Oct 2015	9	19.19	45.87	6.6	33.41	8.1	23.8	2.79
I40	26 Oct 2015	10	19.15	48.73	6.5	33.41	8.1	23.8	3.17

NA = not available

# **APPENDIX A**

## Quality Assurance



**Table A.1**

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

<b>Station</b>	<b>Date</b>	<b>Depth</b>	<b>Analyst</b>	<b>Procedure</b>	<b>Total</b>	<b>Fecal</b>	<b>Enter</b>
I19	01 Oct 2015	6	JT	LAB DUPLICATE	<20	<2	<2
I19	07 Oct 2015	6	LMA	LAB DUPLICATE	<20	4e	2e
I19	13 Oct 2015	6	LMA	LAB DUPLICATE	20e	<2	2e
I19	24 Oct 2015	6	LMA	LAB DUPLICATE	<20	8e	2e
I19	26 Oct 2015	6	SR	LAB DUPLICATE	20e	<2	2e
I40	01 Oct 2015	6	SR	LAB DUPLICATE	<2	<2	<2
I40	07 Oct 2015	6	LMA	LAB DUPLICATE	12e	<2	<2
I40	13 Oct 2015	6	LMA	LAB DUPLICATE	<20	<2	10e
I40	24 Oct 2015	6	LMA	LAB DUPLICATE	<20	<2	2e
I40	26 Oct 2015	6	SR	LAB DUPLICATE	<20	<2	<2
S12	06 Oct 2015		JT	FIELD DUPLICATE	>16000	1100	460
S12	06 Oct 2015		JT	LAB DUPLICATE	>16000	1400e	520
S12	13 Oct 2015		LMA	FIELD DUPLICATE	20e	16e	42
S12	13 Oct 2015		LMA	LAB DUPLICATE	200e	16e	38e
S12	20 Oct 2015		LMA	FIELD DUPLICATE	<2	<2	<2
S12	20 Oct 2015		LMA	LAB DUPLICATE	2e	<2	ns
S12	27 Oct 2015		SR	FIELD DUPLICATE	40e	2e	10e
S12	27 Oct 2015		SR	LAB DUPLICATE	400e	4e	14e

ns = not sampled

