

**Fecal Coliform Monitoring Results  
and  
Best Management Practices  
in the Discovery Bay Watershed  
2007-2011**

**December 31, 2011**

**Prepared by**

**Glenn Gately  
Al Latham  
Jerry Clarke**

**Jefferson County Conservation District  
205 W. Patison St.  
Port Hadlock, WA 98339**

**For**

**Jefferson County Department of Public Health**

## Introduction

Fecal coliform bacteria originate in the gut of warm-blooded animals and are released into the environment by excretion. They serve as an indicator of disease-causing organisms (pathogens) released with them. The rationale is that an increase in the bacteria's concentration indicates an increased chance that pathogens are also present. The higher the concentration of fecal coliform, the greater is the risk of disease.

Oysters, clams, and other molluscan shellfish feed by filtering phytoplankton and other particles from the surrounding water. These "other particles" can include pathogenic (disease-causing) microorganisms, including bacterial and viral pathogens associated with human and animal feces. Such pathogens can become concentrated in shellfish and passed on to those who consume them.

In December 2006, Washington Department of Health (DOH) recommended a downgrade in the shellfish harvesting classification from *Approved to Restricted* of approximately 50 acres in the southwestern part of Discovery Bay. This was due to high fecal coliform levels at marine station 48, which is near where Salmon and Snow Creek enter Discovery Bay. Conditions have improved since that time and DOH has upgraded the classification to *Approved*.

To reduce the input of livestock waste into streams entering Discovery Bay, JCCD encourages agricultural landowners to install Best Management Practices (BMPs). JCCD manages the federal Conservation Reserve Enhanced Program (CREP) which pays landowners rent for establishing riparian buffers planted with trees and shrubs. JCCD also offers cost-sharing programs for the implementation of BMPs designed to improve water quality.

To assess the effectiveness of implemented BMPs and to track water quality trends, JCCD has conducted a Water Quality Monitoring Program since 1993. This report summarizes the fecal coliform data collected in the Discovery Bay Watershed from 2007 to 2011. It also summarizes the BMPs implemented during that period.

## Methods

JCCD monitored fecal coliform bacteria twice each month from February 2008 to September 2011 at 19 stations in Salmon Creek, Snow Creek, and their tributaries (Figure 1). Twiss Analytical Laboratories analyzed the samples using two dilutions to assure the plate count was within an optimum range: 10 mL of sample in 100 mL and 50 mL of sample in 100 mL. One hundred milliliter samples were collected in 125 mL sterilized plastic bottles and immediately placed in a cooler containing crushed ice. Stream temperature was measured on a model 556 YSI meter, manufactured by the Yellow Springs Instrument Company.

For quality control purposes, a replicate sample was collected on each sampling event in a 250 mL sterilized plastic bottle at two stations. Twiss Lab split the 250 mL sample into two parts and analyzed each, yielding a total of three analyses and three values for that particular station.

Fecal coliform concentrations were compared to the state standard, which the Department of Ecology has classified as “Extraordinary Primary Contact Recreation.” Under this classification the geometric mean value (GMV) should not exceed 50 colonies/100 mL and not more than 10 percent of the samples should exceed 100 colonies/100 mL. Both parts must be met to pass the standard.

To show trends over a longer time period, fecal coliform GMVs from this study were compared to those from past studies.

In addition to fecal coliform concentrations, fecal coliform loadings were also calculated at downstream stations. Loadings, which are expressed as billions of fecal coliform per day, are actually a better indicator of the relative contributions of fecal coliform entering a water body, in this case, Salmon Creek and Snow Creek entering Discovery Bay.

Fecal coliform loading was calculated by combining fecal coliform concentration with stream flow according to the formula:

$$\text{Fecal coliform loading (billions per day)} = \text{FC} \times \text{Q} \times 0.0246$$

where FC is the fecal coliform count per 100 mL of water; and Q is the stream flow (cfs).

Flows for Salmon Creek and Snow Creek were measured every 15 minutes at Ecology’s telemetric gaging stations located at River Mile (RM) 0.7 on Salmon Creek and RM 0.8 on Snow Creek. Values were obtained from Ecology’s web site: [www.ecy.wa.gov/programs/eap/flow/shu\\_main.html](http://www.ecy.wa.gov/programs/eap/flow/shu_main.html).

Flows used to calculate loadings on tributary streams and ditches were obtained by previously established relationships between flows on these streams/ditches to flows on nearby gaged streams. In developing these relationships, JCCD measured flows on both the gaged and ungaged streams on the same day. Regression analysis of this data yielded the following equations:

Waterbody	Station	Regression Equation	No. of cases	Slope probability
Andrews Creek	AND/0.0	AND/0.0=0.429*SN/0.8	18	0.0000
Uncas Valley Ditch	UVD/0.0	UVD/0.0=0.00483*SA/0.7	3	0.0010
Tucker Ditch	TUD/0.1	TUD/0.1=0.00785*SA/0.7	3	0.0261
Houck Creek	HO/0.02	HO/0.02=0.073*SA/0.7	13	0.0000

## Results and Discussion

### Quality Control

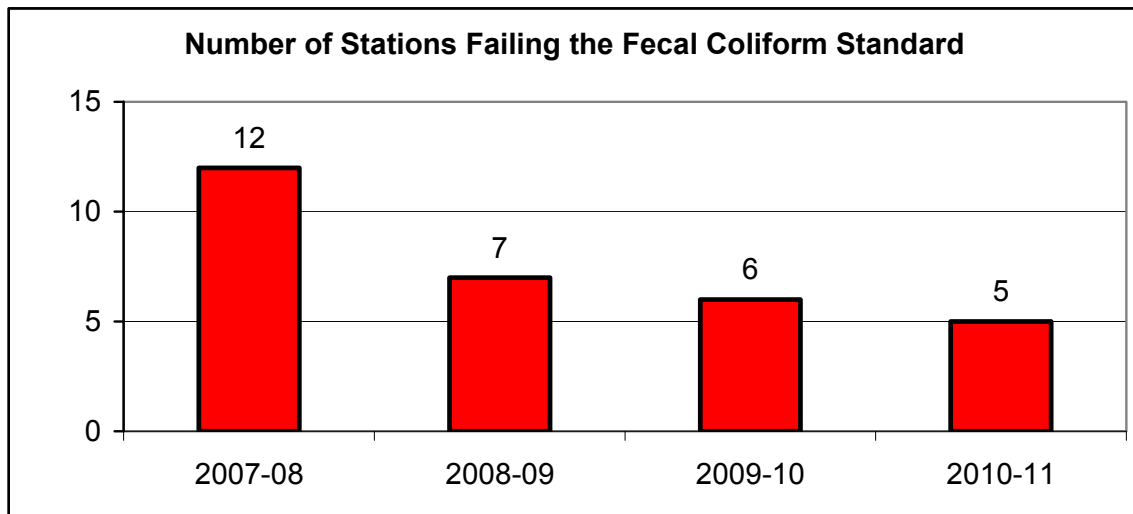
Field Replicates: Quality control results are shown in Table 1. The absolute difference in fecal coliform concentrations between the field replicates ranged from 0 FC/100 mL to 606 FC/100 mL for the first comparison and from 0 FC/100 mL to 344 FC/100 mL for the second comparison; the mean of the absolute differences for the first comparison was 28 FC/100 mL and the mean for the second comparison was 25 FC/100 mL. The Relative Standard Deviation (RSD) ranged from 0 percent to 129 percent for the first comparison and from 0 percent to 125 percent for the second comparison. The mean RSD of both the first and second comparisons was 33 percent.

Lab Replicates: The absolute difference in concentrations for the lab replicates ranged from 0 FC/100 mL to 498 FC/100 mL and the mean of the differences was 20 FC/100 mL. The Relative Standard Deviation for the lab replicates ranged from 0 percent to 132 percent and the mean of the RSDs was 30 percent.

Field replicates showed a fair amount of variation. A substantial portion of this variation could have occurred in the laboratory because absolute differences and RSDs for lab replicates were appreciable. This could be due to the bacteria not being uniformly distributed when the 250 mL sample was split or it could be due to some other part of the methodology. The variation observed in this project is not unusual, but typical for fecal coliform bacteria.

### Stream Results

The number of stations failing the fecal coliform standard decreased from 12 stations in 2007-08 to 5 stations in 2010-11. Of the 30 failures which occurred during the four water-years monitored, only three failures were they due to Part 1 of the standard. Typically, most failures are due to Part 2.



Stations failing Part 1 of the standard are depicted in Figures 2 and 3 and those failing Part 2 of the standard are shown in Figures 4 and 5. Figure 6 shows the GMVs for the downstream stations on Salmon Creek and Snow Creek beginning with the 1988-89 water-year. Since 1988-89, only in 1994 did Part 1 fail the standard when Snow Creek's downstream station had a GMV of 171 FC/100 mL. In that particular year, monitoring targeted storm events when stream flows were high, and this is probably the reason for the high GMV in 1994.

Loadings for the downstream stations on Salmon Creek and Snow Creek are shown in Figure 7. Again, Snow Creek station SN/0.2 in 1994 stands out above the rest. Loadings from Uncas Valley Ditch were noticeably high in 2007-08 and 2008-09, but decreased considerably during the 2009-10 and 2010-11 water-years. This is probably due to the Best Management Practices implemented along the Uncas Valley Ditch (see BMPs with Uncas Valley Ditch heading in following section).

Raw fecal coliform and temperature data are shown in Appendix A.

### **Best Management Practices**

During the course of this project, several Best Management Practices were implemented on Snow Creek, Salmon Creek and Uncas Valley Ditch, tributary to Salmon Creek. BMPs included ditch relocation, fencing, tree and shrub planting, wetland protection, culvert installation, and installation of a solar powered pump and livestock watering tank.

Fecal coliform is a non-point pollutant; it usually comes from a variety of sources and locations. It is usually the accumulative effect that results in levels exceeding the standard. The implementation of one or two or even a few BMPs usually does not result in a discernable improvement in water quality. The main reason for this is that fecal coliform levels are naturally variable even under steady state conditions. It usually requires monitoring over an extended period of time to establish a decreasing trend.

In this 4-year study it does appear that BMPs implemented on Uncas Valley Ditch, tributary to Salmon Creek, made a noticeable difference. Both fecal coliform concentration and loading were considerably less at station UVD/0.0 in 2009-10 and 2010-11, after BMP implementation, than in earlier years. However, due to the much larger flow in Salmon Creek, the improvement was not as noticeable on Salmon Creek itself as observed at station SA/0.15.

June 2009

**Salmon Creek  
Livestock Bridge  
SA/0.7**

Watershed: Salmon Creek

Waterbody: Discovery Bay

Station: SA/0.7

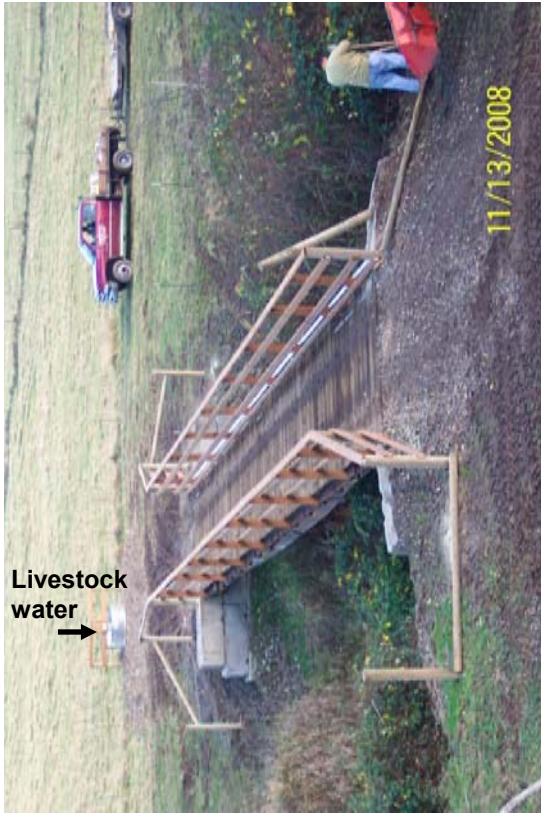
BMP's: Livestock bridge, fencing, livestock water system

Date installed: August 2008

Installed by: Jefferson Co. Conservation District

Problem(s): Livestock had access to 800 feet of salmon spawning/rearing habitat, thereby impacting water quality.

Solutions: Constructed a bridge for livestock to cross instead of walking across the creek. Constructed a livestock drinking water facility. Installed 614 feet of fence to fence off stream crossing and replace failing fence. Planning, design, and construction funding came from SRFB; technical assistance funding came from the Washington Conservation Commission.



## Salmon Cr. Livestock Bridge

Livestock had access to 800 feet of Salmon Creek for crossing. Jefferson Co. Conservation District worked with the landowner to obtain funding for a flatcar bridge crossing, fencing and water system. Funding from Salmon Recovery Funding Board, Conservation Commission and Dept. of Ecology.

Project Management: Jefferson Co. Conservation District



April 29, 2009

**Salmon Creek  
SRFB Riparian Restoration  
SA/0.8-0.9**

Watershed: Discovery Bay

Waterbody: Salmon Creek

Station: SA/0.8-0.9

BMP's: Black berry removal and tree planting to restore and enhance stream buffer.

Date installed: Spring 2009

Installed by: Jefferson County Conservation District

Assisted by: SRFB funding.

Problem(s): This portion of stream reach had dense black berry brush along the bank and very few trees on one side of the stream.

Solutions: Establish a new riparian buffer by removing the black berry brush and planting the site with conifers, hardwoods, and native brush species. 350 trees and shrubs were planted on 0.7 acres along one side of Salmon Creek.





**SRFB funded restoration project. This project consisted of planting 0.7 acres with 350 native trees and shrubs. The buffer is 300 feet long on the inside bend of Salmon Creek. and averages 100 feet wide.**

Upper Right: Planted seedlings along Salmon Creek. Prior to planting, this area was dense blackberry brush, which was mulched before planting. Upper Left: site prep sprayed planting spots prior to planting. Lower Left: Pasture prior to planting. Inset: overview map.

**Salmon Creek -Private property**

**SA/0.8-0.9**

**Spring 2009**

May 8, 2009

## **Snow Creek SN/0.5-1.0**

Watershed: Discovery Bay

Waterbody: Snow Creek

Station: SN/0.5-1.0

BMP's: Riparian fencing, solar powered stock watering trough. Establishment of riparian buffer.

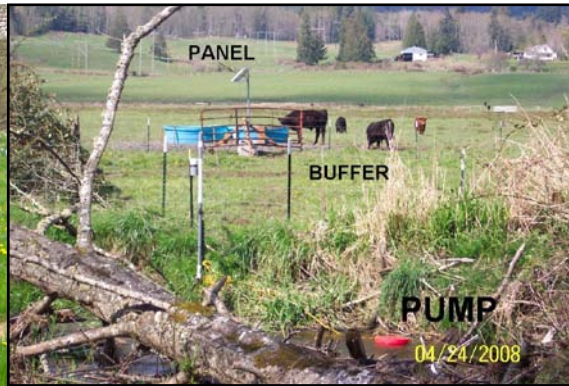
Date installed: 2008, fencing, water trough; 2009, spring site preparation and riparian planting.

Installed by: Jefferson County Conservation District.

Assisted by: Salmon Recovery Funding Board.

Problem(s): The stream channel lacked riparian cover. Live stock had access to stream channel. Water temperatures exceeded the state standard.

Solutions: Riparian fencing and a solar powered water trough were installed. In the spring of 2009 a 4.8 acre riparian buffer, averaging 160 feet wide, was planted with 2125 native trees and shrubs.



**SRFB funded restoration project.** This project consisted of installing a Solar powered livestock watering facility, fencing the buffer to exclude livestock from the restoration area, and planting 4.8 acres with 2125 native trees and shrubs. This buffer is 1600 feet long and averages 160 feet wide.

Upper left: Planted seedlings along Snow Creek. Upper Right: Blackberry brush mulched along stream prior to planting. Lower Left: Site prep sprayed planting rows. Upper Inset: Installed livestock watering facility. Lower Inset: overview map.

**Snow Creek-Private property**

**SN/0.5-1.0**

**Spring 2009**

June 2009

## **Snow Creek Fencing & Solar Pump System SN/1.0**

Watershed: Snow Cr.

Waterbody: Snow Cr.

Station: SN 1.0

BMP's: Stream fencing and solar water system.

Date installed: Sept. 2007

Installed by: Jefferson Co. Conservation District

Assisted by: Centennial Clean Water Fund, Salmon Recovery Funding Board, Jefferson Land trust, and Conservation Commission contributed funding.

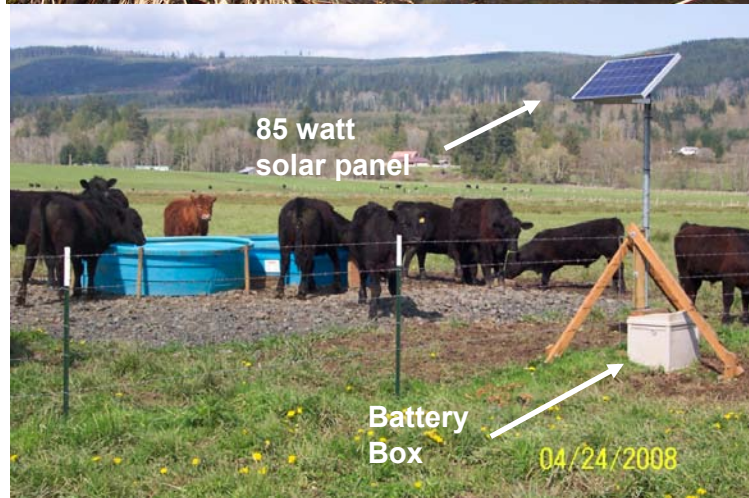
Problems: Livestock had access to Snow Creek at a drinking place and to unfenced ditches.

Solutions: Fenced a 150' riparian buffer on Snow Creek as well as ditches (for a total of 3,048' of fence). Constructed a solar powered livestock drinking water system, and constructed two stream crossings.

**SOLAR POWERED PUMP**  
Snow Cr., Jefferson Co. WA

Livestock were fenced out of Snow Cr. on this farm several years ago. One gap was left in the fence so livestock could access the creek for drinking water—they also drank from unfenced ditches which flowed into another stream. Additional ditch and stream fencing to protect water quality and salmon habitat depended on development of a reliable alternative system to provide drinking water for the livestock. Jefferson Co. Conservation District set up a solar powered pumping demonstration using an M3 floating pump system and it successfully supplied enough water for 150 beef cattle for two summers. In 2007 a conservation easement was purchased for a 100'-150' creek buffer, the ditches were fenced, and a permanent solar powered pump installation was completed.

Funding for easement, fencing and water system provided by Jefferson Land Trust, WA Salmon Recovery Funding Board, WA Dept. of Ecology through the WRIA 17 Planning Unit. Jefferson Co. Conservation District provided project planning and management using funding from the Washington State Conservation Commission.



**Snow Creek**

**SN/1.0**

**September 2007**

April 27, 2009

## **Snow Creek SN/1.0-1.2**

Watershed: Discovery Bay

Waterbody: Snow Creek

Station: SN/1.0-1.2

BMP's: Aquatic Vegetation removal, riparian fencing, riparian buffer installation.

Date installed: Fencing 2008; Site Prep 2009; Planting Spring 2009.

Installed by: Jefferson County Conservation District.

Assisted by: Salmon Recovery Funding Board

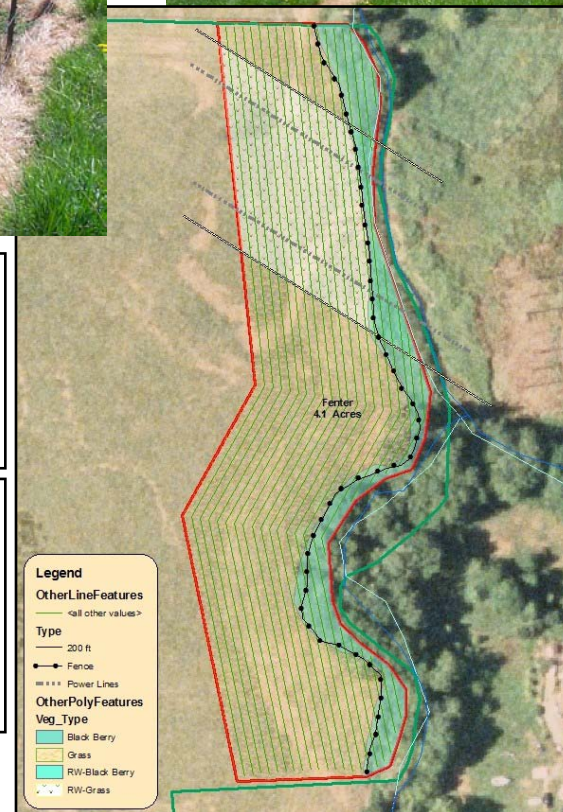
Problem(s): The stream channel lacked riparian cover. Live stock had access to stream channel. Water temperatures exceeded the state standard.

Solutions: Riparian fencing was installed. In the spring of 2009 a 4.1 acre riparian buffer, averaging 160 feet wide, was planted with 1950 native trees and shrubs.



**SRFB funded riparian restoration project completed by JCCD. This project consisted of establishing a 4.1 acre buffer along 1068 feet of one side of Snow Creek with an average width of 160 feet. The site was planted with 1950 native trees and shrubs.**

Upper left: Blackberry brush adjacent to channel was removed before planting. Upper Right: Site prep. spraying in rows completed before trees planted. A 200 foot utility right-of-way on the site required planting brush species only in this area. Lower Right: The site was fenced to exclude live stock from the stream. Inset: Site overview.



**Snow Creek—Private property**

**SN/1.0-1.2**

**Spring 2009**

November 4, 2011

## **Uncas Valley Ditch UVD/0.3-0.6**

Watershed: Discovery Bay

Waterbody: Uncas Valley Ditch (tributary to Salmon Creek at RM 0.4)

Station: UVD/0.3-0.6

BMP's: Fencing and planting.

Date installed: Fencing – Fall 2007; planting March 2009.

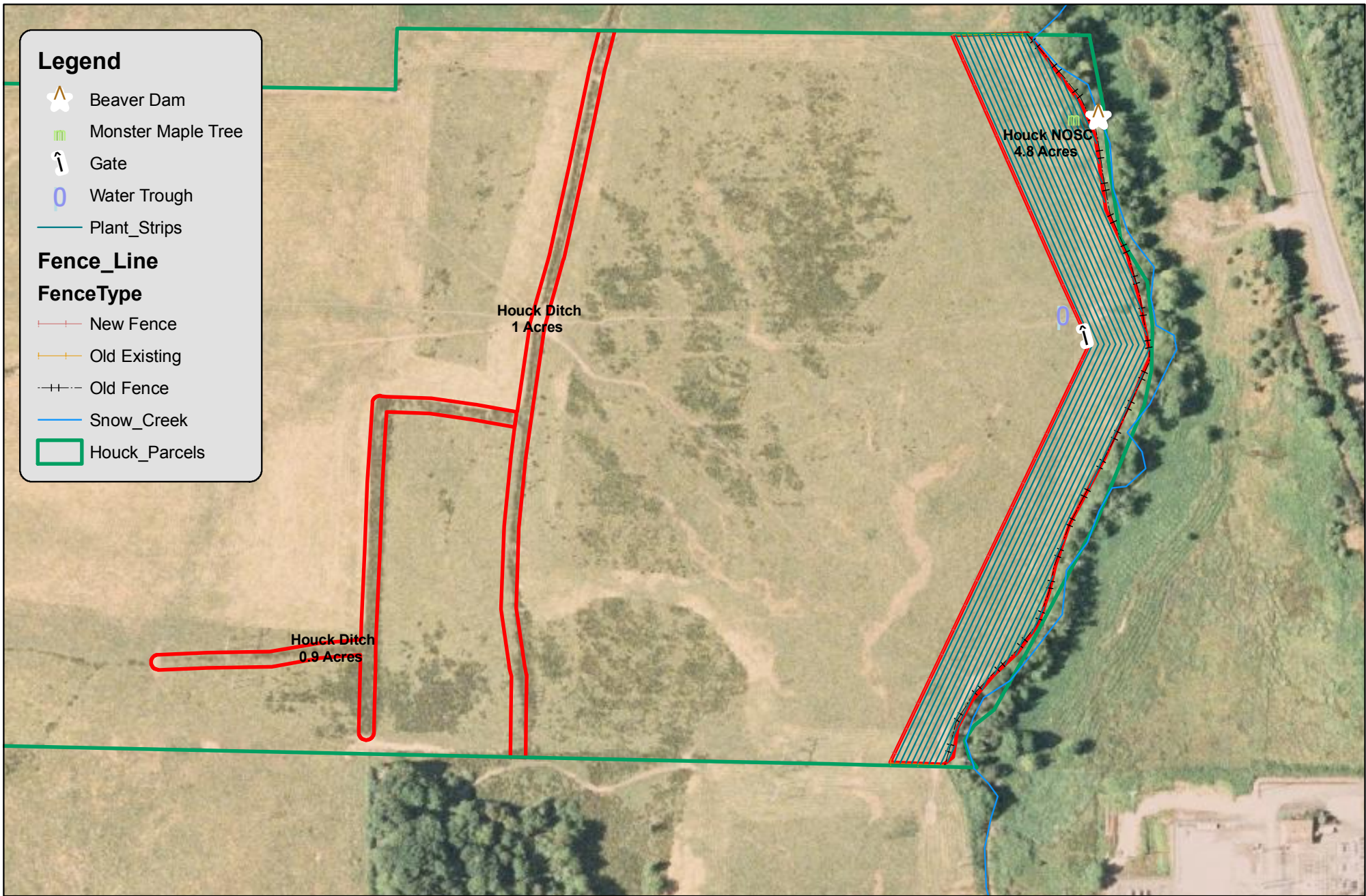
Installed by: Jefferson County Conservation District

Assisted by: SRFB funding.

Problem(s): Cattle had access to Uncas Valley Ditch thereby causing erosion and manure pollution.

Solutions: Fencing was installed on both sides of 1500 ft. of Uncas Valley Ditch and on both sides of 600 ft. long ditch entering Uncas Valley Ditch. Riparian buffers were planted with red osher dogwood, vine maple, and ninebark.





November 4, 2011

## **Uncas Valley Ditch UVD/0.6-0.9**

Watershed: Discovery Bay

Waterbody: Uncas Valley Ditch (tributary to Salmon Creek at RM 0.4)

Station: UVD/0.6-0.9

BMP's: Ditch relocation, fencing, tree planting, wetland protection, culvert installation.

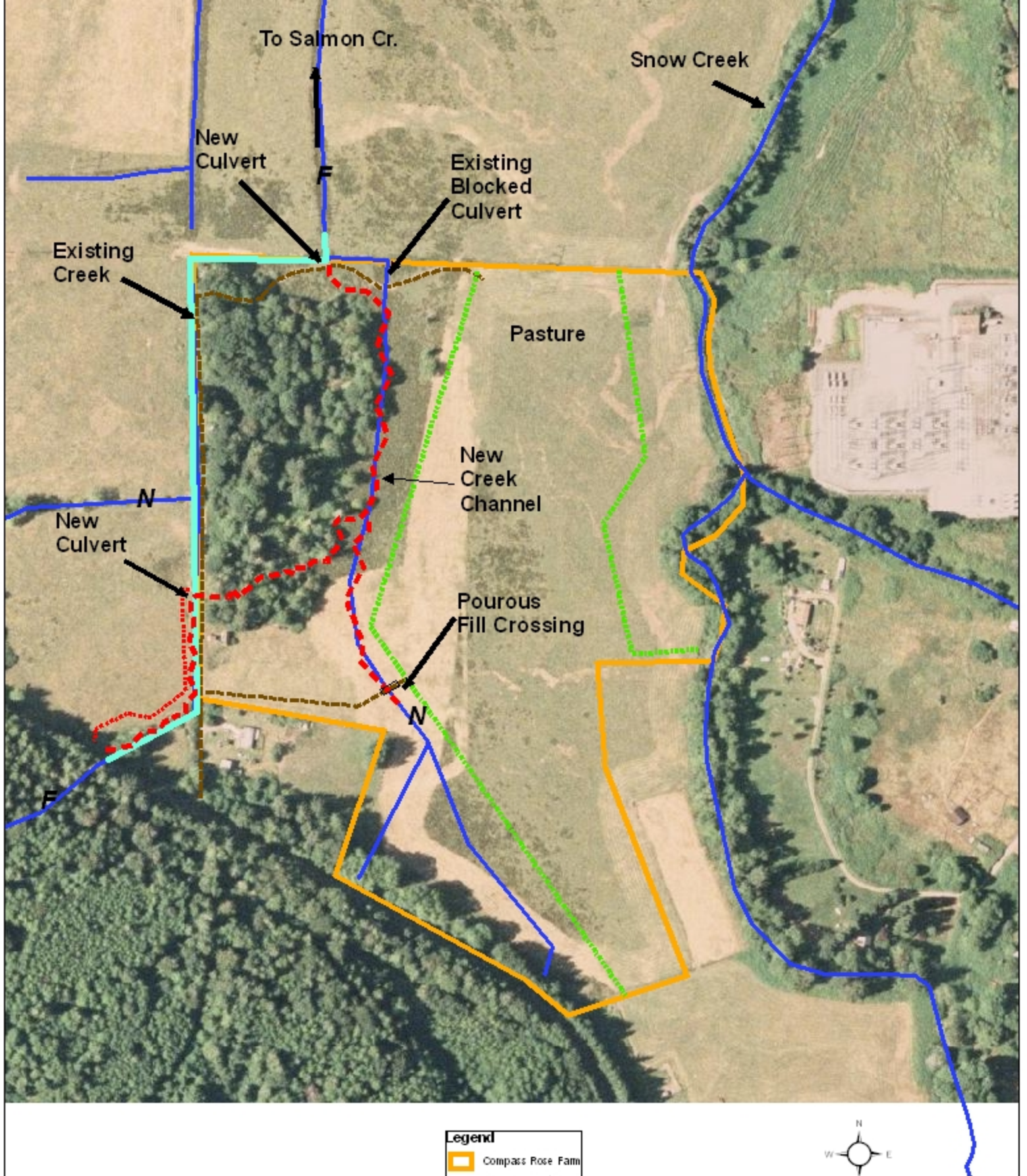
Date installed: 2009

Installed by: Jefferson County Conservation District

Assisted by: SRFB funding.

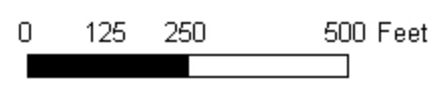
Problem(s): Cattle had access to Uncas Valley Ditch thereby causing erosion and manure pollution. Cattle also had access to a wetland.

Solutions: The ditch was relocated; some of it was put back into its original, forested stream bed. Fencing along 3100 ft. of ditch and wetland was installed. Trees and shrubs were planted in the riparian buffer. Two culverts were installed. A porous wetland crossing was installed for farm equipment to cross the wetland.



Stream Improvement Project  
 Compass Rose Farm  
 1463 W. Uncas Rd.  
 Port Townsend WA 98368  
 S26, T29N, R1W

Legend	
	Compass Rose Farm
	Proposed Fence
	Streams
	New Creek Channel
	Porous Fill Crossing
	Existing Blocked Culvert
	New Culvert
	Proposed Fence



2006 Photo

Existing stream/ditch (fenced 2008) to be improved w/LWD through pasture—riparian plantings done 2009



Existing stream/ditch—view upstream from new culvert site where stream flows into new channel (red). This reach also will be improved.

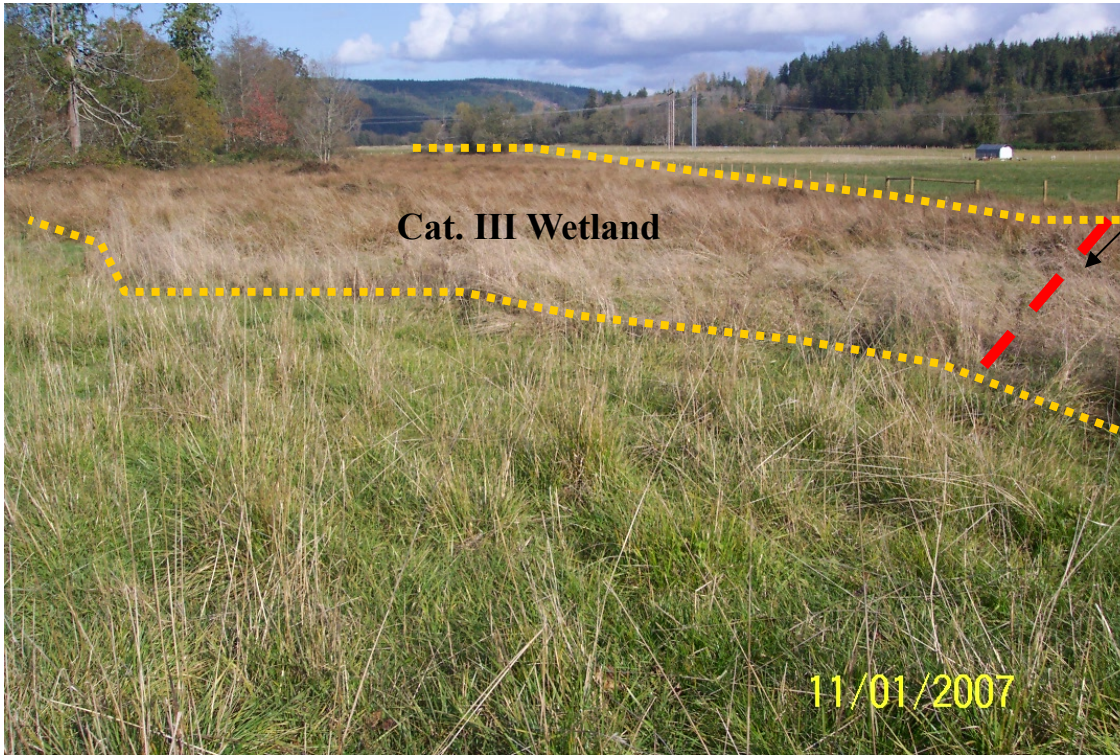


### Fence and improve existing channel



### Compass Rose Farm Pioneers in Conservation 2009 Project

- Improve ditched stream reach
- Re-locate ditched stream to improved old channel location through forest.
  - Install 2 culverts in existing farm lane.
    - Fill in abandoned ditch
  - Excavate low flow channel through wetland
    - Construct porous fill wetland crossing
- Project components completed to date -
  - Plant riparian vegetation in newly fenced reach (done 2009).
  - Plant Snow Cr. 150' buffer 4 ac (SRFB funds) (done 2009)



“Porous Fill” livestock and farm equipment crossing.

Previous landowner grazed and mowed the Cat. III wetland. New landowners have fenced wetland and restricted wetland crossing for farm equipment to one location (red dash). To reduce impact on wetland crossing area a porous fill (see conceptual diagram below and engineered plans) has been designed for a lane across wetland. This lane will allow movement of water through the fill and livestock/farm equipment to cross with minimal impact.

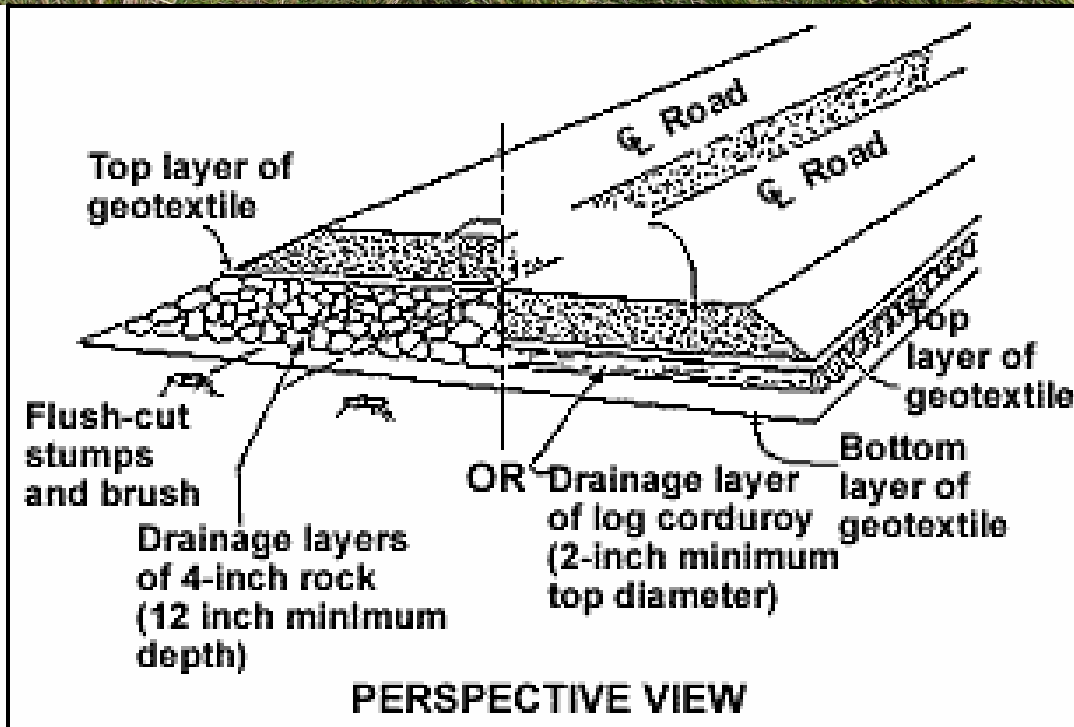


Table 1. Quality control results of stations monitored in the Discovery Bay watershed showing the absolute difference (AD) and relative standard deviation (RSD) for field replicates (R1 and R2/R3) and lab replicates (R2 and R3) sampled for fecal coliform. Minimum, maximum, and mean ADs and RSDs are shown at bottom.

Station	Date	Fecal Coliform								
		Field Rep Comparisons						Lab Rep Comparisons		
		R1	R2	R3	R1-R2 AD	R1-R2 RSD	R1-R3 AD	R1-R3 RSD	R2-R3 AD	R2-R3 RSD
		FC/100 mL	FC/100 mL	FC/100 mL	FC/100 mL	%	FC/100 mL	%	FC/100 mL	%
TUD/0.0	2/11/2008	4	6	2	2	28	2	47	4	71
TUD/0.4	2/11/2008	22	18	32	4	14	10	26	14	40
SN/1.6	2/27/2008	2	4	1	2	47	1	47	3	85
SN/2.3	2/27/2008	12	26	6	14	52	6	47	20	88
TUD/0.4	3/19/2008	2130	1560	1890	570	22	240	8	330	14
UVD/0.0	3/19/2008	32	36	20	4	8	12	33	16	40
TUD/0.0	4/2/2008	18	12	14	6	28	4	18	2	11
TUD/0.4	4/2/2008	96	118	70	22	15	26	22	48	36
TUD/0.0	4/15/2008	4	6	2	2	28	2	47	4	71
TUD/0.4	4/15/2008	18	12	18	6	28	0	0	6	28
TUD/0.4	4/30/2008	16	14	8	2	9	8	47	6	39
UVD/0.0	4/30/2008	138	164	160	26	12	22	10	4	2
TUD/0.4	5/13/2008	260	222	170	38	11	90	30	52	19
UVD/0.0	5/13/2008	284	138	94	146	49	190	71	44	27
TUD/0.4	5/20/2008	296	326	306	30	7	10	2	20	4
UVD/0.0	5/20/2008	46	334	266	288	107	220	100	68	16
SN/0.2	6/5/2008	108	126	133	18	11	25	15	7	4
TUD/0.0	6/5/2008	134	115	147	19	11	13	7	32	17
AND/1.71	6/19/2008	26	22	34	4	12	8	19	12	30
SN/0.2	6/19/2008	242	330	200	88	22	42	13	130	35
SN/0.2	7/2/2008	346	64	76	282	97	270	90	12	12
TUD/0.4	7/2/2008	3040	2760	2810	280	7	230	6	50	1
SN/1.6	7/15/2008	54	58	58	4	5	4	5	0	0
SN/2.3	7/15/2008	50	58	52	8	10	2	3	6	8
SA/0.15	8/12/2008	228	248	290	20	6	62	17	42	11
SN/0.2	8/12/2008	220	176	186	44	16	34	12	10	4
SA/0.15	8/26/2008	184	790	292	606	88	108	32	498	65

Table 1. Quality control results of stations monitored in the Discovery Bay watershed showing the absolute difference (AD) and relative standard deviation (RSD) for field replicates (R1 and R2/R3) and lab replicates (R2 and R3) sampled for fecal coliform. Minimum, maximum, and mean ADs and RSDs are shown at bottom.

Station	Date	Fecal Coliform								
		Field Rep Comparisons						Lab Rep Comparisons		
		R1	R2	R3	R1-R2 AD	R1-R2 RSD	R1-R3 AD	R1-R3 RSD	R2-R3 AD	R2-R3 RSD
		FC/100 mL	FC/100 mL	FC/100 mL	FC/100 mL	%	FC/100 mL	%	FC/100 mL	%
SN/0.2	8/26/2008	312	340	384	28	6	72	15	44	9
SA/0.15	9/10/2008	522	416	332	106	16	190	31	84	16
SN/0.2	9/10/2008	168	138	156	30	14	12	5	18	9
SA/0.5	9/23/2008	150	76	68	74	46	82	53	8	8
SA/0.7	9/23/2008	16	16	10	0	0	6	33	6	33
SA/0.15	10/7/2008	604	582	520	22	3	84	11	62	8
SN/0.2	10/7/2008	64	60	52	4	5	12	15	8	10
HO/0.0	10/21/2008	12	26	34	14	52	22	68	8	19
SN/0.2	10/21/2008	18	28	24	10	31	6	20	4	11
SA/0.15	11/4/2008	50	110	102	60	53	52	48	8	5
SA/0.7	11/4/2008	60	42	58	18	25	2	2	16	23
SA/0.7	11/18/2008	2	1	2	1	47	0	0	1	47
SN/0.2	11/18/2008	150	192	148	42	17	2	1	44	18
SA/0.15	12/2/2008	12	48	10	36	85	2	13	38	93
SN/0.2	12/2/2008	4	36	54	32	113	50	122	18	28
SA/0.15	12/16/2008	34	2	4	32	126	30	112	2	47
TUD/0.4	12/16/2008	170	126	120	44	21	50	24	6	3
SA/0.15	1/6/2009	22	18	20	4	14	2	7	2	7
SN/0.2	1/6/2009	10	16	22	6	33	12	53	6	22
SN/0.2	1/20/2009	2	8	8	6	85	6	85	0	0
SN/0.8	1/20/2009	2	12	12	10	101	10	101	0	0
SN/0.2	2/10/2009	4	6	4	2	28	0	0	2	28
TUD/0.0	2/10/2009	16	6	6	10	64	10	64	0	0
SN/0.2	2/24/2009	12	10	10	2	13	2	13	0	0
TUD/0.4	2/24/2009	202	232	228	30	10	26	9	4	1
TUD/0.0	3/3/2009	34	56	52	22	35	18	30	4	5
TUD/0.4	3/3/2009	82	86	82	4	3	0	0	4	3

Table 1. Quality control results of stations monitored in the Discovery Bay watershed showing the absolute difference (AD) and relative standard deviation (RSD) for field replicates (R1 and R2/R3) and lab replicates (R2 and R3) sampled for fecal coliform. Minimum, maximum, and mean ADs and RSDs are shown at bottom.

Station	Date	Fecal Coliform								
		Field Rep Comparisons						Lab Rep Comparisons		
		R1	R2	R3	R1-R2 AD	R1-R2 RSD	R1-R3 AD	R1-R3 RSD	R2-R3 AD	R2-R3 RSD
		FC/100 mL	FC/100 mL	FC/100 mL	FC/100 mL	%	FC/100 mL	%	FC/100 mL	%
SN/0.2	3/24/2009	1	4	8	3	85	7	110	4	47
TUD/0.0	3/24/2009	8	4	4	4	47	4	47	0	0
SA/0.15	4/7/2009	1	1	2	0	0	1	47	1	47
SN/0.2	4/7/2009	2	1	4	1	47	2	47	3	85
SA/0.15	4/21/2009	2	4	2	2	47	0	0	2	47
SN/0.2	4/21/2009	6	2	2	4	71	4	71	0	0
SA/0.15	5/13/2009	24	32	24	8	20	0	0	8	20
SN/0.2	5/13/2009	14	16	6	2	9	8	57	10	64
SN/0.2	5/27/2009	36	48	58	12	20	22	33	10	13
SA/0.15	6/3/2009	8	18	8	10	54	0	0	10	54
SN/0.2	6/3/2009	16	26	30	10	34	14	43	4	10
SA/0.15	6/30/2009	48	58	46	10	13	2	3	12	16
SN/0.2	6/30/2009	46	54	70	8	11	24	29	16	18
SA/0.7	7/14/2009	30	40	44	10	20	14	27	4	7
SN/3.5	7/14/2009	98	66	58	32	28	40	36	8	9
SA/0.7	7/28/2009	50	42	58	8	12	8	10	16	23
SN/1.6	7/28/2009	58	42	42	16	23	16	23	0	0
SA/0.7	8/11/2009	128	26	24	102	94	104	97	2	6
SN/0.2	8/25/2009	108	72	62	36	28	46	38	10	11
SA/0.15	9/15/2009	14	32	10	18	55	4	24	22	74
SN/0.2	9/15/2009	196	258	540	62	19	344	66	282	50
SA/0.15	9/28/2009	22	100	28	78	90	6	17	72	80
SN/0.2	9/28/2009	86	60	16	26	25	70	97	44	82
SA/0.15	10/13/2009	62	56	62	6	7	0	0	6	7
SN/0.2	10/13/2009	16	26	22	10	34	6	22	4	12
SA/0.15	10/27/2009	66	14	32	52	92	34	49	18	55
SN/0.2	10/27/2009	18	16	38	2	8	20	51	22	58



Table 1. Quality control results of stations monitored in the Discovery Bay watershed showing the absolute difference (AD) and relative standard deviation (RSD) for field replicates (R1 and R2/R3) and lab replicates (R2 and R3) sampled for fecal coliform. Minimum, maximum, and mean ADs and RSDs are shown at bottom.

Station	Date	Fecal Coliform								
		Field Rep Comparisons						Lab Rep Comparisons		
		R1	R2	R3	R1-R2 AD	R1-R2 RSD	R1-R3 AD	R1-R3 RSD	R2-R3 AD	R2-R3 RSD
		FC/100 mL	FC/100 mL	FC/100 mL	FC/100 mL	%	FC/100 mL	%	FC/100 mL	%
SA/0.15	12/8/2009	32	4	2	28	110	30	125	2	47
SN/0.2	12/8/2009	6	8	30	2	20	24	94	22	82
SA/0.15	1/12/2010	8	8	18	0	0	10	54	10	54
SN/0.2	1/12/2010	22	30	20	8	22	2	7	10	28
SA/0.15	1/26/2010	6	2	6	4	71	0	0	4	71
SN/0.2	1/26/2010	22	22	16	0	0	6	22	6	22
SA/0.15	2/9/2010	2	10	4	8	94	2	47	6	61
SN/0.2	2/9/2010	2	6	8	4	71	6	85	2	20
SA/0.15	2/23/2010	1	1	2	0	0	1	47	1	47
SN/0.2	2/23/2010	2	1	2	1	47	0	0	1	47
SA/0.15	3/16/2010	6	4	26	2	28	20	88	22	104
SN/0.2	3/16/2010	1	1	1	0	0	0	0	0	0
SA/0.15	3/30/2010	14	34	20	20	59	6	25	14	37
SN/0.2	3/30/2010	2	2	4	0	0	2	47	2	47
SA/0.15	4/20/2010	6	8	6	2	20	0	0	2	20
SN/0.2	4/20/2010	14	20	30	6	25	16	51	10	28
SA/0.15	4/29/2010	26	34	30	8	19	4	10	4	9
SN/0.2	4/29/2010	20	14	14	6	25	6	25	0	0
SA/0.15	5/11/2010	4	4	10	0	0	6	61	6	61
SN/0.2	5/11/2010	4	1	30	3	85	26	108	29	132
SA/0.15	5/25/2010	22	6	20	16	81	2	7	14	76
SN/0.2	5/25/2010	38	44	42	6	10	4	7	2	3
SA/0.15	6/8/2010	56	68	58	12	14	2	2	10	11
SN/0.2	6/8/2010	26	26	30	0	0	4	10	4	10
SA/0.15	6/22/2010	12	28	22	16	57	10	42	6	17
SN/0.2	6/22/2010	26	36	26	10	23	0	0	10	23
SN/0.2	7/13/2010	106	140	104	34	20	2	1	36	21

Table 1. Quality control results of stations monitored in the Discovery Bay watershed showing the absolute difference (AD) and relative standard deviation (RSD) for field replicates (R1 and R2/R3) and lab replicates (R2 and R3) sampled for fecal coliform. Minimum, maximum, and mean ADs and RSDs are shown at bottom.

Station	Date	Fecal Coliform								
		Field Rep Comparisons						Lab Rep Comparisons		
		R1	R2	R3	R1-R2 AD	R1-R2 RSD	R1-R3 AD	R1-R3 RSD	R2-R3 AD	R2-R3 RSD
		FC/100 mL	FC/100 mL	FC/100 mL	FC/100 mL	%	FC/100 mL	%	FC/100 mL	%
SN/0.2	7/27/2010	104	100	78	4	3	26	20	22	17
SN/0.2	8/10/2010	84	74	74	10	9	10	9	0	0
SN/0.2	8/24/2010	100	88	108	12	9	8	5	20	14
SA/0.15	9/7/2010	64	112	88	48	39	24	22	24	17
SN/0.2	9/7/2010	230	220	230	10	3	0	0	10	3
SN/0.2	9/21/2010	196	190	156	6	2	40	16	34	14
SA/0.15	10/26/2010	22	16	24	6	22	2	6	8	28
SN/0.2	10/26/2010	28	40	60	12	25	32	51	20	28
SA/0.15	11/2/2010	28	16	36	12	39	8	18	20	54
SN/0.2	11/2/2010	46	42	28	4	6	18	34	14	28
SA/0.15	11/16/2010	12	12	20	0	0	8	35	8	35
SN/0.2	11/16/2010	20	26	26	6	18	6	18	0	0
SA/0.15	12/21/2010	8	6	12	2	20	4	28	6	47
SN/0.2	12/21/2010	14	10	12	4	24	2	11	2	13
SA/0.15	1/4/2011	2	6	4	4	71	2	47	2	28
SN/0.2	1/4/2011	16	10	8	6	33	8	47	2	16
SA/0.15	1/11/2011	10	6	14	4	35	4	24	8	57
SN/0.2	1/11/2011	8	8	2	0	0	6	85	6	85
SA/0.15	2/1/2011	1	4	2	3	85	1	47	2	47
SN/0.2	2/1/2011	10	8	14	2	16	4	24	6	39
SA/0.15	2/8/2011	8	10	6	2	16	2	20	4	35
SN/0.2	2/8/2011	8	4	6	4	47	2	20	2	28
SA/0.15	3/3/2011	2	2	2	0	0	0	0	0	0
SN/0.2	3/3/2011	26	16	26	10	34	0	0	10	34
SA/0.15	3/29/2011	22	1	2	21	129	20	118	1	47
SN/0.2	3/29/2011	6	1	6	5	101	0	0	5	101
SA/0.15	4/13/2011	8	4	4	4	47	4	47	0	0

Table 1. Quality control results of stations monitored in the Discovery Bay watershed showing the absolute difference (AD) and relative standard deviation (RSD) for field replicates (R1 and R2/R3) and lab replicates (R2 and R3) sampled for fecal coliform. Minimum, maximum, and mean ADs and RSDs are shown at bottom.

Station	Date	Fecal Coliform								
		Field Rep Comparisons						Lab Rep Comparisons		
		R1	R2	R3	R1-R2 AD	R1-R2 RSD	R1-R3 AD	R1-R3 RSD	R2-R3 AD	R2-R3 RSD
		FC/100 mL	FC/100 mL	FC/100 mL	FC/100 mL	%	FC/100 mL	%	FC/100 mL	%
SN/0.2	4/13/2011	2	2	4	0	0	2	47	2	47
SA/0.15	4/26/2011	38	38	42	0	0	4	7	4	7
SN/0.2	4/26/2011	2	10	10	8	94	8	94	0	0
SA/0.15	5/17/2011	46	36	42	10	17	4	6	6	11
SN/0.2	5/17/2011	12	12	42	0	0	30	79	30	79
SA/0.15	5/24/2011	24	16	18	8	28	6	20	2	8
SN/0.2	5/24/2011	20	16	14	4	16	6	25	2	9
SA/0.15	6/7/2011	16	8	22	8	47	6	22	14	66
SN/0.2	6/7/2011	42	32	30	10	19	12	24	2	5
SA/0.15	6/28/2011	44	36	32	8	14	12	22	4	8
SN/0.2	6/28/2011	102	108	100	6	4	2	1	8	5
SA/0.15	7/26/2011	46	108	94	62	57	48	48	14	10
SN/0.2	7/26/2011	90	90	116	0	0	26	18	26	18
SA/0.15	8/9/2011	40	4	60	36	116	20	28	56	124
SN/0.2	8/9/2011	166	210	200	44	17	34	13	10	3
SA/0.15	9/6/2011	16	12	4	4	20	12	85	8	71
SN/0.2	9/6/2011	44	12	20	32	81	24	53	8	35
SA/0.15	9/20/2011	12	10	14	2	13	2	11	4	24
SN/0.2	9/20/2011	200	230	220	30	10	20	7	10	3
<b>Minimum</b>					0	0	0	0	0	0
<b>Maximum</b>					606	129	344	125	498	132
<b>Mean</b>					28	33	25	33	20	30



Figure 1. Map of the Discovery Bay watershed showing the monitoring stations.

1,250 625 0 1,250 Feet



### Average Fecal Coliform Concentration 2007 - 2011

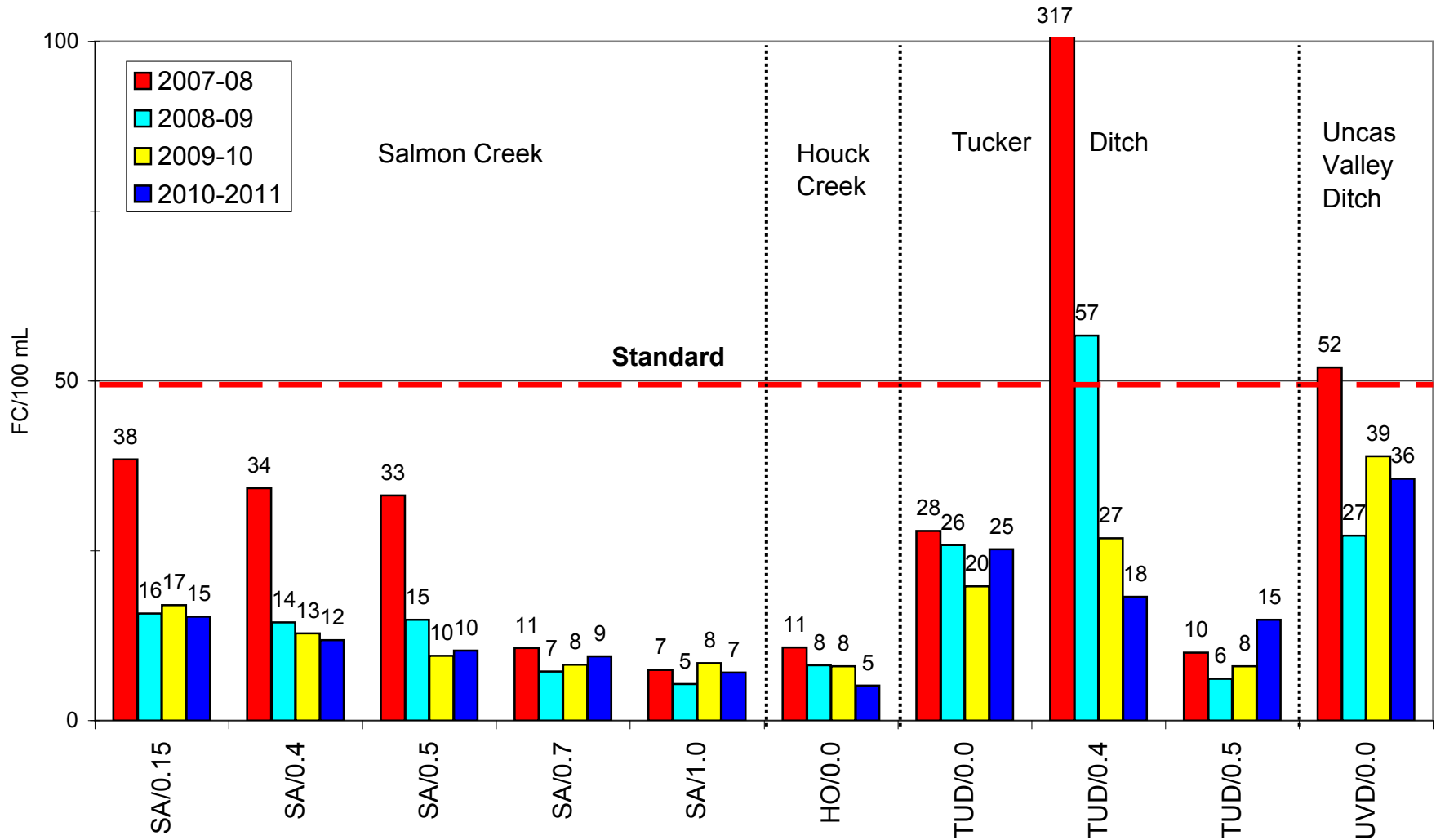


Figure 2. Fecal coliform geometric mean values (GMVs) for stations in the Salmon Creek watershed monitored twice each month from February to September in 2007-08 and from October to September in the other water years. M:\Water Quality\DATA\10-11\

### Average Fecal Coliform Concentration 2007 - 2011

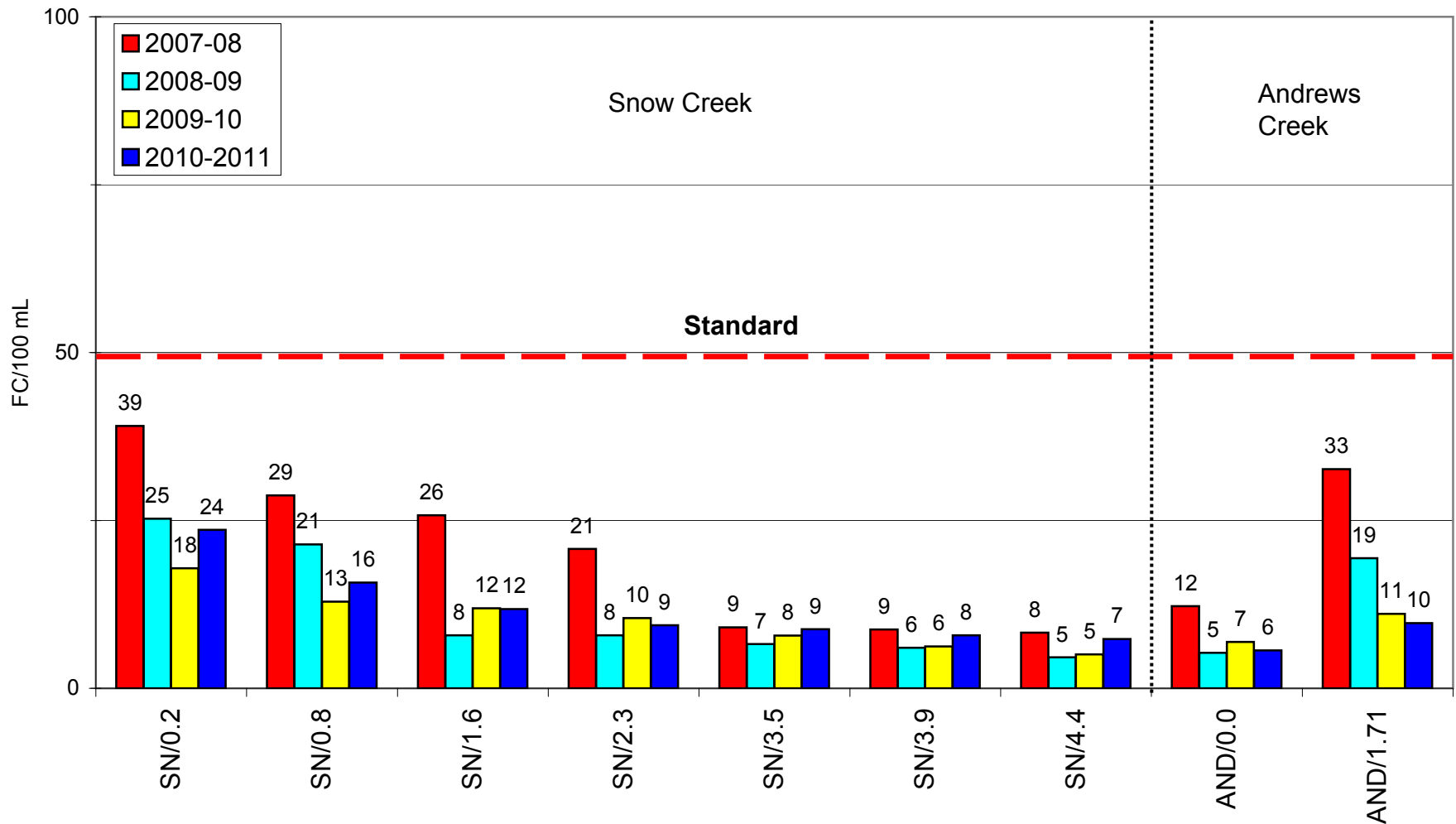


Figure 3. Fecal coliform geometric mean values (GMVs) for stations in the Snow Creek watershed monitored twice each month from February to September in 2007-08 and from October to September in the other water years. M:\Water Quality\DATA\10-11\Disco

**Percent of Samples Exceeding 100 FC/100 mL  
2007 - 2011**

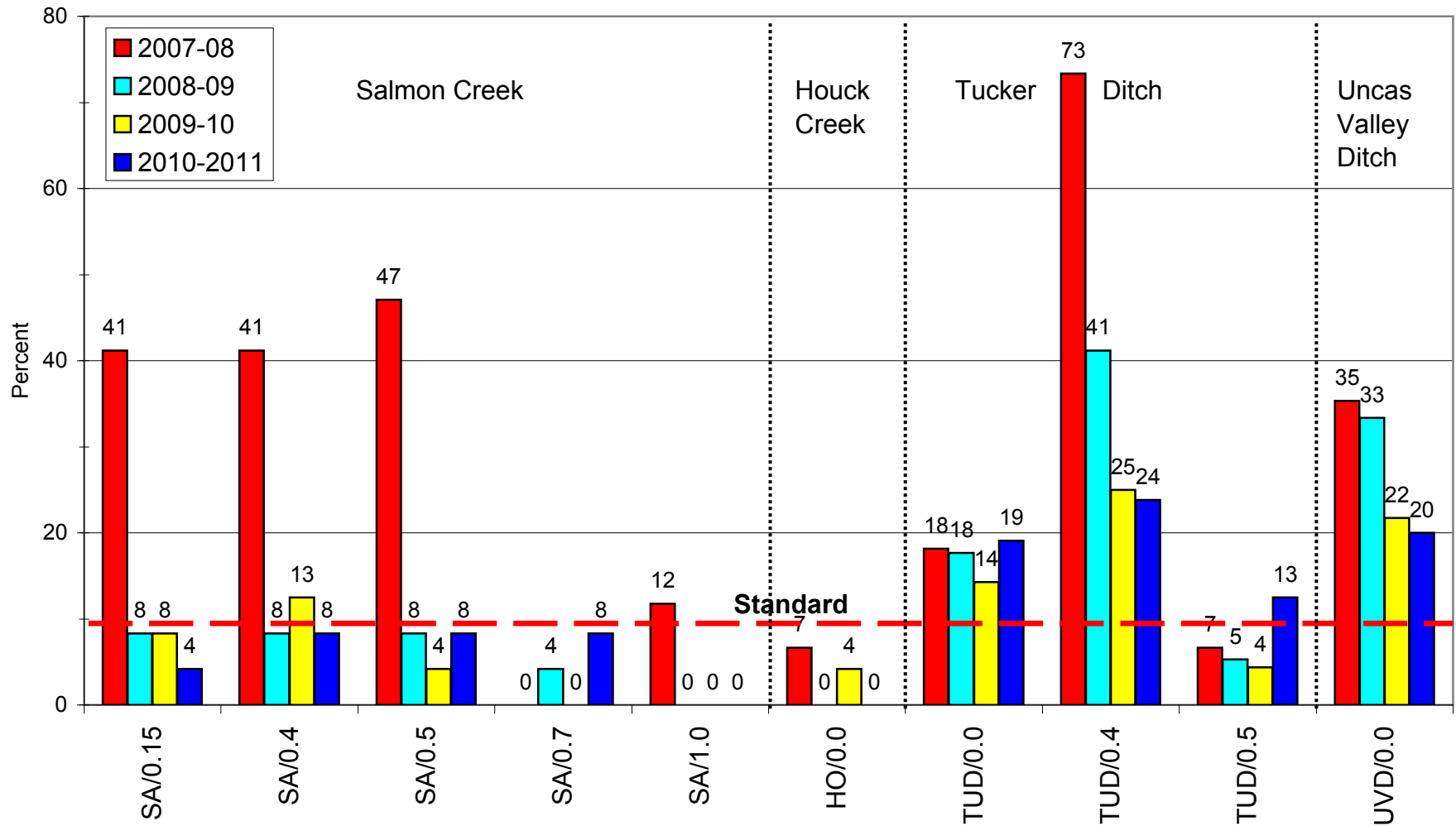


Figure 4. Percentage of samples monitored twice each month in the Salmon Creek watershed from February to September in 2007-08 and from October to September in the other water years that exceeded 100 FC/100mL. M:\Water Quality\DATA\10-11\Disco Bay Final

**Percent of Samples Exceeding 100 FC/100 mL  
2007 - 2011**

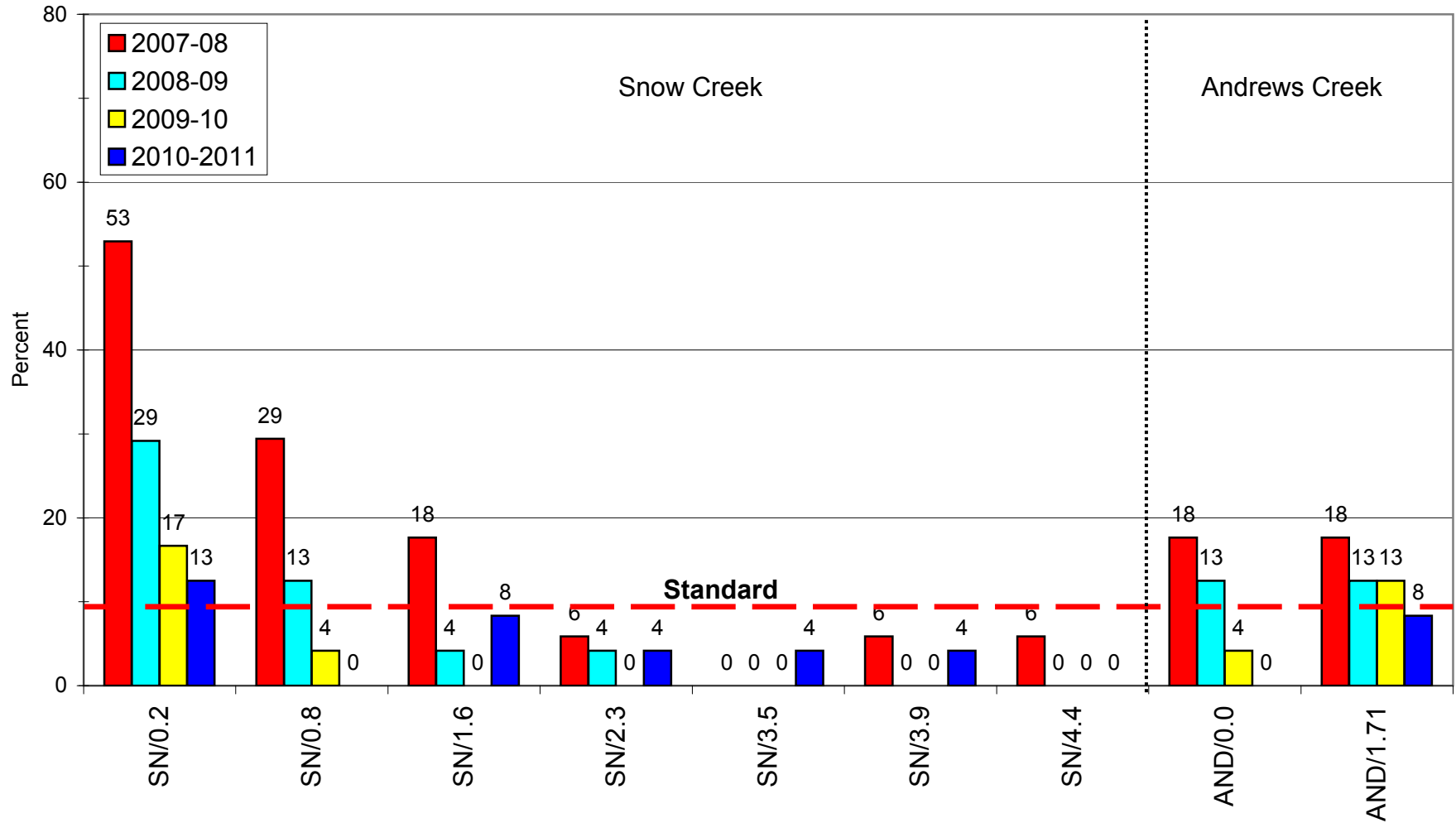


Figure 5. Percentage of samples monitored twice each month in the Snow Creek watershed from February to September in 2007-08 and from October to September in the other water years that exceeded 100 FC/100 mL. M:\Water Quality\DATA\10-11\Disco Bay Final



### Average Fecal Coliform Concentration 1988 - 2011

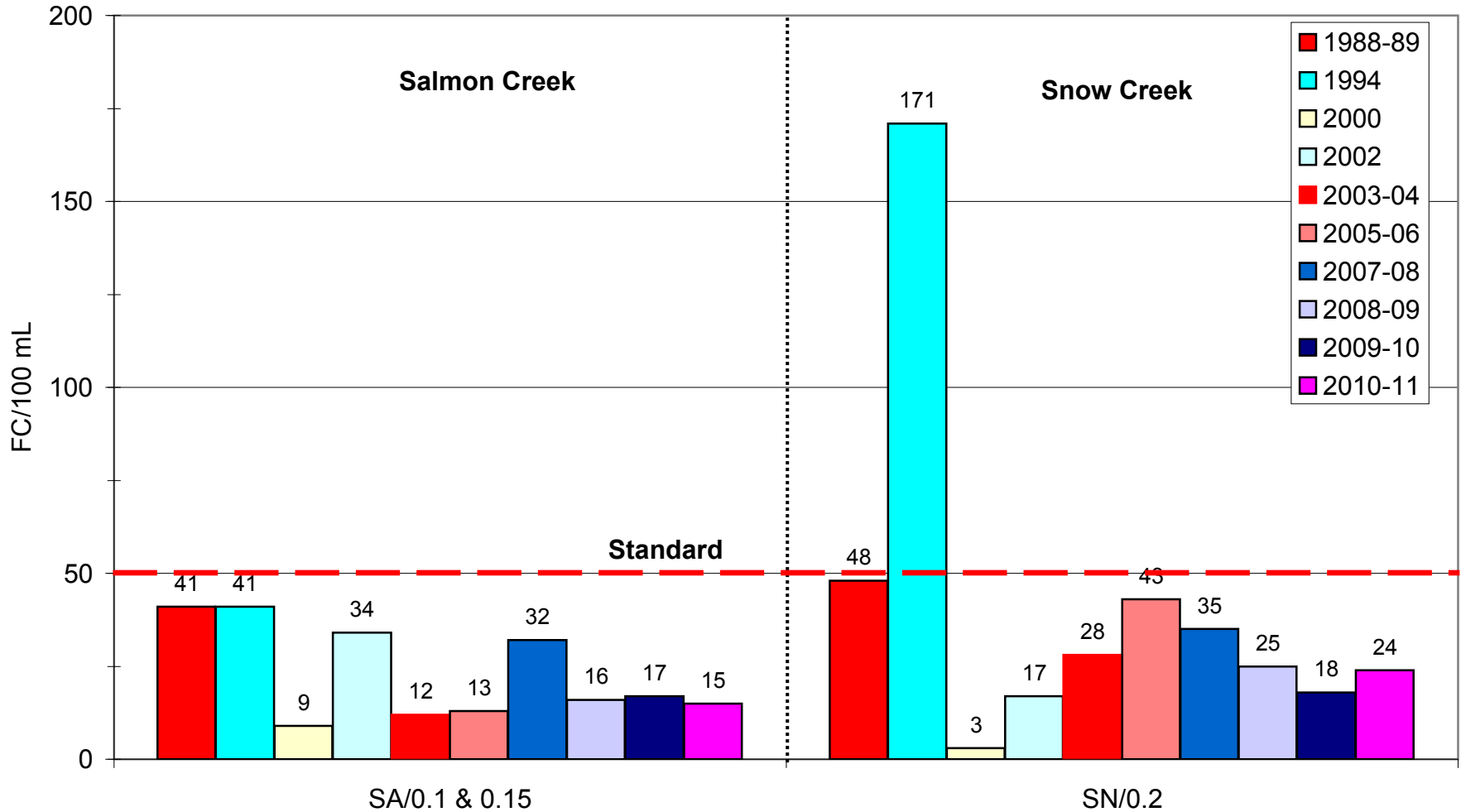


Figure 6. Fecal coliform geometric mean values (GMVs) for downstream stations monitored monthly on Snow Creek and Salmon Creek.

## Fecal Coliform Loading

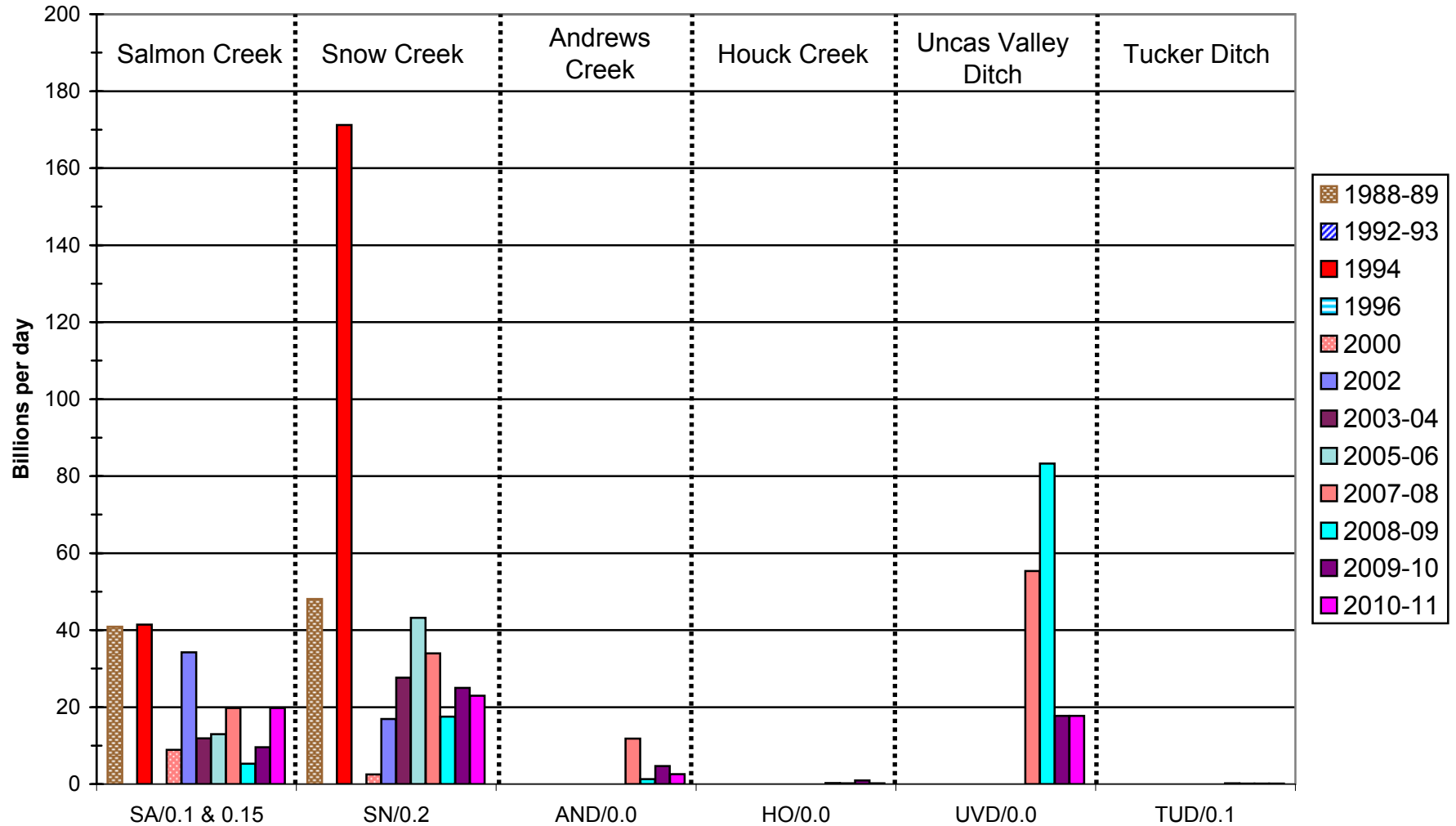


Figure 7. Average fecal coliform loading at downstream stations on Salmon and Snow creeks and their tributaries monitored monthly in certain years.

## **Appendix**

### **Water Quality Data**

Table A-1. Fecal coliform, temperature, and flow data collected bimonthly in the Discovery Bay watershed from February 2007 to September 2011.

DATE	TIME	Station	Replicate	Fecal Coliform (FC/100 mL)	Temp (°C)	Flow (cfs)
2/11/2008	1313	AND/0.0		16	4.53	
2/11/2008	1401	AND/1.71		16	4.93	
2/11/2008	1227	HO/0.0		12	5.65	
2/11/2008	1040	SA/0.15		2	4.62	
2/11/2008	1103	SA/0.4		30	4.61	
2/11/2008	1110	SA/0.5		16	4.61	
2/11/2008	1205	SA/0.7		6	4.65	18.0
2/11/2008	1230	SA/1.0		1	4.60	
2/11/2008	1005	SN/0.2		10	4.43	
2/11/2008	1414	SN/0.8		50	5.38	26.3
2/11/2008	1253	SN/1.6		110	4.81	
2/11/2008	1303	SN/2.3		16	4.76	
2/11/2008	1325	SN/3.5		16	4.37	
2/11/2008	1334	SN/3.9		4	4.25	
2/11/2008	1348	SN/4.4		1	4.16	
2/11/2008	1030	TUD/0.0		4	5.44	
2/11/2008	1030	TUD/0.0	R	6	5.45	
2/11/2008	1030	TUD/0.0	R	2		
2/11/2008	1118	TUD/0.4		22	6.31	
2/11/2008	1120	TUD/0.4	R	18	6.33	
2/11/2008	1120	TUD/0.4	R	32		
2/11/2008	1150	TUD/0.5		1	5.65	
2/11/2008	1100	UVD/0.0		10	5.33	
2/27/2008	1244	AND/0.0		1	6.77	
2/27/2008	1403	AND/1.71		10	6.36	
2/27/2008	1148	HO/0.0		2	5.70	
2/27/2008	1019	SA/0.15		4	5.41	
2/27/2008	1045	SA/0.4		2	5.54	
2/27/2008	1052	SA/0.5		1	5.51	
2/27/2008	1132	SA/0.7		1	5.61	9.8
2/27/2008	1152	SA/1.0		1	5.51	
2/27/2008	1000	SN/0.2		4	5.17	
2/27/2008	1414	SN/0.8		1	6.73	17.7
2/27/2008	1214	SN/1.6		2	5.93	
2/27/2008	1214	SN/1.6	R	4	5.96	
2/27/2008	1214	SN/1.6	R	1		
2/27/2008	1231	SN/2.3		12	6.14	
2/27/2008	1231	SN/2.3	R	6		
2/27/2008	1231	SN/2.3	R	26	6.16	
2/27/2008	1259	SN/3.5		1	5.65	
2/27/2008	1309	SN/3.9		1	5.54	
2/27/2008	1346	SN/4.4		4	5.61	
2/27/2008	1016	TUD/0.0		4	5.14	
2/27/2008	1102	TUD/0.4		262	6.67	
2/27/2008	1121	TUD/0.5		4	5.73	
2/27/2008	1042	UVD/0.0		34	4.75	
3/19/2008	1219	AND/0.0		2	7.65	
3/19/2008	1350	AND/1.71		56	5.54	
3/19/2008	1133	HO/0.0		8	5.17	

Table A-1. Fecal coliform, temperature, and flow data collected bimonthly in the Discovery Bay watershed from February 2007 to September 2011.

DATE	TIME	Station	Replicate	Fecal Coliform (FC/100 mL)	Temp (°C)	Flow (cfs)
3/19/2008	1010	SA/0.15		2	4.55	
3/19/2008	1030	SA/0.4		1	4.62	
3/19/2008	1037	SA/0.5		1	4.65	
3/19/2008	1114	SA/0.7		2	4.70	18.0
3/19/2008	1136	SA/1.0		1	4.65	
3/19/2008	940	SN/0.2		1	4.61	
3/19/2008	1400	SN/0.8		4	6.08	26.3
3/19/2008	1200	SN/1.6		8	5.22	
3/19/2008	1209	SN/2.3		8	5.25	
3/19/2008	1230	SN/3.5		1	4.33	
3/19/2008	1238	SN/3.9		1	4.31	
3/19/2008	1335	SN/4.4		1	4.68	
3/19/2008	1007	TUD/0.0		94	4.76	
3/19/2008	1043	TUD/0.4		2130	6.96	
3/19/2008	1043	TUD/0.4	R	1890		
3/19/2008	1043	TUD/0.4	R	1560	7.04	
3/19/2008	1105	TUD/0.5		2	5.42	
3/19/2008	1027	UVD/0.0		32	4.61	
3/19/2008	1027	UVD/0.0	R	36		
3/19/2008	1027	UVD/0.0	R	20		
4/2/2008	1312	AND/0.0		1	7.53	
4/2/2008	1403	AND/1.71		18	5.77	
4/2/2008	1216	HO/0.0		1	5.47	
4/2/2008	1040	SA/0.15		18	3.85	
4/2/2008	1103	SA/0.4		2	3.97	
4/2/2008	1110	SA/0.5		2	3.95	
4/2/2008	1153	SA/0.7		1	4.16	21.7
4/2/2008	1220	SA/1.0		4	4.15	
4/2/2008	1008	SN/0.2		2	4.13	
4/2/2008	1411	SN/0.8		2	7.05	22.9
4/2/2008	1244	SN/1.6		1	5.98	
4/2/2008	1255	SN/2.3		4	6.25	
4/2/2008	1327	SN/3.5		1	4.71	
4/2/2008	1336	SN/3.9		2	4.55	
4/2/2008	1350	SN/4.4		2	4.55	
4/2/2008	1034	TUD/0.0		18	4.31	
4/2/2008	1034	TUD/0.0	R	14		
4/2/2008	1034	TUD/0.0	R	12	4.41	
4/2/2008	1120	TUD/0.4		96	6.25	
4/2/2008	1120	TUD/0.4	R	118	6.23	
4/2/2008	1120	TUD/0.4	R	70		
4/2/2008	1145	TUD/0.5		1	4.88	
4/2/2008	1056	UVD/0.0		34	4.43	
4/15/2008	1242	AND/0.0		1	9.31	
4/15/2008	1407	AND/1.71		4	5.64	
4/15/2008	1202	HO/0.0		6	6.11	
4/15/2008	1036	SA/0.15		12	5.31	
4/15/2008	1100	SA/0.4		8	5.29	
4/15/2008	1108	SA/0.5		12	5.29	

Table A-1. Fecal coliform, temperature, and flow data collected bimonthly in the Discovery Bay watershed from February 2007 to September 2011.

DATE	TIME	Station	Replicate	Fecal Coliform (FC/100 mL)	Temp (°C)	Flow (cfs)
4/15/2008	1145	SA/0.7		4	5.44	29.9
4/15/2008	1205	SA/1.0		2	5.48	
4/15/2008	1020	SN/0.2		1	5.78	
4/15/2008	1417	SN/0.8		6	6.87	46.5
4/15/2008	1225	SN/1.6		8	6.53	
4/15/2008	1233	SN/2.3		2	6.63	
4/15/2008	1253	SN/3.5		1	4.99	
4/15/2008	1303	SN/3.9		2	4.89	
4/15/2008	1353	SN/4.4		2	4.76	
4/15/2008	1034	TUD/0.0		4	5.82	
4/15/2008	1034	TUD/0.0	R	2	5.82	
4/15/2008	1034	TUD/0.0	R	6		
4/15/2008	1114	TUD/0.4		18	6.98	
4/15/2008	1114	TUD/0.4	R	18	6.99	
4/15/2008	1114	TUD/0.4	R	12		
4/15/2008	1126	TUD/0.5		1	6.18	
4/15/2008	1055	UVD/0.0		252	6.15	
4/30/2008	1304	AND/0.0		10	10.53	
4/30/2008	1354	AND/1.71		8	6.20	
4/30/2008	1159	HO/0.0		2	7.21	
4/30/2008	1025	SA/0.15		2	5.84	
4/30/2008	1051	SA/0.4		1	5.99	
4/30/2008	1057	SA/0.5		4	5.85	
4/30/2008	1142	SA/0.7		8	5.96	27.9
4/30/2008	1201	SA/1.0		2	6.00	
4/30/2008	1000	SN/0.2		10	5.65	
4/30/2008	1404	SN/0.8		2	7.19	59.1
4/30/2008	1245	SN/1.6		2	6.63	
4/30/2008	1254	SN/2.3		1	6.58	
4/30/2008	1319	SN/3.5		4	4.94	
4/30/2008	1327	SN/3.9		10	4.92	
4/30/2008	1339	SN/4.4		1	5.11	
4/30/2008	1023	TUD/0.0		34	6.67	
4/30/2008	1105	TUD/0.4		16	8.74	
4/30/2008	1105	TUD/0.4	R	8		
4/30/2008	1105	TUD/0.4	R	14	8.74	
4/30/2008	1134	TUD/0.5		4	7.16	
4/30/2008	1043	UVD/0.0		138	7.31	
4/30/2008	1043	UVD/0.0	R	160		
4/30/2008	1043	UVD/0.0	R	164	7.33	
5/13/2008	1306	AND/0.0		1	12.18	
5/13/2008	1354	AND/1.71		8	8.49	
5/13/2008	1156	HO/0.0		6	7.99	
5/13/2008	947	SA/0.15		8	7.58	
5/13/2008	1018	SA/0.4		6	7.53	
5/13/2008	1028	SA/0.5		18	7.52	
5/13/2008	1131	SA/0.7		2	7.57	10.5
5/13/2008	1200	SA/1.0		1	7.62	
5/13/2008	921	SN/0.2		14	7.81	

Table A-1. Fecal coliform, temperature, and flow data collected bimonthly in the Discovery Bay watershed from February 2007 to September 2011.

DATE	TIME	Station	Replicate	Fecal Coliform (FC/100 mL)	Temp (°C)	Flow (cfs)
5/13/2008	1405	SN/0.8		6	8.67	27.4
5/13/2008	1241	SN/1.6		6	8.25	
5/13/2008	1256	SN/2.3		2	8.36	
5/13/2008	1319	SN/3.5		1	7.14	
5/13/2008	1328	SN/3.9		2	7.20	
5/13/2008	1338	SN/4.4		6	7.14	
5/13/2008	943	TUD/0.0		68	8.22	
5/13/2008	1038	TUD/0.4		260	8.51	
5/13/2008	1038	TUD/0.4	R	222	8.52	
5/13/2008	1038	TUD/0.4	R	170		
5/13/2008	1119	TUD/0.5		4	8.13	
5/13/2008	1007	UVD/0.0		284	8.82	
5/13/2008	1008	UVD/0.0	R	94		
5/13/2008	1008	UVD/0.0	R	138	8.83	
5/20/2008	1244	AND/0.0		2	16.53	
5/20/2008	1326	AND/1.71		24	11.31	
5/20/2008	1200	HO/0.0		14	11.15	
5/20/2008	1009	SA/0.15		50	10.99	
5/20/2008	1038	SA/0.4		28	10.84	
5/20/2008	1046	SA/0.5		22	10.80	
5/20/2008	1143	SA/0.7		2	10.66	8.9
5/20/2008	1203	SA/1.0		4	10.59	
5/20/2008	950	SN/0.2		54	11.22	
5/20/2008	1337	SN/0.8		14	11.07	26.6
5/20/2008	1220	SN/1.6		18	10.99	
5/20/2008	1232	SN/2.3		24	10.94	
5/20/2008	1256	SN/3.5		4	9.21	
5/20/2008	1303	SN/3.9		1	9.16	
5/20/2008	1313	SN/4.4		2	9.09	
5/20/2008	1006	TUD/0.0		240	11.41	
5/20/2008	1056	TUD/0.4		296	11.02	
5/20/2008	1100	TUD/0.4	R	326	11.01	
5/20/2008	1100	TUD/0.4	R	306		
5/20/2008	1129	TUD/0.5		4	10.60	
5/20/2008	1032	UVD/0.0		46	12.22	
5/20/2008	1034	UVD/0.0	R	266		
5/20/2008	1034	UVD/0.0	R	334	12.22	
6/5/2008	1246	AND/0.0		154	13.93	
6/5/2008	1334	AND/1.71		213	9.09	
6/5/2008	1150	HO/0.0		62	9.12	
6/5/2008	1014	SA/0.15		369	9.13	
6/5/2008	1043	SA/0.4		130	9.00	
6/5/2008	1052	SA/0.5		141	8.97	
6/5/2008	1128	SA/0.7		35	8.94	10.7
6/5/2008	1155	SA/1.0		30	8.92	
6/5/2008	952	SN/0.2		108	9.82	
6/5/2008	954	SN/0.2	R	133		
6/5/2008	954	SN/0.2	R	126	9.82	
6/5/2008	1344	SN/0.8		77	10.38	33.4

Table A-1. Fecal coliform, temperature, and flow data collected bimonthly in the Discovery Bay watershed from February 2007 to September 2011.

DATE	TIME	Station	Replicate	Fecal Coliform (FC/100 mL)	Temp (°C)	Flow (cfs)
6/5/2008	1220	SN/1.6		70	9.93	
6/5/2008	1237	SN/2.3		45	9.98	
6/5/2008	1300	SN/3.5		25	8.23	
6/5/2008	1307	SN/3.9		17	8.20	
6/5/2008	1320	SN/4.4		20	8.18	
6/5/2008	1010	TUD/0.0		134	9.95	
6/5/2008	1010	TUD/0.0	R	115	9.96	
6/5/2008	1010	TUD/0.0	R	147		
6/5/2008	1100	TUD/0.4		497	9.76	
6/5/2008	1120	TUD/0.5		65	9.36	
6/5/2008	1021	UVD/0.0		300	10.21	
6/19/2008	1327	AND/0.0		4	16.16	
6/19/2008	1441	AND/1.71		26	10.03	
6/19/2008	1441	AND/1.71	R	34		
6/19/2008	1441	AND/1.71	R	22		
6/19/2008	1229	HO/0.0		8	10.59	
6/19/2008	1040	SA/0.15		32	9.45	
6/19/2008	1107	SA/0.4		36	9.57	
6/19/2008	1119	SA/0.5		41	9.59	
6/19/2008	1205	SA/0.7		18	9.51	9.9
6/19/2008	1233	SA/1.0		6	9.57	
6/19/2008	1010	SN/0.2		242	10.54	
6/19/2008	1015	SN/0.2	R	330	10.55	
6/19/2008	1015	SN/0.2	R	200		
6/19/2008	1454	SN/0.8		20	12.41	23.3
6/19/2008	1259	SN/1.6		34	11.77	
6/19/2008	1314	SN/2.3		44	12.01	
6/19/2008	1342	SN/3.5		20	9.79	
6/19/2008	1414	SN/3.9		10	9.67	
6/19/2008	1427	SN/4.4		8	9.63	
6/19/2008	1033	TUD/0.0		56	10.02	
6/19/2008	1129	TUD/0.4		1300	13.75	
6/19/2008	1149	TUD/0.5		14	9.52	
6/19/2008	1059	UVD/0.0		118	11.02	
7/2/2008	1406	AND/0.0		184	20.84	
7/2/2008	1450	AND/1.71		86	14.43	
7/2/2008	1306	HO/0.0		104	13.71	
7/2/2008	1034	SA/0.15		462	13.32	
7/2/2008	1101	SA/0.4		602	12.99	
7/2/2008	1112	SA/0.5		214	12.83	
7/2/2008	1213	SA/0.7		42	12.62	4.0
7/2/2008	1311	SA/1.0		32	12.77	
7/2/2008	1003	SN/0.2		346	14.73	
7/2/2008	1006	SN/0.2	R	64	14.75	
7/2/2008	1006	SN/0.2	R	76		
7/2/2008	1502	SN/0.8		52	16.17	9.4
7/2/2008	1338	SN/1.6		72	15.70	
7/2/2008	1349	SN/2.3		68	15.90	
7/2/2008	1417	SN/3.5		58	14.61	



Table A-1. Fecal coliform, temperature, and flow data collected bimonthly in the Discovery Bay watershed from February 2007 to September 2011.

DATE	TIME	Station	Replicate	Fecal Coliform (FC/100 mL)	Temp (°C)	Flow (cfs)
7/2/2008	1425	SN/3.9		68	14.56	
7/2/2008	1436	SN/4.4		30	14.44	
7/2/2008	1032	TUD/0.0		18	14.32	
7/2/2008	1124	TUD/0.4		3040	16.81	
7/2/2008	1127	TUD/0.4	R	2760	16.84	
7/2/2008	1127	TUD/0.4	R	2810		
7/2/2008	1158	TUD/0.5		548	11.98	
7/2/2008	1054	UVD/0.0		54	15.51	
7/15/2008	1244	AND/0.0		14	16.28	
7/15/2008	1332	AND/1.71		142	13.73	
7/15/2008	1126	HO/0.0		44	12.16	
7/15/2008	956	SA/0.15		188	12.28	
7/15/2008	1013	SA/0.4		248	12.16	
7/15/2008	1029	SA/0.5		144	12.09	
7/15/2008	1108	SA/0.7		28	11.79	2.8
7/15/2008	1130	SA/1.0		20	11.78	
7/15/2008	939	SN/0.2		208	13.16	
7/15/2008	1343	SN/0.8		86	15.47	5.4
7/15/2008	1211	SN/1.6		54	13.89	
7/15/2008	1212	SN/1.6	R	58		
7/15/2008	1212	SN/1.6	R	58	13.91	
7/15/2008	1226	SN/2.3		50	14.05	
7/15/2008	1227	SN/2.3	R	52		
7/15/2008	1227	SN/2.3	R	58	14.06	
7/15/2008	1301	SN/3.5		38	13.58	
7/15/2008	1310	SN/3.9		36	13.83	
7/15/2008	1319	SN/4.4		42	13.94	
7/15/2008	1037	TUD/0.4		3950	16.20	
7/15/2008	1055	TUD/0.5		72	11.12	
7/15/2008	1019	UVD/0.0		10	14.08	
7/29/2008	1350	AND/0.0		96	16.07	
7/29/2008	1430	AND/1.71		94	13.31	
7/29/2008	1220	HO/0.0		20	12.83	
7/29/2008	1037	SA/0.15		292	12.02	
7/29/2008	1039	SA/0.15	R	352	12.05	
7/29/2008	1105	SA/0.4		352	12.21	
7/29/2008	1117	SA/0.5		228	12.19	
7/29/2008	1200	SA/0.7		50	12.18	3.1
7/29/2008	1224	SA/1.0		36	11.99	
7/29/2008	1015	SN/0.2		248	13.21	
7/29/2008	1018	SN/0.2	R	292	13.21	
7/29/2008	1439	SN/0.8		166	14.70	4.2
7/29/2008	1326	SN/1.6		130	13.85	
7/29/2008	1338	SN/2.3		96	14.02	
7/29/2008	1401	SN/3.5		78	13.29	
7/29/2008	1407	SN/3.9		40	13.17	
7/29/2008	1417	SN/4.4		32	13.02	
7/29/2008	1127	TUD/0.4		1200	15.99	
7/29/2008	1151	TUD/0.5		54	11.71	

Table A-1. Fecal coliform, temperature, and flow data collected bimonthly in the Discovery Bay watershed from February 2007 to September 2011.

DATE	TIME	Station	Replicate	Fecal Coliform (FC/100 mL)	Temp (°C)	Flow (cfs)
7/29/2008	1101	UVD/0.0		40	13.72	
8/12/2008	1331	AND/0.0		54	15.72	
8/12/2008	1420	AND/1.71		20	13.93	
8/12/2008	1207	HO/0.0		16	13.09	
8/12/2008	1025	SA/0.15		228	13.30	
8/12/2008	1027	SA/0.15	R	248	13.34	
8/12/2008	1027	SA/0.15	R	290		
8/12/2008	1048	SA/0.4		396	13.09	
8/12/2008	1103	SA/0.5		664	12.96	
8/12/2008	1147	SA/0.7		86	12.71	3.1
8/12/2008	1210	SA/1.0		112	12.71	
8/12/2008	1004	SN/0.2		220	13.62	
8/12/2008	1007	SN/0.2	R	176	13.63	
8/12/2008	1007	SN/0.2	R	186		
8/12/2008	1431	SN/0.8		106	15.21	3.7
8/12/2008	1232	SN/1.6		62	14.07	
8/12/2008	1316	SN/2.3		68	14.40	
8/12/2008	1343	SN/3.5		42	14.05	
8/12/2008	1351	SN/3.9		22	13.88	
8/12/2008	1404	SN/4.4		18	13.79	
8/12/2008	1109	TUD/0.4		374		
8/12/2008	1139	TUD/0.5		40	11.98	
8/12/2008	1045	UVD/0.0		40		
8/26/2008	1331	AND/0.0		192	16.02	
8/26/2008	1421	AND/1.71		204	12.49	
8/26/2008	1211	HO/0.0		22	11.84	
8/26/2008	1038	SA/0.15		184	12.21	
8/26/2008	1040	SA/0.15	R	790	12.22	
8/26/2008	1040	SA/0.15	R	292		
8/26/2008	1100	SA/0.4		650	12.35	
8/26/2008	1109	SA/0.5		124	12.22	
8/26/2008	1151	SA/0.7		46	11.87	2.9
8/26/2008	1214	SA/1.0		110	11.87	
8/26/2008	1015	SN/0.2		312	12.42	
8/26/2008	1018	SN/0.2	R	340	12.44	
8/26/2008	1018	SN/0.2	R	384		
8/26/2008	1434	SN/0.8		1280	13.60	7.6
8/26/2008	1237	SN/1.6		730	12.88	
8/26/2008	1322	SN/2.3		76	12.97	
8/26/2008	1346	SN/3.5		80	12.40	
8/26/2008	1355	SN/3.9		330	12.29	
8/26/2008	1406	SN/4.4		300	12.14	
8/26/2008	1123	TUD/0.4		352	17.55	
8/26/2008	1142	TUD/0.5		26	11.79	
8/26/2008	1055	UVD/0.0		260	12.48	
9/10/2008	1321	AND/0.0		60	15.15	
9/10/2008	1434	AND/1.71		50	12.25	
9/10/2008	1053	SA/0.15		522	11.99	
9/10/2008	1055	SA/0.15	R	416	12.05	

Table A-1. Fecal coliform, temperature, and flow data collected bimonthly in the Discovery Bay watershed from February 2007 to September 2011.

DATE	TIME	Station	Replicate	Fecal Coliform (FC/100 mL)	Temp (°C)	Flow (cfs)
9/10/2008	1055	SA/0.15	R	332		
9/10/2008	1114	SA/0.4		226	12.21	
9/10/2008	1146	SA/0.5		236	12.21	
9/10/2008	1208	SA/0.7		82	11.81	2.0
9/10/2008	1228	SA/1.0		36	11.58	
9/10/2008	1026	SN/0.2		168	12.33	
9/10/2008	1029	SN/0.2	R	138	12.34	
9/10/2008	1029	SN/0.2	R	156		
9/10/2008	1446	SN/0.8		118	14.39	3.1
9/10/2008	1250	SN/1.6		68	12.80	
9/10/2008	1304	SN/2.3		126	13.10	
9/10/2008	1333	SN/3.5		32	12.58	
9/10/2008	1347	SN/3.9		22	12.54	
9/10/2008	1417	SN/4.4		34	12.83	
9/10/2008	1111	UVD/0.0		14	11.97	
9/23/2008	1314	AND/0.0		52	13.09	
9/23/2008	1408	AND/1.71		42	9.20	
9/23/2008	1046	SA/0.15		48	9.64	
9/23/2008	1111	SA/0.4		52	9.90	
9/23/2008	1140	SA/0.5		150	10.03	
9/23/2008	1144	SA/0.5	R	68		
9/23/2008	1144	SA/0.5	R	76	10.04	
9/23/2008	1200	SA/0.7		16	9.75	2.0
9/23/2008	1203	SA/0.7	R	10		
9/23/2008	1203	SA/0.7	R	16	9.74	
9/23/2008	1226	SA/1.0		6	9.64	
9/23/2008	1008	SN/0.2		354	10.11	
9/23/2008	1420	SN/0.8		840	11.09	5.0
9/23/2008	1249	SN/1.6		86	10.42	
9/23/2008	1305	SN/2.3		98	10.68	
9/23/2008	1331	SN/3.5		8	9.99	
9/23/2008	1338	SN/3.9		12	9.94	
9/23/2008	1350	SN/4.4		18	10.01	
9/23/2008	1107	UVD/0.0		8	9.43	
10/7/2008	1322	AND/0.0		12	13.79	
10/7/2008	1422	AND/1.71		58	11.09	
10/7/2008	1031	SA/0.15		604	10.78	
10/7/2008	1035	SA/0.15	R	582	10.82	
10/7/2008	1035	SA/0.15	R	520		
10/7/2008	1102	SA/0.4		194	10.89	
10/7/2008	1111	SA/0.5		196	10.90	
10/7/2008	1137	SA/0.7		30	10.60	2.5
10/7/2008	1155	SA/1.0		8	10.40	
10/7/2008	1012	SN/0.2		64	11.34	
10/7/2008	1014	SN/0.2	R	52		
10/7/2008	1014	SN/0.2	R	60	11.34	
10/7/2008	1434	SN/0.8		50	12.19	7.5
10/7/2008	1224	SN/1.6		14	11.77	
10/7/2008	1312	SN/2.3		20	12.09	

Table A-1. Fecal coliform, temperature, and flow data collected bimonthly in the Discovery Bay watershed from February 2007 to September 2011.

DATE	TIME	Station	Replicate	Fecal Coliform (FC/100 mL)	Temp (°C)	Flow (cfs)
10/7/2008	1335	SN/3.5		22	10.82	
10/7/2008	1342	SN/3.9		24	10.74	
10/7/2008	1405	SN/4.4		4	10.66	
10/7/2008	1056	UVD/0.0		10	10.43	
10/21/2008	1310	AND/0.0		20	9.76	
10/21/2008	1353	AND/1.71		14	6.41	
10/21/2008	1154	HO/0.0		12	7.18	
10/21/2008	1035	SA/0.15		46	6.30	
10/21/2008	1034	SA/0.15	R	26	6.32	
10/21/2008	1034	SA/0.15	R	34		
10/21/2008	1055	SA/0.4		52	6.66	
10/21/2008	1101	SA/0.5		56	6.69	
10/21/2008	1123	SA/0.7		10	6.52	2.9
10/21/2008	1157	SA/1.0		2	6.37	
10/21/2008	1012	SN/0.2		18	6.71	
10/21/2008	1014	SN/0.2	R	24		
10/21/2008	1014	SN/0.2	R	28	6.71	
10/21/2008	1404	SN/0.8		8	7.89	5.2
10/21/2008	1223	SN/1.6		16	7.06	
10/21/2008	1300	SN/2.3		12	7.52	
10/21/2008	1323	SN/3.5		2	6.67	
10/21/2008	1331	SN/3.9		1	6.49	
10/21/2008	1341	SN/4.4		2	6.48	
10/21/2008	1053	UVD/0.0		448	5.47	
11/4/2008	1258	AND/0.0		12	9.68	
11/4/2008	1344	AND/1.71		146	7.85	
11/4/2008	1148	HO/0.0		78	8.00	
11/4/2008	1014	SA/0.15		50	7.79	
11/4/2008	1024	SA/0.15	R	102	7.81	
11/4/2008	1024	SA/0.15	R	110	7.81	
11/4/2008	1041	SA/0.4		86	7.83	
11/4/2008	1049	SA/0.5		34	7.82	
11/4/2008	1130	SA/0.7		60	7.80	12.2
11/4/2008	1133	SA/0.7	R	58	7.81	
11/4/2008	1133	SA/0.7	R	42	7.81	
11/4/2008	1150	SA/1.0		34	7.80	
11/4/2008	957	SN/0.2		450	8.12	
11/4/2008	1355	SN/0.8		40	8.26	16.1
11/4/2008	1212	SN/1.6		24	7.98	
11/4/2008	1250	SN/2.3		40	7.85	
11/4/2008	1311	SN/3.5		40	7.49	
11/4/2008	1318	SN/3.9		32	7.46	
11/4/2008	1330	SN/4.4		18	7.41	
11/4/2008	1011	TUD/0.0		976	7.83	
11/4/2008	1102	TUD/0.4		744	9.21	
11/4/2008	1119	TUD/0.5		1	8.41	
11/4/2008	1039	UVD/0.0		376	8.31	
11/18/2008	1312	AND/0.0		1	9.33	
11/18/2008	1405	AND/1.71		6	8.24	

Table A-1. Fecal coliform, temperature, and flow data collected bimonthly in the Discovery Bay watershed from February 2007 to September 2011.

DATE	TIME	Station	Replicate	Fecal Coliform (FC/100 mL)	Temp (°C)	Flow (cfs)
11/18/2008	1205	HO/0.0		4	8.00	
11/18/2008	1037	SA/0.15		4	8.20	
11/18/2008	1056	SA/0.4		1	8.14	
11/18/2008	1106	SA/0.5		2	8.15	
11/18/2008	1140	SA/0.7		2	8.12	3.3
11/18/2008	1144	SA/0.7	R	2	8.13	
11/18/2008	1144	SA/0.7	R	1	8.13	
11/18/2008	1208	SA/1.0		1	8.03	
11/18/2008	1011	SN/0.2		150	8.60	
11/18/2008	1013	SN/0.2	R	148		
11/18/2008	1013	SN/0.2	R	192	8.60	
11/18/2008	1416	SN/0.8		50	8.93	12.2
11/18/2008	1231	SN/1.6		8	8.76	
11/18/2008	1304	SN/2.3		2	8.88	
11/18/2008	1323	SN/3.5		2	8.37	
11/18/2008	1330	SN/3.9		1	8.26	
11/18/2008	1340	SN/4.4		1	8.16	
11/18/2008	1033	TUD/0.0		6	8.01	
11/18/2008	1114	TUD/0.4		262	8.62	
11/18/2008	1132	TUD/0.5		1	8.38	
11/18/2008	1051	UVD/0.0		4	8.86	
12/2/2008	1304	AND/0.0		1	8.07	
12/2/2008	1355	AND/1.71		8	8.25	
12/2/2008	1200	HO/0.0		18	7.64	
12/2/2008	1036	SA/0.15		12	7.78	
12/2/2008	1037	SA/0.15	R	48	7.79	
12/2/2008	1037	SA/0.15	R	10		
12/2/2008	1057	SA/0.4		8	7.79	
12/2/2008	1101	SA/0.5		10	7.77	
12/2/2008	1142	SA/0.7		6	7.85	2.9
12/2/2008	1203	SA/1.0		20	7.78	
12/2/2008	1010	SN/0.2		4	8.05	
12/2/2008	1012	SN/0.2	R	54		
12/2/2008	1012	SN/0.2	R	36	8.06	
12/2/2008	1408	SN/0.8		18	8.95	11.5
12/2/2008	1244	SN/1.6		1	8.70	
12/2/2008	1254	SN/2.3		8	8.62	
12/2/2008	1323	SN/3.5		10	8.35	
12/2/2008	1330	SN/3.9		6	8.22	
12/2/2008	1341	SN/4.4		2	8.15	
12/2/2008	1032	TUD/0.0		8	7.71	
12/2/2008	1109	TUD/0.4		222	8.77	
12/2/2008	1134	TUD/0.5		1	7.90	
12/2/2008	1052	UVD/0.0		1	8.22	
12/16/2008	1317	AND/0.0		1	1.96	
12/16/2008	1358	AND/1.71		10	0.11	
12/16/2008	1213	HO/0.0		6	0.91	
12/16/2008	1042	SA/0.15		34	0.17	
12/16/2008	1045	SA/0.15	R	2	0.18	

Table A-1. Fecal coliform, temperature, and flow data collected bimonthly in the Discovery Bay watershed from February 2007 to September 2011.

DATE	TIME	Station	Replicate	Fecal Coliform (FC/100 mL)	Temp (°C)	Flow (cfs)
12/16/2008	1045	SA/0.15	R	4		
12/16/2008	1104	SA/0.4		2	0.38	
12/16/2008	1111	SA/0.5		2	0.44	
12/16/2008	1157	SA/0.7		2	0.49	2.5
12/16/2008	1215	SA/1.0		4	0.35	
12/16/2008	1017	SN/0.2		8	0.01	
12/16/2008	1408	SN/0.8		6	0.25	9.5
12/16/2008	1257	SN/1.6		2	0.28	
12/16/2008	1307	SN/2.3		2	0.78	
12/16/2008	1327	SN/3.5		1	0.04	
12/16/2008	1334	SN/3.9		4	0.00	
12/16/2008	1344	SN/4.4		4	0.10	
12/16/2008	1038	TUD/0.0		18	0.31	
12/16/2008	1128	TUD/0.4		170	0.05	
12/16/2008	1130	TUD/0.4	R	120		
12/16/2008	1130	TUD/0.4	R	126	0.14	
12/16/2008	1149	TUD/0.5		1	2.17	
12/16/2008	1101	UVD/0.0		2	0.62	
1/6/2009	1258	AND/0.0		10	2.29	
1/6/2009	1343	AND/1.71		34	3.25	
1/6/2009	1144	HO/0.0		4	3.01	
1/6/2009	1037	SA/0.15		22	3.00	
1/6/2009	1039	SA/0.15	R	18	3.00	
1/6/2009	1039	SA/0.15	R	20		
1/6/2009	1055	SA/0.4		22	2.89	
1/6/2009	1100	SA/0.5		18	2.88	
1/6/2009	1129	SA/0.7		16	2.87	5.9
1/6/2009	1146	SA/1.0		1	2.79	
1/6/2009	1014	SN/0.2		10	2.97	
1/6/2009	1015	SN/0.2	R	16		
1/6/2009	1015	SN/0.2	R	22	2.97	
1/6/2009	1355	SN/0.8		32	3.53	17.3
1/6/2009	1236	SN/1.6		4	3.12	
1/6/2009	1245	SN/2.3		10	3.03	
1/6/2009	1311	SN/3.5		4	2.85	
1/6/2009	1320	SN/3.9		2	2.76	
1/6/2009	1330	SN/4.4		8	2.70	
1/6/2009	1032	TUD/0.0		8	3.96	
1/6/2009	1106	TUD/0.4		54	4.14	
1/6/2009	1122	TUD/0.5		10	3.60	
1/6/2009	1051	UVD/0.0		6	4.16	
1/20/2009	1234	AND/0.0		1	3.56	
1/20/2009	1313	AND/1.71		16	2.34	
1/20/2009	1127	HO/0.0		2	2.43	
1/20/2009	1020	SA/0.15		4	2.25	
1/20/2009	1036	SA/0.4		52	2.32	
1/20/2009	1042	SA/0.5		32	2.31	
1/20/2009	1111	SA/0.7		2	2.29	13.2
1/20/2009	1129	SA/1.0		10	2.29	

Table A-1. Fecal coliform, temperature, and flow data collected bimonthly in the Discovery Bay watershed from February 2007 to September 2011.

DATE	TIME	Station	Replicate	Fecal Coliform (FC/100 mL)	Temp (°C)	Flow (cfs)
1/20/2009	954	SN/0.2		2	2.15	
1/20/2009	956	SN/0.2	R	8		
1/20/2009	956	SN/0.2	R	8	2.15	
1/20/2009	1325	SN/0.8		2	2.94	26.4
1/20/2009	1327	SN/0.8	R	12		
1/20/2009	1327	SN/0.8	R	12	2.94	
1/20/2009	1148	SN/1.6		2	2.68	
1/20/2009	1224	SN/2.3		2	2.94	
1/20/2009	1244	SN/3.5		1	2.67	
1/20/2009	1251	SN/3.9		1	2.65	
1/20/2009	1303	SN/4.4		1	2.67	
1/20/2009	1016	TUD/0.0		96	1.16	
1/20/2009	1049	TUD/0.4		80	3.29	
1/20/2009	1104	TUD/0.5		2	3.01	
1/20/2009	1033	UVD/0.0		16	1.20	
2/10/2009	1236	AND/0.0		1	3.36	
2/10/2009	1314	AND/1.71		14	2.23	
2/10/2009	1124	HO/0.0		1	2.76	
2/10/2009	1016	SA/0.15		1	2.46	
2/10/2009	1030	SA/0.4		2	2.48	
2/10/2009	1035	SA/0.5		4	2.46	
2/10/2009	1108	SA/0.7		1	2.45	6.2
2/10/2009	1126	SA/1.0		24	2.39	
2/10/2009	951	SN/0.2		4	2.60	
2/10/2009	954	SN/0.2	R	6	2.60	
2/10/2009	954	SN/0.2	R	4	2.60	
2/10/2009	1324	SN/0.8		6	2.97	10.0
2/10/2009	1144	SN/1.6		1	2.64	
2/10/2009	1228	SN/2.3		1	2.69	
2/10/2009	1245	SN/3.5		4	2.04	
2/10/2009	1254	SN/3.9		24	2.01	
2/10/2009	1303	SN/4.4		2	1.93	
2/10/2009	1010	TUD/0.0		16	2.20	
2/10/2009	1012	TUD/0.0	R	6	2.20	
2/10/2009	1012	TUD/0.0	R	6	2.20	
2/10/2009	1042	TUD/0.4		3330	3.01	
2/10/2009	1057	TUD/0.5		1	3.08	
2/10/2009	1027	UVD/0.0		16	2.27	
2/24/2009	1243	AND/0.0		2	6.52	
2/24/2009	1325	AND/1.71		42	6.10	
2/24/2009	1138	HO/0.0		16	5.54	
2/24/2009	1022	SA/0.15		18	5.57	
2/24/2009	1040	SA/0.4		10	5.53	
2/24/2009	1045	SA/0.5		8	5.52	
2/24/2009	1120	SA/0.7		8	5.53	10.8
2/24/2009	1141	SA/1.0		1	5.37	
2/24/2009	1000	SN/0.2		12	5.37	
2/24/2009	1002	SN/0.2	R	10		
2/24/2009	1002	SN/0.2	R	10	5.38	

Table A-1. Fecal coliform, temperature, and flow data collected bimonthly in the Discovery Bay watershed from February 2007 to September 2011.

DATE	TIME	Station	Replicate	Fecal Coliform (FC/100 mL)	Temp (°C)	Flow (cfs)
2/24/2009	1337	SN/0.8		6	6.62	16.8
2/24/2009	1201	SN/1.6		2	6.00	
2/24/2009	1232	SN/2.3		4	6.54	
2/24/2009	1253	SN/3.5		8	5.32	
2/24/2009	1302	SN/3.9		4	5.28	
2/24/2009	1313	SN/4.4		2	5.41	
2/24/2009	1017	TUD/0.0		268	5.48	
2/24/2009	1052	TUD/0.4		202	6.96	
2/24/2009	1054	TUD/0.4	R	232	7.07	
2/24/2009	1054	TUD/0.4	R	228		
2/24/2009	1113	TUD/0.5		6	5.49	
2/24/2009	1037	UVD/0.0		148	5.22	
3/3/2009	1253	AND/0.0		4	6.78	
3/3/2009	1337	AND/1.71		4	5.57	
3/3/2009	1145	HO/0.0		4	5.39	
3/3/2009	1021	SA/0.15		4	4.49	
3/3/2009	1051	SA/0.4		2	4.60	
3/3/2009	1045	SA/0.5		2	4.51	
3/3/2009	1129	SA/0.7		1	4.64	60.8
3/3/2009	1148	SA/1.0		1	4.64	
3/3/2009	1000	SN/0.2		28	4.61	
3/3/2009	1355	SN/0.8		10	6.10	58.1
3/3/2009	1230	SN/1.6		1	5.51	
3/3/2009	1243	SN/2.3		10	5.58	
3/3/2009	1306	SN/3.5		6	4.86	
3/3/2009	1316	SN/3.9		4	4.78	
3/3/2009	1326	SN/4.4		4	4.76	
3/3/2009	1016	TUD/0.0		34	5.16	
3/3/2009	1017	TUD/0.0	R	56	5.17	
3/3/2009	1017	TUD/0.0	R	52		
3/3/2009	1100	TUD/0.4		82	6.39	
3/3/2009	1102	TUD/0.4	R	86	6.43	
3/3/2009	1102	TUD/0.4	R	82		
3/3/2009	1118	TUD/0.5		6	5.51	
3/3/2009	1036	UVD/0.0		1	5.17	
3/24/2009	1251	AND/0.0		1	7.46	
3/24/2009	1337	AND/1.71		6	5.39	
3/24/2009	1145	HO/0.0		2	4.77	
3/24/2009	1034	SA/0.15		4	4.40	
3/24/2009	1049	SA/0.4		4	4.41	
3/24/2009	1055	SA/0.5		4	4.41	
3/24/2009	1129	SA/0.7		1	4.42	9.7
3/24/2009	1148	SA/1.0		1	4.38	
3/24/2009	1004	SN/0.2		1	4.57	
3/24/2009	1006	SN/0.2	R	8		
3/24/2009	1006	SN/0.2	R	4	4.58	
3/24/2009	1347	SN/0.8		4	6.19	21.9
3/24/2009	1232	SN/1.6		4	5.76	
3/24/2009	1243	SN/2.3		1	5.88	



Table A-1. Fecal coliform, temperature, and flow data collected bimonthly in the Discovery Bay watershed from February 2007 to September 2011.

DATE	TIME	Station	Replicate	Fecal Coliform (FC/100 mL)	Temp (°C)	Flow (cfs)
3/24/2009	1306	SN/3.5		1	4.74	
3/24/2009	1313	SN/3.9		1	4.63	
3/24/2009	1325	SN/4.4		1	4.59	
3/24/2009	1028	TUD/0.0		8	4.72	
3/24/2009	1031	TUD/0.0	R	4	4.75	
3/24/2009	1031	TUD/0.0	R	4		
3/24/2009	1102	TUD/0.4		4	6.96	
3/24/2009	1121	TUD/0.5		10	5.13	
3/24/2009	1047	UVD/0.0		2	4.56	
4/7/2009	1304	AND/0.0		2	10.24	
4/7/2009	1355	AND/1.71		2	7.84	
4/7/2009	1153	HO/0.0		1	6.38	
4/7/2009	1019	SA/0.15		1	6.22	
4/7/2009	1022	SA/0.15	R	1	6.23	
4/7/2009	1022	SA/0.15	R	2		
4/7/2009	1039	SA/0.4		2	6.28	
4/7/2009	1045	SA/0.5		1	6.27	
4/7/2009	1136	SA/0.7		1	6.42	21.4
4/7/2009	1200	SA/1.0		1	6.44	
4/7/2009	955	SN/0.2		2	6.06	
4/7/2009	958	SN/0.2	R	1	6.07	
4/7/2009	958	SN/0.2	R	4		
4/7/2009	1405	SN/0.8		2	9.22	40.1
4/7/2009	1244	SN/1.6		2	8.30	
4/7/2009	1256	SN/2.3		1	8.41	
4/7/2009	1324	SN/3.5		1	6.72	
4/7/2009	1331	SN/3.9		2	6.63	
4/7/2009	1342	SN/4.4		1	6.61	
4/7/2009	1016	TUD/0.0		1	5.68	
4/7/2009	1053	TUD/0.4		2	8.82	
4/7/2009	1129	TUD/0.5		2	6.79	
4/7/2009	1036	UVD/0.0		16	5.42	
4/21/2009	1314	AND/0.0		1	14.45	
4/21/2009	1404	AND/1.71		2	11.57	
4/21/2009	1152	HO/0.0		12	9.05	
4/21/2009	1027	SA/0.15		2	8.74	
4/21/2009	1029	SA/0.15	R	4	8.76	
4/21/2009	1029	SA/0.15	R	2		
4/21/2009	1046	SA/0.4		1	8.72	
4/21/2009	1052	SA/0.5		4	8.69	
4/21/2009	1130	SA/0.7		1	8.52	6.9
4/21/2009	1155	SA/1.0		1	8.39	
4/21/2009	1004	SN/0.2		6	9.09	
4/21/2009	1008	SN/0.2	R	2		
4/21/2009	1008	SN/0.2	R	2	9.12	
4/21/2009	1413	SN/0.8		10	13.01	18.6
4/21/2009	1254	SN/1.6		1	11.79	
4/21/2009	1305	SN/2.3		1	12.15	
4/21/2009	1328	SN/3.5		2	10.60	

Table A-1. Fecal coliform, temperature, and flow data collected bimonthly in the Discovery Bay watershed from February 2007 to September 2011.

DATE	TIME	Station	Replicate	Fecal Coliform (FC/100 mL)	Temp (°C)	Flow (cfs)
4/21/2009	1338	SN/3.9		8	10.55	
4/21/2009	1351	SN/4.4		2	10.47	
4/21/2009	1023	TUD/0.0		28	8.50	
4/21/2009	1059	TUD/0.4		6	11.43	
4/21/2009	1116	TUD/0.5		1	8.40	
4/21/2009	1044	UVD/0.0		22	8.73	
5/13/2009	1103	AND/0.0		1	13.37	
5/13/2009	1157	AND/1.71		16	7.68	
5/13/2009	1026	HO/0.0		10	7.71	
5/13/2009	910	SA/0.15		24	7.69	
5/13/2009	912	SA/0.15	R	24		
5/13/2009	912	SA/0.15	R	32	7.69	
5/13/2009	932	SA/0.4		4	7.59	
5/13/2009	937	SA/0.5		6	7.59	
5/13/2009	1012	SA/0.7		6	7.60	22.3
5/13/2009	1029	SA/1.0		1	7.58	
5/13/2009	847	SN/0.2		14	8.65	
5/13/2009	849	SN/0.2	R	6		
5/13/2009	849	SN/0.2	R	16	8.65	
5/13/2009	1209	SN/0.8		14	9.07	34.5
5/13/2009	1046	SN/1.6		4	8.90	
5/13/2009	1054	SN/2.3		6	8.97	
5/13/2009	1114	SN/3.5		1	6.92	
5/13/2009	1123	SN/3.9		6	6.89	
5/13/2009	1144	SN/4.4		10	6.88	
5/13/2009	907	TUD/0.0		14	8.25	
5/13/2009	945	TUD/0.4		12	8.73	
5/13/2009	1001	TUD/0.5		1	8.21	
5/13/2009	929	UVD/0.0		348	8.67	
5/27/2009	1134	AND/0.0		2	16.53	
5/27/2009	1246	AND/1.71		2	10.35	
5/27/2009	1048	HO/0.0		4	9.82	
5/27/2009	918	SA/0.15		4	9.65	
5/27/2009	920	SA/0.15	R	4	9.65	
5/27/2009	912	SA/0.15	R	6		
5/27/2009	946	SA/0.4		36	9.46	
5/27/2009	954	SA/0.5		82	9.43	
5/27/2009	1033	SA/0.7		8	9.41	9.7
5/27/2009	1052	SA/1.0		4	9.38	
5/27/2009	854	SN/0.2		36	11.77	
5/27/2009	856	SN/0.2	R	58		
5/27/2009	856	SN/0.2	R	48	11.77	
5/27/2009	1257	SN/0.8		24	12.98	23.6
5/27/2009	1112	SN/1.6		4	12.07	
5/27/2009	1120	SN/2.3		2	12.27	
5/27/2009	1150	SN/3.5		12	9.62	
5/27/2009	1200	SN/3.9		16	9.61	
5/27/2009	1213	SN/4.4		20	9.72	
5/27/2009	912	TUD/0.0		84	10.17	

Table A-1. Fecal coliform, temperature, and flow data collected bimonthly in the Discovery Bay watershed from February 2007 to September 2011.

DATE	TIME	Station	Replicate	Fecal Coliform (FC/100 mL)	Temp (°C)	Flow (cfs)
5/27/2009	1008	TUD/0.4		4	10.40	
5/27/2009	1027	TUD/0.5		22	9.71	
5/27/2009	942	UVD/0.0		40	10.75	
6/3/2009	1149	AND/0.0		2	20.40	
6/3/2009	1304	AND/1.71		36	14.39	
6/3/2009	1100	HO/0.0		20	13.74	
6/3/2009	922	SA/0.15		8	12.64	
6/3/2009	925	SA/0.15	R	18	12.65	
6/3/2009	925	SA/0.15	R	8		
6/3/2009	949	SA/0.4		16	12.62	
6/3/2009	957	SA/0.5		30	12.51	
6/3/2009	1031	SA/0.7		18	12.29	4.4
6/3/2009	1105	SA/1.0		10	12.31	
6/3/2009	901	SN/0.2		16	14.51	
6/3/2009	903	SN/0.2	R	30		
6/3/2009	903	SN/0.2	R	26	14.52	
6/3/2009	1315	SN/0.8		34	17.06	12.0
6/3/2009	1128	SN/1.6		20	15.68	
6/3/2009	1139	SN/2.3		12	16.13	
6/3/2009	1201	SN/3.5		8	13.80	
6/3/2009	1208	SN/3.9		1	13.89	
6/3/2009	1251	SN/4.4		4	14.57	
6/3/2009	920	TUD/0.0		22	11.87	
6/3/2009	1005	TUD/0.4		254	14.28	
6/3/2009	1024	TUD/0.5		14	11.64	
6/3/2009	944	UVD/0.0		10	15.04	
6/30/2009	1329	AND/0.0		2	14.58	
6/30/2009	1429	AND/1.71		30	12.49	
6/30/2009	1207	HO/0.0		34	14.13	
6/30/2009	1035	SA/0.15		48	11.47	
6/30/2009	1037	SA/0.15	R	46		
6/30/2009	1037	SA/0.15	R	58	11.49	
6/30/2009	1058	SA/0.4		24	11.56	
6/30/2009	1106	SA/0.5		8	11.39	
6/30/2009	1146	SA/0.7		12	11.11	2.4
6/30/2009	1212	SA/1.0		10	11.12	
6/30/2009	1005	SN/0.2		46	11.99	
6/30/2009	1008	SN/0.2	R	54	12.00	
6/30/2009	1008	SN/0.2	R	70		
6/30/2009	1438	SN/0.8		46	15.46	3.4
6/30/2009	1306	SN/1.6		32	13.52	
6/30/2009	1318	SN/2.3		38	13.49	
6/30/2009	1341	SN/3.5		26	12.74	
6/30/2009	1348	SN/3.9		14	13.12	
6/30/2009	1417	SN/4.4		18	13.77	
6/30/2009	1028	TUD/0.0		10	9.77	
6/30/2009	1116	TUD/0.4		26	13.61	
6/30/2009	1138	TUD/0.5		58	10.67	
6/30/2009	1054	UVD/0.0		8	12.05	

Table A-1. Fecal coliform, temperature, and flow data collected bimonthly in the Discovery Bay watershed from February 2007 to September 2011.

DATE	TIME	Station	Replicate	Fecal Coliform (FC/100 mL)	Temp (°C)	Flow (cfs)
7/14/2009	1248	AND/0.0		40	14.05	
7/14/2009	1341	AND/1.71		142	13.53	
7/14/2009	1139	HO/0.0		34	14.45	
7/14/2009	1019	SA/0.15		58	12.46	
7/14/2009	1041	SA/0.4		58	12.45	
7/14/2009	1047	SA/0.5		84	12.34	
7/14/2009	1121	SA/0.7		30	12.34	2.2
7/14/2009	1122	SA/0.7	R	40	12.36	
7/14/2009	1122	SA/0.7	R	44		
7/14/2009	1142	SA/1.0		32	12.20	
7/14/2009	958	SN/0.2		118	13.51	
7/14/2009	1354	SN/0.8		182	15.92	3.4
7/14/2009	1227	SN/1.6		84	13.80	
7/14/2009	1238	SN/2.3		60	14.00	
7/14/2009	1303	SN/3.5		98	13.36	
7/14/2009	1304	SN/3.5	R	66	13.36	
7/14/2009	1304	SN/3.5	R	58		
7/14/2009	1313	SN/3.9		46	13.41	
7/14/2009	1323	SN/4.4		42	13.42	
7/14/2009	1015	TUD/0.0		186	13.69	
7/14/2009	1057	TUD/0.4		24	13.34	
7/14/2009	1113	TUD/0.5		84	12.12	
7/14/2009	1038	UVD/0.0		2700	14.06	
7/28/2009	1245	AND/0.0		110	16.78	
7/28/2009	1337	AND/1.71		188	18.97	
7/28/2009	1132	HO/0.0		24	17.67	
7/28/2009	1014	SA/0.15		84	16.25	
7/28/2009	1036	SA/0.4		86	16.44	
7/28/2009	1044	SA/0.5		70	16.25	
7/28/2009	1113	SA/0.7		50	15.87	1.7
7/28/2009	1114	SA/0.7	R	58		
7/28/2009	1114	SA/0.7	R	42	15.88	
7/28/2009	1135	SA/1.0		44	15.67	
7/28/2009	955	SN/0.2		216	17.99	
7/28/2009	1358	SN/0.8		42	20.95	2.3
7/28/2009	1221	SN/1.6		58	18.42	
7/28/2009	1223	SN/1.6	R	42	18.44	
7/28/2009	1223	SN/1.6	R	42		
7/28/2009	1233	SN/2.3		28	18.89	
7/28/2009	1258	SN/3.5		52	18.56	
7/28/2009	1311	SN/3.9		14	18.52	
7/28/2009	1325	SN/4.4		10	18.63	
7/28/2009	1104	TUD/0.5		94	13.45	
7/28/2009	1031	UVD/0.0		874	16.49	
8/11/2009	1316	AND/0.0		180	14.08	
8/11/2009	1359	AND/1.71		38	14.34	
8/11/2009	1208	HO/0.0		10	15.62	
8/11/2009	1100	SA/0.15		250	13.71	
8/11/2009	1120	SA/0.4		166	13.62	

Table A-1. Fecal coliform, temperature, and flow data collected bimonthly in the Discovery Bay watershed from February 2007 to September 2011.

DATE	TIME	Station	Replicate	Fecal Coliform (FC/100 mL)	Temp (°C)	Flow (cfs)
8/11/2009	1126	SA/0.5		166	13.54	
8/11/2009	1149	SA/0.7		128	13.39	3.9
8/11/2009	1151	SA/0.7	R	24		
8/11/2009	1151	SA/0.7	R	26	13.39	
8/11/2009	1211	SA/1.0		50	13.29	
8/11/2009	1041	SN/0.2		324	14.91	
8/11/2009	1410	SN/0.8		186	15.59	4.3
8/11/2009	1258	SN/1.6		208	14.81	
8/11/2009	1307	SN/2.3		202	14.66	
8/11/2009	1328	SN/3.5		70	14.16	
8/11/2009	1336	SN/3.9		38	14.05	
8/11/2009	1348	SN/4.4		1	14.00	
8/11/2009	1141	TUD/0.5		540	13.53	
8/11/2009	1117	UVD/0.0		480	14.93	
8/25/2009	1233	AND/0.0		86	13.49	
8/25/2009	1327	AND/1.71		52	13.08	
8/25/2009	1122	HO/0.0		8	14.38	
8/25/2009	1018	SA/0.15		34	12.49	
8/25/2009	1037	SA/0.4		56	12.77	
8/25/2009	1043	SA/0.5		66	12.66	
8/25/2009	1105	SA/0.7		32	12.40	1.8
8/25/2009	1125	SA/1.0		16	12.27	
8/25/2009	957	SN/0.2		108	13.67	
8/25/2009	1000	SN/0.2	R	62		
8/25/2009	1000	SN/0.2	R	72	13.68	
8/25/2009	1338	SN/0.8		52	14.66	2.3
8/25/2009	1214	SN/1.6		28	13.86	
8/25/2009	1216	SN/1.6	R	56	13.86	
8/25/2009	1216	SN/0.16	R	54	13.86	
8/25/2009	1225	SN/2.3		18	13.86	
8/25/2009	1243	SN/3.5		6	13.18	
8/25/2009	1251	SN/3.9		20	13.05	
8/25/2009	1304	SN/4.4		24	12.93	
8/25/2009	1034	UVD/0.0		176	12.43	
9/15/2009	1153	AND/0.0		144	13.72	
9/15/2009	1302	AND/1.71		42	13.80	
9/15/2009	1116	HO/0.0		10	14.24	
9/15/2009	1002	SA/0.15		14	12.27	
9/15/2009	1006	SA/0.15	R	32	12.29	
9/15/2009	1006	SA/0.15	R	10		
9/15/2009	1026	SA/0.4		16	12.48	
9/15/2009	1033	SA/0.5		4	12.51	
9/15/2009	1059	SA/0.7		2	12.61	1.7
9/15/2009	1118	SA/1.0		6	12.31	
9/15/2009	943	SN/0.2		196	13.25	
9/15/2009	943	SN/0.2	R	258		
9/15/2009	946	SN/0.2	R	540	13.26	
9/15/2009	1314	SN/0.8		236	15.05	2.9
9/15/2009	1136	SN/1.6		76	13.54	

Table A-1. Fecal coliform, temperature, and flow data collected bimonthly in the Discovery Bay watershed from February 2007 to September 2011.

DATE	TIME	Station	Replicate	Fecal Coliform (FC/100 mL)	Temp (°C)	Flow (cfs)
9/15/2009	1144	SN/2.3		18	13.83	
9/15/2009	1204	SN/3.5		26	13.57	
9/15/2009	1211	SN/3.9		10	13.13	
9/15/2009	1248	SN/4.4		10	13.31	
9/15/2009	1023	UVD/0.0		4	12.32	
9/28/2009	1253	AND/0.0		6	10.99	
9/28/2009	1342	AND/1.71		60	9.48	
9/28/2009	1138	HO/0.0		10	10.98	
9/28/2009	1027	SA/0.15		22	9.10	
9/28/2009	1029	SA/0.15	R	28		
9/28/2009	1029	SA/0.15	R	100	9.11	
9/28/2009	1052	SA/0.4		32	9.66	
9/28/2009	1101	SA/0.5		48	9.82	
9/28/2009	1119	SA/0.7		28	9.64	1.2
9/28/2009	1142	SA/1.0		12	9.38	
9/28/2009	952	SN/0.2		86	9.68	
9/28/2009	955	SN/0.2	R	60	9.69	
9/28/2009	955	SN/0.2	R	16		
9/28/2009	1354	SN/0.8		60	11.08	2.9
9/28/2009	1230	SN/1.6		14	10.25	
9/28/2009	1242	SN/2.3		22	10.53	
9/28/2009	1306	SN/3.5		6	9.97	
9/28/2009	1315	SN/3.9		4	9.98	
9/28/2009	1327	SN/4.4		20	9.97	
9/28/2009	1047	UVD/0.0		14	7.72	
10/13/2009	1234	AND/0.0		4	8.07	
10/13/2009	1318	AND/1.71		8	6.45	
10/13/2009	1123	HO/0.0		12	7.60	
10/13/2009	1016	SA/0.15		62	6.50	
10/13/2009	1019	SA/0.15	R	56	6.51	
10/13/2009	1019	SA/0.15	R	62		
10/13/2009	1041	SA/0.4		24	6.69	
10/13/2009	1047	SA/0.5		30	6.67	
10/13/2009	1103	SA/0.7		20	6.57	1.3
10/13/2009	1126	SA/1.0		32	6.54	
10/13/2009	957	SN/0.2		16	6.92	
10/13/2009	1001	SN/0.2	R	26	6.92	
10/13/2009	1001	SN/0.2	R	22		
10/13/2009	1329	SN/0.8		12	7.70	3.1
10/13/2009	1215	SN/1.6		4	7.33	
10/13/2009	1224	SN/2.3		10	7.38	
10/13/2009	1245	SN/3.5		6	6.78	
10/13/2009	1252	SN/3.9		2	6.77	
10/13/2009	1304	SN/4.4		20	6.68	
10/13/2009	1038	UVD/0.0		1	5.73	
10/27/2009	1307	AND/0.0		1	9.07	
10/27/2009	1352	AND/1.71		22	6.93	
10/27/2009	1158	HO/0.0		8	7.33	
10/27/2009	1037	SA/0.15		66	6.49	

Table A-1. Fecal coliform, temperature, and flow data collected bimonthly in the Discovery Bay watershed from February 2007 to September 2011.

DATE	TIME	Station	Replicate	Fecal Coliform (FC/100 mL)	Temp (°C)	Flow (cfs)
10/27/2009	1040	SA/0.15	R	32		
10/27/2009	1040	SA/0.15	R	14	6.51	
10/27/2009	1101	SA/0.4		18	6.66	
10/27/2009	1110	SA/0.5		26	6.69	
10/27/2009	1143	SA/0.7		12	6.60	14.7
10/27/2009	1200	SA/1.0		12	6.46	
10/27/2009	1009	SN/0.2		18	6.63	
10/27/2009	1013	SN/0.2	R	38		
10/27/2009	1013	SN/0.2	R	16	6.64	
10/27/2009	1404	SN/0.8		16	7.74	17.5
10/27/2009	1223	SN/1.6		24	7.39	
10/27/2009	1258	SN/2.3		6	7.47	
10/27/2009	1318	SN/3.5		4	6.27	
10/27/2009	1326	SN/3.9		2	6.24	
10/27/2009	1328	SN/4.4		2	6.23	
10/27/2009	1032	TUD/0.0		68	6.45	
10/27/2009	1134	TUD/0.5		12	8.12	
10/27/2009	1057	UVD/0.0		90	6.55	
11/10/2009	1143	AND/0.0		8	8.11	
11/10/2009	1250	AND/1.71		6	7.36	
11/10/2009	1052	HO/0.0		6	7.41	
11/10/2009	1019	SA/0.15		6	6.98	
11/10/2009	1025	SA/0.15	R	8	6.98	
11/10/2009	1044	SA/0.4		18	6.95	
11/10/2009	1052	SA/0.5		10	6.94	
11/10/2009	1044	SA/0.7		2	6.98	9.2
11/10/2009	1105	SA/1.0		12	6.94	
11/10/2009	947	SN/0.2		22	6.95	
11/10/2009	1308	SN/0.2	R	18	6.95	
11/10/2009	1302	SN/0.8		30	7.41	54.6
11/10/2009	1119	SN/1.6		32	7.30	
11/10/2009	1129	SN/2.3		6	7.30	
11/10/2009	1146	SN/3.5		10	6.75	
11/10/2009	1230	SN/3.9		6	6.75	
11/10/2009	1239	SN/4.4		4	6.74	
11/10/2009	1019	TUD/0.0		50	7.28	
11/10/2009	1105	TUD/0.4		10	7.87	
11/10/2009	1119	TUD/0.5		4	7.98	
11/10/2009	1042	UVD/0.0		22	7.35	
11/24/2009	1307	AND/0.0		10	6.96	
11/24/2009	1349	AND/1.71		4	7.18	
11/24/2009	1157	HO/0.0		6	7.36	
11/24/2009	1044	SA/0.15		6	7.07	
11/24/2009	1048	SA/0.15	R	12	7.15	
11/24/2009	1103	SA/0.4		10	7.11	
11/24/2009	1110	SA/0.5		2	7.09	
11/24/2009	1143	SA/0.7		2	7.17	67.7
11/24/2009	1201	SA/1.0		1	7.19	
11/24/2009	1019	SN/0.2		16	6.67	

Table A-1. Fecal coliform, temperature, and flow data collected bimonthly in the Discovery Bay watershed from February 2007 to September 2011.

DATE	TIME	Station	Replicate	Fecal Coliform (FC/100 mL)	Temp (°C)	Flow (cfs)
11/24/2009	1022	SN/0.2	R	30	6.67	
11/24/2009	1401	SN/0.8		1	6.99	168.0
11/24/2009	1249	SN/1.6		6	6.86	
11/24/2009	1257	SN/2.3		4	6.84	
11/24/2009	1317	SN/3.5		8	6.30	
11/24/2009	1326	SN/3.9		2	6.43	
11/24/2009	1336	SN/4.4		4	6.41	
11/24/2009	1040	TUD/0.0		40	7.77	
11/24/2009	1118	TUD/0.4		10	8.07	
11/24/2009	1136	TUD/0.5		1	7.87	
12/8/2009	1305	AND/0.0		8	2.41	
12/8/2009	1359	AND/1.71		2	0.04	
12/8/2009	1156	HO/0.0		2	0.44	
12/8/2009	1029	SA/0.15		32	0.22	
12/8/2009	1031	SA/0.15	R	2		
12/8/2009	1031	SA/0.15	R	4	0.22	
12/8/2009	1054	SA/0.4		2	0.36	
12/8/2009	1102	SA/0.5		4	0.40	
12/8/2009	1138	SA/0.7		1	0.45	18.7
12/8/2009	1159	SA/1.0		2	0.45	
12/8/2009	1004	SN/0.2		6	0.00	
12/8/2009	1007	SN/0.2	R	30		
12/8/2009	1007	SN/0.2	R	8	0.00	
12/8/2009	1411	SN/0.8		2	1.06	25.6
12/8/2009	1246	SN/1.6		4	1.09	
12/8/2009	1255	SN/2.3		24	1.28	
12/8/2009	1318	SN/3.5		4	0.06	
12/8/2009	1326	SN/3.9		10	0.01	
12/8/2009	1336	SN/4.4		2	0.01	
12/8/2009	1024	TUD/0.0		44	0.09	
12/8/2009	1111	TUD/0.4		8	1.76	
12/8/2009	1128	TUD/0.5		1	2.18	
12/8/2009	1050	UVD/0.0		10	0.45	
12/22/2009	1304	AND/0.0		2	4.38	
12/22/2009	1402	AND/1.71		2	4.73	
12/22/2009	1148	HO/0.0		6	4.85	
12/22/2009	1029	SA/0.15		4	4.33	
12/22/2009	1032	SA/0.15	R	8	4.34	
12/22/2009	1055	SA/0.4		8	4.32	
12/22/2009	1101	SA/0.5		1	4.32	
12/22/2009	1133	SA/0.7		2	4.36	30.9
12/22/2009	1153	SA/1.0		4	4.36	
12/22/2009	1003	SN/0.2		4	4.05	
12/22/2009	1007	SN/0.2	R	14	4.06	
12/22/2009	1420	SN/0.8		6	4.61	71.6
12/22/2009	1209	SN/1.6		12	4.32	
12/22/2009	1255	SN/2.3		12	4.33	
12/22/2009	1316	SN/3.5		13	4.05	
12/22/2009	1329	SN/3.9		8	4.05	



Table A-1. Fecal coliform, temperature, and flow data collected bimonthly in the Discovery Bay watershed from February 2007 to September 2011.

DATE	TIME	Station	Replicate	Fecal Coliform (FC/100 mL)	Temp (°C)	Flow (cfs)
12/22/2009	1343	SN/4.4		8	4.04	
12/22/2009	1025	TUD/0.0		2	4.79	
12/22/2009	1109	TUD/0.4		10	5.58	
12/22/2009	1126	TUD/0.5		2	5.66	
12/22/2009	1051	UVD/0.0		26	4.85	
1/12/2010	1304	AND/0.0		14	7.45	
1/12/2010	1353	AND/1.71		12	7.65	
1/12/2010	1153	HO/0.0		14	7.82	
1/12/2010	1026	SA/0.15		8	7.55	
1/12/2010	1028	SA/0.15	R	18		
1/12/2010	1028	SA/0.15	R	8	7.55	
1/12/2010	1058	SA/0.4		2	7.57	
1/12/2010	1104	SA/0.5		8	7.55	
1/12/2010	1133	SA/0.7		10	7.55	28.8
1/12/2010	1158	SA/1.0		1	7.53	
1/12/2010	1003	SN/0.2		22	7.25	
1/12/2010	1005	SN/0.2	R	30	7.25	
1/12/2010	1005	SN/0.2	R	20		
1/12/2010	1408	SN/0.8		22	7.62	127.0
1/12/2010	1224	SN/1.6		14	7.41	
1/12/2010	1255	SN/2.3		10	7.38	
1/12/2010	1317	SN/3.5		14	7.15	
1/12/2010	1326	SN/3.9		6	7.12	
1/12/2010	1339	SN/4.4		4	7.11	
1/12/2010	1022	TUD/0.0		16	7.88	
1/12/2010	1110	TUD/0.4		4	8.25	
1/12/2010	1124	TUD/0.5		1	7.98	
1/12/2010	1052	UVD/0.0		56	7.97	
1/26/2010	1248	AND/0.0		10	6.03	
1/26/2010	1336	AND/1.71		1	5.55	
1/26/2010	1143	HO/0.0		1	5.42	
1/26/2010	1016	SA/0.15		6	5.21	
1/26/2010	1018	SA/0.15	R	2	5.21	
1/26/2010	1018	SA/0.15	R	6		
1/26/2010	1035	SA/0.4		2	5.25	
1/26/2010	1041	SA/0.5		1	5.25	
1/26/2010	1128	SA/0.7		2	5.37	27.2
1/26/2010	1146	SA/1.0		1	5.42	
1/26/2010	954	SN/0.2		22	5.20	
1/26/2010	958	SN/0.2	R	22	5.21	
1/26/2010	958	SN/0.2	R	16		
1/26/2010	1347	SN/0.8		20	5.99	66.5
1/26/2010	1207	SN/1.6		22	5.65	
1/26/2010	1240	SN/2.3		8	5.71	
1/26/2010	1302	SN/3.5		2	5.37	
1/26/2010	1309	SN/3.9		4	5.35	
1/26/2010	1321	SN/4.4		1	5.35	
1/26/2010	1011	TUD/0.0		1	5.40	
1/26/2010	1047	TUD/0.4		16	6.33	

Table A-1. Fecal coliform, temperature, and flow data collected bimonthly in the Discovery Bay watershed from February 2007 to September 2011.

DATE	TIME	Station	Replicate	Fecal Coliform (FC/100 mL)	Temp (°C)	Flow (cfs)
1/26/2010	1112	TUD/0.5		4	6.36	
1/26/2010	1032	UVD/0.0		28	4.69	
2/9/2010	1307	AND/0.0		1	6.96	
2/9/2010	1355	AND/1.71		12	5.47	
2/9/2010	1150	HO/0.0		1	5.00	
2/9/2010	1032	SA/0.15		2	4.92	
2/9/2010	1035	SA/0.15	R	10	4.93	
2/9/2010	1035	SA/0.15	R	4		
2/9/2010	1052	SA/0.4		2	5.07	
2/9/2010	1059	SA/0.5		1	5.05	
2/9/2010	1132	SA/0.7		1	5.03	21.1
2/9/2010	1152	SA/1.0		8	5.14	
2/9/2010	1005	SN/0.2		2	4.97	
2/9/2010	1007	SN/0.2	R	8		
2/9/2010	1007	SN/0.2	R	6	4.98	
2/9/2010	1407	SN/0.8		1	6.26	32.7
2/9/2010	1217	SN/1.6		4	5.59	
2/9/2010	1258	SN/2.3		8	5.86	
2/9/2010	1324	SN/3.5		1	4.95	
2/9/2010	1333	SN/3.9		1	4.83	
2/9/2010	1343	SN/4.4		2	4.94	
2/9/2010	1027	TUD/0.0		10	4.77	
2/9/2010	1107	TUD/0.4		8	6.38	
2/9/2010	1124	TUD/0.5		4	5.99	
2/9/2010	1049	UVD/0.0		28	4.00	
2/23/2010	1239	AND/0.0		1	6.52	
2/23/2010	1326	AND/1.71		1	5.64	
2/23/2010	1129	HO/0.0		1	4.82	
2/23/2010	1012	SA/0.15		1	4.88	
2/23/2010	1014	SA/0.15	R	1	4.89	
2/23/2010	1014	SA/0.15	R	2		
2/23/2010	1033	SA/0.4		2	5.08	
2/23/2010	1041	SA/0.5		1	5.09	
2/23/2010	1114	SA/0.7		1	5.13	13.8
2/23/2010	1132	SA/1.0		1	5.23	
2/23/2010	950	SN/0.2		2	4.99	
2/23/2010	955	SN/0.2	R	1	5.00	
2/23/2010	955	SN/0.2	R	2		
2/23/2010	1337	SN/0.8		4	6.41	54.2
2/23/2010	1155	SN/1.6		1	5.86	
2/23/2010	1229	SN/2.3		1	6.07	
2/23/2010	1250	SN/3.5		2	5.53	
2/23/2010	1258	SN/3.9		10	5.49	
2/23/2010	1312	SN/4.4		1	5.55	
2/23/2010	1008	TUD/0.0		24	4.89	
2/23/2010	1048	TUD/0.4		10	6.23	
2/23/2010	1105	TUD/0.5		4	5.78	
2/23/2010	1031	UVD/0.0		6	4.48	
3/16/2010	1249	AND/0.0		1	8.37	

Table A-1. Fecal coliform, temperature, and flow data collected bimonthly in the Discovery Bay watershed from February 2007 to September 2011.

DATE	TIME	Station	Replicate	Fecal Coliform (FC/100 mL)	Temp (°C)	Flow (cfs)
3/16/2010	1332	AND/1.71		1	7.67	
3/16/2010	1135	HO/0.0		1	6.69	
3/16/2010	1022	SA/0.15		6	6.44	
3/16/2010	1024	SA/0.15	R	26		
3/16/2010	1024	SA/0.15	R	4	6.45	
3/16/2010	1042	SA/0.4		8	6.50	
3/16/2010	1048	SA/0.5		8	6.50	
3/16/2010	1117	SA/0.7		6	6.61	9.2
3/16/2010	1137	SA/1.0		8	6.65	
3/16/2010	1000	SN/0.2		1	6.20	
3/16/2010	1002	SN/0.2	R	1		
3/16/2010	1002	SN/0.2	R	1	6.21	
3/16/2010	1345	SN/0.8		1	8.38	38.7
3/16/2010	1226	SN/1.6		2	7.57	
3/16/2010	1238	SN/2.3		2	7.72	
3/16/2010	1259	SN/3.5		1	6.96	
3/16/2010	1309	SN/3.9		2	6.83	
3/16/2010	1319	SN/4.4		1	6.88	
3/16/2010	1019	TUD/0.0		1	6.32	
3/16/2010	1054	TUD/0.4		2	7.53	
3/16/2010	1110	TUD/0.5		1	7.15	
3/16/2010	1039	UVD/0.0		32	6.06	
3/30/2010	1232	AND/0.0		1	10.39	
3/30/2010	1318	AND/1.71		4	7.32	
3/30/2010	1123	HO/0.0		32	6.33	
3/30/2010	1008	SA/0.15		14	6.04	
3/30/2010	1010	SA/0.15	R	20		
3/30/2010	1010	SA/0.15	R	34	6.05	
3/30/2010	1029	SA/0.4		16	6.13	
3/30/2010	1035	SA/0.5		6	6.11	
3/30/2010	1108	SA/0.7		2	5.99	7.1
3/30/2010	1125	SA/1.0		2	5.93	
3/30/2010	948	SN/0.2		2	6.28	
3/30/2010	950	SN/0.2	R	4		
3/30/2010	950	SN/0.2	R	2	6.28	
3/30/2010	1336	SN/0.8		8	7.60	34.8
3/30/2010	1206	SN/1.6		1	7.08	
3/30/2010	1221	SN/2.3		1	7.18	
3/30/2010	1245	SN/3.5		1	5.97	
3/30/2010	1254	SN/3.9		11	5.91	
3/30/2010	1305	SN/4.4		10	5.92	
3/30/2010	1004	TUD/0.0		1	6.45	
3/30/2010	1043	TUD/0.4		1	7.99	
3/30/2010	1100	TUD/0.5		1	6.90	
3/30/2010	1025	UVD/0.0		314	6.12	
4/20/2010	1326	AND/0.0		1	13.97	
4/20/2010	1409	AND/1.71		2	10.19	
4/20/2010	1207	HO/0.0		6	10.12	
4/20/2010	1026	SA/0.15		6	9.62	

Table A-1. Fecal coliform, temperature, and flow data collected bimonthly in the Discovery Bay watershed from February 2007 to September 2011.

DATE	TIME	Station	Replicate	Fecal Coliform (FC/100 mL)	Temp (°C)	Flow (cfs)
4/20/2010	1030	SA/0.15	R	6		
4/20/2010	1030	SA/0.15	R	8	9.62	
4/20/2010	1054	SA/0.4		8	9.53	
4/20/2010	1104	SA/0.5		4	9.50	
4/20/2010	1149	SA/0.7		8	9.44	16.2
4/20/2010	1210	SA/1.0		6	9.39	
4/20/2010	104	SN/0.2		14	10.55	
4/20/2010	1007	SN/0.2	R	30		
4/20/2010	1007	SN/0.2	R	20	10.55	
4/20/2010	1419	SN/0.8		16	10.81	34.1
4/20/2010	1307	SN/1.6		8	10.70	
4/20/2010	1316	SN/2.3		22	10.73	
4/20/2010	1338	SN/3.5		8	9.10	
4/20/2010	1345	SN/3.9		1	9.04	
4/20/2010	1356	SN/4.4		2	8.96	
4/20/2010	1022	TUD/0.0		32	9.99	
4/20/2010	1125	TUD/0.4		10	10.22	
4/20/2010	1142	TUD/0.5		6	9.93	
4/20/2010	1050	UVD/0.0		130	10.49	
4/29/2010	1329	AND/0.0		6	13.34	
4/29/2010	1409	AND/1.71		40	8.10	
4/29/2010	1206	HO/0.0		4	7.95	
4/29/2010	1021	SA/0.15		26	7.51	
4/29/2010	1023	SA/0.15	R	30		
4/29/2010	1023	SA/0.15	R	34	7.52	
4/29/2010	1042	SA/0.4		14	7.49	
4/29/2010	1052	SA/0.5		4	7.48	
4/29/2010	1141	SA/0.7		6	7.57	23.7
4/29/2010	1208	SA/1.0		6	7.63	
4/29/2010	1000	SN/0.2		20	8.06	
4/29/2010	1002	SN/0.2	R	14	8.06	
4/29/2010	1002	SN/0.2	R	14		
4/29/2010	1421	SN/0.8		10	9.02	52.4
4/29/2010	1311	SN/1.6		8	8.66	
4/29/2010	1321	SN/2.3		6	8.56	
4/29/2010	1340	SN/3.5		6	6.98	
4/29/2010	1346	SN/3.9		2	6.70	
4/29/2010	1356	SN/4.4		2	6.98	
4/29/2010	1018	TUD/0.0		36	8.01	
4/29/2010	1100	TUD/0.4		50	9.31	
4/29/2010	1133	TUD/0.5		38	8.61	
4/29/2010	1039	UVD/0.0		228	8.36	
5/11/2010	1310	AND/0.0		6	15.11	
5/11/2010	1412	AND/1.71		4	9.91	
5/11/2010	1149	HO/0.0		12	8.50	
5/11/2010	1008	SA/0.15		4	8.04	
5/11/2010	1009	SA/0.15	R	4	8.07	
5/11/2010	1009	SA/0.15	R	10		
5/11/2010	1034	SA/0.4		1	8.15	

Table A-1. Fecal coliform, temperature, and flow data collected bimonthly in the Discovery Bay watershed from February 2007 to September 2011.

DATE	TIME	Station	Replicate	Fecal Coliform (FC/100 mL)	Temp (°C)	Flow (cfs)
5/11/2010	1042	SA/0.5		4	8.12	
5/11/2010	1117	SA/0.7		4	8.10	17.9
5/11/2010	1153	SA/1.0		10	8.26	
5/11/2010	948	SN/0.2		4	9.17	
5/11/2010	951	SN/0.2	R	30		
5/11/2010	951	SN/0.2	R	1	9.16	
5/11/2010	1422	SN/0.8		8	11.98	31.4
5/11/2010	1251	SN/1.6		6	10.98	
5/11/2010	1301	SN/2.3		1	11.29	
5/11/2010	1331	SN/3.5		1	9.27	
5/11/2010	1340	SN/3.9		4	9.33	
5/11/2010	1350	SN/4.4		1	9.13	
5/11/2010	1005	TUD/0.0		4	8.16	
5/11/2010	1048	TUD/0.4		74	10.81	
5/11/2010	1108	TUD/0.5		6	8.62	
5/11/2010	1030	UVD/0.0		26	8.44	
5/25/2010	1328	AND/0.0		10	15.32	
5/25/2010	1415	AND/1.71		20	10.70	
5/25/2010	1214	HO/0.0		1	11.08	
5/25/2010	1022	Sa/0.15		22	10.20	
5/25/2010	1023	SA/0.15	R	6	10.23	
5/25/2010	1023	SA/0.15	R	20		
5/25/2010	1055	SA/0.4		10	10.15	
5/25/2010	1105	SA/0.5		6	10.01	
5/25/2010	1144	SA/0.7		6	9.84	6.6
5/25/2010	1216	SA/1.0		8	9.84	
5/25/2010	956	SN/0.2		38	11.01	
5/25/2010	958	SN/0.2	R	42		
5/25/2010	958	SN/0.2	R	44	11.02	
5/25/2010	1427	SN/0.8		14	12.03	22.0
5/25/2010	1305	SN/1.6		12	11.53	
5/25/2010	1318	SN/2.3		8	11.46	
5/25/2010	1341	SN/3.5		12	9.66	
5/25/2010	1350	SN/3.9		2	9.58	
5/25/2010	1402	SN/4.4		2	9.50	
5/25/2010	1019	TUD/0.0		24	11.36	
5/25/2010	1117	TUD/0.4		228	12.59	
5/25/2010	1138	TUD/0.5		4	10.19	
5/25/2010	1053	UVD/0.0		8	13.10	
6/8/2010	1300	AND/0.0		12	15.33	
6/8/2010	1354	AND/1.71		28	10.46	
6/8/2010	1147	HO/0.0		258	10.23	
6/8/2010	1015	SA/0.15		56	9.97	
6/8/2010	1017	SA/0.15	R	58		
6/8/2010	1017	SA/0.15	R	68	9.98	
6/8/2010	1042	SA/0.4		16	9.84	
6/8/2010	1050	SA/0.5		16	9.83	
6/8/2010	1129	SA/0.7		84	9.91	38.5
6/8/2010	1149	SA/1.0		34	9.94	

Table A-1. Fecal coliform, temperature, and flow data collected bimonthly in the Discovery Bay watershed from February 2007 to September 2011.

DATE	TIME	Station	Replicate	Fecal Coliform (FC/100 mL)	Temp (°C)	Flow (cfs)
6/8/2010	953	SN/0.2		26	11.22	
6/8/2010	955	SN/0.2	R	26	11.23	
6/8/2010	955	SN/0.2	R	30		
6/8/2010	1409	SN/0.8		20	12.53	91.2
6/8/2010	1241	SN/1.6		16	12.03	
6/8/2010	1251	SN/2.3		20	12.11	
6/8/2010	1316	SN/3.5		12	9.95	
6/8/2010	1323	SN/3.9		4	10.00	
6/8/2010	1342	SN/4.4		6	10.07	
6/8/2010	1012	TUD/0.0		108	11.00	
6/8/2010	1100	TUD/0.4		222	11.63	
6/8/2010	1121	TUD/0.5		22	10.63	
6/8/2010	1040	UVD/0.0		356	11.66	
6/22/2010	1338	AND/0.0		12	16.06	
6/22/2010	1427	AND/1.71		18	11.96	
6/22/2010	1213	HO/0.0		20	11.03	
6/22/2010	1025	SA/0.15		12	10.75	
6/22/2010	1027	SA/0.15	R	28	10.76	
6/22/2010	1027	SA/0.15	R	22		
6/22/2010	1058	SA/0.4		18	10.73	
6/22/2010	1110	SA/0.5		18	10.72	
6/22/2010	1154	SA/0.7		16	10.75	19.1
6/22/2010	1216	SA/1.0		10	10.82	
6/22/2010	1002	SN/0.2		26	12.46	
6/22/2010	1003	SN/0.2	R	26		
6/22/2010	1003	SN/0.2	R	36	12.46	
6/22/2010	1437	SN/0.8		30	14.40	40.7
6/22/2010	1310	SN/1.6		52	13.68	
6/22/2010	1324	SN/2.3		38	13.90	
6/22/2010	1351	SN/3.5		16	11.75	
6/22/2010	1401	SN/3.9		12	11.74	
6/22/2010	1415	SN/4.4		12	11.67	
6/22/2010	1022	TUD/0.0		60	11.35	
6/22/2010	1121	TUD/0.4		254	12.77	
6/22/2010	1144	TUD/0.5		12	11.16	
6/22/2010	1054	UVD/0.0		34	11.78	
7/13/2010	1314	AND/0.0		26	20.26	
7/13/2010	1412	AND/1.71		38	13.17	
7/13/2010	1155	HO/0.0		46	12.95	
7/13/2010	1006	SA/0.15		108	12.03	
7/13/2010	1012	SA/0.15	R	144	12.05	
7/13/2010	1035	SA/0.4		182	11.95	
7/13/2010	1044	SA/0.5		132	11.93	
7/13/2010	1133	SA/0.7		68	11.79	7.2
7/13/2010	1158	SA/1.0		68	11.78	
7/13/2010	946	SN/0.2		106	13.88	
7/13/2010	948	SN/0.2	R	104		
7/13/2010	948	SN/0.2	R	140	13.89	
7/13/2010	1423	SN/0.8		60	15.26	15.1

Table A-1. Fecal coliform, temperature, and flow data collected bimonthly in the Discovery Bay watershed from February 2007 to September 2011.

DATE	TIME	Station	Replicate	Fecal Coliform (FC/100 mL)	Temp (°C)	Flow (cfs)
7/13/2010	1250	SN/1.6		50	14.51	
7/13/2010	1302	SN/2.3		34	14.75	
7/13/2010	1340	SN/3.5		28	12.84	
7/13/2010	1349	SN/3.9		18	12.92	
7/13/2010	1359	SN/4.4		28	13.02	
7/13/2010	1006	TUD/0.0		32	12.36	
7/13/2010	1059	TUD/0.4		110	13.99	
7/13/2010	1122	TUD/0.5		30	12.02	
7/13/2010	1030	UVD/0.0		62	14.13	
7/27/2010	1324	AND/0.0		36	20.99	
7/27/2010	1410	AND/1.71		52	15.29	
7/27/2010	1216	HO/0.0		16	15.47	
7/27/2010	1020	SA/0.15		88	13.46	
7/27/2010	1025	SA/0.15	R	80	13.52	
7/27/2010	1057	SA/0.4		118	13.77	
7/27/2010	1109	SA/0.5		54	13.65	
7/27/2010	1155	SA/0.7		34	13.40	3.9
7/27/2010	1218	SA/1.0		52	13.35	
7/27/2010	948	SN/0.2		104	15.06	
7/27/2010	950	SN/0.2	R	100	15.08	
7/27/2010	950	SN/0.2	R	78		
7/27/2010	1425	SN/0.8		68	17.54	7.6
7/27/2010	1254	SN/1.6		44	16.40	
7/27/2010	1314	SN/2.3		32	16.75	
7/27/2010	1337	SN/3.5		40	15.15	
7/27/2010	1345	SN/3.9		42	15.30	
7/27/2010	1357	SN/4.4		10	15.35	
7/27/2010	1017	TUD/0.0		76	14.52	
7/27/2010	1117	TUD/0.4		72	15.87	
7/27/2010	1142	TUD/0.5		44	12.96	
7/27/2010	1053	UVD/0.0		262	13.43	
8/10/2010	1311	AND/0.0		42	17.52	
8/10/2010	1358	AND/1.71		132	13.71	
8/10/2010	1200	HO/0.0		34	13.93	
8/10/2010	1023	SA/0.15		98	12.80	
8/10/2010	1049	SA/0.4		68	12.70	
8/10/2010	1100	SA/0.5		68	17.63	
8/10/2010	1140	SA/0.7		66	12.53	4.3
8/10/2010	1142	SA/0.7	R	38	12.53	
8/10/2010	1203	SA/1.0		32	12.49	
8/10/2010	953	SN/0.2		84	14.10	
8/10/2010	1001	SN/0.2	R	74		
8/10/2010	1001	SN/0.2	R	74	14.11	
8/10/2010	1408	SN/0.8		26	15.08	8.1
8/10/2010	1224	SN/1.6		42	14.21	
8/10/2010	1301	SN/2.3		74	14.25	
8/10/2010	1324	SN/3.5		64	13.36	
8/10/2010	1331	SN/3.9		38	13.34	
8/10/2010	1343	SN/4.4		22	13.21	

Table A-1. Fecal coliform, temperature, and flow data collected bimonthly in the Discovery Bay watershed from February 2007 to September 2011.

DATE	TIME	Station	Replicate	Fecal Coliform (FC/100 mL)	Temp (°C)	Flow (cfs)
8/10/2010	1021	TUD/0.0		170	13.82	
8/10/2010	1109	TUD/0.4		60	13.71	
8/10/2010	1130	TUD/0.5		32	12.73	
8/10/2010	1046	UVD/0.0		46	14.58	
8/24/2010	1237	AND/0.0		40	16.77	
8/24/2010	1228	AND/1.71		108	12.95	
8/24/2010	1123	HO/0.0		18	13.39	
8/24/2010	1012	SA/0.15		36	11.83	
8/24/2010	1013	SA/0.15	R	56	11.85	
8/24/2010	1033	SA/0.4		42	12.00	
8/24/2010	1041	SA/0.5		40	11.97	
8/24/2010	1111	SA/0.7		54	11.88	3.1
8/24/2010	1126	SA/1.0		18	11.64	
8/24/2010	954	SN/0.2		100	12.57	
8/24/2010	957	SN/0.2	R	88	12.60	
8/24/2010	957	SN/0.2	R	108		
8/24/2010	1251	SN/0.8		34	14.70	5.8
8/24/2010	1141	SN/1.6		32	13.19	
8/24/2010	1150	SN/2.3		28	13.33	
8/24/2010	1200	SN/3.5		16	12.64	
8/24/2010	1207	SN/3.9		6	12.39	
8/24/2010	1217	SN/4.4		16	12.46	
8/24/2010	1103	TUD/0.5		76	12.04	
8/24/2010	1030	UVD/0.0		14	10.97	
9/7/2010	1219	AND/0.0		174	15.63	
9/7/2010	1306	AND/1.71		154	12.47	
9/7/2010	1130	HO/0.0		42	12.93	
9/7/2010	1010	SA/0.15		64	11.97	
9/7/2010	1013	SA/0.15	R	112	11.98	
9/7/2010	1013	SA/0.15	R	88		
9/7/2010	1036	SA/0.4		80	11.94	
9/7/2010	1041	SA/0.5		92	11.89	
9/7/2010	1117	SA/0.7		38	11.75	3.9
9/7/2010	1134	SA/1.0		28	11.65	
9/7/2010	952	SN/0.2		230	12.85	
9/7/2010	954	SN/0.2	R	230		
9/7/2010	954	SN/0.2	R	220	12.88	
9/7/2010	1317	SN/0.8		202	13.61	9.7
9/7/2010	1158	SN/1.6		48	13.00	
9/7/2010	1208	SN/2.3		74	12.91	
9/7/2010	1235	SN/3.5		56	12.18	
9/7/2010	1242	SN/3.9		80	12.12	
9/7/2010	1253	SN/4.4		30	12.04	
9/7/2010	1108	TUD/0.5		328	11.98	
9/7/2010	1032	UVD/0.0		100	12.60	
9/21/2010	1316	AND/0.0		14	16.08	
9/21/2010	1359	AND/1.71		88	12.20	
9/21/2010	1152	HO/0.0		10	11.91	
9/21/2010	1025	SA/0.15		110	110.63	



Table A-1. Fecal coliform, temperature, and flow data collected bimonthly in the Discovery Bay watershed from February 2007 to September 2011.

DATE	TIME	Station	Replicate	Fecal Coliform (FC/100 mL)	Temp (°C)	Flow (cfs)
9/21/2010	1027	SA/0.15	R	92	11.63	
9/21/2010	1047	SA/0.4		106	11.63	
9/21/2010	1055	SA/0.5		74	11.64	
9/21/2010	1135	SA/0.7		40	11.56	11.7
9/21/2010	1156	SA/1.0		64	11.43	
9/21/2010	1001	SN/0.2		196	12.19	
9/21/2010	1004	SN/0.2	R	156		
9/21/2010	1004	SN/0.2	R	190	12.19	
9/21/2010	1422	SN/0.8		60	13.47	17.2
9/21/2010	1254	SN/1.6		56	12.75	
9/21/2010	1304	SN/2.3		42	12.60	
9/21/2010	1327	SN/3.5		76	11.90	
9/21/2010	1334	SN/3.9		56	11.68	
9/21/2010	1345	SN/4.4		52	11.69	
9/21/2010	1023	TUD/0.0		120	11.87	
9/21/2010	1106	TUD/0.4		2080	12.70	
9/21/2010	1125	TUD/0.5		64	11.76	
9/21/2010	1044	UVD/0.0		36	11.61	
10/5/2010	1301	AND/0.0		16	13.51	
10/5/2010	1339	AND/1.71		18	10.67	
10/5/2010	1153	HO/0.0		6	10.89	
10/5/2010	948	SA/0.15		176	9.27	
10/5/2010	950	SA/0.15	R	144	9.29	
10/5/2010	1021	SA/0.4		148	9.77	
10/5/2010	1034	SA/0.5		130	9.93	
10/5/2010	1118	SA/0.7		148	9.94	5.8
10/5/2010	1158	SA/1.0		22	9.69	
10/5/2010	908	SN/0.2		60	9.72	
10/5/2010	911	SN/0.2	R	58	9.73	
10/5/2010	1350	SN/0.8		4	11.51	6.8
10/5/2010	1236	SN/1.6		20	10.67	
10/5/2010	1249	SN/2.3		4	10.77	
10/5/2010	1312	SN/3.5		20	10.10	
10/5/2010	1318	SN/3.9		22	9.88	
10/5/2010	1328	SN/4.4		60	9.93	
10/5/2010	941	TUD/0.0		214	8.50	
10/5/2010	1107	TUD/0.5		72	10.24	
10/5/2010	1016	UVD/0.0		36	9.72	
10/26/2010	1341	AND/0.0		30	10.46	
10/26/2010	1435	AND/1.71		12	8.08	
10/26/2010	1216	HO/0.0		22	8.60	
10/26/2010	1027	SA/0.15		22	7.99	
10/26/2010	1028	SA/0.15	R	24		
10/26/2010	1028	SA/0.15	R	16	8.00	
10/26/2010	1101	SA/0.4		28	8.10	
10/26/2010	1120	SA/0.5		18	8.13	
10/26/2010	1155	SA/0.7		16	8.10	3.2
10/26/2010	1224	SA/1.0		4	7.93	
10/26/2010	956	SN/0.2		28	8.36	

Table A-1. Fecal coliform, temperature, and flow data collected bimonthly in the Discovery Bay watershed from February 2007 to September 2011.

DATE	TIME	Station	Replicate	Fecal Coliform (FC/100 mL)	Temp (°C)	Flow (cfs)
10/26/2010	959	SN/0.2	R	60		
10/26/2010	959	SN/0.2	R	40	8.37	
10/26/2010	1447	SN/0.8		22	9.38	16.4
10/26/2010	1319	SN/1.6		18	9.22	
10/26/2010	1332	SN/2.3		12	9.15	
10/26/2010	1352	SN/3.5		24	7.86	
10/26/2010	1406	SN/3.9		44	7.81	
10/26/2010	1417	SN/4.4		2	7.77	
10/26/2010	1024	TUD/0.0		98	7.51	
10/26/2010	1124	TUD/0.4		268	9.15	
10/26/2010	1148	TUD/0.5		120	8.83	
10/26/2010	1057	UVD/0.0		42	8.58	
11/2/2010	1325	AND/0.0		10	10.67	
11/2/2010	1412	AND/1.71		14	9.13	
11/2/2010	1201	HO/0.0		2	9.34	
11/2/2010	1025	SA/0.15		28	8.91	
11/2/2010	1028	SA/0.15	R	36		
11/2/2010	1028	SA/0.15	R	16	8.91	
11/2/2010	1048	SA/0.4		34	8.95	
11/2/2010	1056	SA/0.5		12	8.94	
11/2/2010	1143	SA/0.7		4	9.04	4.6
11/2/2010	1203	SA/1.0		4	8.95	
11/2/2010	952	SN/0.2		46	8.89	
11/2/2010	954	SN/0.2	R	42	8.89	
11/2/2010	954	SN/0.2	R	28		
11/2/2010	1429	SN/0.8		24	9.98	29.2
11/2/2010	1235	SN/1.6		24	9.46	
11/2/2010	1315	SN/2.3		32	9.54	
11/2/2010	1336	SN/3.5		14	8.89	
11/2/2010	1344	SN/3.9		12	8.84	
11/2/2010	1356	SN/4.4		20	8.84	
11/2/2010	1023	TUD/0.0		226	8.30	
11/2/2010	1105	TUD/0.4		218	9.26	
11/2/2010	1132	TUD/0.5		24	9.31	
11/2/2010	1044	UVD/0.0		188	9.18	
11/16/2010	1259	AND/0.0		4	8.93	
11/16/2010	1419	AND/1.71		6	7.64	
11/16/2010	1153	HO/0.0		14	7.85	
11/16/2010	1022	SA/0.15		12	7.57	
11/16/2010	1024	SA/0.15	R	20		
11/16/2010	1024	SA/0.15	R	12	7.58	
11/16/2010	1044	SA/0.4		6	7.66	
11/16/2010	1052	SA/0.5		10	7.70	
11/16/2010	1136	SA/0.7		14	7.57	5.6
11/16/2010	1157	SA/1.0		2	7.50	
11/16/2010	954	SN/0.2		20	7.57	
11/16/2010	957	SN/0.2	R	26		
11/16/2010	957	SN/0.2	R	26	7.58	
11/16/2010	1433	SN/0.8		22	8.47	29.1

Table A-1. Fecal coliform, temperature, and flow data collected bimonthly in the Discovery Bay watershed from February 2007 to September 2011.

DATE	TIME	Station	Replicate	Fecal Coliform (FC/100 mL)	Temp (°C)	Flow (cfs)
11/16/2010	1236	SN/1.6		18	8.16	
11/16/2010	1248	SN/2.3		10	8.12	
11/16/2010	1341	SN/3.5		4	7.25	
11/16/2010	1349	SN/3.9		10	7.24	
11/16/2010	1400	SN/4.4		10	7.26	
11/16/2010	1019	TUD/0.0		12	7.36	
11/16/2010	1059	TUD/0.4		10	8.17	
11/16/2010	1127	TUD/0.5		24	7.96	
11/16/2010	1041	UVD/0.0		18	7.52	
12/7/2010	1233	AND/0.0		1	4.02	
12/7/2010	1354	AND/1.71		2	5.65	
12/7/2010	1146	HO/0.0		2	6.01	
12/7/2010	1021	SA/0.15		4	5.64	
12/7/2010	1024	SA/0.15	R	12	5.65	
12/7/2010	1040	SA/0.4		10	5.66	
12/7/2010	1047	SA/0.5		2	5.67	
12/7/2010	1121	SA/0.7		2	5.71	6.0
12/7/2010	1149	SA/1.0		2	5.71	
12/7/2010	952	SN/0.2		22	4.76	
12/7/2010	954	SN/0.2	R	10	4.74	
12/7/2010	1405	SN/0.8		14	5.34	42.4
12/7/2010	1213	SN/1.6		16	5.11	
12/7/2010	1222	SN/2.3		4	4.98	
12/7/2010	1322	SN/3.5		8	5.05	
12/7/2010	1330	SN/3.9		4	5.03	
12/7/2010	1339	SN/4.4		18	5.01	
12/7/2010	1019	TUD/0.0		16	5.92	
12/7/2010	1055	TUD/0.4		16	6.36	
12/7/2010	1114	TUD/0.5		4	6.16	
12/7/2010	1038	UVD/0.0		10	6.37	
12/21/2010	1312	AND/0.0		1		
12/21/2010	1359	AND/1.71		8		
12/21/2010	1152	HO/0.0		4		
12/21/2010	1025	SA/0.15		8		
12/21/2010	1027	SA/0.15	R	6		
12/21/2010	1027	SA/0.15	R	12		
12/21/2010	1046	SA/0.4		8		
12/21/2010	1055	SA/0.5		12		
12/21/2010	1135	SA/0.7		10		58.7
12/21/2010	1156	SA/1.0		8		
12/21/2010	959	SN/0.2		14		
12/21/2010	1001	SN/0.2	R	10		
12/21/2010	1001	SN/0.2	R	12		
12/21/2010	1410	SN/0.8		6		133.0
12/21/2010	1220	SN/1.6		8		
12/21/2010	1302	SN/2.3		2		
12/21/2010	1323	SN/3.5		6		
12/21/2010	1331	SN/3.9		10		
12/21/2010	1342	SN/4.4		14		

Table A-1. Fecal coliform, temperature, and flow data collected bimonthly in the Discovery Bay watershed from February 2007 to September 2011.

DATE	TIME	Station	Replicate	Fecal Coliform (FC/100 mL)	Temp (°C)	Flow (cfs)
12/21/2010	1022	TUD/0.0		20		
12/21/2010	1106	TUD/0.4		4		
12/21/2010	1124	TUD/0.5		8		
1/4/2011	1234	AND/0.0		6	2.96	
1/4/2011	1400	AND/1.71		14	2.07	
1/4/2011	1148	HO/0.0		1	2.01	
1/4/2011	1022	SA/0.15		2	2.26	
1/4/2011	1024	SA/0.15	R	4	2.26	
1/4/2011	1019	SA/0.15	R	6		
1/4/2011	1042	SA/0.4		2	2.36	
1/4/2011	1049	SA/0.5		1	2.38	
1/4/2011	1128	SA/0.7		10	2.46	21.2
1/4/2011	1149	SA/1.0		6	2.52	
1/4/2011	955	SN/0.2		16	1.98	
1/4/2011	957	SN/0.2	R	8	1.98	
1/4/2011	955	SN/0.2	R	10		
1/4/2011	1410	SN/0.8		2	2.71	47.9
1/4/2011	1213	SN/1.6		2	2.50	
1/4/2011	1223	SN/2.3		4	2.53	
1/4/2011	1246	SN/3.5		8	2.03	
1/4/2011	1257	SN/3.9		4	2.03	
1/4/2011	1345	SN/4.4		1	2.14	
1/4/2011	1019	TUD/0.0		4	1.86	
1/4/2011	1057	TUD/0.4		4	2.83	
1/4/2011	1120	TUD/0.5		10	3.10	
1/4/2011	1039	UVD/0.0		28	1.55	
1/11/2011	1246	AND/0.0		1	2.41	
1/11/2011	1408	AND/1.71		4	1.47	
1/11/2011	1147	HO/0.0		6	1.37	
1/11/2011	1018	SA/0.15		10	1.54	
1/11/2011	1020	SA/0.15	R	6	1.54	
1/11/2011	1020	SA/0.15	R	14		
1/11/2011	1038	SA/0.4		2	1.61	
1/11/2011	1044	SA/0.5		12	1.61	
1/11/2011	1119	SA/0.7		8	1.67	13.7
1/11/2011	1150	SA/1.0		2	1.71	
1/11/2011	953	SN/0.2		8	1.31	
1/11/2011	955	SN/0.2	R	8	1.31	
1/11/2011	955	SN/0.2	R	2		
1/11/2011	1418	SN/0.8		8	1.93	30.5
1/11/2011	1216	SN/1.6		1	1.70	
1/11/2011	1227	SN/2.3		18	1.75	
1/11/2011	1302	SN/3.5		2	1.15	
1/11/2011	1312	SN/3.9		2	1.16	
1/11/2011	1352	SN/4.4		4	1.26	
1/11/2011	1014	TUD/0.0		6	1.29	
1/11/2011	1051	TUD/0.4		1	2.45	
1/11/2011	1112	TUD/0.5		2	2.68	
1/11/2011	1035	UVD/0.0		50	0.98	

Table A-1. Fecal coliform, temperature, and flow data collected bimonthly in the Discovery Bay watershed from February 2007 to September 2011.

DATE	TIME	Station	Replicate	Fecal Coliform (FC/100 mL)	Temp (°C)	Flow (cfs)
2/1/2011	1308	AND/0.0		2	4.33	
2/1/2011	1357	AND/1.71		1	2.80	
2/1/2011	1146	HO/0.0		4	2.56	
2/1/2011	1021	SA/0.15		1	2.79	
2/1/2011	1023	SA/0.15	R	2		
2/1/2011	1023	SA/0.15	R	4	2.80	
2/1/2011	1042	SA/0.4		2	2.89	
2/1/2011	1050	SA/0.5		1	2.91	
2/1/2011	1129	SA/0.7		2	2.89	18.2
2/1/2011	1149	SA/1.0		1	2.88	
2/1/2011	954	SN/0.2		10	2.45	
2/1/2011	958	SN/0.2	R	8	2.46	
2/1/2011	958	SN/0.2	R	14		
2/1/2011	1416	SN/0.8		6	3.72	33.6
2/1/2011	1250	SN/1.6		4	3.38	
2/1/2011	1259	SN/2.3		2	3.39	
2/1/2011	1320	SN/3.5		2	2.35	
2/1/2011	1331	SN/3.9		1	2.25	
2/1/2011	1342	SN/4.4		1	2.25	
2/1/2011	1018	TUD/0.0		32	2.34	
2/1/2011	1058	TUD/0.4		4	3.62	
2/1/2011	1120	TUD/0.5		12	3.57	
2/1/2011	1039	UVD/0.0		102	1.79	
2/8/2011	1305	AND/0.0		1	6.11	
2/8/2011	1354	AND/1.71		1	4.93	
2/8/2011	1150	HO/0.0		12	5.31	
2/8/2011	1026	SA/0.15		8	5.19	
2/8/2011	1028	SA/0.15	R	10	5.19	
2/8/2011	1028	SA/0.15	R	6		
2/8/2011	1045	SA/0.4		1	5.16	
2/8/2011	1053	SA/0.5		2	5.18	
2/8/2011	1133	SA/0.7		8	5.04	21.9
2/8/2011	1152	SA/1.0		6	4.94	
2/8/2011	959	SN/0.2		8	5.07	
2/8/2011	1001	SN/0.2	R	4	5.08	
2/8/2011	1001	SN/0.2	R	6		
2/8/2011	1405	SN/0.8		6	5.89	29.1
2/8/2011	1244	SN/1.6		4	5.61	
2/8/2011	1253	SN/2.3		4	5.52	
2/8/2011	1317	SN/3.5		2	4.49	
2/8/2011	1325	SN/3.9		1	4.36	
2/8/2011	1337	SN/4.4		1	4.30	
2/8/2011	1024	TUD/0.0		10	5.73	
2/8/2011	1101	TUD/0.4		6	6.23	
2/8/2011	1126	TUD/0.5		2	5.82	
2/8/2011	1041	UVD/0.0		134	5.30	
3/3/2011	1312	AND/0.0		1	5.07	
3/3/2011	1404	AND/1.71		1	4.40	
3/3/2011	1002	HO/0.0		2	4.66	

Table A-1. Fecal coliform, temperature, and flow data collected bimonthly in the Discovery Bay watershed from February 2007 to September 2011.

DATE	TIME	Station	Replicate	Fecal Coliform (FC/100 mL)	Temp (°C)	Flow (cfs)
3/3/2011	1038	SA/0.15		2	3.96	
3/3/2011	1040	SA/0.15	R	2		
3/3/2011	1040	SA/0.15	R	2	3.97	
3/3/2011	1058	SA/0.4		2	3.90	
3/3/2011	1105	SA/0.5		4	3.89	
3/3/2011	1140	SA/0.7		8	3.90	44.0
3/3/2011	1204	SA/1.0		1	3.89	
3/3/2011	1013	SN/0.2		26	3.79	
3/3/2011	1015	SN/0.2	R	26		
3/3/2011	1015	SN/0.2	R	16	3.80	
3/3/2011	1415	SN/0.8		12	5.44	45.7
3/3/2011	1247	SN/1.6		1	4.84	
3/3/2011	1259	SN/2.3		1	4.92	
3/3/2011	1327	SN/3.5		1	4.02	
3/3/2011	1337	SN/3.9		4	3.86	
3/3/2011	1349	SN/4.4		2	3.76	
3/3/2011	1035	TUD/0.0		22	5.19	
3/3/2011	1112	TUD/0.4		32	5.47	
3/3/2011	1133	TUD/0.5		10	4.74	
3/3/2011	1055	UVD/0.0		20	5.28	
3/29/2011	1342	AND/0.0		2	5.82	
3/29/2011	1431	AND/1.71		18	7.56	
3/29/2011	1219	HO/0.0		1	6.40	
3/29/2011	1041	SA/0.15		22	6.18	
3/29/2011	1041	SA/0.15	R	1	6.18	
3/29/2011	1041	SA/0.15	R	2	6.18	
3/29/2011	1105	SA/0.4		2	6.25	
3/29/2011	1114	SA/0.5		2	6.25	
3/29/2011	1216	SA/0.7		1	6.76	28.3
3/29/2011	1241	SA/1.0		2	7.31	
3/29/2011	1003	SN/0.2		6	6.75	
3/29/2011	1012	SN/0.2	R	1	6.79	
3/29/2011	1012	SN/0.2	R	6	6.75	
3/29/2011	1312	SN/1.6		10	7.28	
3/29/2011	1324	SN/2.3		10	9.34	
3/29/2011	1351	SN/3.5		1	5.78	
3/29/2011	1403	SN/3.9		2	5.78	
3/29/2011	1417	SN/4.4		4	6.77	
3/29/2011	1037	TUD/0.0		8	7.20	
3/29/2011	1122	TUD/0.4		2	7.84	
3/29/2011	1143	TUD/0.5		4	7.38	
3/29/2011	1059	UVD/0.0		6	6.61	
4/13/2011	1325	AND/0.0		6	9.90	
4/13/2011	1440	AND/1.71		2	6.59	
4/13/2011	1235	HO/0.0		1	7.49	
4/13/2011	1030	SA/0.15		8	6.08	
4/13/2011	1033	SA/0.15	R	4	6.10	
4/13/2011	1033	SA/0.15	R	4	6.10	
4/13/2011	1111	SA/0.4		2	6.46	

Table A-1. Fecal coliform, temperature, and flow data collected bimonthly in the Discovery Bay watershed from February 2007 to September 2011.

DATE	TIME	Station	Replicate	Fecal Coliform (FC/100 mL)	Temp (°C)	Flow (cfs)
4/13/2011	1121	SA/0.5		2	6.52	
4/13/2011	1205	SA/0.7		1	6.55	21.2
4/13/2011	1237	SA/1.0		4	6.58	
4/13/2011	1005	SN/0.2		2	6.62	
4/13/2011	1007	SN/0.2	R	4	6.63	
4/13/2011	1007	SN/0.2	R	2	6.63	
4/13/2011	1422	SN/0.8		12	8.19	66.4
4/13/2011	1307	SN/1.6		2	8.23	
4/13/2011	1317	SN/2.3		8	8.25	
4/13/2011	1337	SN/3.5		4	6.23	
4/13/2011	1348	SN/3.9		1	6.06	
4/13/2011	1406	SN/4.4		1	5.98	
4/13/2011	1027	TUD/0.0		28	6.68	
4/13/2011	1129	TUD/0.4		4	8.80	
4/13/2011	1150	TUD/0.5		1	7.54	
4/13/2011	1113	UVD/0.0		42	7.05	
4/26/2011	1242	AND/0.0		2	10.78	
4/26/2011	1326	AND/1.71		2	7.29	
4/26/2011	1203	HO/0.0		2	7.43	
4/26/2011	1049	SA/0.15		38	6.92	
4/26/2011	1051	SA/0.15	R	38	6.95	
4/26/2011	1051	SA/0.15	R	42	6.95	
4/26/2011	1108	SA/0.4		8	6.85	
4/26/2011	1115	SA/0.5		6	6.81	
4/26/2011	1145	SA/0.7		2	6.86	14.9
4/26/2011	1205	SA/1.0		1	6.83	
4/26/2011	1026	SN/0.2		2	7.52	
4/26/2011	1027	SN/0.2	R	10	7.53	
4/26/2011	1027	SN/0.2	R	10	7.53	
4/26/2011	1339	SN/0.8		10	8.12	48.6
4/26/2011	1225	SN/1.6		4	7.97	
4/26/2011	1233	SN/2.3		1	7.89	
4/26/2011	1255	SN/3.5		1	6.05	
4/26/2011	1302	SN/3.9		2	6.13	
4/26/2011	1313	SN/4.4		2	6.15	
4/26/2011	1044	TUD/0.0		16	7.70	
4/26/2011	1122	TUD/0.4		1	8.60	
4/26/2011	1139	TUD/0.5		4	7.75	
4/26/2011	1106	UVD/0.0		564	7.86	
5/17/2011	1258	AND/0.0		8	13.31	
5/17/2011	1357	AND/1.71		20	9.05	
5/17/2011	1200	HO/0.0		4	9.06	
5/17/2011	1018	SA/0.15		46	8.16	
5/17/2011	1020	SA/0.15	R	42	8.18	
5/17/2011	1020	SA/0.15	R	36	8.18	
5/17/2011	1042	SA/0.4		26	8.27	
5/17/2011	1050	SA/0.5		14	8.20	
5/17/2011	1130	SA/0.7		6	8.22	94.1
5/17/2011	1202	SA/1.0		10	8.35	

Table A-1. Fecal coliform, temperature, and flow data collected bimonthly in the Discovery Bay watershed from February 2007 to September 2011.

DATE	TIME	Station	Replicate	Fecal Coliform (FC/100 mL)	Temp (°C)	Flow (cfs)
5/17/2011	950	SN/0.2		12	8.67	
5/17/2011	953	SN/0.2	R	42	8.68	
5/17/2011	953	SN/0.2	R	12	8.68	
5/17/2011	1412	SN/0.8		14	10.21	161.0
5/17/2011	1227	SN/1.6		4	9.40	
5/17/2011	1244	SN/2.3		4	9.56	
5/17/2011	1322	SN/3.5		4	7.90	
5/17/2011	1334	SN/3.9		6	7.86	
5/17/2011	1345	SN/4.4		1	7.91	
5/17/2011	1016	TUD/0.0		102	9.69	
5/17/2011	1101	TUD/0.4		20	10.37	
5/17/2011	1123	TUD/0.5		10	9.47	
5/24/2011	1257	AND/0.0		2	14.38	
5/24/2011	1357	AND/1.71		8	8.83	
5/24/2011	1200	HO/0.0		2	8.29	
5/24/2011	1018	SA/0.15		24	7.84	
5/24/2011	1022	SA/0.15	R	16	7.85	
5/24/2011	1022	SA/0.15	R	18	7.85	
5/24/2011	1045	SA/0.4		8	7.97	
5/24/2011	1054	SA/0.5		4	7.97	
5/24/2011	1133	SA/0.7		2	8.05	24.7
5/24/2011	1203	SA/1.0		12	8.08	
5/24/2011	952	SN/0.2		20	9.28	
5/24/2011	955	SN/0.2	R	14	9.28	
5/24/2011	955	SN/0.2	R	16	9.28	
5/24/2011	1409	SN/0.8		6	10.35	49.6
5/24/2011	1231	SN/1.6		12	9.86	
5/24/2011	1244	SN/2.3		1	10.04	
5/24/2011	1326	SN/3.5		4	7.91	
5/24/2011	1333	SN/3.9		1	7.79	
5/24/2011	1345	SN/4.4		1	7.73	
5/24/2011	1016	TUD/0.0		10	8.37	
5/24/2011	1103	TUD/0.4		8	9.01	
5/24/2011	1127	TUD/0.5		6	8.65	
5/24/2011	1044	UVD/0.0		32	8.39	
6/7/2011	1247	AND/0.0		16	18.25	
6/7/2011	1348	AND/1.71		54	11.12	
6/7/2011	1148	HO/0.0		44	11.09	
6/7/2011	1015	SA/0.15		16	10.72	
6/7/2011	1017	SA/0.15	R	8	10.72	
6/7/2011	1017	SA/0.15	R	22	10.72	
6/7/2011	1040	SA/0.4		12	10.72	
6/7/2011	1049	SA/0.5		18	10.68	
6/7/2011	1124	SA/0.7		8	10.52	25.4
6/7/2011	1149	SA/1.0		24	10.44	
6/7/2011	947	SN/0.2		42	12.75	
6/7/2011	949	SN/0.2	R	32	12.75	
6/7/2011	949	SN/0.2	R	30	12.75	
6/7/2011	1403	SN/0.8		20	12.58	41.5



Table A-1. Fecal coliform, temperature, and flow data collected bimonthly in the Discovery Bay watershed from February 2007 to September 2011.

DATE	TIME	Station	Replicate	Fecal Coliform (FC/100 mL)	Temp (°C)	Flow (cfs)
6/7/2011	1217	SN/1.6		12	12.47	
6/7/2011	1237	SN/2.3		10	12.48	
6/7/2011	1259	SN/3.5		18	9.96	
6/7/2011	1306	SN/3.9		42	9.91	
6/7/2011	1328	SN/4.4		46	9.86	
6/7/2011	1010	TUD/0.0		12	11.90	
6/7/2011	1056	TUD/0.4		58	11.80	
6/7/2011	1115	TUD/0.5		46	11.06	
6/7/2011	1036	UVD/0.0		12	12.57	
6/28/2011	1318	AND/0.0		4	18.06	
6/28/2011	1410	AND/1.71		16	11.94	
6/28/2011	1203	HO/0.0		28	12.16	
6/28/2011	1023	SA/0.15		44	11.40	
6/28/2011	1026	SA/0.15	R	32	11.39	
6/28/2011	1026	SA/0.15	R	36	11.39	
6/28/2011	1049	SA/0.4		42	11.27	
6/28/2011	1104	SA/0.5		32	11.27	
6/28/2011	1143	SA/0.7		36	11.12	9.4
6/28/2011	1207	SA/1.0		56	11.10	
6/28/2011	954	SN/0.2		102	12.81	
6/28/2011	955	SN/0.2	R	100	12.82	
6/28/2011	955	SN/0.2	R	108	12.82	
6/28/2011	1422	SN/0.8		62	13.67	25.1
6/28/2011	1258	SN/1.6		58	13.44	
6/28/2011	1307	SN/2.3		750	13.38	
6/28/2011	1330	SN/3.5		26	11.38	
6/28/2011	1337	SN/3.9		28	11.36	
6/28/2011	1355	SN/4.4		36	11.31	
6/28/2011	1019	TUD/0.0		44	12.27	
6/28/2011	1114	TUD/0.4		86	12.47	
6/28/2011	1136	TUD/0.5		16	11.43	
6/28/2011	1047	UVD/0.0		26	14.25	
7/5/2011	1330	AND/0.0		8	20.20	
7/5/2011	1424	AND/1.71		16	11.78	
7/5/2011	1224	HO/0.0		12	11.55	
7/5/2011	1037	SA/0.15		22	11.04	
7/5/2011	1039	SA/0.15	R	28	11.07	
7/5/2011	1113	SA/0.4		36	11.10	
7/5/2011	1132	SA/0.5		36	11.06	
7/5/2011	1247	SA/0.7		20	11.21	8.1
7/5/2011	1226	SA/1.0		14	13.95	
7/5/2011	1004	SN/0.2		34	12.49	
7/5/2011	1007	SN/0.2	R	32	12.51	
7/5/2011	1435	SN/0.8		62	14.85	27.6
7/5/2011	1300	SN/1.6		80	13.94	
7/5/2011	1312	SN/2.3		34	14.14	
7/5/2011	1347	SN/3.5		30	11.80	
7/5/2011	1356	SN/3.9		54	11.87	
7/5/2011	1410	SN/4.4		40	11.89	

Table A-1. Fecal coliform, temperature, and flow data collected bimonthly in the Discovery Bay watershed from February 2007 to September 2011.

DATE	TIME	Station	Replicate	Fecal Coliform (FC/100 mL)	Temp (°C)	Flow (cfs)
7/5/2011	1034	TUD/0.0		16	11.16	
7/5/2011	1143	TUD/0.4		58	13.58	
7/5/2011	1207	TUD/0.5		32	11.73	
7/5/2011	1111	UVD/0.0		10	14.22	
7/26/2011	1330	AND/0.0		12	19.04	
7/26/2011	1340	AND/1.71		102	12.41	
7/26/2011	1223	HO/0.0		12	13.17	
7/26/2011	1021	SA/0.15		46	12.16	
7/26/2011	1026	SA/0.15	R	94	12.16	
7/26/2011	1026	SA/0.15	R	108	12.16	
7/26/2011	1053	SA/0.4		112	12.07	
7/26/2011	1104	SA/0.5		108	12.04	
7/26/2011	1147	SA/0.7		118	11.95	8.2
7/26/2011	1225	SA/1.0		84	11.86	
7/26/2011	955	SN/0.2		90	14.20	
7/26/2011	957	SN/0.2	R	90	14.20	
7/26/2011	957	SN/0.2	R	116	14.20	
7/26/2011	1423	SN/0.8		94	14.21	20.5
7/26/2011	1308	SN/1.6		120	14.09	
7/26/2011	1320	SN/2.3		88	14.09	
7/26/2011	1349	SN/3.5		62	11.73	
7/26/2011	1357	SN/3.9		36	11.67	
7/26/2011	1407	SN/4.4		68	11.62	
7/26/2011	1019	TUD/0.0		164	13.32	
7/26/2011	1114	TUD/0.4		312	12.89	
7/26/2011	1138	TUD/0.5		400	12.39	
7/26/2011	1050	UVD/0.0		52	14.79	
8/9/2011	1241	AND/0.0		22	18.60	
8/9/2011	1328	AND/1.71		72	12.77	
8/9/2011	1128	HO/0.0		10	13.12	
8/9/2011	1000	SA/0.15		40	12.11	
8/9/2011	1002	SA/0.15	R	60		
8/9/2011	1002	SA/0.15	R	4	12.11	
8/9/2011	1220	SA/0.4		56	12.09	
8/9/2011	1034	SA/0.5		52	12.05	
8/9/2011	1110	SA/0.7		62	11.97	3.5
8/9/2011	1130	SA/1.0		46	11.88	
8/9/2011	933	SN/0.2		166	13.99	
8/9/2011	935	SN/0.2	R	210		
8/9/2011	935	SN/0.2	R	200	13.99	
8/9/2011	1340	SN/0.8		98	14.26	9.6
8/9/2011	1219	SN/1.6		62	14.07	
8/9/2011	1231	SN/2.3		26	14.12	
8/9/2011	1253	SN/3.5		98	12.38	
8/9/2011	1300	SN/3.9		62	12.33	
8/9/2011	1312	SN/4.4		36	12.26	
8/9/2011	956	TUD/0.0		18	12.90	
8/9/2011	1046	TUD/0.4		164	12.68	
8/9/2011	1105	TUD/0.5		90	12.21	

Table A-1. Fecal coliform, temperature, and flow data collected bimonthly in the Discovery Bay watershed from February 2007 to September 2011.

DATE	TIME	Station	Replicate	Fecal Coliform (FC/100 mL)	Temp (°C)	Flow (cfs)
8/9/2011	1023	UVD/0.0		38	13.90	
8/23/2011	1307	AND/0.0		26	19.42	
8/23/2011	1356	AND/1.71		110	14.18	
8/23/2011	1220	HO/0.0		6	14.77	
8/23/2011	1040	SA/0.15		50	13.45	
8/23/2011	1042	SA/0.15	R	66	13.45	
8/23/2011	1106	SA/0.4		90	13.30	
8/23/2011	1117	SA/0.5		68	13.24	
8/23/2011	1158	SA/0.7		50	13.13	1.2
8/23/2011	1222	SA/1.0		50	13.01	
8/23/2011	1016	SN/0.2		64	15.16	
8/23/2011	1018	SN/0.2	R	20	15.16	
8/23/2011	1406	SN/0.8		38	15.84	6.5
8/23/2011	1243	SN/1.6		176	15.27	
8/23/2011	1254	SN/2.3		36	15.27	
8/23/2011	1319	SN/3.5		140	13.92	
8/23/2011	1327	SN/3.9		116	13.82	
8/23/2011	1340	SN/4.4		82	13.73	
8/23/2011	1127	TUD/0.4		140	14.14	
8/23/2011	1150	TUD/0.5		108	13.33	
8/23/2011	1104	UVD/0.0		20		
9/6/2011	1335	AND/0.0		58	17.36	
9/6/2011	1420	AND/1.71		16	13.10	
9/6/2011	1217	HO/0.0		4	12.67	
9/6/2011	1018	SA/0.15		16	11.69	
9/6/2011	1021	SA/0.15	R	4		
9/6/2011	1021	SA/0.15	R	12	11.72	
9/6/2011	1105	SA/0.4		34	11.95	
9/6/2011	1117	SA/0.5		20	11.99	
9/6/2011	1157	SA/0.7		34	11.69	1.8
9/6/2011	1222	SA/1.0		22	11.51	
9/6/2011	1012	SN/0.2		44	12.43	
9/6/2011	1014	SN/0.2	R	20		
9/6/2011	1014	SN/0.2	R	12	12.44	
9/6/2011	1430	SN/0.8		8	15.24	3.8
9/6/2011	1300	SN/1.6		10	13.56	
9/6/2011	1324	SN/2.3		20	13.94	
9/6/2011	1345	SN/3.5		70	12.85	
9/6/2011	1353	SN/3.9		10	12.69	
9/6/2011	1405	SN/4.4		6	12.73	
9/6/2011	1147	TUD/0.5		96	11.33	
9/20/2011	1345	AND/0.0		62	15.18	
9/20/2011	1446	AND/1.71		14	11.80	
9/20/2011	1220	HO/0.0		10	11.96	
9/20/2011	1045	SA/0.15		12	10.84	
9/20/2011	1050	SA/0.15	R	10	10.88	
9/20/2011	1050	SA/0.15	R	14		
9/20/2011	1109	SA/0.4		24	11.15	
9/20/2011	1121	SA/0.5		14	11.23	

Table A-1. Fecal coliform, temperature, and flow data collected bimonthly in the Discovery Bay watershed from February 2007 to September 2011.

DATE	TIME	Station	Replicate	Fecal Coliform (FC/100 mL)	Temp (°C)	Flow (cfs)
9/20/2011	1159	SA/0.7		6	10.96	1.2
9/20/2011	1224	SA/1.0		4	10.72	
9/20/2011	1011	SN/0.2		200	11.17	
9/20/2011	1013	SN/0.2	R	230	11.18	
9/20/2011	1013	SN/0.2	R	220		
9/20/2011	1456	SN/0.8		60	13.91	6.2
9/20/2011	1246	SN/1.6		30	11.85	
9/20/2011	1326	SN/2.3		24	12.32	
9/20/2011	1400	SN/3.5		10	11.46	
9/20/2011	1412	SN/3.9		6	11.32	
9/20/2011	1426	SN/4.4		20	11.34	
9/20/2011	1147	TUD/0.5		2		