



Water Quality Data Compilation and TMDL Ranking for the San Juan Islands

Abstract

Available water quality data collected within the last 10 years were compiled for the three largest of the San Juan Islands: Orcas, San Juan, and Lopez. The three study area islands were divided into 25 embayment watersheds using GIS software and digital elevation data. A ranking matrix was developed for future TMDLs in embayment watersheds, based on nine indicators of watershed condition and risk to public and aquatic health. The top five embayment watersheds from the ranking, in priority order are:

1. East Sound
2. Buck Bay
3. Friday Harbor
4. Westcott Bay
5. West Sound

Introduction

During the San Juan Basin Watershed Workshop, a need was identified to summarize available water quality information for the San Juan Islands. As a follow-up to the workshop, the Washington State Department of Ecology (Ecology) Environmental Assessment Program received a request from Ecology's Northwest Regional Office to 1) compile available water quality data for San Juan Islands; and 2) assess the relative priority of watersheds/embayments for future TMDLs.

There have been few Ecology water quality studies conducted in the San Juan Islands, and very little water quality information is available from other sources. The study area for this project is limited to the three largest islands: San Juan, Orcas, and Lopez (Figure 1). Data compiled for this project are limited to sample results collected within the last 10 years.

Objectives

1. Compile available water quality data for San Juan, Orcas, and Lopez islands collected within the last 10 years; and
2. Prioritize watersheds with water quality concerns for future TMDLs.

Methods

Data Compilation

Data were compiled from available sources of water quality information for the San Juan Islands. Government agencies and industry were contacted for water quality information and for suggestions about other possible data sources. A number of shellfish growers were contacted, but only one, Westcott Bay Sea Farms, had collected ambient water quality information. Other growers who had collected samples reported their efforts were specific to paralytic shellfish poisoning (PSP). The PSP data were not included in the database.

Watershed Ranking

The three study area islands were divided into a total of 25 watersheds. Delineation of watersheds was accomplished by using ARC/INFO/ArcView software and digital elevation data. In some cases, the watersheds of two embayments were combined. For purposes of identification, in other cases when there was no dominant bay or stream, a name was given that describes a major feature of the watershed. These 25 watersheds are displayed on Figure 2.

To prioritize candidate watersheds for TMDLs in the San Juan Islands, a matrix table was developed for ranking. Nine indicators of water quality and risk to public and aquatic health were used to rank the 25 watersheds.

Results and Discussion

Historical Data Summary

The only current freshwater quality data on the streams in the study area is from a recent Watershed Characterization Study conducted by a San Juan County consultant (Azous, 1998). The Watershed Characterization was carried out under the WAC 400-12 process. The sampling for the Watershed Characterization occurred from May 1997 through February 1998 and included each of the three islands in the study area. The study had 21 sites on San Juan Island, 31 sites on Orcas Island, and 19 sites on Lopez Island. The San Juan Islands have very few perennial streams, so the Characterization was primarily a wet season study. On one occasion five sites were sampled in August and September on San Juan and Orcas islands.

The study measured total coliform, fecal coliform, nitrate, pH, conductance, total suspended solids (TSS), dissolved oxygen (DO), and temperature. The total coliform, fecal coliform, and nitrate analyses were performed at an accredited laboratory. All other parameters were measured in the field with a Solomat multi-probe meter, so results should be used with caution. A quality assurance (QA) review revealed concerns about the DO data; these data were not used in the analysis. Fecal coliform results above standards were found in all watersheds with more than three samples. The pH was generally between 7.0 and 8.5. The TSS results were probe measured, which is not an approved methodology. The conductivity measurements at times appeared to be reported in the wrong units. Questionable data were removed from the database.

In general, conductivity ranged from 100 to 400 $\mu\text{mhos/cm}$. Temperature is not usually a concern with a wet season study; however, an occasional value above the standard was recorded in May results. The sample locations for the Watershed Characterization are shown on Figures 3, 4, and 5. The data set can be found in Tables 2, 3, and 4.

San Juan County has recently contracted a water quality monitoring study to augment the data from the Watershed Characterization. The study will attempt to 1) identify areas of concern and provide additional baseline results, and 2) provide recommendations for a long-term monitoring program for the county. The project will have a freshwater component in the wet season and a marine embayment component during the dry season. The contractor for the study, Western Washington University's Institute for Watershed Studies (IWS), began sampling in May 1999.

Ecology has not conducted ambient stream or intensive marine water quality studies in the San Juan Islands within the last 10 years. There have been two Class II inspections during this period, both at Orcas Village Wastewater Treatment Plant (Heffner, 1991; Golding, 1997). Heffner's inspection found all NPDES permit effluent limits within range. Golding's findings were similar, with recommendations for chlorine dosing and maintenance.

Ecology's Environmental Monitoring and Trends Section has collected ambient water quality data from four marine stations in the project area within the past 10 years. Marine sites in Friday Harbor, East Sound, Lopez Sound, and Fisherman Bay have been monitored. The period of record varies for each site. Data for the Friday Harbor site (FRI001) were collected from October 1996 through September 1997 at three depths (0, 10, and 30 meters). The East Sound site (EAS001) located on Orcas Island has had data collected from November 1990 through September 1996 at two depths prior to 1992 (0 and 10 meters) and three depths (0, 10, and 30 meters) after 1992. Lopez Island has two marine sites, Lopez Sound (LOP001) and Fisherman Bay (FSH001). The Lopez Sound site has been sampled from November 1990 through September 1994 at two depths (0 and 10 meters). The Fisherman Bay site has been monitored only one year, from October 1996 through September 1997 at two depths (0 and 10 meters). The water quality parameters for the marine stations include the typical suite of conventionals plus nutrients, secchi disc, salinity, fecal coliform, chlorophyll *a*, and pheophytin.

Fecal coliform was not measured above the standards at any of the four marine stations. The Friday Harbor station (FRI001) had low DO values in October 1996 and September 1997, and low pH from May through September, throughout the water column. The East Sound station (EAS001) was generally within pH standards through the period of record. Occasional excursions beyond the standards were noted for temperature at the surface and DO at depth. The Lopez Sound station (LOP001) had occasional values for surface temperature above the standard. The DO excursions were generally at depth but were also found at the surface on four occasions. The pH was always within range. The Fisherman Bay station (FSH001) had excursions for surface temperature in June, July, and September 1997 (no results for temperature, DO, or pH in August). The DO was below standards in October 1997, and below pH standards in May, June, July, and September 1997, throughout the water column. Locations for these four stations are shown on Figure 6, and the data associated with these sites are in Tables 5, 6, 7, and 8.

Ecology's Environmental Monitoring and Trends Section has also collected water quality data from four lakes in the project area. Lake monitoring has occurred in Sportsman, Hummel, Mountain, and Cascade lakes. Samples were collected once in June and again in August 1997, except for Cascade Lake which was sampled in August only. If the lakes showed stratification, samples were collected from both the epilimnion and hypolimnion. In addition to the conventional parameters, fecal coliform, turbidity, total persulfate nitrogen (TPN), total phosphorous (TP), chlorophyll α , and pheophytin were analyzed in the lab.

- Sportsman Lake had high temperatures during both June and August sampling periods. The pH was high at the surface during June. The DO was low at depth in June, and low throughout the water column in August. The most notable result was the estimated 770 cfu/100 mL fecal coliform sample collected in August from the epilimnion.
- Hummel Lake had high temperatures through both sampling periods. The pH was generally within range, while the DO was low in both June and August. Nutrients were high with TPN over 1.0 mg/L and TP over 100 μ g/L during both sampling events.
- Mountain Lake had high surface temperatures during both June and August. The August DO was generally low. The DO and pH in June and August showed a spike at the thermocline likely caused by algal productivity. The most concerning result was a 240 cfu/100 mL fecal coliform result from the hypolimnion in June. Mountain Lake is the drinking water source for Olga and Doe Bay.
- Cascade Lake in August had high surface temperatures, and DO was low throughout the water column.

The lake locations within the project area are shown on Figure 6, and the data sets are presented in Table 9.

The Contaminant Studies Unit of Ecology's Environmental Assessment Program conducted a survey for contaminants in bottom sediments in late 1997. The study focused on determining levels of typical contaminants of concern for marina areas. Sites were Friday Harbor (San Juan Island), West Sound (Orcas Island), and Fisherman Bay (Lopez Island). Sediments were analyzed for metals, semivolatile organic compounds, and butyltins. Concentrations of all metals and semivolatile organic compounds were universally low. Tributyltin (TBT) was detected at several of the marinas at relatively low concentrations, with the exception of one sample from West Sound which had 5 ppm TBT. The study is titled *Chemical Contaminants In Sediments From Four San Juan Island Marinas and Boat Moorage Areas* (Serdar, in prep). The results of that study are scheduled to be published in mid-1999.

The Washington State Department of Health (DOH) has the most extensive data set for marine waters in the San Juan Islands. The DOH sampling is required under the National Shellfish Sanitation Program Model Ordinance. This ongoing program requires the DOH to collect samples from commercial shellfish production areas. Fecal coliform and temperature are the parameters of interest. The program requires a minimum of six fecal coliform samples collected per site each year. The DOH uses a systematic random sampling design and schedules are developed two months at a time. The period of record for the DOH sampling varies, but the sites

presented are currently active. Data requested from the DOH were those data collected within the last 10 years. Within Westcott and Garrison bays of San Juan Island the DOH samples 10 sites. Orcas Island has seven sites in East Sound and five sites in Buck Bay, while Lopez Island has 10 sites in Mackaye Harbor, 10 sites in Hunter/Mud Bays, four sites in Lopez Sound, six sites in Shoal Bay, and five sites in Upright Channel. For most sites, monitoring started around 1988. The DOH data show, that in general marine water quality in the monitored embayments is excellent, with only an occasional sample above the marine standard for fecal coliform. The DOH sampling locations are presented on Figures 7 through 10, and the data are contained in Tables 10 through 18.

Initially, private shellfish growers were contacted for inclusion of water quality data they may have collected. At the time of the data search, Westcott Bay Sea Farms in Westcott Bay was the only private company collecting ambient water quality information. Other companies were contacted as possible sources; however, no other company had sampled ambient water quality. A few companies had data from PSP sampling, but these data were not included in the database. Westcott Bay Seas Farms had been collecting *E. coli* samples, a subset of the fecal coliform bacteria group. The *E. coli* samples were analyzed using a non-standard analytical method that may not be applicable to marine waters (Billington, 1999). Therefore these data were not included in the analysis. Westcott Bay Sea Farms has discontinued water quality sampling; they are currently developing a plan to begin monitoring and sending their samples to an accredited laboratory.

TMDL Priority Watersheds

San Juan County completed an initial priority ranking of watersheds in 1988 under the WAC 400-12 process, listing 12 watersheds for action planning. The county has chosen to develop a single action plan for watersheds on the three largest islands instead of 12 individual plans. The 12 watersheds from the 1988 ranking are:

- 1st East Sound / Buck Bay
- 2nd Friday Harbor
- 3rd Westcott Bay / Garrison Bay
- 4th Fisherman Bay
- 5th Roche Harbor
- 6th Hunter Bay / Mud Bay
- 7th West Sound
- 8th-9th Deer Harbor
- 8th-9th False Bay

The San Juan Islands have no TMDLs conducted to date and there are no waters within the study area listed on the 1996 303(d). The proposed 1998 303(d) list has one waterbody listed for fecal coliform, the San Juan Channel (WA-02-0030) which is inner Friday Harbor under the new waterbody identification system.

The unique geography of the San Juans allows for few perennial streams and many small intermittent streams. The majority of watersheds are small, around five square miles or less (Garland, 1996). Only four streams in the study area are known to support anadromous fish. Typical TMDLs completed by Ecology have been on larger rivers and streams. In keeping with

the watershed approach and the hydrology of the San Juan Islands, it makes sense to identify TMDL candidates based on the watershed of the embayments rather than individual streams. Embayment watersheds used in the ranking are displayed on Figure 2.

The following nine categories were used for prioritizing TMDL candidate watersheds:

Water Quality - Fresh

Fecal coliform was chosen as the freshwater quality parameter for ranking watersheds. It is considered a good indicator of water quality for nonpoint sources of pollution. The fecal coliform data were sorted by site location into watersheds. Eleven of the 25 watersheds had sufficient fecal coliform data for ranking. The first level of the water quality standard in class "AA" fresh waters for fecal coliform is not to exceed a geometric mean of 50 cfu/100 mL. A percentage was calculated for the total number of samples exceeding the water quality standard from all stations within a watershed. The percentages from these watersheds were ordered from 1 to 11. The ordered list naturally clustered into three groups. Values assigned to each watershed ranged from 1 to 3. The higher ranked watersheds were given a 3, the intermediate watersheds were assigned a 2, and a 1 was given to the lowest ranked.

Water Quality - Marine

The same approach used for freshwater data was used for the marine data. Ten of the 25 watershed embayments had fecal coliform data for evaluation. The first level of the water quality standard for fecal coliform in class "AA" marine waters is not to exceed a geometric mean of 14 cfu/100 mL. A percentage was calculated for the total number of samples exceeding the water quality standard from all stations within a watershed. The percentages from these watersheds were ordered from 1 to 10. The ordered list naturally clustered into three groups. Values assigned to each watershed ranged from 1 to 3. The higher ranked watersheds were given a 3, the intermediate watersheds were assigned a 2, and a 1 was given to the lowest ranked.

Water Quality - Lakes

Only four lakes in the San Juan Islands have been sampled. Three of the four lakes had fecal coliform data. In the case of Cascade Lake on Orcas Island, fecal coliform samples were not analyzed. Other water quality parameters like total phosphorus and dissolved oxygen were compared to criteria or recommended standards for a relative ranking of all four lakes. The water quality standard for fecal coliform in lakes is the same as the class "AA" standard in fresh water. The values assigned to the lakes ranged from 1 to 3.

WAC 400-12 Ranking

In 1988, the San Juan County Watershed Management Committee ranked 12 watersheds under the WAC 400-12 process. The committee was made up of members with a role in the development and implementation of a watershed action plan for the islands. The ranking was included as a category to recognize the watershed committee's planning efforts and public support. The value for ranking the WAC 400-12 watersheds ranged from 1 to 3.

Surface Source for Public Drinking Water Systems

Maintaining good water quality for surface sources of public drinking water systems requires special attention. The quality of those surface sources could also be considered an indicator of watershed health. Watersheds were ranked as either having a surface source for drinking water or not. Five watersheds had surface sources for public drinking water systems (Heater, 1999). A value of 3 was assigned to watersheds with a surface drinking water source present, and a 0 assigned to those watersheds without.

Commercial Shellfish

Commercial shellfish areas require high quality water to protect public health. The DOH National Shellfish Sanitation Program monitors embayments with commercial shellfish. Eight embayments with commercial shellfish areas were identified. A value of 2 was given to watershed embayments with commercial shellfish, and 0 to those embayments without.

Public Shellfish Beaches

Public shellfish beaches also require high quality water to protect public health. Currently, there is no routine monitoring program for public shellfish beaches. To represent this potential risk, public shellfish beds were identified using maps from the Washington Department of Fisheries guide called *Puget Sound Public Shellfish Sites* (Scholz and Hovis, 1989). The linear feet of public shellfish beaches were estimated by plotting beach length from the maps and calculating the distances using ArcView software. Twenty-two of the 25 watersheds had public shellfish beaches. The lengths of the beaches per watershed ranged from roughly 800 feet to 62,000 feet. Watershed shellfish beaches were ranked from 1 to 22 based on the total length of beach within each watershed. Values assigned to watersheds ranged from 1 to 3. Public shellfish beaches are shown on Figure 2.

Anadromous Fish Use

With the possibility of listing Puget Sound salmon under ESA, it is appropriate to consider those watersheds with anadromous fish runs. Only four streams in the study area are known to have salmon use (Heater, 1999). Those are:

Orcas Island

- Cascade Creek discharging to Buck Bay
- Outflow from Cascade Lake to East Sound

San Juan Island

- Trout Creek discharging to False Bay
- Trout Creek discharging to Garrison Bay

Watersheds with known salmon runs received a value of 3, while all other watersheds received a 0.

Regulated Facilities Municipal/Industrial

The number of pollution sources present in a watershed can be used to estimate potential urban impacts to water quality. Using Ecology's facility site database, all active permitted facilities within watersheds were located and received one point. If a NPDES permitted discharge within a watershed had more than 20 permit limit exceedances within the last five years, that facility

was given an additional point. The total number of facilities within each watershed, plus any additional points for NPDES permit exceedances, was assigned to watersheds.

Table 1 displays the results of ranking the 25 embayment watersheds. The top five watersheds in order of ranking are:

<u>Rank</u>	<u>Watershed</u>	<u>Island</u>	<u>Score</u>
1 st	East Sound	Orcas	22
2 nd	Buck Bay	Orcas	21
3 rd	Friday Harbor	San Juan	19
4 th	Westcott Bay	San Juan	14
5 th	West Sound	Orcas	13

Many of the smaller watersheds were lacking water quality information. The ranking tended to bias toward watersheds that had data. However, all of the ten highest ranked watersheds had at least one station with fecal coliform densities exceeding both levels of the class “AA” standard. Below is a list of the station per watershed with the highest fecal coliform density compared to water quality standards. The list describes the watershed, site identification, geometric mean, and the 90th percentile for fecal coliform from the top five watersheds from the ranking.

<u>Watershed</u>	<u>Site ID</u>	<u>Geometric Mean</u>	<u>90th Percentile</u>
East Sound	O11	71 cfu/100mL	716 cfu/100 mL
Buck Bay	O1	333 cfu/100 mL	2400 cfu/100 mL
Friday Harbor	SJ8	2400 cfu/100 mL	2400 cfu/100 mL
Westcott Bay	SJ6	156 cfu/100 mL	1100 cfu/100 mL
West Sound	O13	237 cfu/100 mL	1320 cfu/100 mL

Obviously, additional data would improve on the ranking process. It cannot be assumed that watersheds without data are in good condition. Additional water quality information needs to be collected in the San Juan Islands, especially in watersheds where none exists.

Recommendations

- Candidate watersheds for fecal coliform TMDLs should be selected from the highest ranked watersheds. When additional information is available, the ranking matrix should be reworked.
- Streams with violations of the fecal coliform standard sampled during San Juan County’s Watershed Characterization Study should be included on the 303(d) list.
- Freshwater resources should be evaluated in the wet season, and marine studies should be conducted in embayments during the dry season.
- San Juan County should continue to pursue grants to collect water quality information for the freshwater streams and marine embayments in the San Juan islands.

Table 1. Ranking Matrix for TMDL Priorities for San Juan Island, Orcas Island, and Lopez Island Watersheds.

Island	Watershed	Water Quality Fresh	Water Quality Marine	Water Quality Lake	WAC 400-12 Ranking	Surface Source for Public Water Systems	Commercial Shellfish Culture	Public Shellfish Beaches	Anadromous Fish Use	Regulated Facilities Municipal/Industrial	Total	Rank
San Juan	Friday Harbor	1 // 3	8 // 1	ND	3 // 3	N // 0	N // 0	14 // 2	N // 0	9 // 1 // 10	19	3
San Juan	Westcott Bay	8 // 2	4 // 3	ND	4 // 3	Y // 3	Y // 2	17 // 1	N // 0	0 // 0 // 0	14	4
San Juan	False Bay	3 // 3	ND	ND	10 // 1	Y // 3	N // 0	None	Y // 3	2 // 0 // 2	12	6
San Juan	North/Griffin Bay	7 // 2	ND	ND	NR	N // 0	N // 0	4 // 3	N // 0	4 // 0 // 4	9	10
San Juan	Sportsman Lake	ND	ND	3 // 3	NR	N // 0	N // 0	5 // 3	N // 0	2 // 0 // 2	8	12
San Juan	Garrison Bay	ISD	ISD	ND	5 // 2	N // 0	N // 0	12 // 2	Y // 3	0 // 0 // 0	7	14
San Juan	Roche Harbor	ND	ND	ND	7 // 2	N // 0	N // 0	21 // 1	N // 0	1 // 1 // 2	5	18
San Juan	Andrews Bay	ND	ND	ND	NR	N // 0	N // 0	18 // 1	N // 0	1 // 0 // 1	2	21
San Juan	American Camp	ND	ND	ND	NR	N // 0	N // 0	8 // 2	N // 0	0 // 0 // 0	2	21
San Juan	Mitchell Bay	ND	ND	ND	NR	N // 0	N // 0	None	N // 0	0 // 0 // 0	0	25
Orcas	East Sound	9 // 2	3 // 3	1 // 1	1 // 3	Y // 3	Y // 2	2 // 3	Y // 3	2 // 0 // 2	22	1
Orcas	Buck Bay	5 // 3	1 // 3	3 // 3	2 // 3	Y // 3	Y // 2	16 // 1	Y // 3	0 // 0 // 0	21	2
Orcas	West Sound	2 // 3	ND	ND	9 // 1	N // 0	N // 0	20 // 1	N // 0	7 // 1 // 8	13	5
Orcas	Deer Harbor	11 // 1	ND	ND	10 // 1	Y // 3	N // 0	15 // 1	N // 0	2 // 0 // 2	8	12
Orcas	Outer Orcas Island	ND	ND	ND	NR	N // 0	N // 0	1 // 3	N // 0	3 // 0 // 3	6	16
Orcas	Killebrew Lake	ND	ND	ND	NR	N // 0	N // 0	22 // 1	N // 0	0 // 0 // 0	1	24
Lopez	Hunter/Mud Bay	4 // 3	7 // 2	ND	8 // 2	N // 0	Y // 2	6 // 3	N // 0	0 // 0 // 0	12	6
Lopez	Lopez Sound	5 // 3	10 // 1	ND	NR	N // 0	Y // 2	7 // 3	N // 0	1 // 0 // 1	10	8
Lopez	Fisherman's Bay	10 // 2	8 // 1	ND	6 // 2	N // 0	N // 0	13 // 2	N // 0	2 // 1 // 3	10	8
Lopez	Mackaye Harbor	ISD	6 // 2	ND	NR	N // 0	Y // 2	10 // 2	N // 0	3 // 0 // 3	9	10
Lopez	Shoal Bay	ND	2 // 3	ND	NR	N // 0	Y // 2	19 // 1	N // 0	1 // 0 // 1	7	14
Lopez	Upright Channel	ND	5 // 2	ND	NR	N // 0	Y // 2	9 // 2	N // 0	0 // 0 // 0	6	16
Lopez	Swifts Bay	ISD	ND	2 // 2	NR	N // 0	N // 0	None	N // 0	1 // 0 // 1	3	19
Lopez	Southern Lopez	ND	ND	ND	NR	N // 0	N // 0	3 // 3	N // 0	0 // 0 // 0	3	19
Lopez	Lopez Airport	ND	ND	ND	NR	N // 0	N // 0	11 // 2	N // 0	0 // 0 // 0	2	21
Rank // Number Possible		1-11 // 1-3	1-10 // 1-3	1-3 // 1-3	1-10 // 1-3	Y or N // 0 or 3	Y or N // 0 or 2	1-22 // 1-3	Y or N // 0 or 3	Count**		
ISD = Insufficient Data		ND = No Data	NR = Not Ranked	NR = Not Ranked	Count** = Permitted Facilities/Facilities with >20 NPDES limit exceedances // 0-10							

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Contacts

Randy Coots Washington State Department of Ecology
 Environmental Assessment Program
 (360) 407-6690

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Waterbody Numbers

WA-02-1000
WA-02-2000
WA-02-0030
WA-02-0040
WA-02-0050
WA-02-9020
WA-02-9040
WA-02-9060
WA-02-9080

Figures

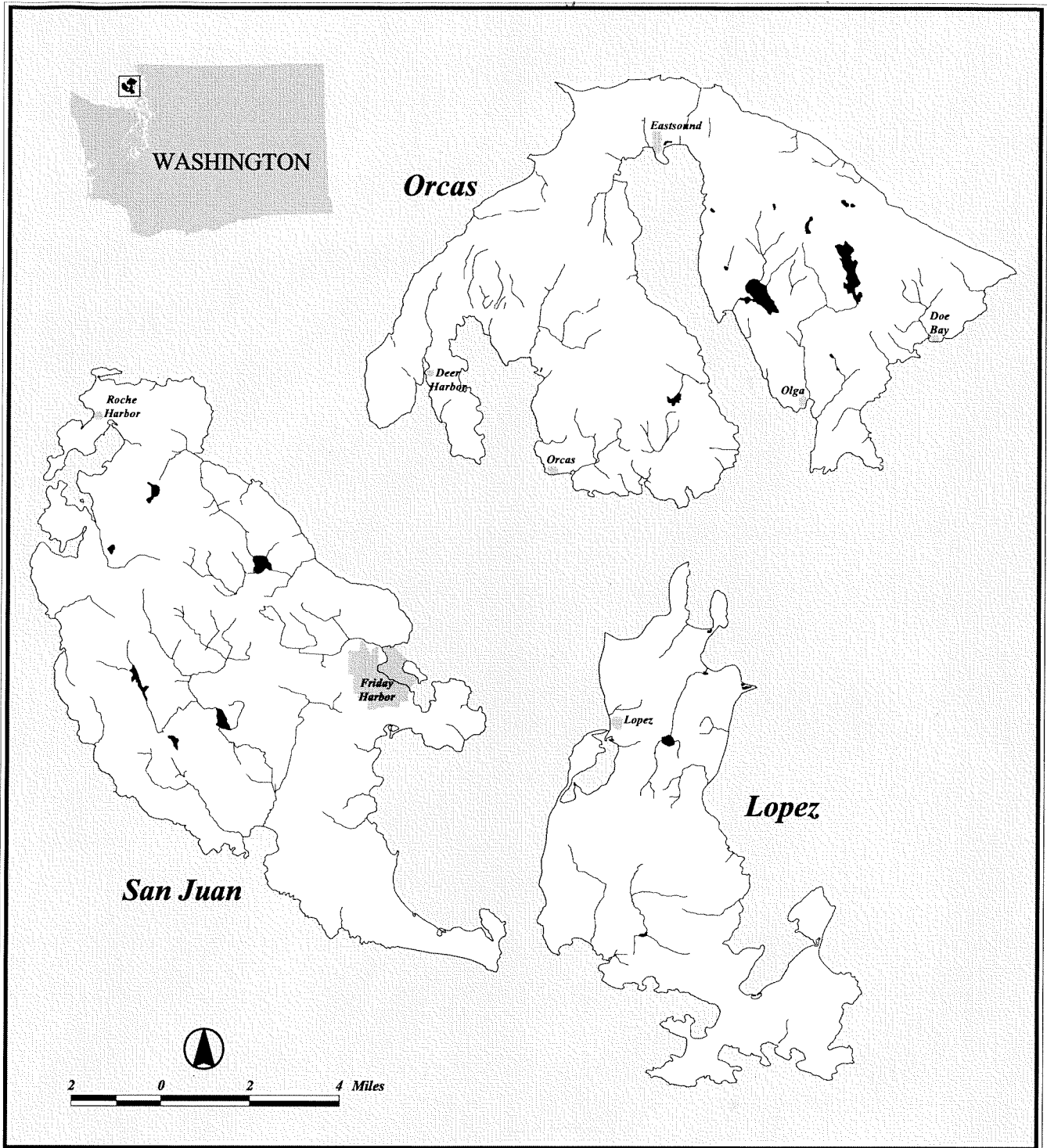


Figure 1. San Juan Islands Study Area

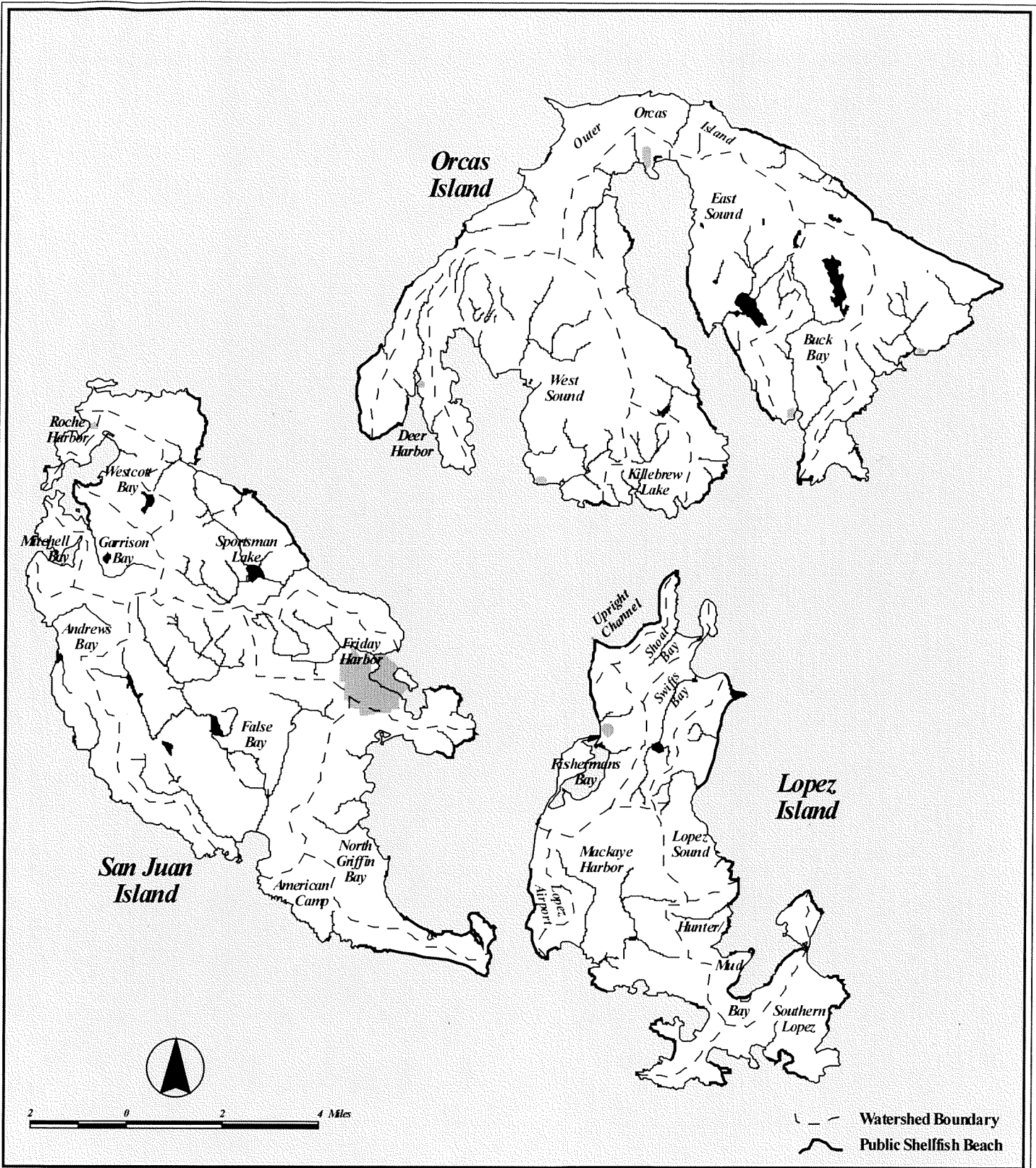


Figure 2. Study Area Watersheds and Public Shellfish Beaches in the San Juan Islands.

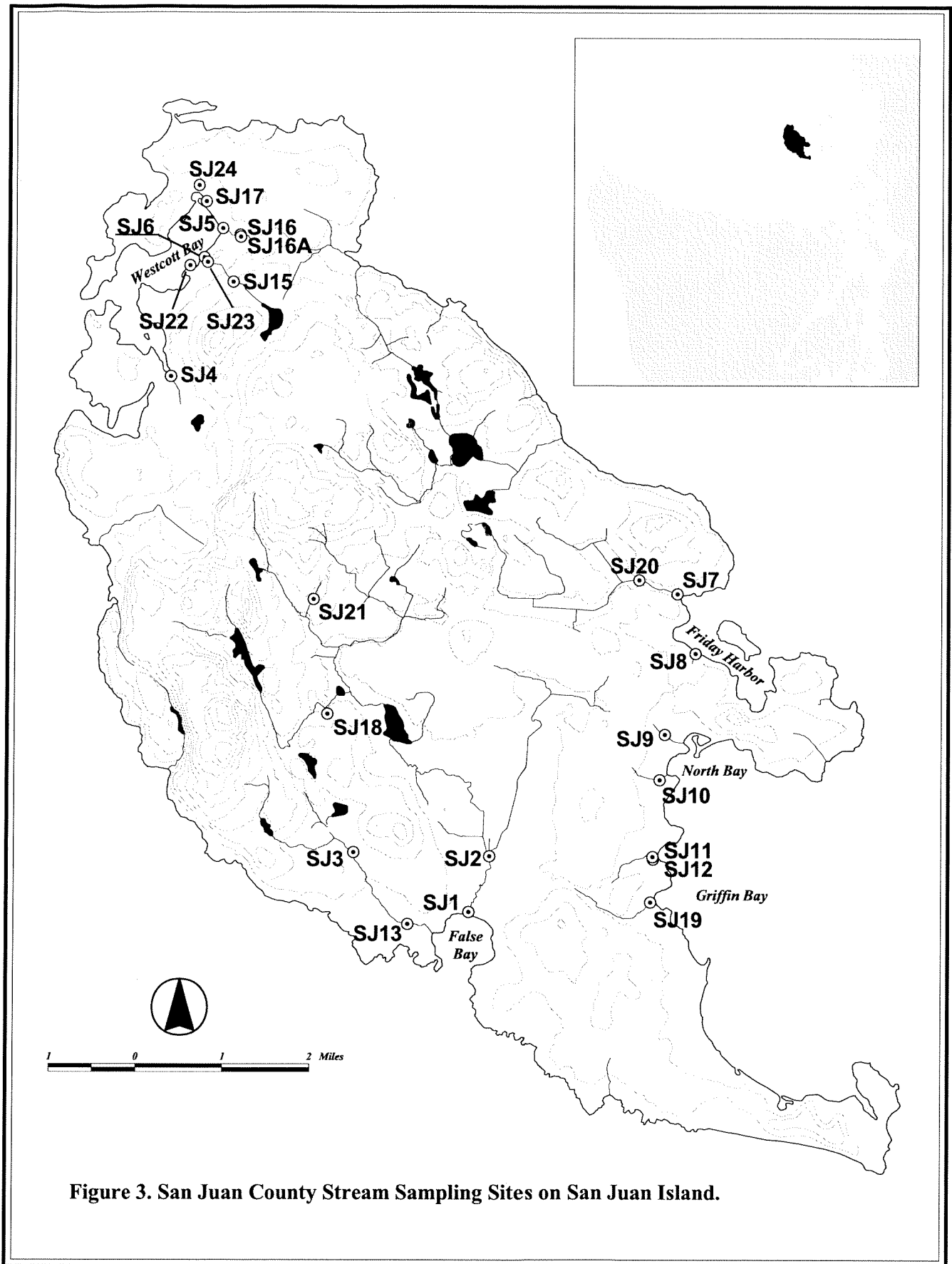


Figure 3. San Juan County Stream Sampling Sites on San Juan Island.

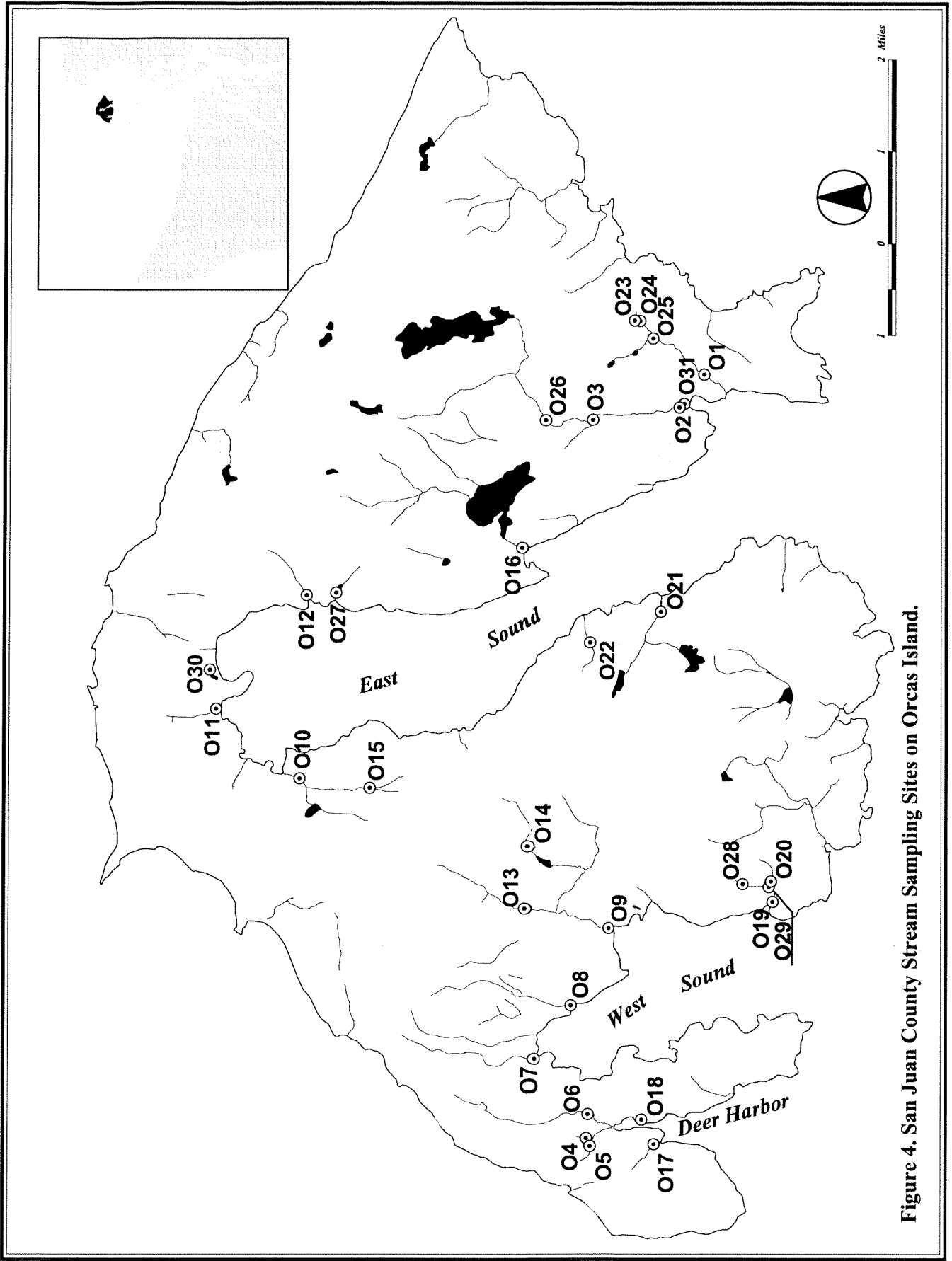


Figure 4. San Juan County Stream Sampling Sites on Orcas Island.

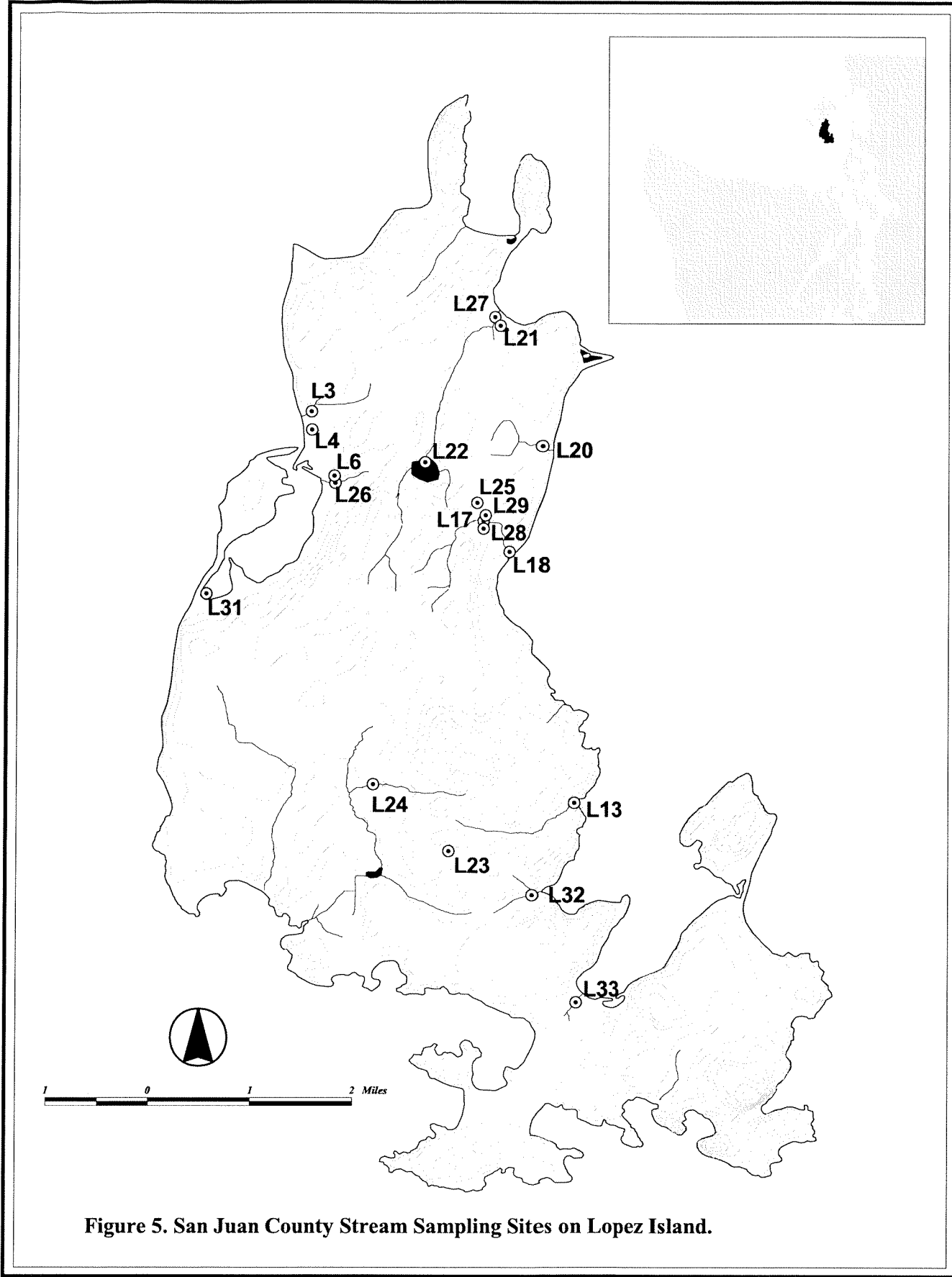


Figure 5. San Juan County Stream Sampling Sites on Lopez Island.

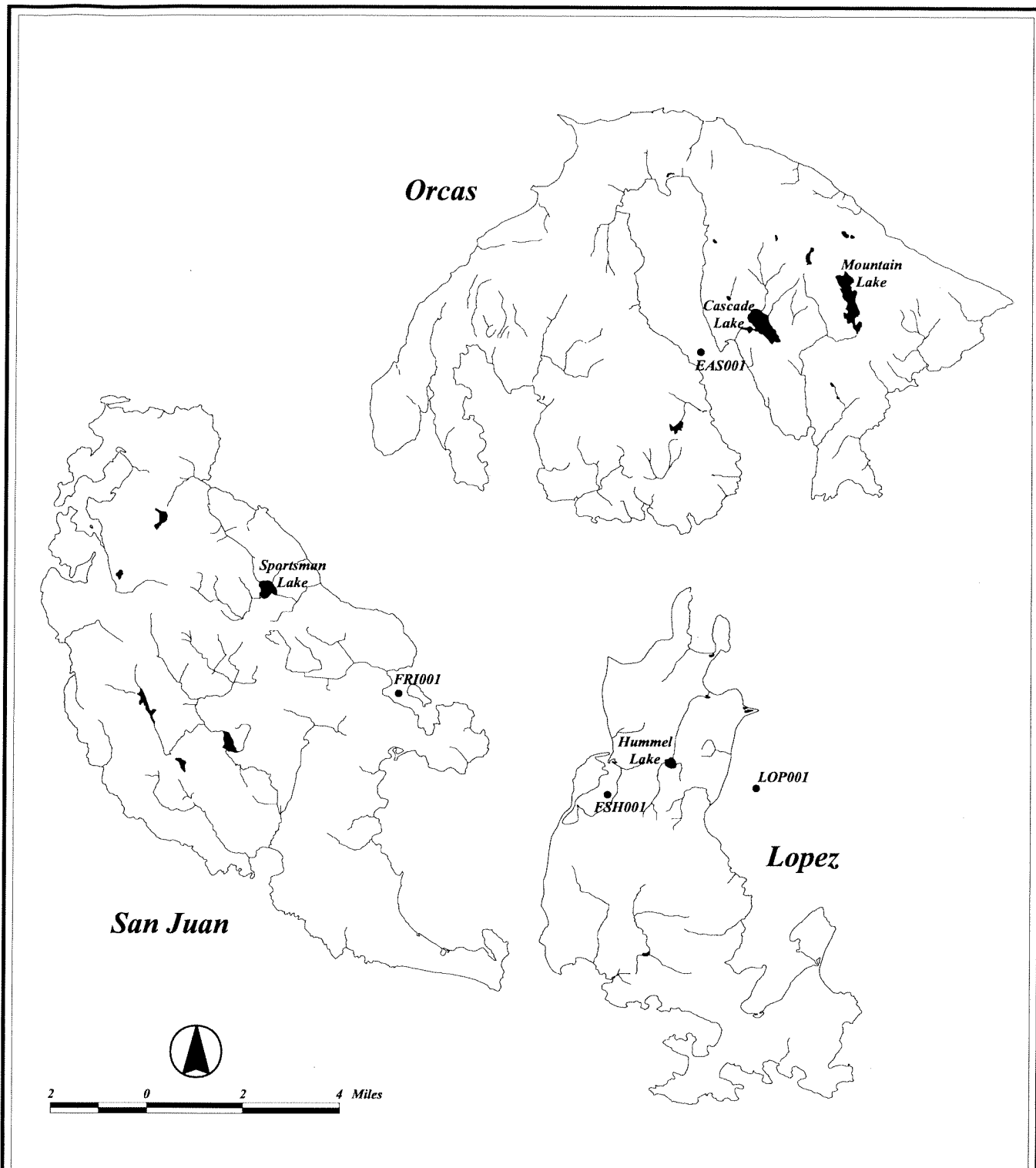


Figure 6. Ecology Ambient Monitoring Marine and Lakes Sites.

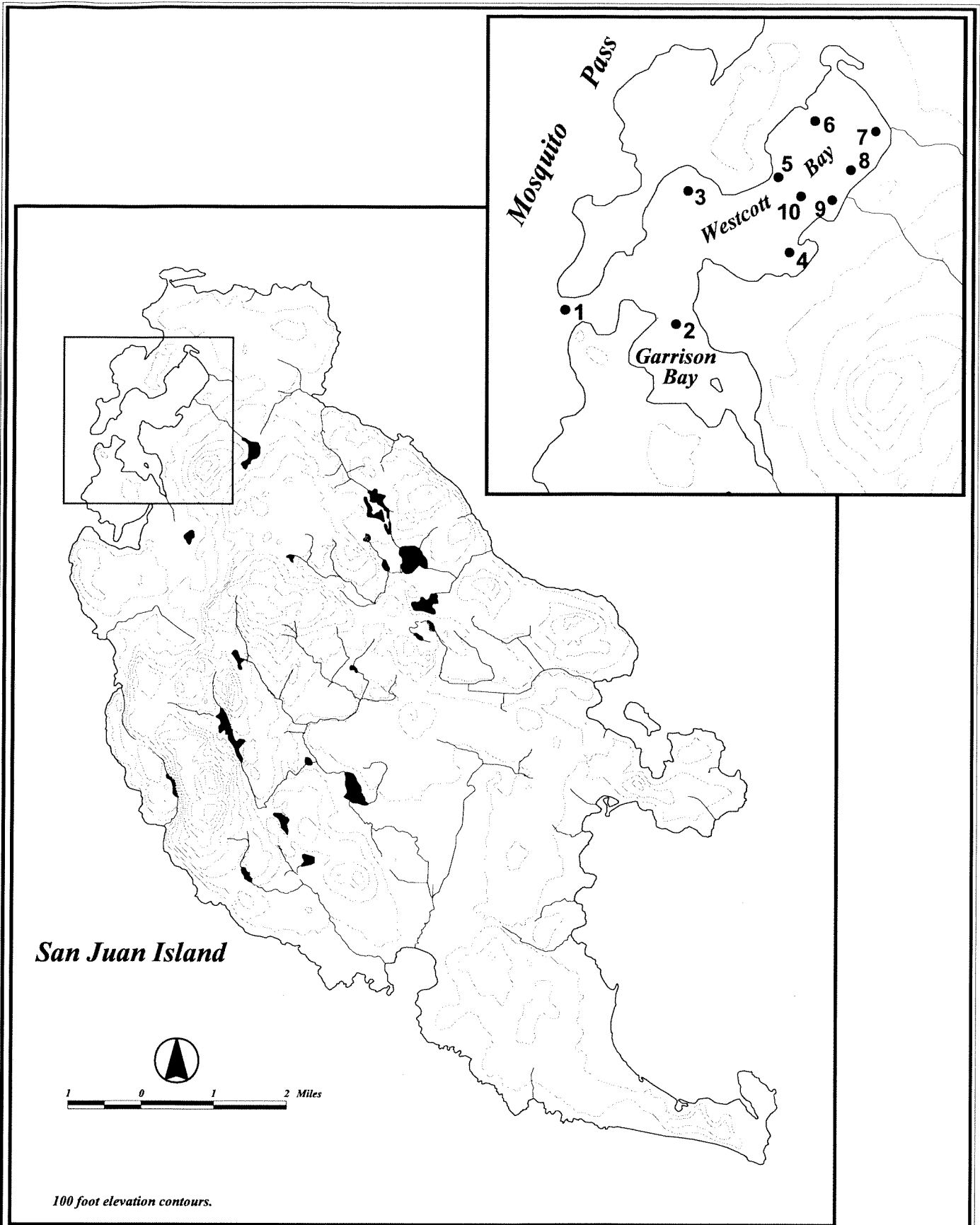


Figure 7. DOH Marine Sampling Sites in Westcott Bay.

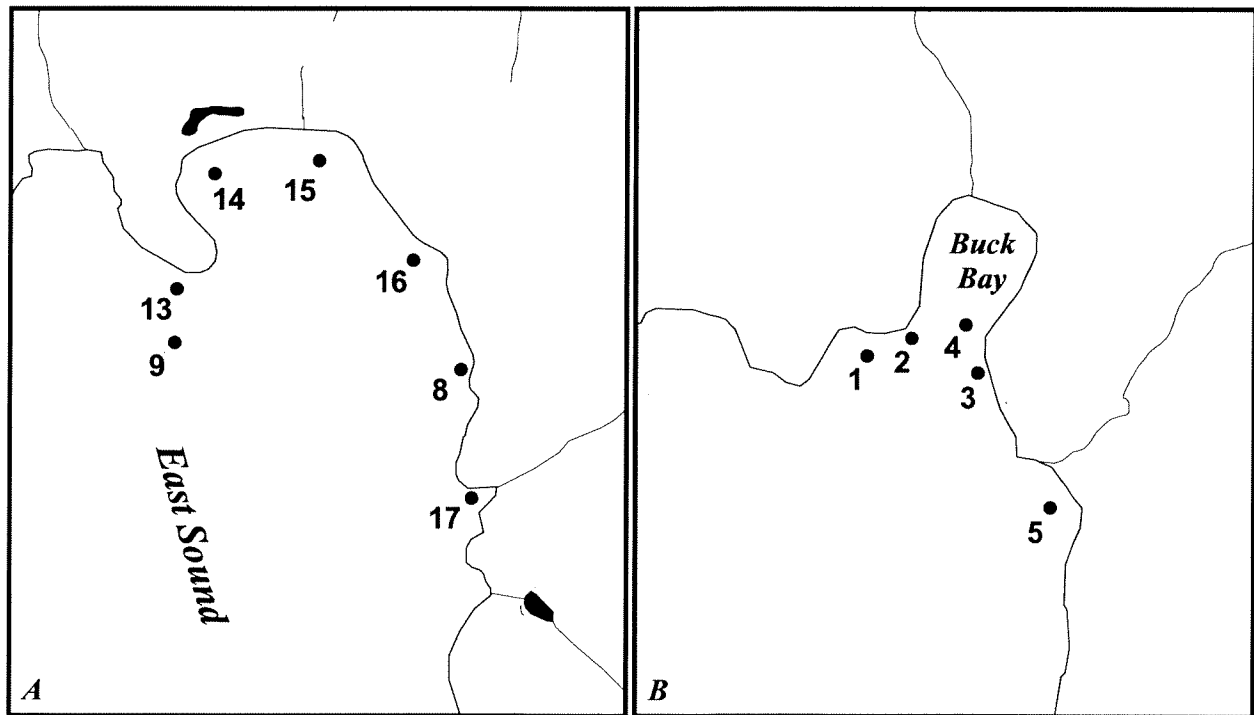
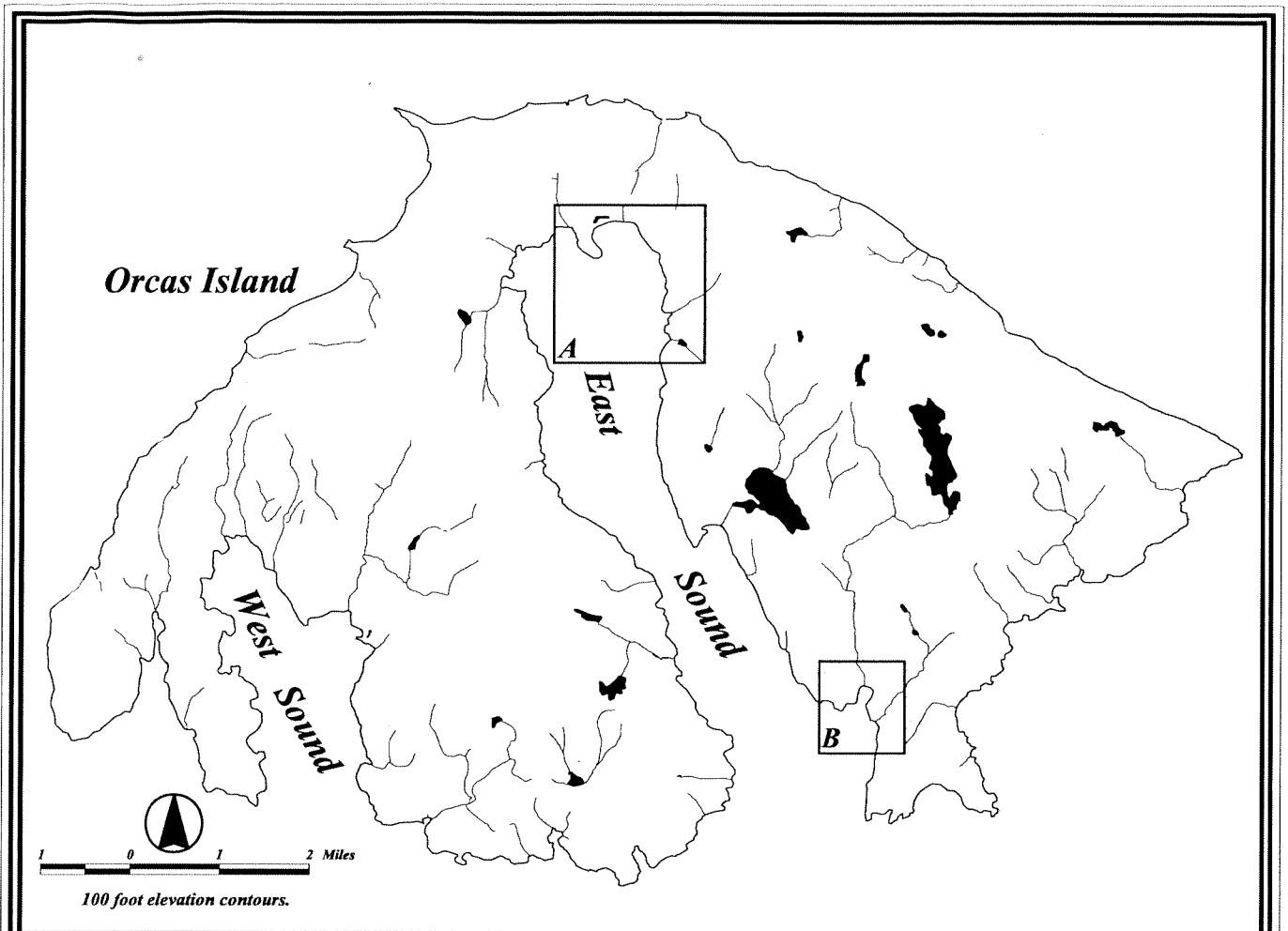


Figure 8. DOH Marine Sampling Sites in Buck Bay and East Sound.

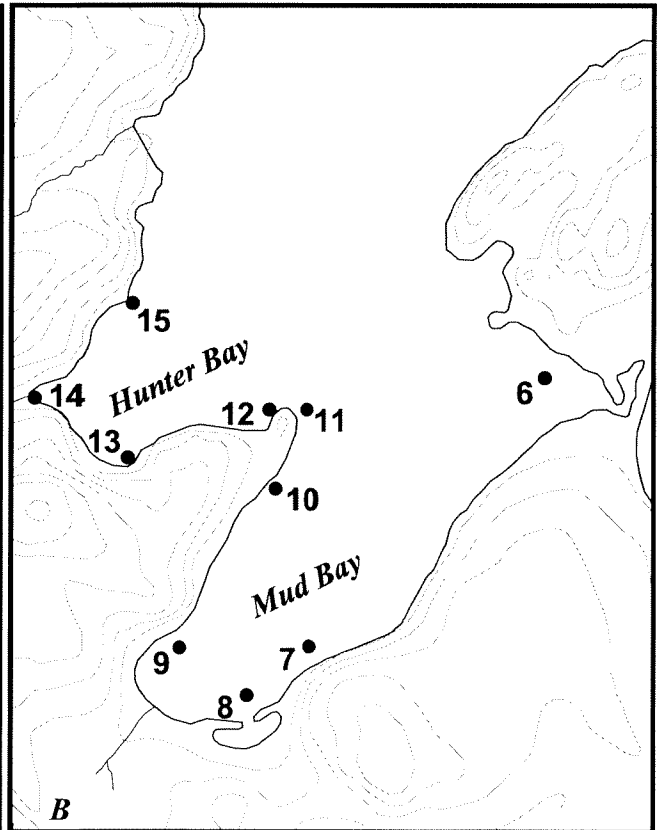
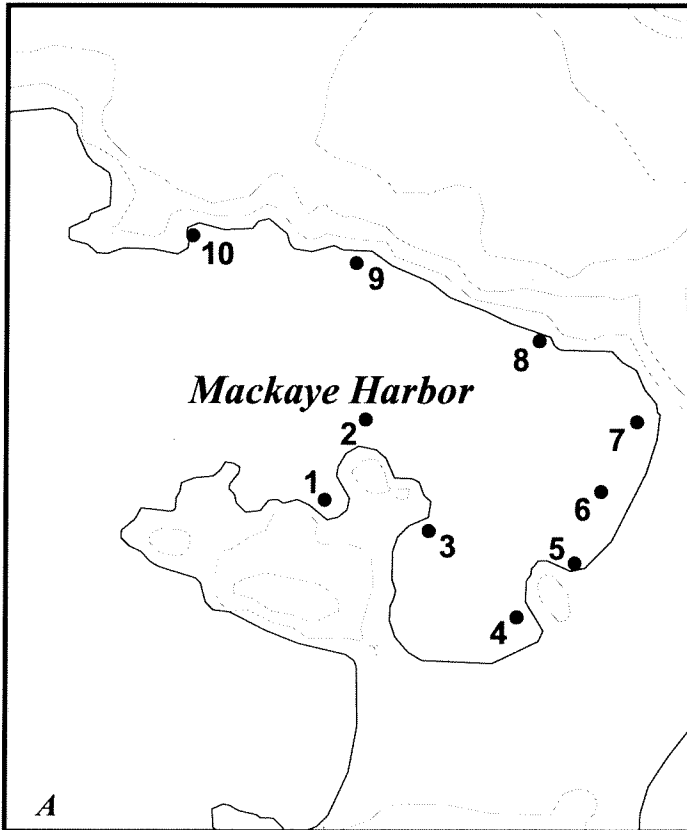
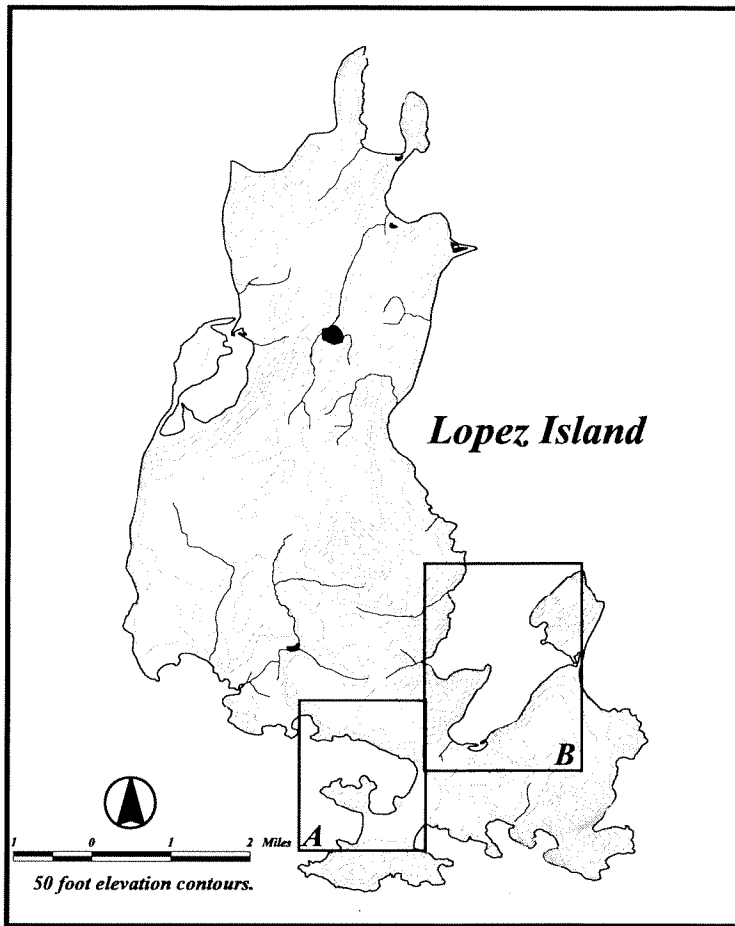


Figure 9. DOH Marine Sampling Sites in Mud Bay, Hunter Bay, and Mackaye Harbor.

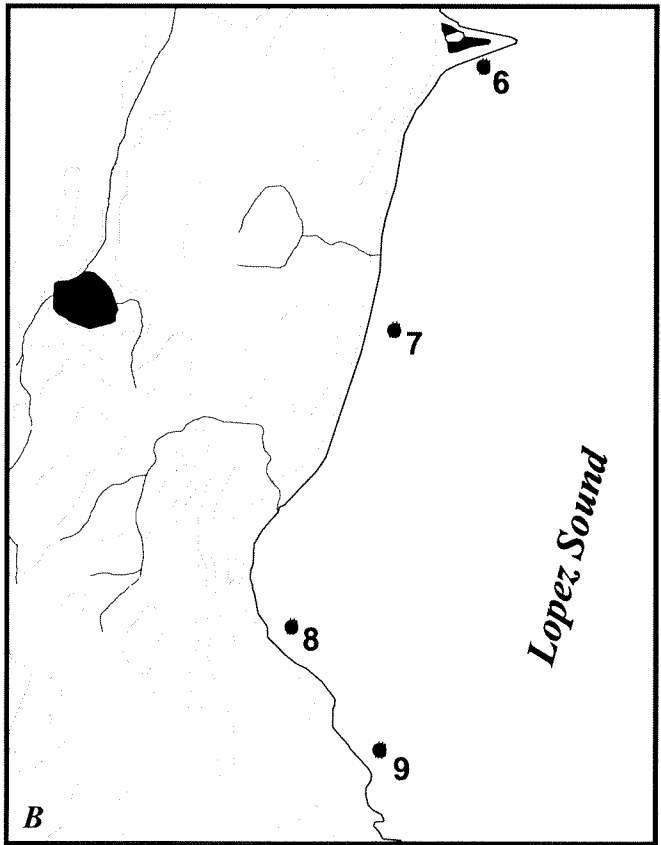
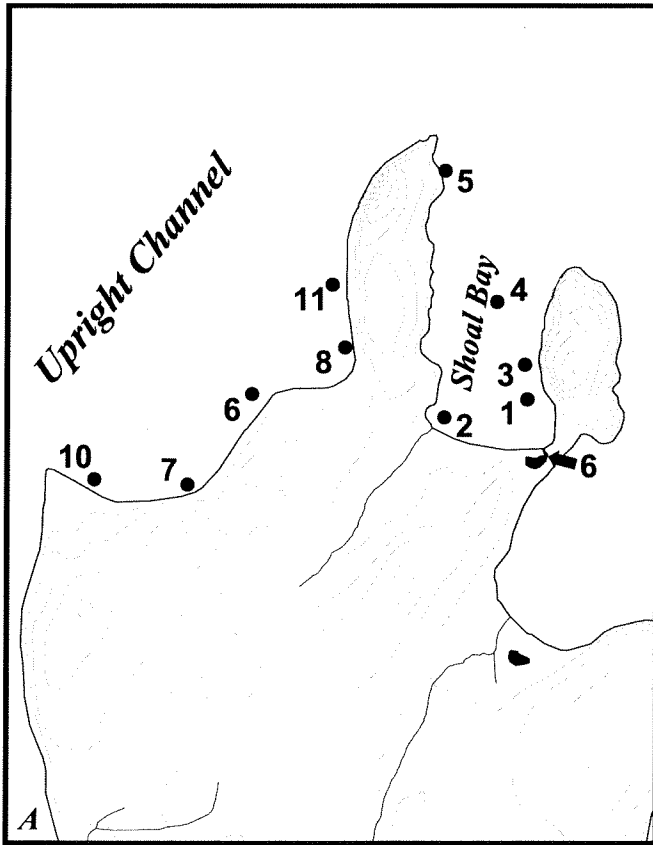
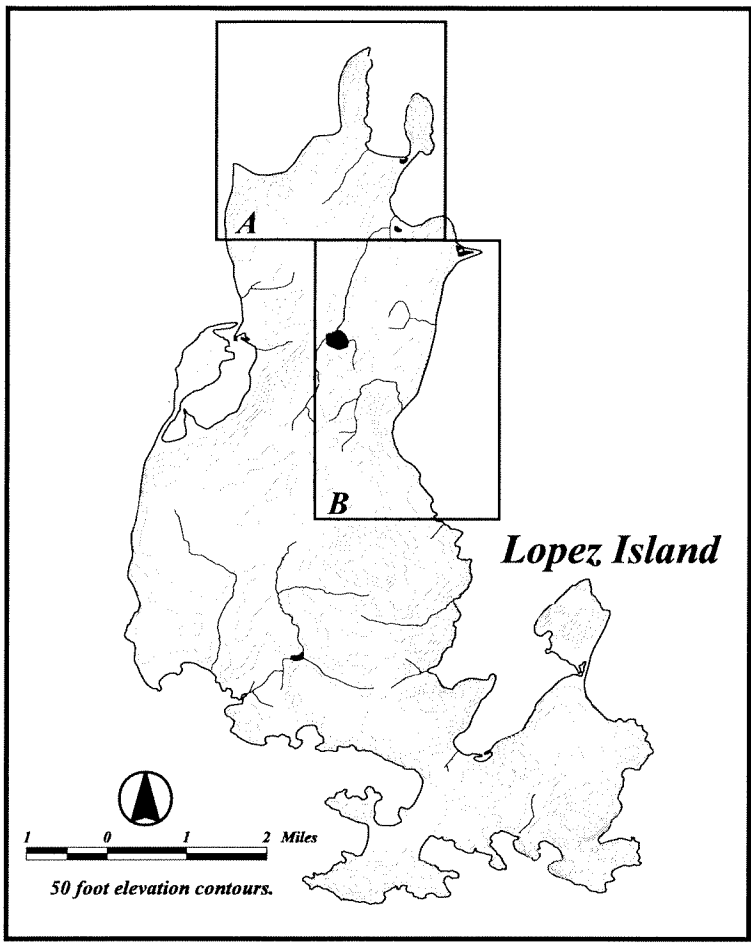


Figure 10. DOH Marine Sampling Sites in Shoal Bay, Upright Channel, and Lopez Sound.

Tables

Table 2. San Juan County Water Quality Data for Freshwater Stream Sites on San Juan Island.

Watershed	ID	Date	Total Coliform (#/100 mL)	Fecal Coliform (#/100 mL)	Nitrate (mg/L)	pH (Units)	Conductivity (u mhos/cm)	TSS (mg/L)	DO (mg/L)	Temp (°C)
False Bay	SJ1	5/19/1997	460	460		7.5	32	15	10.8	17.0
False Bay	SJ13	6/2/1997	43	43	0.18	7.3		0.1	7.7	13.1
False Bay	SJ18	6/2/1997	23	23	0.24	8.0		56	18.6	13.1
False Bay	SJ2	5/19/1997	240	240		7.5		5.0	9.0	15.0
False Bay	SJ2	11/18/1997	150	3		7.7	102	21	10.9	5.0
False Bay	SJ2	12/9/1997	2400	150		7.9	112	19	11.0	4.9
False Bay	SJ2	12/16/1997	2400	2400		7.6	143	42	10.7	4.8
False Bay	SJ2	1/6/1998	1100	150		7.9	187	54	9.9	4.6
False Bay	SJ2	1/27/1998	210	23		7.7	226	16	5.5	7.8
False Bay	SJ2	2/3/1998	1100	240		8.1	187	24	5.6	5.6
False Bay	SJ21	6/3/1997				7.6		23	3.4	14.7
False Bay	SJ3	5/19/1997	4	3	0.13	8.0		20	3.8	16.6
Friday Harbor	SJ20	6/3/1997				7.2			10.8	15.9
Friday Harbor	SJ7	5/19/1997	93	93	0.14	8.2	111	18	1.9	14.3
Friday Harbor	SJ7	11/18/1997	11	4		8.1	121	24	8.9	6.9
Friday Harbor	SJ7	12/9/1997	2400	9		8.2	125	42	5.7	6.7
Friday Harbor	SJ7	12/16/1997	2400	2400		7.9	325	67	4.1	6.1
Friday Harbor	SJ7	1/6/1998								
Friday Harbor	SJ7	1/27/1998	23	4		7.6	167	35	9.0	6.7
Friday Harbor	SJ7	2/3/1998	150	4		7.8	100	1.6	9.9	5.3
Friday Harbor	SJ8	5/19/1997	2400	1100	1.42					
Friday Harbor	SJ8	11/18/1997	2400	2400		8.5	322	18	9.1	7.0
Friday Harbor	SJ8	12/9/1997	2400	2400		8.6	365	25	7.9	7.2
Friday Harbor	SJ8	12/16/1997	2400	2400		8.4	425	43	8.5	6.7
Friday Harbor	SJ8	1/6/1998	2400	2400		8.5	312	38	8.7	7.2
Friday Harbor	SJ8	1/27/1998	2400	2400		8.7	404	33	6.3	7.7
Friday Harbor	SJ8	2/3/1998	2400	2400		8.7	488		8.7	8.0
Garrison Bay	SJ4	5/19/1997	93	9		8.1		9	6.3	14.7
Griffin Bay	SJ10	6/2/1997				7.6	280	9	10.6	13.9
Griffin Bay	SJ11	6/2/1997	1100	1100	1.26	7.7	350	7.2	7.1	14.3
Griffin Bay	SJ11	11/18/1997	1100	1100		8.0				6.7
Griffin Bay	SJ11	12/9/1997	1100	43		8.2	187			6.2
Griffin Bay	SJ11	12/16/1997	1100	44		8.1	324	54	8.8	6.6
Griffin Bay	SJ11	1/6/1998	2400	150		8.0	287	72	7.8	7.0
Griffin Bay	SJ11	1/27/1998	240	3			333	400	6.1	8.0
Griffin Bay	SJ11	2/3/1998	2400	4		8.1	359	20	6.1	6.8
Griffin Bay	SJ12	6/2/1997	43	43		8.1		3	7.0	18.9
Griffin Bay	SJ19	6/3/1997				8.2		40	7.6	14.3
Griffin Bay	SJ9	6/2/1997			0.21	8.0		14	8.8	14.2

Table 2. San Juan County Water Quality Data for Freshwater Stream Sites on San Juan Island.

Watershed	ID	Date	Total Coliform (#/100 mL)	Fecal Coliform (#/100 mL)	Nitrate (mg/L)	pH (Units)	Conductivity (μ mhos/cm)	TSS (mg/L)	DO (mg/L)	Temp (°C)
Wescott Bay	SJ15	6/2/1997	9	9						
Wescott Bay	SJ15	6/17/1997	2400	2400						
Wescott Bay	SJ15	11/18/1997	4	4		8.1	111	23	8.7	6.7
Wescott Bay	SJ15	12/9/1997	1100	4		7.3	157	33	7.6	6.2
Wescott Bay	SJ15	12/16/1997	93	93		8.7	143	54	7.9	6.6
Wescott Bay	SJ15	1/6/1998	1100	75		8.0	185	70	8.7	5.1
Wescott Bay	SJ15	1/27/1998	240	3		8.1	174	4.8	6.5	6.0
Wescott Bay	SJ15	2/3/1998	93	9		8.3	140	23	5.6	6.0
Wescott Bay	SJ16	6/2/1997	43	43						
Wescott Bay	SJ16	6/17/1997	240	93						
Wescott Bay	SJ16	8/5/1997	240	240						
Wescott Bay	SJ16	11/18/1997	210	75		7.3	107	23	13.0	6.6
Wescott Bay	SJ16	12/9/1997	1100	23		7.4	157	28	12.2	5.1
Wescott Bay	SJ16	12/16/1997	150	93		7.5	224	32	11.9	6.0
Wescott Bay	SJ16	1/6/1998	75	9		3.2	119	48	10.9	5.2
Wescott Bay	SJ16	1/27/1998	1100	4		7.6	149	21	10.0	5.9
Wescott Bay	SJ16	2/3/1998	460	43		7.6	117	28	11.1	5.6
Wescott Bay	SJ16A	2/3/1998	13	3						
Wescott Bay	SJ17	6/2/1997	23	23						
Wescott Bay	SJ22	12/9/1997	23	3						
Wescott Bay	SJ22	12/16/1997	460	93						
Wescott Bay	SJ22	1/6/1998	9	3						
Wescott Bay	SJ22	1/27/1998	240	3						
Wescott Bay	SJ22	2/3/1998	460	3						
Wescott Bay	SJ23	1/27/1998	460	9						
Wescott Bay	SJ24	1/27/1998	2400	23						
Wescott Bay	SJ5	5/19/1997	2400	3	0.23	7.8		180	9.0	11.0
Wescott Bay	SJ5	6/17/1997	2400	240						
Wescott Bay	SJ5	8/5/1997	93	93						
Wescott Bay	SJ5	11/18/1997	1100	240						
Wescott Bay	SJ5	12/9/1997	2400	9						6.3
Wescott Bay	SJ5	12/16/1997	460	39						6.3
Wescott Bay	SJ5	1/6/1998	210	43		7.7	144	48	7.9	6.2
Wescott Bay	SJ5	1/27/1998	150	23		8.1	120	23	7.7	6.1
Wescott Bay	SJ5	2/3/1998	210	23		8.2	174	46	7.3	6.1
Wescott Bay	SJ6	5/19/1997	2400	1100	0.56	8.3		90	8.0	6.0
Wescott Bay	SJ6	6/17/1997	2400	1100						5.9
Wescott Bay	SJ6	8/5/1997								5.9
Wescott Bay	SJ6	11/18/1997	460	43		7.7	103	100	8.9	5.8
Wescott Bay	SJ6	12/9/1997	2400	1100		7.5	97	280	6.4	5.8
Wescott Bay	SJ6	12/16/1997	2400	1100		7.7	156	320	6.2	5.7
Wescott Bay	SJ6	1/6/1998	1100	93		7.7	194	140	7.2	5.6
Wescott Bay	SJ6	1/27/1998	1100	15		8.4	198	23	4.2	5.6
Wescott Bay	SJ6	2/3/1998	240	4		8.4	150	22	3.3	5.5

Table 3. San Juan County Water Quality Data for Freshwater Stream Sites on Orcas Island.

Watershed	Date	ID	Total Coliform (#/100mL)	Fecal Coliform (#/100mL)	Nitrate (mg/L)	pH (Units)	Conductivity (μ mhos/cm)	TSS (mg/L)	DO (mg/L)	Temp ($^{\circ}$ C)
Buck Bay	5/14/1997	O1	2400	1100	0.26	7.9	200	73	5.6	11.1
Buck Bay	6/16/1997	O1	1100	1100						
Buck Bay	9/9/1997	O1	2400	2400						
Buck Bay	11/17/1997	O1	2400	240						
Buck Bay	12/8/1997	O1	460	15		8.0	182	35	5.6	6.7
Buck Bay	12/15/1997	O1				8.1	156	34	8.9	6.2
Buck Bay	1/5/1998	O1	2400	2400		8.0	225	36	7.9	6.1
Buck Bay	1/20/1998	O1	2400	1100		8.1	141	23	9.2	5.6
Buck Bay	1/26/1998	O1	240	43		7.5	177	31	1.7	7.8
Buck Bay	2/2/1998	O1	1100	43		7.9	178	33	4.5	7.1
Buck Bay	5/14/1997	O2	43	43	0.4	8.0	100	0.1	3.1	11.4
Buck Bay	9/9/1997	O2	2400	23						
Buck Bay	11/17/1997	O2	93	43		8.1	67	39	5.6	7.1
Buck Bay	12/8/1997	O2	240	93		8.1	89	38	6.2	6.8
Buck Bay	12/15/1997	O2				8.3	133	56	5.7	6.7
Buck Bay	1/5/1998	O2	240	43		8.2	156	123	4.5	6.7
Buck Bay	1/26/1998	O2	93	9						
Buck Bay	2/2/1998	O2	93	43		8.4	110		3.7	6.4
Buck Bay	5/14/1997	O3	43	43	0.34	7.8	90		4.5	10.9
Buck Bay	6/10/1997	O23	43	23						
Buck Bay	6/10/1997	O24	93	93						
Buck Bay	6/10/1997	O25	2400	2400						
Buck Bay	6/10/1997	O26	2400	2400						
Buck Bay	1/20/1998	O31	2400	93						
Deer Harbor	5/27/1997	O18	43	43						
Deer Harbor	5/14/1997	O4	93	93		8.1	305	1.5	8.0	11.6
Deer Harbor	5/14/1997	O5	23	4	0.16	7.7	366	35	0.3	15.8
Deer Harbor	5/14/1997	O6	43	43	0.23	8.0	308	22	6.6	15.3
Deer Harbor	5/27/1997	O17	5	39		8.3		15	3.5	16.2
East Sound	5/14/1997	O10	150	150	0.27	8.2	280	25	5.2	17.1
East Sound	5/14/1997	O11	2400	1100	0.23	8.5	250	2.8		18.9
East Sound	11/17/1997	O11	2400	460						
East Sound	12/8/1997	O11	1100	7		8.1	167	45	7.0	6.7
East Sound	12/15/1997	O11				8.2	325	120	5.0	6.8
East Sound	1/5/1998	O11	460	43		8.1	138	68	6.1	6.7
East Sound	1/20/1998	O11	1100	15		8.2	106	8100	4.8	6.4
East Sound	1/26/1998	O11	240	43		8.1	326	32	3.7	7.7
East Sound	2/2/1998	O11	240	93		8.2	330	19	3.8	7.0
East Sound	5/14/1997	O12	43	4	0.18					
East Sound	5/20/1997	O15	43	23						
East Sound	5/20/1997	O16	4	4						
East Sound	5/27/1997	O21	3	3	0.16					

Table 3. San Juan County Water Quality Data for Freshwater Stream Sites on Orcas Island.

Watershed	Date	ID	Total Coliform (#/100mL)	Fecal Coliform (#/100mL)	Nitrate (mg/L)	pH (Units)	Conductivity (μ mhos/cm)	TSS (mg/L)	DO (mg/L)	Temp (°C)
East Sound	5/27/1997	O22				7.8	240	80	4.2	13.8
East Sound	6/10/1997	O27		3.6		9.1		3.6	9.1	
East Sound	8/17/1997	O30	290	290						
East Sound	11/17/1997	O30	73	9		7.1	156	19	12.1	6.7
East Sound	12/8/1997	O30	1100	150		7.3	325	24	11.0	6.4
East Sound	12/15/1997	O30				7.4	123	22	12.5	6.5
East Sound	1/5/1998	O30	93	23		7.3	156	33	16.1	6.6
East Sound	1/20/1998	O30	240	4		7.2	1254	22	15.6	6.5
East Sound	1/26/1998	O30	240	9						
East Sound	2/2/1998	O30	460	7		7.1	2910		9.4	7.6
West Sound	5/20/1997	O13	2400	2400						
West Sound	11/17/1997	O13	1100	240						
West Sound	12/8/1997	O13	1100	150		7.7	128	45	15.6	5.3
West Sound	12/15/1997	O13				7.9	134	22	11.0	5.0
West Sound	1/5/1998	O13				7.8	142	32	9.2	6.2
West Sound	1/20/1998	O13	2400	93		7.8	134	26	8.8	6.0
West Sound	1/26/1998	O13	240	240		7.8	142	84	5.8	7.2
West Sound	2/2/1998	O13	1100	93		7.8	155	115		6.0
West Sound	5/20/1997	O14	3	3						
West Sound	5/27/1997	O19	2400	2400	0.27	8.1	180	88	10	12.2
West Sound	11/17/1997	O19	460	23						
West Sound	12/8/1997	O19	2400	4						
West Sound	12/15/1997	O19				8.1	123	45	5.2	7.0
West Sound	1/5/1998	O19	1100	240		8.0	356	32	3.4	7.2
West Sound	1/20/1998	O19	2400	93		8.0	3700	5.0	1.5	7.9
West Sound	1/26/1998	O19	93	43		8.0	240	84	5.6	7.5
West Sound	2/2/1998	O19	93	43		8.0	256	54	5.4	6.7
West Sound	5/27/1997	O20	1100	460	0.16	7.9	320	112	9.2	13.3
West Sound	6/16/1997	O28	1100	460	0.23					
West Sound	6/16/1997	O29	2400	2400	0.27					
West Sound	5/14/1997	O7	23	9	0.20	8.1	209	10		17.6
West Sound	5/14/1997	O8	4	3	0.49	7.3	146	0.5	11.5	10.5
West Sound	5/14/1997	O9	460	460	0.26	8.1	239	28	1.6	14.6
West Sound	6/10/1997	O9	1100	75						
West Sound	11/17/1997	O9	460	28						
West Sound	12/8/1997	O9	240	15		8.0	132	56	11	5.9
West Sound	12/15/1997	O9				8.0	121	48	9.9	5.9
West Sound	1/5/1998	O9	460	43		8.0	176	32	11.5	5.9
West Sound	1/20/1998	O9	2400	43		8.0	131	33	9.8	6.0
West Sound	1/26/1998	O9	460	23		8.1	152	42	3.5	6.9
West Sound	2/2/1998	O9	240	93		8.0	130	26	5.1	6.3

Table 4. San Juan County Water Quality Data for Freshwater Stream Sites on Lopez Island.

Watershed	ID	Date	Total Coliform (#/100 mL)	Fecal Coliform (#/100 mL)	Nitrate (mg/L)	pH (Units)	Conductivity (umhos/cm)	TSS (mg/L)	DO (mg/L)	Temp (°C)
Fisherman Bay	L26	6/3/1997	2400	1100						
Fisherman Bay	L26	11/18/1997	1100	93		7.9	225	33	4.2	7.8
Fisherman Bay	L26	12/9/1997	2400	150		8.1	123	45	5.5	7.6
Fisherman Bay	L26	12/16/1997	2400	2400		8.0	387	57	4.4	7.4
Fisherman Bay	L26	1/6/1998	2400	240						
Fisherman Bay	L26	1/27/1998	2400	39		8.2	325	37	3.0	8
Fisherman Bay	L26	2/3/1998	2400	23		8.1	230	33	1.7	8.2
Fisherman Bay	L3	5/1/1997	9	2						
Fisherman Bay	L31	11/18/1997	4	4						
Fisherman Bay	L31	12/9/1997	460	23						
Fisherman Bay	L31	12/16/1997	29	3						
Fisherman Bay	L31	1/6/1998	150	3						
Fisherman Bay	L31	1/27/1998	7	3						
Fisherman Bay	L31	2/3/1998	9	3						
Fisherman Bay	L4	5/1/1997	240	7		7.6	157	45	32.3	12.5
Fisherman Bay	L6	5/1/1997	3	3		7.3	226	26	29.6	15.5
Hunter Bay	L13	5/13/1997	4	4		7.4		1.9	68.6	9.6
Hunter Bay	L32	11/18/1997	75	3		7.9	123	33	8.2	5.7
Hunter Bay	L32	12/9/1997	1100	23		8.1	137	35	8.9	5.3
Hunter Bay	L32	12/16/1997	2400	1100		8.2	256	8.2	7.8	5.1
Hunter Bay	L32	1/6/1998	1100	150		8.0	232	37	7.4	5.6
Hunter Bay	L32	1/27/1998	460	240		8.0	202	36	8.7	7.0
Hunter Bay	L32	2/3/1998	2400	43		8.1	300	41	2.6	7.3
Lopez Sound	L17	5/7/1997	150	150	0.13	7.8		3.5	0.8	16.4
Lopez Sound	L18	5/7/1997	1100	460		7.5		35	8.1	12.2
Lopez Sound	L18	6/3/1997	460	460	0.29	7.7		92	9.5	12.7
Lopez Sound	L18	11/18/1997	460	460		7.8	87	33	8.5	6.2
Lopez Sound	L18	12/9/1997	460	43		7.7	111	47	7.8	5.7
Lopez Sound	L18	12/16/1997	2400	2400		7.8	154	72	9.0	5.6
Lopez Sound	L18	1/6/1998	1100	460		7.7	121	57	5.6	5.9
Lopez Sound	L18	1/27/1998	2400	23		7.9	92	50	2.1	7.3
Lopez Sound	L18	2/3/1998	43	23		8.1	126	34	7.8	6.6
Lopez Sound	L20a	5/7/1997	4	4	0.28	7.2		9.5	13.3	13.4
Lopez Sound	L20b	5/7/1997	8	2						
Lopez Sound	L25	6/3/1997	290	120						
Lopez Sound	L28	5/7/1997	4	2	0.12	6.8		0.5	7.3	12.4
Lopez Sound	L29	5/7/1997	2	2		7.5		35	4.7	17.8
Mackay Harbor	L23	5/13/1997	8	8						
Mackay Harbor	L24	5/13/1997	2	2	0.62					

Table 4. San Juan County Water Quality Data for Freshwater Stream Sites on Lopez Island.

Watershed	ID	Date	Total Coliform (#/100 mL)	Fecal Coliform (#/100 mL)	Nitrate (mg/L)	pH (Units)	Conductivity (umhos/cm)	TSS (mg/L)	DO (mg/L)	Temp (°C)
Mud Bay	L33	11/18/1997	1100	1100						
Mud Bay	L33	12/9/1997	150	15						
Mud Bay	L33	12/16/1997	1100	1100						
Mud Bay	L33	1/6/1998	4	4		7.0	33		20.0	8.2
Mud Bay	L33	1/27/1998	1100	93						
Mud Bay	L33	2/3/1998	1100	460						
Swifts Bay	L21	5/7/1997	8	8		8.8		22	21.0	26.5
Swifts Bay	L22	5/13/1997	2	2		6.9		3.2	23.0	12.1
Swifts Bay	L27	5/7/1997	23	23		9.1		20	21.0	27.2

Table 5. Ecology Ambient Monitoring Marine Data for the Friday Harbor Site FRI001.

Station	Date	Sample Depth (Meters)	Temp (°C)	DO (mg/L)	pH (Units)	Dissolved				Secchi (Meters)	Salinity (PPT)	Fecal Coliform (#/100mL)	Chlorophyll <i>a</i> (µg/L)	Pheophytin (µg/L)	Nitrate-Nitrite (mg/L)	Dissolved Nitrate-Nitrite (mg/L)
						Dissolved Ammonia (mg/L)	Soluble Phosphorus (mg/L)	Fecal Coliform	Chlorophyll <i>a</i>							
FRI001	10/7/1996	0	11.0	5.6	7.8	0.010 U	0.056	11.60	29.96	1 U	0.77	0.52	0.32	0.321		
FRI001	10/7/1996	10	10.2	5.1	7.7	0.010 U	0.060	30.48	30.48		0.58	0.56	0.33	0.332		
FRI001	10/7/1996	30	10.0	4.9	7.7	0.010 U	0.056	30.68	30.68				0.33	0.330		
FRI001	12/17/1996	0	7.9	7.5	7.6	0.010 U	0.089	0.80	1.22	1 U			0.62	0.416		
FRI001	12/17/1996	10	7.9	7.5	7.6	0.010 U	0.090	4.28	4.28				0.56	0.424		
FRI001	12/17/1996	30	7.9	7.5	7.6			0.70	10.53				0.26			
FRI001	1/16/1997	0	7.0	8.1	7.6	0.026	0.043	28.53	28.53	1 U			0.289			
FRI001	1/16/1997	10	7.3	7.9	7.6	0.010 U	0.051	28.71	28.71				0.332			
FRI001	1/16/1997	30	7.3	7.9	7.6	0.042	0.038	5.00	16.48				0.263			
FRI001	2/6/1997	0	7.3	7.8	7.7	0.018	0.064	29.85	29.85	1 U	0.39	0.30	0.28	0.375		
FRI001	2/6/1997	10	7.3	7.7	7.6	0.021	0.066	3.50	24.82		0.36	0.41	0.06	0.371		
FRI001	2/6/1997	30	7.3	7.7	7.6	0.010 U	0.065	27.86	27.86				0.25	0.379		
FRI001	3/12/1997	0	7.8	9.8	7.7	0.010 U	0.085	2.81	2.81	1			0.66	0.316		
FRI001	3/12/1997	10	7.7	9.8	7.7	0.010 U	0.101	1.30	11.75		0.45	0.44	0.19	0.381		
FRI001	3/12/1997	30	7.7	9.8	7.7	0.010 U	0.102	14.36	14.36				0.16	0.385		
FRI001	4/1/1997	0	8.3	9.7	7.8	0.010 U	0.082	5.10	25.50	1 U	0.51	0.25	0.36	0.271		
FRI001	4/1/1997	10	7.8	9.8	7.7	0.010 U	0.077	28.05	28.05		0.53	0.37	0.35	0.303		
FRI001	4/1/1997	30	7.8	9.8	7.7	0.010 U	0.087	28.15	28.15				0.39	0.295		
FRI001	5/6/1997	0	8.8	9.6	5.7	0.022	0.096	1.00	0.49	1 U	0.47	0.38	0.294			
FRI001	5/6/1997	10	8.9	9.5	5.7	0.014	0.074	0.80	0.49		0.43	0.39	0.204			
FRI001	5/6/1997	30	8.9	9.5	5.7	0.019	0.082	1.80	15.52				0.227			
FRI001	6/5/1997	0	10.0	9.3	5.7	0.021	0.091	1.80	4.86	1 U	2.90	0.86	0.299			
FRI001	6/5/1997	10	9.6	9.4	5.7	0.023	0.092	3.00	8.34		3.00	1.20	0.307			
FRI001	6/5/1997	30	9.6	9.4	5.7			1.00	18.00							
FRI001	7/2/1997	0	10.8	9.2	5.8	0.012	0.088	26.80	26.80	1 U	1.80	0.86	0.314			
FRI001	7/2/1997	10	10.3	9.3	5.8	0.010 U	0.078	3.20	26.77		1.30	0.89	0.11	0.282		
FRI001	7/2/1997	30	10.1	9.3	5.8	0.010 U	0.058	28.90	28.90				0.12	0.243		
FRI001	8/6/1997	0				0.010 U	0.086	26.69	26.69	1 U	2.70	0.27	0.03	0.302		
FRI001	8/6/1997	10				0.010 U	0.088	0.60	28.50		2.60	0.53	0.296			
FRI001	8/6/1997	30						28.50	28.50							
FRI001	9/8/1997	0	11.5	5.9	6.0	0.014	0.075	2.10	14.06	1 U	2.60	0.63	0.263			
FRI001	9/8/1997	10	11.2	5.5	5.9	0.014	0.065	25.26	25.26		1.40	0.73	0.237			
FRI001	9/8/1997	30	11.1	5.5	5.9	0.018	0.094	2.50	19.69				0.09	0.317		

U = Analyte was not detected at or above the reported value shown.

Table 6. Ecology Ambient Monitoring Marine Data for the East Sound Site EAS001.

Station	Date	Depth (Meters)	Temp (°C)	DO (mg/L)	pH (Units)	Dissolved		Secchi (Meters)	Salinity (PPT)	Fecal Coliform (#/100mL)	Chlorophyll <i>a</i> (µg/L)	Pheophytin (µg/L)	Dissolved Nitrate-Nitrite	
						Ammonia (mg/L)	Soluble Phosphorus (mg/L)						Nitrate-Nitrite (mg/L)	Dissolved Nitrite (mg/L)
EAS001	11/20/1990	0	9.3	8.3	8.2	0.030	0.070	11.50	30.17		1.13	0.95	0.290	0.010 U
EAS001	11/20/1990	10	9.4	7.9	8.1	0.020	0.070		30.26		0.83	0.62	0.290	0.010 U
EAS001	12/12/1990	0	8.0	9.3	8.1	0.020	0.070	7.00	29.42	1 U	0.55	0.71	0.270	0.010 U
EAS001	12/12/1990	10	8.6	8.7	8.0	0.020	0.070		29.75		0.24	0.35	0.270	0.010 U
EAS001	2/26/1991	0	7.6	9.7	8.1	0.010	0.060	6.50	29.66	1 U	0.85	0.46	0.380	0.010 U
EAS001	2/26/1991	10	7.4	9.6	8.1	0.120	0.060		29.68		0.59	0.52	0.380	0.010 U
EAS001	3/18/1991	0	7.7	9.6	8.1	0.010	0.070	7.30	29.65	1 U	0.56	0.73	0.350	0.010 U
EAS001	3/18/1991	10	7.3	9.5	8.1	0.010	0.070		29.71		0.85	0.89	0.360	0.010 U
EAS001	4/15/1991	0	10.6	16.0	8.5	0.010 U	0.010 U	6.20	29.66	1 U	12.90	6.26	0.010 U	0.010 U
EAS001	4/15/1991	10	8.4	10.7	8.1	0.010 U	0.051		29.96		2.19	7.00	0.280	0.010 U
EAS001	5/13/1991	0	11.3	13.4	8.6	0.010 U	0.012	3.50	29.91	1 U	5.20	4.80	0.010	0.010 U
EAS001	5/13/1991	10	9.6	10.2	8.4	0.040	0.044		30.05		5.70	4.60	0.180	0.010 U
EAS001	6/10/1991	0	13.0	12.7	8.6	0.010 U	0.010 U	5.50	26.31	1 U	2.15	2.59	0.010 U	0.010 U
EAS001	6/10/1991	10	10.8	10.0	8.3	0.020	0.041		28.43		11.80	7.73	0.190	0.010 U
EAS001	7/15/1991	0	12.4	7.6	8.1	0.040	0.046	10.50	29.06	1 U	0.45	0.35	0.160	0.010 U
EAS001	7/15/1991	10	10.7	6.2	8.0	0.050	0.061		29.66		0.43	0.95	0.240	0.010 U
EAS001	8/12/1991	0	14.0	9.9	8.4	0.010 U	0.022	8.50	29.47	1 U	1.55	1.74	0.050	0.010 U
EAS001	8/12/1991	10	11.1	6.3	8.0	0.150	0.081		29.90		0.56	1.24	0.210	0.010 U
EAS001	9/16/1991	0	12.5	8.2	8.2	0.020	0.046	8.50	29.58	1 U			0.150	0.010 U
EAS001	9/16/1991	10	11.8	7.5	8.1	0.020	0.056		29.45				0.200	0.010 U
EAS001	10/14/1991	0	11.1	9.0	7.9			5.00	30.24					
EAS001	10/14/1991	10	10.6	7.5	7.8				30.37					
EAS001	12/2/1991	0	8.5	8.1	7.7			11.40	29.93					
EAS001	12/2/1991	10	8.5	8.3	7.7				30.29					
EAS001	1/7/1992	0	7.3	9.1	7.7			10.00	30.23					
EAS001	1/7/1992	10	7.3	9.0	7.7				30.25					
EAS001	3/23/1992	0	9.4	9.3	7.8			8.00	29.79					
EAS001	3/23/1992	10	9.0	9.0	7.7				29.97					
EAS001	4/20/1992	0	11.2	12.5	8.3			4.50	29.85					
EAS001	4/20/1992	10	9.7	8.4	7.8				30.21					
EAS001	5/27/1992	0	12.6	13.8	8.3			3.70	29.60					
EAS001	5/27/1992	10	12.4	11.3	8.2				29.84					

U = Analyte was not detected at or above the reported value.

Table 6. Ecology Ambient Monitoring Marine Data for the East Sound Site EAS001.

Station	Date	Depth (Meters)	Temp (°C)	DO (mg/L)	pH (Units)	Dissolved Soluble		Secchi (Meters)	Salinity (PPT)	Fecal Coliform (#/100mL)	Chlorophyll <i>a</i> (µg/L)	Pheophytin (µg/L)	Dissolved Nitrate-Nitrite		Dissolved Nitrate-Nitrite	
						Ammonia (mg/L)	Phosphorus (mg/L)						Nitrate (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
EAS001	6/22/1992	0	15.6	14.3	8.4			6.00	29.91							
EAS001	6/22/1992	10	12.6	12.3	8.2				29.85							
EAS001	7/28/1992	0	16.7	10.3	8.2			16.00	29.24							
EAS001	7/28/1992	10	12.1	8.0	7.9				29.85							
EAS001	8/17/1992	0	13.6	9.1	8.2				29.86							
EAS001	8/17/1992	10	13.4	8.8	8.1				29.85							
EAS001	9/28/1992	0	13.2	10.5	8.2			7.60	30.32							
EAS001	9/28/1992	10	11.3	6.4	7.7				30.62							
EAS001	11/9/1992	0	10.1	8.3	7.8			11.90	30.63							
EAS001	11/9/1992	10	10.1	8.1	7.8				30.64							
EAS001	11/9/1992	30	9.9	6.5	7.7				30.74							
EAS001	3/16/1993	0	8.3	15.5 J	8.3			4.30	30.35							
EAS001	3/16/1993	10	7.1	14.2 J	8.1				30.37							
EAS001	3/16/1993	30	7.2	9.4 J	7.7				30.53							
EAS001	4/27/1993	0	10.4	12.3 J	8.4			4.50	30.39							
EAS001	4/27/1993	10	9.7	11.7 J	8.3				30.41							
EAS001	4/27/1993	29	8.9	8.2 J	8.0				30.44							
EAS001	5/26/1993	0	12.5	13.7 J	8.2			5.00	30.05							
EAS001	5/26/1993	10	11.4	11.4 J	8.1				30.07							
EAS001	5/26/1993	30	10.3	6.2 J	7.7				30.31							
EAS001	6/30/1993	0	15.4	10.3 J	8.2			8.50	29.77							
EAS001	6/30/1993	10	11.5	8.3 J	7.9				29.90							
EAS001	6/30/1993	29	11.2	2.7 J	7.5				30.02							
EAS001	7/21/1993	0	15.1	9.6	8.2			7.60	29.14							
EAS001	7/21/1993	10	11.3	6.5	7.7				30.06							
EAS001	7/21/1993	29	10.9	6.0	7.7				30.36							
EAS001	8/24/1993	0	13.4	8.7	8.0			6.00	30.21							
EAS001	8/24/1993	10	12.0	6.2	7.8				30.24							
EAS001	8/24/1993	30	11.2	5.4	7.8				30.48							
EAS001	9/20/1993	0	13.1	12.8	8.3			3.10	30.09							
EAS001	9/20/1993	10	11.5	5.1	7.8				30.34							
EAS001	9/20/1993	30	11.2	6.7	7.9				30.49							

J = Analyte was positively identified. The numerical result is an estimate.

Table 6. Ecology Ambient Monitoring Marine Data for the East Sound Site EAS001.

Station	Date	Depth (Meters)	Temp (°C)	DO (mg/L)	pH (Units)	Dissolved		Secchi (Meters)	Salinity (PPT)	Fecal			Dissolved	
						Ammonia (mg/L)	Phosphorus (mg/L)			Coliform (#/100mL)	Chlorophyll <i>a</i> (u g/L)	Pheophytin (u g/L)	Nitrate-Nitrite (mg/L)	Dissolved Nitrite (mg/L)
EAS001	10/18/1993	0	11.1	8.3	8.0			4.50	30.59					
EAS001	10/18/1993	10	10.8	6.5	7.8				30.70					
EAS001	10/18/1993	30	10.5	6.2	7.8				30.79					
EAS001	12/21/1993	0	8.0	8.0	7.7			9.60	30.54					
EAS001	12/21/1993	10	8.0	8.1	7.8				30.65					
EAS001	12/21/1993	30	7.1	8.8	7.9				30.70					
EAS001	3/3/1994	0	7.4	9.9	7.9			12.60	30.22					
EAS001	3/3/1994	10	7.4	9.5	7.9				30.33					
EAS001	3/3/1994	30	7.3	9.2	7.9				30.37					
EAS001	4/11/1994	0	10.3	11.8	8.4			5.50	30.05					
EAS001	4/11/1994	10	9.3	11.1	8.2				30.11					
EAS001	4/11/1994	29	8.5	7.5	7.8				30.23					
EAS001	5/2/1994	0	11.2	11.2	8.3			4.10	30.18					
EAS001	5/2/1994	10	9.9	10.1	8.1				30.18					
EAS001	5/2/1994	30	8.8	3.3	7.5				30.27					
EAS001	6/8/1994	0	12.9	12.0	8.3			5.10	30.23					
EAS001	6/8/1994	10	11.0	10.4	8.2				30.28					
EAS001	6/8/1994	30	10.0	3.7	7.4				30.49					
EAS001	7/5/1994	0	15.7	10.1	8.2			9.00	29.80					
EAS001	7/5/1994	10	11.2	7.8	7.9				30.10					
EAS001	7/5/1994	30	10.6	3.5	7.5				30.27					
EAS001	8/1/1994	0	15.9	10.7	8.2			6.10	29.87					
EAS001	8/1/1994	10	11.3	6.6	7.7				30.19					
EAS001	8/1/1994	30	11.1	5.5	7.7				30.45					
EAS001	9/6/1994	0	13.7	7.7	8.0			13.00	29.77					
EAS001	9/6/1994	10	11.6	6.6	7.8				29.97					
EAS001	9/6/1994	30	11.2	5.7	7.7				30.26					
EAS001	12/5/1994	0	7.3	9.2	7.7	0.010 U	0.022	10.00	30.55			4.30	0.57	0.137
EAS001	12/5/1994	10	7.3	9.2	7.7	0.010 U	0.018		30.55			4.80	0.82	0.117
EAS001	12/5/1994	30	7.3	9.1	7.7	0.021	0.060		30.54					0.299

U = Analyte was not detected at or above the reported value.

J = The numerical result is an estimate.

Table 6. Ecology Ambient Monitoring Marine Data for the East Sound Site EAS001.

Station	Date	Depth (Meters)	Temp (°C)	DO (mg/L)	pH (Units)	Dissolved			Secchi (Meters)	Salinity (PPT)	Fecal Coliform (#/100mL)	Chlorophyll <i>a</i> (u.g/L)	Pheophytin (u.g/L)	Dissolved Nitrate-Nitrite (mg/L)	
						Ammonia (mg/L)	Soluble Phosphorus (mg/L)							Nitrate-Nitrite (mg/L)	Dissolved Nitrite (mg/L)
EAS001	1/23/1995	0	7.0	9.4	7.8	0.010 U	0.018	12.30	30.03	1 U	0.74	0.33	0.145		
EAS001	1/23/1995	10	7.0	9.3	7.8	0.010	0.024		30.03		0.93	0.26	0.178		
EAS001	1/23/1995	30	7.5	8.7	7.8	0.010 U	0.062 J		30.24				0.368 J		
EAS001	3/27/1995	0	8.7	14.6	8.4	0.010 U	0.010 U	4.00	29.80	1 U	22.30	2.00	0.010 U		
EAS001	3/27/1995	10	8.0	11.1	8.0	0.010 U	0.033		29.95		24.20	3.00	0.138		
EAS001	3/27/1995	30	8.1	8.9	7.8	0.010 U	0.050		30.05				0.287		
EAS001	4/24/1995	0	10.3	13.4	8.4	0.012	0.010 U	3.90	29.92	1 U	29.40	1.40	0.010 U		
EAS001	4/24/1995	10	9.4	10.3	8.0	0.012	0.021		29.99		20.50	2.10	0.064		
EAS001	4/24/1995	30	8.9	7.2	7.7	0.060	0.045		30.07				0.179		
EAS001	5/22/1995	0	12.2	12.6	8.4	0.014	0.010	3.90	29.90	1 U	29.50	5.20	0.010 U		
EAS001	5/22/1995	10	10.6	9.7	8.0	0.012	0.019		30.00		31.90	4.50	0.010 U		
EAS001	5/22/1995	30	9.9	5.2	7.5	0.117	0.049		30.08				0.102		
EAS001	6/26/1995	0	16.4	12.1	8.6	0.020	0.035	4.50	29.81	1 U	3.00	0.70	0.010 U		
EAS001	6/26/1995	10	10.8	8.7	7.9	0.014	0.061		30.27		30.70	5.20	0.171		
EAS001	6/26/1995	30				0.027	0.061						0.221		
EAS001	7/24/1995	0	15.7	11.8	8.5	0.010 U	0.010 U	5.60	28.48	1 U	12.00	1.90	0.010 U		
EAS001	7/24/1995	10	12.5	8.4	8.0	0.015	0.027		29.37		16.60	2.90	0.098		
EAS001	7/24/1995	30	11.1	2.9	7.4	0.279	0.083		30.40				0.105		
EAS001	8/22/1995	0	14.6	11.5	8.3	0.030	0.010 U	3.50	10.31	1 U	14.80	2.40	0.010 U		
EAS001	8/22/1995	10	11.5	11.1	7.9	0.055	0.030		30.65		2.70	0.37	0.116		
EAS001	8/22/1995	30	11.1	5.3	7.6	0.088	0.044		30.62				0.146		
EAS001	10/12/1995	0	12.4	9.5	8.2	0.010	0.031	5.50	30.38		12.50	2.30	0.064		
EAS001	10/12/1995	10	11.1	6.8	7.8	0.048	0.055		30.62		8.80	1.40	0.211		
EAS001	10/12/1995	30	10.5	5.7	7.7				30.75						
EAS001	11/1/1995	0	9.9	8.5	8.0	0.027	0.034	10.00	30.64	1 U			0.113		
EAS001	11/1/1995	10	9.8	8.3	7.9	0.021	0.039		30.64		6.80	1.80	0.141		
EAS001	11/1/1995	30	9.7	7.7	7.8	0.021	0.064		30.64		6.40	1.30	0.279		
EAS001	12/19/1995	0	8.3	8.3	7.6	0.010 U	0.049	10.90	29.59	1 U	1.10	0.45	0.291		
EAS001	12/19/1995	10	8.2	8.3	7.6	0.010 U	0.057		29.61		1.00	0.57	0.325		
EAS001	12/19/1995	30	8.2	8.4	7.6	0.010 U	0.052		29.61				0.311		

U = Analyte was not detected at or above the reported value.

J = Analyte was positively identified. The numerical result is an estimate.

Table 6. Ecology Ambient Monitoring Marine Data for the East Sound Site EAS001.

Station	Date	Depth (Meters)	Temp (°C)	DO (mg/L)	pH (Units)	Dissolved				Secchi (Meters)	Salinity (PPT)	Fecal Coliform (#/100mL)	Chlorophyll <i>a</i> (μ g/L)	Dissolved		
						Ammonia (mg/L)	Phosphorus (mg/L)	Soluble Phosphorus (mg/L)	Phycophytin (μ g/L)					Nitrate-Nitrite (mg/L)	Nitrite (mg/L)	Dissolved Nitrite (mg/L)
EAS001	3/6/1996	0	7.2	8.8	7.9	0.010 U	0.026	8.60	29.29	1 U	1.90	0.55	0.212			
EAS001	3/6/1996	10	6.7	9.2	7.9	0.010 U	0.044	29.32	29.32		4.30	0.80	0.317			
EAS001	3/6/1996	30	6.7	9.0	7.9	0.010 U	0.022	29.33	29.33				0.193			
EAS001	4/10/1996	0	9.5	13.4	8.5	0.010 U	0.010 U	3.10	29.33	1 U	24.20	2.00	0.010 U			
EAS001	4/10/1996	10	8.1	8.2	7.7	0.055	0.041	29.74	29.74		2.60	1.10	0.255			
EAS001	4/10/1996	30	8.4	7.5	7.8	0.039	0.028	29.94	29.94				0.206			
EAS001	5/9/1996	0	11.9	14.4	8.3	0.010 U	0.010 U	2.80	29.16	1 U	30.80	5.10	0.010 U			
EAS001	5/9/1996	10	10.5	12.4	8.1	0.010 U	0.012	29.27	29.27		31.20	4.80	0.010 U			
EAS001	5/9/1996	30	9.4	6.2	7.5	0.211	0.041	29.81	29.81				0.097			
EAS001	6/11/1996	0	13.9	9.3	8.3	0.010 U	0.010 U	5.70	28.96	1 U	2.70	0.41	0.010 U			
EAS001	6/11/1996	10	10.1	7.1	7.7	0.018	0.035	29.74	29.74		13.10	2.70	0.152			
EAS001	6/11/1996	30	10.1	5.9	7.6	0.041	0.048	29.96	29.96				0.168			
EAS001	7/10/1996	0	14.2	9.7	8.3	0.010 U		4.70	29.31				0.010 U			
EAS001	7/10/1996	10	13.2	8.7	8.2	0.022		29.36	29.36				0.081			
EAS001	7/10/1996	30	10.3	4.8	7.7	0.062		30.12	30.12				0.211			
EAS001	8/6/1996	0				0.010 U	0.034	4.00	4.00	1 U	13.70	3.90	0.02	0.023		
EAS001	8/6/1996	10				0.055	0.065						0.23	0.225		
EAS001	8/6/1996	30				0.074	0.071						0.25	0.248		
EAS001	9/11/1996	0	13.9	8.5	8.2	0.010 U	0.030	8.20	29.87	1 U	4.70	0.38	0.07	0.070		
EAS001	9/11/1996	10	11.1	6.0	7.8	0.015	0.061	30.28	30.28		1.30	0.65	0.29	0.293		
EAS001	9/11/1996	30	10.8	5.2	7.7	0.010 U	0.064	30.51	30.51				0.31	0.312		

U = Analyte was not detected at or above the reported value.

Table 7. Ecology Ambient Monitoring Marine Data for the Lopez Sound Site LOP001.

Station	Date	Depth (Meters)	Temp (°C)	DO (mg/L)	pH (Units)	Dissolved			Secchi (Meters)	Salinity (PPT)	Fecal Coliform (#/100mL)	Chlorophyll <i>a</i> (u g/L)	Pheophytin (u g/L)	Dissolved Nitrate-Nitrite (mg/L)	
						Ammonia (mg/L)	Phosphorus (mg/L)	Soluble Phosphorus (mg/L)						Nitrate	Dissolved Nitrite
LOP001	11/20/1990	0	9.5	7.3	8.1	0.010	0.070	5.00	30.29		0.26	0.51	0.300	0.010 U	
LOP001	11/20/1990	10	9.5	7.2	8.1	0.010 U	0.070		30.29		0.29	0.52	0.300	0.010 U	
LOP001	12/12/1990	0	8.7	8.0	8.0	0.020	0.070	5.50	29.68	1 U	0.14	0.34	0.260	0.010 U	
LOP001	12/12/1990	10	8.8	7.9	8.0	0.010	0.070		29.74		0.10	0.34	0.260	0.010 U	
LOP001	2/26/1991	0	8.1	8.8	8.1	0.010 U	0.060	5.50	29.50	1 U	0.29	0.18	0.380	0.010 U	
LOP001	2/26/1991	10	7.5	8.7	8.1	0.010	0.060		29.63		0.32	0.35	0.380	0.010 U	
LOP001	3/18/1991	0	8.9	8.9	8.1	0.010	0.070	6.50	29.60	1 U	0.27	0.35	0.360	0.010 U	
LOP001	3/18/1991	10	7.6	9.0	8.1	0.010 U	0.070		29.86		0.37	0.42	0.360	0.010 U	
LOP001	4/15/1991	0	10.2	8.9	8.0	0.010	0.058	6.50	29.54	1 U	0.35	0.42	0.300	0.010 U	
LOP001	4/15/1991	10	8.4	9.0	8.0	0.020	0.058		29.88		1.14	1.01	0.300	0.010 U	
LOP001	5/13/1991	0	10.0	8.9	8.2	0.010 U	0.053	5.50	30.08	1 U	1.00	1.00	0.270	0.010 U	
LOP001	5/13/1991	10	9.3	8.8	8.2	0.020	0.057		30.12		1.10	1.20	0.270	0.010 U	
LOP001	6/10/1991	0	12.1	11.5	8.5	0.010 U	0.016	4.70	27.87	1 J	8.52	8.80	0.020	0.010 U	
LOP001	6/10/1991	10	10.3	9.7	8.3	0.010	0.043		28.95		5.08	6.31	0.220	0.010 U	
LOP001	7/15/1991	0	11.1	7.5	8.1	0.010	0.051	6.50	29.71	1 U	1.70	2.17	0.250	0.010 U	
LOP001	7/15/1991	10	10.5	6.4	8.0	0.020	0.059		29.91		1.04	1.27	0.280	0.010 U	
LOP001	8/12/1991	0	11.4	7.1	8.1	0.020	0.055	7.00	29.97	1 U	0.63	0.81	0.280	0.010 U	
LOP001	8/12/1991	10	10.7	6.3	8.1	0.020	0.060		30.15		1.25	1.41	0.300	0.010 U	
LOP001	9/16/1991	0	12.5	8.7	8.2	0.010 U	0.049	6.20	29.62	1 U			0.170	0.010 U	
LOP001	9/16/1991	10	11.5	8.0	8.2	0.010	0.055		29.67				0.200	0.010 U	
LOP001	10/14/1991	0	11.0	7.3	7.8			7.50	30.39						
LOP001	10/14/1991	10	10.5	6.9	7.8				30.40						
LOP001	12/2/1991	0	8.6	8.0	7.7			7.10	29.89						
LOP001	12/2/1991	10	8.6	8.0	7.7				30.12						
LOP001	1/7/1992	0	7.8	8.2	7.6			5.00	30.42						
LOP001	1/7/1992	10	7.8	8.2	7.6				30.41						
LOP001	3/23/1992	0	9.5	8.8	7.8			5.30	29.95						
LOP001	3/23/1992	8	9.0	8.7	7.8				29.96						
LOP001	4/20/1992	0	9.8	8.7	7.8			6.10	30.27						
LOP001	4/20/1992	10	9.6	8.3	7.8				30.31						

U = Analyte was not detected at or above the reported value.

J = Analyte was positively identified. The numerical result is an estimate.

Table 7. Ecology Ambient Monitoring Marine Data for the Lopez Sound Site LOP001.

Station	Date	Depth (Meters)	Temp (°C)	DO (mg/L)	pH (Units)	Dissolved			Secchi (Meters)	Salinity (PPT)	Fecal Coliform (#/100mL)	Dissolved		
						Ammonia (mg/L)	Phosphorus (mg/L)	Soluble (mg/L)				Chlorophyll <i>a</i> (<i>u</i> g/L)	Pheophytin (<i>u</i> g/L)	Nitrate- Nitrite (mg/L)
LOP001	5/27/1992	0	12.3	13.0	8.3				3.50	29.79				
LOP001	5/27/1992	10	10.9	8.9	8.0					29.86				
LOP001	6/22/1992	0	13.2	11.1	8.1				4.50	29.68				
LOP001	6/22/1992	10	11.7	8.6	7.9					29.87				
LOP001	7/28/1992	0	13.6	11.7	8.2				5.50	29.82				
LOP001	7/28/1992	10	12.1	9.1	8.0					29.97				
LOP001	8/17/1992	0	13.4	8.1	8.1					29.24				
LOP001	8/17/1992	10	12.7	7.8	8.0					29.61				
LOP001	9/28/1992	0	11.4	6.4	7.8				7.50	30.64				
LOP001	9/28/1992	10	11.0	6.5	7.8					30.72				
LOP001	11/9/1992	0	9.9	7.0	7.7				7.70	30.26				
LOP001	11/9/1992	10	9.9	6.9	7.7					30.52				
LOP001	2/17/1993	0	7.2	9.2	7.7				6.50	30.25				
LOP001	2/17/1993	10	6.7	9.4	7.8					30.27				
LOP001	3/16/1993	0	7.8	9.4 J	7.7				7.50	30.39				
LOP001	3/16/1993	9	7.7	9.4 J	7.7					30.38				
LOP001	4/27/1993	0	9.7	9.3 J	8.0				6.00	30.31				
LOP001	4/27/1993	10	9.1	9.3 J	8.0					30.33				
LOP001	5/26/1993	0	11.6	11.0 J	8.1				6.50	29.98				
LOP001	5/26/1993	10	10.4	9.6 J	8.0					29.97				
LOP001	6/30/1993	0	12.2	9.0 J	7.9				7.50	29.86				
LOP001	6/30/1993	9	11.3	8.3 J	7.9					29.96				
LOP001	7/21/1993	0	11.6	7.6	7.9				5.20	30.23				
LOP001	7/21/1993	6	11.1	7.0	7.8					30.25				
LOP001	8/24/1993	0	11.5	7.5	7.9				7.50	30.29				
LOP001	8/24/1993	10	11.3	7.0	7.8					30.31				
LOP001	9/20/1993	0	11.2	6.8	7.8				7.80	30.40				
LOP001	9/20/1993	10	11.0	6.6	7.8					30.41				
LOP001	10/18/1993	0	10.4	6.5	7.8	0.011	0.064		5.80	30.69	1	1.40	0.85	0.303
LOP001	10/18/1993	10	10.3	6.3	7.8	0.013	0.063			30.76		2.40	1.20	0.312

J = The numerical result is an estimate.

Table 7. Ecology Ambient Monitoring Marine Data for the Lopez Sound Site LOP001.

Station	Date	Depth (Meters)	Temp (°C)	DO (mg/L)	pH (Units)	Dissolved				Secchi (Meters)	Salinity (PPT)	Fecal Coliform (#/100mL)	Chlorophyll <i>a</i> (μ g/L)	Pheophytin (μ g/L)	Dissolved	
						Ammonia (mg/L)	Soluble Phosphorus (mg/L)	Nitrate- Nitrite (mg/L)	Dissolved Nitrite (mg/L)							
LOP001	12/21/1993	0	8.3	7.6	7.7	0.010 U	0.072	8.00	30.43	1 U	0.15	0.16	0.379			
LOP001	12/21/1993	10	8.2	7.6	7.7	0.010 U	0.073		30.55		0.19	0.23	0.385			
LOP001	3/3/1994	0	8.0	8.9	7.8	0.010 U	0.070	7.00	30.34	1 U	2.40	0.84	0.365			
LOP001	3/3/1994	9	7.9	8.9	7.8	0.010 U	0.069		30.34		0.64	0.62	0.361			
LOP001	4/11/1994	0	9.2	8.9	7.9	0.011	0.029	7.70	30.11	1 U	3.20	0.05 U	0.178			
LOP001	4/11/1994	10	8.7	8.6	7.9	0.022	0.026		30.13		2.60	0.29	0.175			
LOP001	5/2/1994	0	10.3	7.5	7.9	0.026	0.072	5.90	30.01		1.70	0.18	0.333			
LOP001	5/2/1994	10	9.3	7.8	7.9	0.018	0.056		30.07		1.40	0.48	0.271			
LOP001	6/8/1994	0	10.7	8.5	7.9	0.027	0.032	7.50	30.19	1 U	6.40	0.72	0.138			
LOP001	6/8/1994	10	10.2	8.3	7.9	0.031	0.032		30.25		8.50	1.00	0.139			
LOP001	7/5/1994	0	12.7	12.3	8.2	0.010 U	0.010 K	3.70	30.06	1 U	25.70	0.64	0.010 U			
LOP001	7/5/1994	10	11.0	8.6	7.9	0.010 U	0.021		30.10		16.00	0.37	0.134			
LOP001	8/1/1994	0	13.8	12.1	8.2	0.010 U	0.014	3.40	30.29	1 U	25.30	0.91	0.010 U			
LOP001	8/1/1994	10	11.2	7.1	7.9	0.010	0.034		30.40		11.50	0.98	0.168			
LOP001	9/6/1994	0	12.6	9.9	8.0	0.010 U	0.024	5.90	29.81	1 U	15.70	3.20	0.100			
LOP001	9/6/1994	10	11.6	6.8	7.8	0.017	0.041		29.97		4.90	2.10	0.192			

U or K = Analyte was not detected at or above the reported value.

Table 8. Ecology Ambient Monitoring Marine Data for the Fisherman's Bay Site FSH001.

Station	Date	Depth (Meters)	Temp (°C)	DO (mg/L)	pH (Units)	Dissolved		Secchi (Meters)	Salinity (PPT)	Fecal Coliform (#/100mL)	Chlorophyll <i>a</i> (μ g/L)	Pheophytin (μ g/L)	Nitrate-		Dissolved Nitrite (mg/L)
						Ammonia (mg/L)	Soluble Phosphorus (mg/L)						Nitrate- Nitrite (mg/L)	Nitrite (mg/L)	
FSH001	10/7/1996	0	11.7	6.3	7.9	0.016	0.052	5.00	30.06	1 U	3.0	1.1	0.23	0.233	
FSH001	10/7/1996	10	11.1	6.4	7.9	0.015	0.056		30.18		4.1	1.8	0.26	0.260	
FSH001	12/17/1996	0	7.3	7.8	7.6	0.019	0.088	0.90	12.32	1 U			0.31	0.406	
FSH001	12/17/1996	10	6.0	8.7	7.7	0.027	0.095		14.40				0.25	0.408	
FSH001	1/16/1997	0	6.3	8.4	7.7	0.037	0.057		28.75	1 U			0.43	0.335	
FSH001	1/16/1997	10	5.6	8.6	7.7	0.050	0.057	3.00	25.23					0.304	
FSH001	2/6/1997	0	6.9	8.3	7.7	0.016	0.066		30.96	1 U	0.27	0.31	0.36	0.366	
FSH001	2/6/1997	10	7.0	8.2	7.7		0.066	2.70	29.05		0.32	0.31	0.06		
FSH001	3/12/1997	0	7.9	9.7	7.9	0.027	0.096		14.24	1 U	0.98	0.54	0.28	0.282	
FSH001	3/12/1997	10	7.9	9.8	7.9	0.027	0.096	0.60	0.83		0.81	0.59	0.65	0.271	
FSH001	4/1/1997	0	8.7	9.6	7.8	0.010 U	0.079		28.12	1 U	0.70	0.36	0.37	0.236	
FSH001	4/1/1997	10	8.3	9.7	7.9	0.010 U	0.076		28.22		1.3	0.31	0.36	0.207	
FSH001	5/6/1997	0	11.1	9.1	5.7	0.011	0.087		27.94	1 U	8.5	1.5	0.26	0.161	
FSH001	5/6/1997	10	9.9	9.3	5.7	0.010 U	0.092		28.28		4.6	2.5	0.36	0.209	
FSH001	6/5/1997	0	13.3	8.7	5.8	0.010 U	0.065	6.80	27.29	1 U	21.5	10.3	0.15	0.039	
FSH001	6/5/1997	10	11.8	8.9	5.8	0.012	0.078		27.80		8.1	5.1	0.19	0.132	
FSH001	7/2/1997	0	13.9	8.6	5.8	0.017	0.080		16.51	1 U	3.7	1.7	0.04	0.212	
FSH001	7/2/1997	10	11.5	9.0	5.8	0.019	0.078	2.70	17.01		3.1	1.7	0.244	0.244	
FSH001	8/6/1997	0				0.010 U	0.051		10.27	1 U	11.9	3.0	0.09	0.035	
FSH001	8/6/1997	10				0.010 U	0.065	0.60	26.70		25.9	1.8	0.04	0.136	
FSH001	9/8/1997	0	14.3	12.2	5.9	0.010 U	0.058	1.40	12.31	1 U	23.6	5.4	0.27	0.030	
FSH001	9/8/1997	10	11.6	7.6	5.9	0.010 U	0.061		20.64		11.3	3.7	0.17	0.136	

U = Analyte was not detected at or above the reported result.

Table 9. Ecology Ambient Monitoring Data for San Juan Island Lakes - Sportsman, Hummel, Mountain, and Cascade.

Island	Lake	Sample Date	Sample Depth (Feet)	Sample Location (Epilimnion / Hypolimnion)	Temp (°C)	pH (Units)	DO (mg/L)	Conductivity (µ mhos/cm)	Fecal Coliform (#/100mL)	Turbidity (NTU)	TPN (mg/L)	Low Level	
												TP (µg/L)	Pheophytin (µg/L)
San Juan	Sportsman	6/17/1997	0		21.6	10.1	11.9	153					
San Juan	Sportsman	6/17/1997	1		21.6	10.1	11.8	153					
San Juan	Sportsman	6/17/1997	2		19.4	8.5	2.0	150					
San Juan	Sportsman	6/17/1997	2.4		16.9	6.8	1.1	182					
San Juan	Sportsman	6/18/1997		Epilimnion					1 U	0.9	0.212 J	25.2	
San Juan	Sportsman	8/19/1997	0		23.1	7	4.3	171					
San Juan	Sportsman	8/19/1997	1		22	6.9	3.5	172					
San Juan	Sportsman	8/19/1997	2		21.5	6.7	2.5	190					
San Juan	Sportsman	8/19/1997	2.3		20.4	6.2	0.4	245					
San Juan	Sportsman	8/19/1997		Epilimnion					770 J	1	0.582	20.1	5.6
Lopez	Hummel	6/18/1997	0		19.3	7.0	7.9	132					
Lopez	Hummel	6/18/1997	1		19.2	6.9	7.7	133					
Lopez	Hummel	6/18/1997	2		18.1	6.5	2.6	141					
Lopez	Hummel	6/18/1997	2.3		16.8	6.3	0.6	158					
Lopez	Hummel	6/18/1997		Epilimnion					1	4.4	1.09 J	119	
Lopez	Hummel	6/18/1997		Hypolimnion					2				
Lopez	Hummel	8/19/1997	0		22.7	7.2	7.9	150					
Lopez	Hummel	8/19/1997	1		22.0	7.0	6.9	150					
Lopez	Hummel	8/19/1997	2		21.9	6.9	5.7	150					
Lopez	Hummel	8/19/1997		Epilimnion					4	6.2	1.20	219 J	8.2
Lopez	Hummel	8/19/1997		Hypolimnion					6				
Orcas	Mountain	6/18/1997	0		17.6	7.9	9.6	104					
Orcas	Mountain	6/18/1997	1		17.5	8.0	9.5	104					
Orcas	Mountain	6/18/1997	2		17.4	8.0	9.5	104					
Orcas	Mountain	6/18/1997	3		17.4	8.0	9.4	104					
Orcas	Mountain	6/18/1997	4		17.4	8.0	9.4	104					
Orcas	Mountain	6/18/1997	6		17.3	8.1	9.7	104					
Orcas	Mountain	6/18/1997	7		14.7	8.8	11.0	103					
Orcas	Mountain	6/18/1997	10		9.9	8.8	12.7	102					
Orcas	Mountain	6/18/1997	15		6.9	8.0	12.2	101					
Orcas	Mountain	6/18/1997	20		5.8	7.6	10.2	101					
Orcas	Mountain	6/18/1997	25		5.4	7.4	9.1	101					
Orcas	Mountain	6/18/1997	30		5.3	7.2	8.1	101					
Orcas	Mountain	6/18/1997		Epilimnion					1	0.5 U	0.030 J	1.7	
Orcas	Mountain	6/18/1997		Hypolimnion					240		0.099 J	5.7	

U = Analyte was not detected at or above the reported value.
 J = Analyte was positively identified. The numerical result is an estimate.

Table 9. Ecology Ambient Monitoring Data for San Juan Island Lakes - Sportsman, Hummel, Mountain, and Cascade.

Island	Lake	Sample Date	Sample Depth (Feet)	Sample Location (Epilimnion or Hypolimnion)	Temp (°C)	pH (Units)	DO (mg/L)	Conductivity (µ mhos/cm)	Fecal		Low Level		
									Coliform (#/100mL)	Turbidity (NTU)	TPN (mg/L)	TP (µg/L)	Chlorophyll <i>a</i> (µg/L)
Orcas	Mountain	8/18/1997	0		21.7	7.8	8.8	108					
Orcas	Mountain	8/18/1997	1		21.7	7.8	8.7	108					
Orcas	Mountain	8/18/1997	2		21.7	7.8	8.7	108					
Orcas	Mountain	8/18/1997	3		21.6	7.8	8.7	109					
Orcas	Mountain	8/18/1997	4		21.6	7.8	8.7	108					
Orcas	Mountain	8/18/1997	5		21.6	7.8	8.7	109					
Orcas	Mountain	8/18/1997	6		21.6	7.8	8.7	108					
Orcas	Mountain	8/18/1997	8		19.8	8.2	9.8	107					
Orcas	Mountain	8/18/1997	10		13.2	8.9	13.1	104					
Orcas	Mountain	8/18/1997	15		7.9	8.2	13.8	103					
Orcas	Mountain	8/18/1997	20		6.3	7.2	9.2	102					
Orcas	Mountain	8/18/1997	25		5.6	7.1	6.5	102					
Orcas	Mountain	8/18/1997	25.3		5.6	7.0	6.3	102					
Orcas	Mountain	8/19/1997		Epilimnion					0.5 U	0.428	1.3	1.4	0.5 U
Orcas	Cascade	8/18/1997	0		22.7	8.7	8.9	184					
Orcas	Cascade	8/18/1997	1		22.8	8.7	8.9	184					
Orcas	Cascade	8/18/1997	2		22.8	8.7	8.9	184					
Orcas	Cascade	8/18/1997	3		22.7	8.7	8.9	184					
Orcas	Cascade	8/18/1997	4		22.7	8.7	8.9	184					
Orcas	Cascade	8/18/1997	5		22.7	8.7	8.9	184					
Orcas	Cascade	8/18/1997	6		22.5	8.6	8.5	184					
Orcas	Cascade	8/18/1997	7		19.2	7.8	8.0	199					
Orcas	Cascade	8/18/1997	8		15.5	7.5	6.9	199					
Orcas	Cascade	8/18/1997	10		10.2	7.3	3.5	197					
Orcas	Cascade	8/18/1997	15		7.3	7.1	0.4	208					
Orcas	Cascade	8/18/1997	19.4		7.1	6.9	0.3	214					
Orcas	Cascade	8/19/1997		Epilimnion					0.9	0.184	6.4	2.3	0.5 U
Orcas	Cascade	8/19/1997		Hypolimnion						0.617	118		

U = Analyte was not detected at or above the reported value.

Table 10. DOH Water Quality Data for Marine Sites in Westcott Bay, San Juan Island.

Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)	Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)
Westcott Bay	8/16/1988	1	4.0	14.0	Westcott Bay	8/16/1988	2	2.0	14.0
Westcott Bay	8/16/1988	1	2.0	14.0	Westcott Bay	8/16/1988	2	4.5	15.0
Westcott Bay	8/17/1988	1	1.8	13.0	Westcott Bay	8/17/1988	2	2.0	14.0
Westcott Bay	8/17/1988	1	1.8	12.0	Westcott Bay	8/17/1988	2	1.8	16.0
Westcott Bay	8/18/1988	1	1.8	11.0	Westcott Bay	8/18/1988	2	1.8	14.0
Westcott Bay	7/10/1990	1	2.0	12.0	Westcott Bay	7/10/1990	2	2.0	12.0
Westcott Bay	7/10/1990	1	1.8	11.0	Westcott Bay	7/10/1990	2	1.8	17.0
Westcott Bay	7/11/1990	1	1.8	14.0	Westcott Bay	7/11/1990	2	2.0	14.0
Westcott Bay	7/11/1990	1	1.8	11.0	Westcott Bay	7/11/1990	2	1.8	16.0
Westcott Bay	7/12/1990	1	1.8	13.0	Westcott Bay	7/12/1990	2	2.0	13.0
Westcott Bay	7/12/1990	1	1.8	12.0	Westcott Bay	7/12/1990	2	1.8	13.0
Westcott Bay	2/5/1991	1	2.0	8.0	Westcott Bay	2/5/1991	2	4.5	7.0
Westcott Bay	2/5/1991	1	1.8	8.0	Westcott Bay	2/5/1991	2	1.8	8.0
Westcott Bay	2/6/1991	1	1.8	8.0	Westcott Bay	2/6/1991	2	1.8	7.0
Westcott Bay	2/6/1991	1	1.8	8.0	Westcott Bay	2/6/1991	2	1.8	8.0
Westcott Bay	2/7/1991	1	4.5	8.0	Westcott Bay	2/7/1991	2	7.8	8.0
Westcott Bay	2/7/1991	1	2.0	8.0	Westcott Bay	2/7/1991	2	2.0	8.0
Westcott Bay	3/31/1992	1	1.8	11.0	Westcott Bay	3/31/1992	2	1.8	11.0
Westcott Bay	3/31/1992	1	1.8	11.0	Westcott Bay	3/31/1992	2	1.8	12.0
Westcott Bay	6/16/1992	1	1.8	12.0	Westcott Bay	6/16/1992	2	2.0	13.0
Westcott Bay	8/26/1992	1	2.0	12.0	Westcott Bay	8/26/1992	2	1.8	14.0
Westcott Bay	9/29/1992	1	1.8	11.0	Westcott Bay	9/29/1992	2	1.8	12.0
Westcott Bay	2/3/1993	1	4.5	7.0	Westcott Bay	2/3/1993	2	1.8	7.0
Westcott Bay	3/17/1993	1	1.8	8.0	Westcott Bay	3/17/1993	2	1.8	8.0
Westcott Bay	4/21/1993	1	1.8	10.0	Westcott Bay	4/21/1993	2	1.8	11.0
Westcott Bay	6/23/1993	1	1.8	12.0	Westcott Bay	6/23/1993	2	2.0	15.0
Westcott Bay	8/18/1993	1	2.0	14.0	Westcott Bay	8/18/1993	2	2.0	15.0
Westcott Bay	12/1/1993	1	1.8	9.0	Westcott Bay	12/1/1993	2	4.5	9.0
Westcott Bay	2/2/1994	1	2.0	9.0	Westcott Bay	2/2/1994	2	1.8	8.0
Westcott Bay	12/20/1995	1	1.8	9.0	Westcott Bay	12/20/1995	2	4.0	9.0
Westcott Bay	2/7/1996	1	4.0	8.0	Westcott Bay	2/7/1996	2	7.8	8.0
Westcott Bay	4/30/1996	1	1.8	12.0	Westcott Bay	4/30/1996	2	1.8	12.0
Westcott Bay	6/18/1996	1	1.8	12.0	Westcott Bay	6/18/1996	2	1.8	13.0
Westcott Bay	8/27/1996	1	1.8	12.0	Westcott Bay	8/27/1996	2	6.8	14.0
Westcott Bay	10/30/1996	1	1.8	10.0	Westcott Bay	10/30/1996	2	4.5	10.0
Westcott Bay	12/18/1996	1	1.8	8.0	Westcott Bay	12/18/1996	2	2.0	8.0
Westcott Bay	2/12/1997	1	2.0	7.0	Westcott Bay	2/12/1997	2	1.8	7.0
Westcott Bay	4/29/1997	1	1.8	10.0	Westcott Bay	4/29/1997	2	1.8	10.0
Westcott Bay	6/24/1997	1	2.0	11.0	Westcott Bay	6/24/1997	2	1.8	11.0
Westcott Bay	7/9/1997	1	1.8	11.0	Westcott Bay	7/9/1997	2	2.0	12.0
Westcott Bay	10/22/1997	1	2.0	11.0	Westcott Bay	10/22/1997	2	3.0	11.0
Westcott Bay	12/17/1997	1	2.0	10.0	Westcott Bay	12/17/1997	2	14.0	10.0

Table 10. DOH Water Quality Data for Marine Sites in Westcott Bay, San Juan Island.

Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)	Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)
Westcott Bay	8/16/1988	3	1.8	15.0	Westcott Bay	8/16/1988	4	7.8	15.0
Westcott Bay	8/16/1988	3	2.0	15.0	Westcott Bay	8/16/1988	4	2.0	15.0
Westcott Bay	8/17/1988	3	7.8	15.0	Westcott Bay	8/17/1988	4	2.0	15.0
Westcott Bay	8/17/1988	3	1.8	13.5	Westcott Bay	8/17/1988	4	1.8	16.0
Westcott Bay	8/18/1988	3	2.0	15.0	Westcott Bay	8/18/1988	4	1.8	11.0
Westcott Bay	7/10/1990	3	1.8	12.0	Westcott Bay	7/10/1990	4	1.8	19.0
Westcott Bay	7/10/1990	3	1.8	16.0	Westcott Bay	7/10/1990	4	1.8	20.0
Westcott Bay	7/11/1990	3	1.8	17.0	Westcott Bay	7/11/1990	4	1.8	17.0
Westcott Bay	7/11/1990	3	1.8	17.0	Westcott Bay	7/11/1990	4	1.8	18.0
Westcott Bay	7/12/1990	3	1.8	16.0	Westcott Bay	7/12/1990	4	1.8	18.0
Westcott Bay	7/12/1990	3	1.8	16.0	Westcott Bay	7/12/1990	4	1.8	17.0
Westcott Bay	2/5/1991	3	1.8	8.0	Westcott Bay	2/5/1991	4	1.8	8.0
Westcott Bay	2/5/1991	3	1.8	8.0	Westcott Bay	2/5/1991	4	2.0	8.0
Westcott Bay	2/6/1991	3	1.8	8.0	Westcott Bay	2/6/1991	4	1.8	7.0
Westcott Bay	2/6/1991	3	1.8	8.0	Westcott Bay	2/6/1991	4	1.8	8.0
Westcott Bay	2/7/1991	3	1.8	8.0	Westcott Bay	2/7/1991	4	1.8	8.0
Westcott Bay	2/7/1991	3	1.8	8.0	Westcott Bay	2/7/1991	4	1.8	8.0
Westcott Bay	3/31/1992	3	1.8	12.0	Westcott Bay	3/31/1992	4	1.8	12.0
Westcott Bay	3/31/1992	3	1.8	12.0	Westcott Bay	3/31/1992	4	1.8	12.0
Westcott Bay	6/16/1992	3	2.0	14.0	Westcott Bay	6/16/1992	4	4.5	14.0
Westcott Bay	8/26/1992	3	1.8	15.0	Westcott Bay	8/26/1992	4	1.8	16.0
Westcott Bay	9/29/1992	3	1.8	12.0	Westcott Bay	9/29/1992	4	2.0	12.0
Westcott Bay	2/3/1993	3	1.8	7.0	Westcott Bay	2/3/1993	4	1.8	7.0
Westcott Bay	3/17/1993	3	1.8	8.0	Westcott Bay	3/17/1993	4	1.8	8.0
Westcott Bay	4/21/1993	3	1.8	12.0	Westcott Bay	4/21/1993	4	1.8	11.0
Westcott Bay	6/23/1993	3	1.8	15.0	Westcott Bay	6/23/1993	4	1.8	15.0
Westcott Bay	8/18/1993	3	1.8	15.0	Westcott Bay	8/18/1993	4	1.8	16.0
Westcott Bay	12/1/1993	3	1.8	10.0	Westcott Bay	12/1/1993	4	7.8	8.0
Westcott Bay	2/2/1994	3	1.8	8.0	Westcott Bay	2/2/1994	4	1.8	8.0
Westcott Bay	7/7/1994	3	1.8	16.0	Westcott Bay	3/16/1994	4	1.8	10.0
Westcott Bay	12/20/1995	3	4.5	9.0	Westcott Bay	5/11/1994	4	1.8	15.0
Westcott Bay	2/7/1996	3	2.0	7.0	Westcott Bay	7/7/1994	4	1.8	16.0
Westcott Bay	4/30/1996	3	1.8	12.0	Westcott Bay	9/27/1994	4	1.8	16.0
Westcott Bay	6/18/1996	3	1.8	14.0	Westcott Bay	11/8/1994	4	1.8	10.0
Westcott Bay	8/27/1996	3	4.0	15.0	Westcott Bay	2/1/1995	4	2.0	9.0
Westcott Bay	10/30/1996	3	1.8	10.0	Westcott Bay	4/6/1995	4	1.8	10.0
Westcott Bay	12/18/1996	3	2.0	8.0	Westcott Bay	6/27/1995	4	2.0	15.0
Westcott Bay	2/12/1997	3	1.8	7.0	Westcott Bay	8/2/1995	4	1.8	17.0
Westcott Bay	4/29/1997	3	1.8	10.0	Westcott Bay	10/11/1995	4	11.0	13.0
Westcott Bay	6/24/1997	3	1.8	12.0	Westcott Bay	12/20/1995	4	7.8	9.0
Westcott Bay	7/9/1997	3	1.8	12.0	Westcott Bay	2/7/1996	4	2.0	7.0
Westcott Bay	10/22/1997	3	1.8	11.0	Westcott Bay	4/30/1996	4	4.5	12.0
Westcott Bay	12/17/1997	3	4.5	10.0	Westcott Bay	6/18/1996	4	1.8	14.0
					Westcott Bay	8/27/1996	4	1.8	15.0
					Westcott Bay	10/30/1996	4	7.8	9.0
					Westcott Bay	12/18/1996	4	4.5	7.0
					Westcott Bay	2/12/1997	4	2.0	7.0
					Westcott Bay	4/29/1997	4	1.8	10.0
					Westcott Bay	6/24/1997	4	1.8	13.0
					Westcott Bay	7/9/1997	4	6.8	13.0
					Westcott Bay	10/22/1997	4	4.5	11.0
					Westcott Bay	12/17/1997	4	17.0	10.0

Table 10. DOH Water Quality Data for Marine Sites in Westcott Bay, San Juan Island.

Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)	Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)
Westcott Bay	8/16/1988	5	17.0	16.0	Westcott Bay	8/16/1988	6	4.5	16.0
Westcott Bay	8/16/1988	5	13.0	15.5	Westcott Bay	8/16/1988	6	2.0	16.0
Westcott Bay	8/17/1988	5	4.5	15.0	Westcott Bay	8/17/1988	6	2.0	14.0
Westcott Bay	8/17/1988	5	1.8	14.5	Westcott Bay	8/17/1988	6	1.8	17.0
Westcott Bay	8/18/1988	5	1.8	15.0	Westcott Bay	8/18/1988	6	4.5	16.0
Westcott Bay	7/10/1990	5	1.8	19.0	Westcott Bay	7/10/1990	6	1.8	17.0
Westcott Bay	7/10/1990	5	1.8	21.0	Westcott Bay	7/10/1990	6	1.8	21.0
Westcott Bay	7/11/1990	5	1.8	17.0	Westcott Bay	7/11/1990	6	2.0	18.0
Westcott Bay	7/11/1990	5	1.8	19.0	Westcott Bay	7/11/1990	6	1.8	20.0
Westcott Bay	7/12/1990	5	1.8	17.0	Westcott Bay	7/12/1990	6	2.0	18.0
Westcott Bay	7/12/1990	5	1.8	19.0	Westcott Bay	7/12/1990	6	1.8	20.0
Westcott Bay	2/5/1991	5	4.0	8.0	Westcott Bay	2/5/1991	6	70.0	8.0
Westcott Bay	2/5/1991	5	1.8	9.0	Westcott Bay	2/5/1991	6	1.8	9.0
Westcott Bay	2/6/1991	5	1.8	7.0	Westcott Bay	2/6/1991	6	1.8	7.0
Westcott Bay	2/6/1991	5	1.8	8.0	Westcott Bay	2/6/1991	6	2.0	8.0
Westcott Bay	2/7/1991	5	7.8	8.0	Westcott Bay	2/7/1991	6	7.8	8.0
Westcott Bay	2/7/1991	5	2.0	8.0	Westcott Bay	2/7/1991	6	4.5	8.0
Westcott Bay	3/31/1992	5	1.8	12.0	Westcott Bay	3/31/1992	6	1.8	12.0
Westcott Bay	3/31/1992	5	1.8	12.0	Westcott Bay	3/31/1992	6	1.8	13.0
Westcott Bay	6/16/1992	5	4.5	15.0	Westcott Bay	6/16/1992	6	4.0	16.0
Westcott Bay	8/26/1992	5	2.0	14.0	Westcott Bay	8/26/1992	6	1.8	18.0
Westcott Bay	9/29/1992	5	2.0	12.0	Westcott Bay	9/29/1992	6	2.0	12.0
Westcott Bay	2/3/1993	5	1.8	7.0	Westcott Bay	2/3/1993	6	1.8	7.0
Westcott Bay	3/17/1993	5	1.8	8.0	Westcott Bay	3/17/1993	6	1.8	9.0
Westcott Bay	4/21/1993	5	1.8	12.0	Westcott Bay	4/21/1993	6	1.8	12.0
Westcott Bay	6/23/1993	5	1.8	15.0	Westcott Bay	6/23/1993	6	1.8	16.0
Westcott Bay	8/18/1993	5	1.8	16.0	Westcott Bay	8/18/1993	6	1.8	16.0
Westcott Bay	12/1/1993	5	1.8	8.0	Westcott Bay	12/1/1993	6	2.0	8.0
Westcott Bay	2/2/1994	5	1.8	8.0	Westcott Bay	2/2/1994	6	2.0	7.0
Westcott Bay	3/16/1994	5	1.8	10.0	Westcott Bay	3/16/1994	6	1.8	10.0
Westcott Bay	5/11/1994	5	1.8	15.0	Westcott Bay	5/11/1994	6	1.8	17.0
Westcott Bay	7/7/1994	5	1.8	16.0	Westcott Bay	7/7/1994	6	1.8	19.0
Westcott Bay	9/27/1994	5	1.8	16.0	Westcott Bay	9/27/1994	6	1.8	15.0
Westcott Bay	11/8/1994	5	2.0	10.0	Westcott Bay	11/8/1994	6	2.0	10.0
Westcott Bay	2/1/1995	5	4.5	9.0	Westcott Bay	2/1/1995	6	1.8	9.0
Westcott Bay	4/6/1995	5	1.8	10.0	Westcott Bay	4/6/1995	6	1.8	11.0
Westcott Bay	6/27/1995	5	4.5	15.0	Westcott Bay	6/27/1995	6	7.8	15.0
Westcott Bay	8/2/1995	5	23.0	17.0	Westcott Bay	8/2/1995	6	3.7	18.0
Westcott Bay	10/11/1995	5	13.0	14.0	Westcott Bay	10/11/1995	6	12.0	14.0
Westcott Bay	12/20/1995	5	2.0	8.0	Westcott Bay	12/20/1995	6	2.0	8.0
Westcott Bay	2/7/1996	5	2.0	7.0	Westcott Bay	2/7/1996	6	4.5	7.0
Westcott Bay	4/30/1996	5	1.8	12.0	Westcott Bay	4/30/1996	6	1.8	12.0
Westcott Bay	6/18/1996	5	1.8	15.0	Westcott Bay	6/18/1996	6	2.0	15.0
Westcott Bay	8/27/1996	5	4.5	16.0	Westcott Bay	8/27/1996	6	4.5	16.0
Westcott Bay	10/30/1996	5	2.0	9.0	Westcott Bay	10/30/1996	6	4.5	9.0
Westcott Bay	12/18/1996	5	2.0	7.0	Westcott Bay	12/18/1996	6	1.8	7.0
Westcott Bay	2/12/1997	5	2.0	7.0	Westcott Bay	2/12/1997	6	1.8	7.0
Westcott Bay	4/29/1997	5	1.8	10.0	Westcott Bay	4/29/1997	6	2.0	10.0
Westcott Bay	6/24/1997	5	1.8	13.0	Westcott Bay	6/24/1997	6	2.0	14.0
Westcott Bay	7/9/1997	5	1.8	13.0	Westcott Bay	7/9/1997	6	33.0	15.0
Westcott Bay	10/22/1997	5	2.0	11.0	Westcott Bay	10/22/1997	6	2.0	11.0
Westcott Bay	12/17/1997	5	4.5	9.0	Westcott Bay	12/17/1997	6	17.0	9.0

Table 10. DOH Water Quality Data for Marine Sites in Westcott Bay, San Juan Island.

Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)	Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)
Westcott Bay	8/16/1988	7	1.8	15.5	Westcott Bay	8/16/1988	8	1.8	15.5
Westcott Bay	8/16/1988	7	1.8	16.0	Westcott Bay	8/16/1988	8	1.8	16.0
Westcott Bay	8/17/1988	7	1.8	16.0	Westcott Bay	8/17/1988	8	1.8	15.5
Westcott Bay	8/17/1988	7	1.8	16.0	Westcott Bay	8/17/1988	8	1.8	15.5
Westcott Bay	8/18/1988	7	1.8	16.0	Westcott Bay	8/18/1988	8	1.8	16.0
Westcott Bay	7/10/1990	7	1.8	19.0	Westcott Bay	7/10/1990	8	1.8	20.0
Westcott Bay	7/10/1990	7	1.8	19.0	Westcott Bay	7/10/1990	8	1.8	21.0
Westcott Bay	7/11/1990	7	1.8	16.0	Westcott Bay	7/11/1990	8	2.0	16.0
Westcott Bay	7/11/1990	7	1.8	20.0	Westcott Bay	7/11/1990	8	1.8	20.0
Westcott Bay	7/12/1990	7	2.0	17.0	Westcott Bay	7/12/1990	8	1.8	17.0
Westcott Bay	7/12/1990	7	2.0	19.0	Westcott Bay	7/12/1990	8	1.8	18.0
Westcott Bay	2/5/1991	7	2.0	8.0	Westcott Bay	2/5/1991	8	2.0	8.0
Westcott Bay	2/5/1991	7	1.8	9.0	Westcott Bay	2/5/1991	8	1.8	9.0
Westcott Bay	2/6/1991	7	1.8	8.0	Westcott Bay	2/6/1991	8	1.8	8.0
Westcott Bay	2/6/1991	7	1.8	8.0	Westcott Bay	2/6/1991	8	1.8	9.0
Westcott Bay	2/7/1991	7	7.8	8.0	Westcott Bay	2/7/1991	8	4.5	8.0
Westcott Bay	2/7/1991	7	11.0	8.0	Westcott Bay	2/7/1991	8	49.0	8.0
Westcott Bay	3/31/1992	7	1.8	12.0	Westcott Bay	3/31/1992	8	1.8	12.0
Westcott Bay	3/31/1992	7	1.8	14.0	Westcott Bay	3/31/1992	8	1.8	14.0
Westcott Bay	6/16/1992	7	2.0	16.0	Westcott Bay	6/16/1992	8	2.0	15.0
Westcott Bay	8/26/1992	7	1.8	16.0	Westcott Bay	8/26/1992	8	1.8	16.0
Westcott Bay	9/29/1992	7	1.8	12.0	Westcott Bay	9/29/1992	8	1.8	12.0
Westcott Bay	2/3/1993	7	1.8	7.0	Westcott Bay	2/3/1993	8	2.0	7.0
Westcott Bay	3/17/1993	7	1.8	9.0	Westcott Bay	3/17/1993	8	1.8	9.0
Westcott Bay	4/21/1993	7	1.8	12.0	Westcott Bay	4/21/1993	8	1.8	12.0
Westcott Bay	6/23/1993	7	1.8	16.0	Westcott Bay	6/23/1993	8	1.8	16.0
Westcott Bay	8/18/1993	7	1.8	17.0	Westcott Bay	8/18/1993	8	2.0	17.0
Westcott Bay	12/1/1993	7	14.0	8.0	Westcott Bay	12/1/1993	8	1.8	8.0
Westcott Bay	2/2/1994	7	1.8	7.0	Westcott Bay	2/2/1994	8	1.8	7.0
Westcott Bay	3/16/1994	7	1.8	10.0	Westcott Bay	3/16/1994	8	1.8	10.0
Westcott Bay	5/11/1994	7	1.8	16.0	Westcott Bay	5/11/1994	8	1.8	16.0
Westcott Bay	7/7/1994	7	1.8	19.0	Westcott Bay	7/7/1994	8	1.8	18.0
Westcott Bay	9/27/1994	7	1.8	15.0	Westcott Bay	9/27/1994	8	1.8	16.0
Westcott Bay	11/8/1994	7	2.0	9.0	Westcott Bay	11/8/1994	8	1.8	9.0
Westcott Bay	2/1/1995	7	4.0	9.0	Westcott Bay	2/1/1995	8	4.5	9.0
Westcott Bay	4/6/1995	7	1.8	10.0	Westcott Bay	4/6/1995	8	1.8	10.0
Westcott Bay	6/27/1995	7	1.8	14.0	Westcott Bay	6/27/1995	8	1.8	14.0
Westcott Bay	8/2/1995	7	1.8	17.0	Westcott Bay	8/2/1995	8	2.0	17.0
Westcott Bay	10/11/1995	7	4.5	14.0	Westcott Bay	10/11/1995	8	7.8	14.0
Westcott Bay	12/20/1995	7	6.8	8.0	Westcott Bay	12/20/1995	8	2.0	9.0
Westcott Bay	2/7/1996	7	6.8	7.0	Westcott Bay	2/7/1996	8	1.8	7.0
Westcott Bay	4/30/1996	7	1.8	11.0	Westcott Bay	4/30/1996	8	1.8	12.0
Westcott Bay	6/18/1996	7	1.8	15.0	Westcott Bay	6/18/1996	8	1.8	15.0
Westcott Bay	8/27/1996	7	33.0	17.0	Westcott Bay	8/27/1996	8	7.8	16.0
Westcott Bay	10/30/1996	7	7.8	9.0	Westcott Bay	10/30/1996	8	4.5	9.0
Westcott Bay	12/18/1996	7	1.8	7.0	Westcott Bay	12/18/1996	8	1.8	6.0
Westcott Bay	2/12/1997	7	1.8	7.0	Westcott Bay	2/12/1997	8	13.0	7.0
Westcott Bay	4/29/1997	7	1.8	10.0	Westcott Bay	4/29/1997	8	1.8	10.0
Westcott Bay	6/24/1997	7	1.8	14.0	Westcott Bay	6/24/1997	8	1.8	14.0
Westcott Bay	7/9/1997	7	1.8	15.0	Westcott Bay	7/9/1997	8	2.0	15.0
Westcott Bay	10/22/1997	7	2.0	11.0	Westcott Bay	10/22/1997	8	4.5	11.0
Westcott Bay	12/17/1997	7	23.0	9.0	Westcott Bay	12/17/1997	8	33.0	9.0

Table 10. DOH Water Quality Data for Marine Sites in Westcott Bay, San Juan Island.

Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)	Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)
Westcott Bay	8/16/1988	9	2.0	15.5	Westcott Bay	8/16/1988	10	4.5	16.0
Westcott Bay	8/16/1988	9	4.5	16.0	Westcott Bay	8/17/1988	10	7.8	15.0
Westcott Bay	8/17/1988	9	2.0	15.0	Westcott Bay	8/17/1988	10	4.5	15.5
Westcott Bay	8/17/1988	9	1.8	16.0	Westcott Bay	8/18/1988	10	1.8	16.0
Westcott Bay	8/18/1988	9	1.8	15.0	Westcott Bay	7/10/1990	10	1.8	19.0
Westcott Bay	7/10/1990	9	1.8	19.0	Westcott Bay	7/10/1990	10	1.8	19.0
Westcott Bay	7/10/1990	9	1.8	21.0	Westcott Bay	7/11/1990	10	1.8	18.0
Westcott Bay	7/11/1990	9	2.0	16.0	Westcott Bay	7/11/1990	10	1.8	17.0
Westcott Bay	7/11/1990	9	1.8	18.0	Westcott Bay	7/12/1990	10	1.8	16.0
Westcott Bay	7/12/1990	9	1.8	16.0	Westcott Bay	7/12/1990	10	1.8	18.0
Westcott Bay	7/12/1990	9	1.8	17.0	Westcott Bay	2/5/1991	10	4.5	8.0
Westcott Bay	2/5/1991	9	1.8	8.0	Westcott Bay	2/5/1991	10	2.0	9.0
Westcott Bay	2/5/1991	9	11.0	8.0	Westcott Bay	2/6/1991	10	1.8	8.0
Westcott Bay	2/6/1991	9	1.8	8.0	Westcott Bay	2/6/1991	10	2.0	8.0
Westcott Bay	2/6/1991	9	13.0	8.0	Westcott Bay	2/7/1991	10	1.8	8.0
Westcott Bay	2/7/1991	9	1.8	8.0	Westcott Bay	2/7/1991	10	1.8	8.0
Westcott Bay	2/7/1991	9	1.8	8.0	Westcott Bay	3/31/1992	10	1.8	12.0
Westcott Bay	3/31/1992	9	1.8	12.0	Westcott Bay	3/31/1992	10	1.8	13.0
Westcott Bay	3/31/1992	9	1.8	13.0	Westcott Bay	6/16/1992	10	1.8	15.0
Westcott Bay	6/16/1992	9	1.8	15.0	Westcott Bay	8/26/1992	10	1.8	15.0
Westcott Bay	8/26/1992	9	1.8	17.0	Westcott Bay	9/29/1992	10	1.8	13.0
Westcott Bay	9/29/1992	9	1.8	12.0	Westcott Bay	2/3/1993	10	1.8	7.0
Westcott Bay	2/3/1993	9	1.8	7.0	Westcott Bay	3/17/1993	10	1.8	8.0
Westcott Bay	3/17/1993	9	2.0	9.0	Westcott Bay	4/21/1993	10	1.8	12.0
Westcott Bay	4/21/1993	9	1.8	12.0	Westcott Bay	6/23/1993	10	1.8	15.0
Westcott Bay	6/23/1993	9	1.8	16.0	Westcott Bay	8/18/1993	10	1.8	17.0
Westcott Bay	8/18/1993	9	1.8	18.0	Westcott Bay	12/1/1993	10	4.0	9.0
Westcott Bay	12/1/1993	9	13.0	8.0	Westcott Bay	2/2/1994	10	1.8	8.0
Westcott Bay	2/2/1994	9	1.8	8.0	Westcott Bay	3/16/1994	10	1.8	10.0
Westcott Bay	3/16/1994	9	1.8	10.0	Westcott Bay	5/11/1994	10	1.8	15.0
Westcott Bay	5/11/1994	9	1.8	16.0	Westcott Bay	7/7/1994	10	1.8	16.0
Westcott Bay	7/7/1994	9	1.8	20.0	Westcott Bay	9/27/1994	10	1.8	15.0
Westcott Bay	9/27/1994	9	1.8	15.0	Westcott Bay	11/8/1994	10	1.8	10.0
Westcott Bay	11/8/1994	9	7.8	9.0	Westcott Bay	2/1/1995	10	2.0	9.0
Westcott Bay	2/1/1995	9	1.8	9.0	Westcott Bay	4/6/1995	10	1.8	10.0
Westcott Bay	4/6/1995	9	1.8	10.0	Westcott Bay	6/27/1995	10	1.8	15.0
Westcott Bay	6/27/1995	9	1.8	14.0	Westcott Bay	8/2/1995	10	1.8	17.0
Westcott Bay	8/2/1995	9	1.8	17.0	Westcott Bay	10/11/1995	10	4.0	14.0
Westcott Bay	10/11/1995	9	4.5	14.0	Westcott Bay	12/20/1995	10	4.5	9.0
Westcott Bay	12/20/1995	9	2.0	9.0	Westcott Bay	2/7/1996	10	4.5	7.0
Westcott Bay	2/7/1996	9	7.8	7.0	Westcott Bay	4/30/1996	10	1.8	12.0
Westcott Bay	4/30/1996	9	1.8	12.0	Westcott Bay	6/18/1996	10	1.8	15.0
Westcott Bay	6/18/1996	9	1.8	15.0	Westcott Bay	8/27/1996	10	2.0	16.0
Westcott Bay	8/27/1996	9	1.8	17.0	Westcott Bay	10/30/1996	10	2.0	10.0
Westcott Bay	10/30/1996	9	2.0	10.0	Westcott Bay	12/18/1996	10	1.8	6.0
Westcott Bay	12/18/1996	9	2.0	6.0	Westcott Bay	2/12/1997	10	1.8	7.0
Westcott Bay	2/12/1997	9	4.5	7.0	Westcott Bay	4/29/1997	10	1.8	10.0
Westcott Bay	4/29/1997	9	2.0	10.0	Westcott Bay	6/24/1997	10	1.8	14.0
Westcott Bay	6/24/1997	9	2.0	14.0	Westcott Bay	7/9/1997	10	1.8	15.0
Westcott Bay	7/9/1997	9	1.8	15.0	Westcott Bay	10/22/1997	10	1.8	11.0
Westcott Bay	10/22/1997	9	7.8	11.0	Westcott Bay	12/17/1997	10	17.0	9.0
Westcott Bay	12/17/1997	9	49.0	9.0					

Table 11. DOH Water Quality Data for Marine Sites in Buck Bay, Orcas Island.

Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)	Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)
Buck Bay	6/17/1992	1	1.8	14.0	Buck Bay	6/17/1992	2	1.8	13.0
Buck Bay	6/18/1992	1	1.8	13.0	Buck Bay	6/18/1992	2	11.0	14.0
Buck Bay	8/25/1992	1	2.0	16.0	Buck Bay	8/25/1992	2	1.8	17.0
Buck Bay	8/26/1992	1	1.8	16.0	Buck Bay	8/26/1992	2	33.0	18.0
Buck Bay	8/27/1992	1	2.0	17.0	Buck Bay	8/27/1992	2	1.8	17.0
Buck Bay	9/28/1992	1	11.0	12.0	Buck Bay	9/28/1992	2	17.0	12.0
Buck Bay	9/29/1992	1	4.5	14.0	Buck Bay	9/29/1992	2	11.0	15.0
Buck Bay	9/30/1992	1	7.8	12.0	Buck Bay	9/30/1992	2	4.5	13.0
Buck Bay	2/2/1993	1	1.8	7.0	Buck Bay	2/2/1993	2	1.8	7.0
Buck Bay	2/2/1993	1	2.0	8.0	Buck Bay	2/2/1993	2	1.8	8.0
Buck Bay	2/3/1993	1	1.8	6.0	Buck Bay	2/3/1993	2	2.0	6.0
Buck Bay	2/4/1993	1	1.8	8.0	Buck Bay	2/4/1993	2	1.8	8.0
Buck Bay	3/16/1993	1	1.8	8.0	Buck Bay	3/16/1993	2	11.0	9.0
Buck Bay	3/17/1993	1	540.0	8.0	Buck Bay	3/17/1993	2	350.0	8.0
Buck Bay	3/18/1993	1	2.0	9.0	Buck Bay	3/18/1993	2	1.8	9.0
Buck Bay	4/20/1993	1	1.8	10.0	Buck Bay	4/20/1993	2	1.8	11.0
Buck Bay	4/21/1993	1	2.0	10.0	Buck Bay	4/21/1993	2	1.8	10.0
Buck Bay	4/22/1993	1	1.8	11.0	Buck Bay	4/22/1993	2	1.8	11.0
Buck Bay	6/22/1993	1	2.0	15.0	Buck Bay	6/22/1993	2	1.8	15.0
Buck Bay	6/24/1993	1	3.7	16.0	Buck Bay	6/24/1993	2	4.5	16.0
Buck Bay	8/17/1993	1	1.8	16.0	Buck Bay	8/17/1993	2	2.0	18.0
Buck Bay	8/18/1993	1	1.8	15.0	Buck Bay	8/18/1993	2	1.8	15.0
Buck Bay	8/19/1993	1	9.3	13.0	Buck Bay	8/19/1993	2	7.8	14.0
Buck Bay	11/30/1993	1	6.8	8.0	Buck Bay	11/30/1993	2	4.5	8.0
Buck Bay	12/1/1993	1	4.0	9.0	Buck Bay	12/1/1993	2	7.8	9.0
Buck Bay	12/2/1993	1	11.0	9.0	Buck Bay	12/2/1993	2	7.8	9.0
Buck Bay	2/1/1994	1	1.8	9.0	Buck Bay	2/1/1994	2	1.8	8.0
Buck Bay	2/2/1994	1	4.5	8.0	Buck Bay	2/2/1994	2	1.8	8.0
Buck Bay	2/3/1994	1	1.8	9.0	Buck Bay	2/3/1994	2	1.8	8.0
Buck Bay	3/15/1994	1	13.0	10.0	Buck Bay	3/15/1994	2	1.8	9.0
Buck Bay	3/16/1994	1	2.0	10.0	Buck Bay	3/16/1994	2	11.0	10.0
Buck Bay	3/17/1994	1	4.5	8.0	Buck Bay	3/17/1994	2	11.0	8.0
Buck Bay	5/9/1994	1	1.8	13.0	Buck Bay	5/9/1994	2	2.0	14.0
Buck Bay	5/10/1994	1	1.8	13.0	Buck Bay	5/10/1994	2	6.8	14.0
Buck Bay	5/11/1994	1	1.8	14.0	Buck Bay	5/11/1994	2	1.8	15.0
Buck Bay	7/7/1994	1	1.8	13.0	Buck Bay	7/7/1994	2	1.8	13.0
Buck Bay	9/27/1994	1	1.8	15.0	Buck Bay	9/27/1994	2	79.0	16.0
Buck Bay	11/8/1994	1	12.0	10.0	Buck Bay	11/8/1994	2	2.0	10.0
Buck Bay	2/1/1995	1	2.0	8.0	Buck Bay	2/1/1995	2	2.0	8.0
Buck Bay	4/5/1995	1	4.5	10.0	Buck Bay	4/5/1995	2	23.0	10.0
Buck Bay	6/28/1995	1	2.0	14.0	Buck Bay	6/28/1995	2	1.8	14.0
Buck Bay	8/3/1995	1	1.8	14.0	Buck Bay	8/3/1995	2	1.8	14.0
Buck Bay	10/12/1995	1	7.8	12.0	Buck Bay	10/12/1995	2	6.1	12.0
Buck Bay	12/20/1995	1	4.5	9.0	Buck Bay	12/20/1995	2	2.0	9.0
Buck Bay	2/7/1996	1	1.8	8.0	Buck Bay	2/7/1996	2	2.0	8.0
Buck Bay	4/30/1996	1	1.8	12.0	Buck Bay	4/30/1996	2	1.8	12.0
Buck Bay	6/18/1996	1	7.8	15.0	Buck Bay	6/18/1996	2	4.5	14.0
Buck Bay	8/27/1996	1	7.8	14.0	Buck Bay	8/27/1996	2	2.0	14.0
Buck Bay	10/30/1996	1	1.8	10.0	Buck Bay	10/30/1996	2	2.0	10.0
Buck Bay	12/18/1996	1	1.8	7.0	Buck Bay	12/18/1996	2	1.8	7.0
Buck Bay	2/12/1997	1	2.0	7.0	Buck Bay	2/12/1997	2	1.8	7.0
Buck Bay	4/29/1997	1	1.8	10.0	Buck Bay	4/29/1997	2	4.5	10.0
Buck Bay	6/24/1997	1	1.8	14.0	Buck Bay	6/24/1997	2	4.5	14.0
Buck Bay	7/9/1997	1	17.0	13.0	Buck Bay	7/9/1997	2	46.0	13.0
Buck Bay	10/22/1997	1	1.8	11.0	Buck Bay	10/22/1997	2	4.5	11.0
Buck Bay	12/17/1997	1	49.0	9.0	Buck Bay	12/17/1997	2	13.0	9.0

Table 11. DOH Water Quality Data for Marine Sites in Buck Bay, Orcas Island.

Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)	Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)
Buck Bay	6/17/1992	3	1.8	13.0	Buck Bay	6/17/1992	4	2.0	14.0
Buck Bay	6/18/1992	3	1.8	14.0	Buck Bay	6/18/1992	4	13.0	15.0
Buck Bay	8/25/1992	3	1.8	17.0	Buck Bay	8/25/1992	4	1.8	17.0
Buck Bay	8/26/1992	3	1.8	17.0	Buck Bay	8/26/1992	4	1.8	17.0
Buck Bay	8/27/1992	3	1.8	18.0	Buck Bay	8/27/1992	4	2.0	17.0
Buck Bay	9/28/1992	3	4.0	12.0	Buck Bay	9/29/1992	4	1.8	15.0
Buck Bay	9/29/1992	3	1.8	15.0	Buck Bay	9/30/1992	4	4.5	13.0
Buck Bay	9/30/1992	3	4.5	12.0	Buck Bay	2/2/1993	4	7.8	7.0
Buck Bay	2/2/1993	3	4.5	7.0	Buck Bay	2/2/1993	4	1.8	7.0
Buck Bay	2/2/1993	3	1.8	7.0	Buck Bay	2/3/1993	4	1.8	6.0
Buck Bay	2/3/1993	3	2.0	6.0	Buck Bay	2/4/1993	4	1.8	7.0
Buck Bay	2/4/1993	3	1.8	7.0	Buck Bay	3/16/1993	4	2.0	9.0
Buck Bay	3/16/1993	3	1.8	8.0	Buck Bay	3/17/1993	4	2.0	8.0
Buck Bay	3/17/1993	3	1.8	8.0	Buck Bay	3/18/1993	4	1.8	9.0
Buck Bay	3/18/1993	3	1.8	9.0	Buck Bay	4/20/1993	4	1.8	11.0
Buck Bay	4/20/1993	3	1.8	10.0	Buck Bay	4/21/1993	4	1.8	10.0
Buck Bay	4/21/1993	3	1.8	11.0	Buck Bay	4/22/1993	4	1.8	11.0
Buck Bay	4/22/1993	3	2.0	11.0	Buck Bay	6/22/1993	4	33.0	15.0
Buck Bay	6/22/1993	3	23.0	14.0	Buck Bay	6/24/1993	4	4.5	16.0
Buck Bay	6/24/1993	3	1.8	15.0	Buck Bay	8/17/1993	4	4.5	18.0
Buck Bay	8/17/1993	3	1.8	17.0	Buck Bay	8/18/1993	4	1.8	14.0
Buck Bay	8/18/1993	3	2.0	15.0	Buck Bay	8/19/1993	4	2.0	14.0
Buck Bay	8/19/1993	3	4.5	14.0	Buck Bay	11/30/1993	4	7.8	8.0
Buck Bay	11/30/1993	3	1.8	8.0	Buck Bay	12/1/1993	4	2.0	9.0
Buck Bay	12/1/1993	3	2.0	9.0	Buck Bay	12/2/1993	4	4.5	9.0
Buck Bay	12/2/1993	3	2.0	9.0	Buck Bay	2/1/1994	4	2.0	8.0
Buck Bay	2/1/1994	3	1.8	8.0	Buck Bay	2/2/1994	4	1.8	8.0
Buck Bay	2/2/1994	3	1.8	8.0	Buck Bay	2/3/1994	4	1.8	8.0
Buck Bay	2/3/1994	3	1.8	8.0	Buck Bay	3/15/1994	4	23.0	9.0
Buck Bay	3/15/1994	3	1.8	9.0	Buck Bay	3/16/1994	4	4.5	10.0
Buck Bay	3/16/1994	3	1.8	10.0	Buck Bay	3/17/1994	4	2.0	8.0
Buck Bay	3/17/1994	3	2.0	8.0	Buck Bay	5/9/1994	4	2.0	11.0
Buck Bay	5/9/1994	3	1.8	12.0	Buck Bay	5/10/1994	4	1.8	14.0
Buck Bay	5/10/1994	3	1.8	14.0	Buck Bay	5/11/1994	4	1.8	15.0
Buck Bay	5/11/1994	3	1.8	14.0	Buck Bay	7/7/1994	4	1.8	13.0
Buck Bay	7/7/1994	3	1.8	13.0	Buck Bay	9/27/1994	4	1.8	16.0
Buck Bay	9/27/1994	3	4.5	15.0	Buck Bay	11/8/1994	4	4.5	10.0
Buck Bay	11/8/1994	3	1.8	10.0	Buck Bay	2/1/1995	4	1.8	8.0
Buck Bay	2/1/1995	3	1.8	9.0	Buck Bay	4/5/1995	4	1.8	10.0
Buck Bay	4/5/1995	3	1.8	10.0	Buck Bay	6/28/1995	4	1.8	13.0
Buck Bay	6/28/1995	3	1.8	13.0	Buck Bay	8/3/1995	4	1.8	14.0
Buck Bay	8/3/1995	3	1.8	14.0	Buck Bay	10/12/1995	4	2.0	12.0
Buck Bay	10/12/1995	3	1.8	12.0	Buck Bay	12/20/1995	4	7.8	9.0
Buck Bay	12/20/1995	3	1.8	9.0	Buck Bay	2/7/1996	4	2.0	8.0
Buck Bay	2/7/1996	3	1.8	7.0	Buck Bay	4/30/1996	4	1.8	12.0
Buck Bay	4/30/1996	3	1.8	12.0	Buck Bay	6/18/1996	4	2.0	15.0
Buck Bay	6/18/1996	3	4.5	14.0	Buck Bay	8/27/1996	4	49.0	14.0
Buck Bay	8/27/1996	3	49.0	14.0	Buck Bay	10/30/1996	4	2.0	10.0
Buck Bay	10/30/1996	3	1.8	9.0	Buck Bay	12/18/1996	4	1.8	7.0
Buck Bay	12/18/1996	3	2.0	7.0	Buck Bay	2/12/1997	4	4.5	7.0
Buck Bay	2/12/1997	3	1.8	7.0	Buck Bay	4/29/1997	4	7.8	10.0
Buck Bay	4/29/1997	3	1.8	10.0	Buck Bay	6/24/1997	4	1.8	13.0
Buck Bay	6/24/1997	3	1.8	12.0	Buck Bay	7/9/1997	4	1.8	13.0
Buck Bay	7/9/1997	3	1.8	13.0	Buck Bay	10/22/1997	4	4.5	11.0
Buck Bay	10/22/1997	3	1.8	11.0	Buck Bay	12/17/1997	4	240.0	9.0
Buck Bay	12/17/1997	3	240.0	10.0					

Table 11. DOH Water Quality Data for Marine Sites in Buck Bay, Orcas Island.

Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)	Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)
Buck Bay	8/25/1992	5	1.8	17.0					
Buck Bay	8/26/1992	5	1.8	19.0					
Buck Bay	8/27/1992	5	2.0	19.0					
Buck Bay	9/28/1992	5	1.8	12.0					
Buck Bay	9/29/1992	5	2.0	15.0					
Buck Bay	9/30/1992	5	2.0	14.0					
Buck Bay	2/2/1993	5	1.8	7.0					
Buck Bay	2/2/1993	5	1.8	7.0					
Buck Bay	2/3/1993	5	1.8	7.0					
Buck Bay	2/4/1993	5	1.8	7.0					
Buck Bay	3/16/1993	5	1.8	8.0					
Buck Bay	3/17/1993	5	1.8	8.0					
Buck Bay	3/18/1993	5	2.0	9.0					
Buck Bay	4/20/1993	5	110.0	10.0					
Buck Bay	4/21/1993	5	2.0	11.0					
Buck Bay	4/22/1993	5	1.8	11.0					
Buck Bay	6/22/1993	5	6.8	14.0					
Buck Bay	6/24/1993	5	11.0	15.0					
Buck Bay	8/17/1993	5	1.8	19.0					
Buck Bay	8/18/1993	5	1.8	15.0					
Buck Bay	8/19/1993	5	1.8	13.0					
Buck Bay	11/30/1993	5	7.8	9.0					
Buck Bay	12/1/1993	5	2.0	9.0					
Buck Bay	12/2/1993	5	4.5	9.0					
Buck Bay	2/1/1994	5	1.8	9.0					
Buck Bay	2/2/1994	5	2.0	8.0					
Buck Bay	2/3/1994	5	2.0	9.0					
Buck Bay	3/15/1994	5	1.8	9.0					
Buck Bay	3/16/1994	5	1.8	9.0					
Buck Bay	3/17/1994	5	1.8	8.0					
Buck Bay	5/9/1994	5	1.8	12.0					
Buck Bay	5/10/1994	5	1.8	13.0					
Buck Bay	5/11/1994	5	1.8	15.0					
Buck Bay	7/7/1994	5	1.8	13.0					
Buck Bay	9/27/1994	5	1.8	15.0					
Buck Bay	11/8/1994	5	2.0	10.0					
Buck Bay	2/1/1995	5	1.8	8.0					
Buck Bay	4/5/1995	5	1.8	10.0					
Buck Bay	6/28/1995	5	1.8	13.0					
Buck Bay	8/3/1995	5	1.8	14.0					
Buck Bay	10/12/1995	5	2.0	12.0					
Buck Bay	12/20/1995	5	1.8	9.0					
Buck Bay	2/7/1996	5	1.8	7.0					
Buck Bay	4/30/1996	5	1.8	11.0					
Buck Bay	6/18/1996	5	2.0	12.0					
Buck Bay	8/27/1996	5	4.5	14.0					
Buck Bay	10/30/1996	5	2.0	9.0					
Buck Bay	12/18/1996	5	4.5	7.0					
Buck Bay	2/12/1997	5	4.5	7.0					
Buck Bay	4/29/1997	5	1.8	10.0					
Buck Bay	6/24/1997	5	1.8	12.0					
Buck Bay	7/9/1997	5	1.8	13.0					
Buck Bay	10/22/1997	5	1.8	11.0					
Buck Bay	12/17/1997	5	920.0	10.0					

Table 12. DOH Water Quality Data for Marine Sites in East Sound, Orcas Island.

Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)	Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)
East Sound	11/1/1988	8	1.8		East Sound	11/1/1988	9	2.0	
East Sound	11/3/1988	8	7.8		East Sound	11/3/1988	9	7.8	
East Sound	11/3/1988	8	2.0		East Sound	11/3/1988	9	1.8	
East Sound	3/27/1989	8	1.8	8.0	East Sound	3/27/1989	9	1.8	8.0
East Sound	3/29/1989	8	1.8	7.0	East Sound	3/29/1989	9	1.8	7.0
East Sound	3/29/1989	8	1.8	7.5	East Sound	3/29/1989	9	1.8	8.0
East Sound	6/26/1990	8	1.8	19.0	East Sound	6/26/1990	9	1.8	18.0
East Sound	6/26/1990	8	1.8	18.0	East Sound	6/26/1990	9	1.8	18.0
East Sound	6/27/1990	8	1.8	18.0	East Sound	6/27/1990	9	1.8	17.0
East Sound	6/27/1990	8	1.8	18.0	East Sound	6/27/1990	9	1.8	17.0
East Sound	6/28/1990	8	1.8	17.0	East Sound	6/28/1990	9	1.8	16.0
East Sound	6/28/1990	8	1.8	18.0	East Sound	6/28/1990	9	1.8	18.0
East Sound	10/8/1991	8	1.8	12.0	East Sound	10/8/1991	9	1.8	12.0
East Sound	10/8/1991	8	1.8	12.0	East Sound	10/8/1991	9	1.8	13.0
East Sound	10/9/1991	8	1.8	12.0	East Sound	10/9/1991	9	1.8	12.0
East Sound	10/9/1991	8	1.8	14.0	East Sound	10/9/1991	9	1.8	14.0
East Sound	10/10/1991	8	1.8	12.0	East Sound	10/10/1991	9	1.8	12.0
East Sound	10/10/1991	8	1.8	12.0	East Sound	10/10/1991	9	1.8	12.0
East Sound	2/20/1992	8	1.8	8.0	East Sound	2/20/1992	9	1.8	8.0
East Sound	4/2/1992	8	1.8	14.0	East Sound	4/2/1992	9	1.8	13.0
East Sound	6/18/1992	8	1.8	15.0	East Sound	6/18/1992	9	1.8	16.0
East Sound	8/25/1992	8	1.8	17.0	East Sound	8/25/1992	9	1.8	17.0
East Sound	9/28/1992	8	2.0	14.0	East Sound	9/28/1992	9	1.8	14.0
East Sound	2/2/1993	8	1.8	6.0	East Sound	2/2/1993	9	1.8	7.0
East Sound	3/16/1993	8	1.8	8.0	East Sound	3/16/1993	9	1.8	8.0
East Sound	4/20/1993	8	1.8	12.0	East Sound	4/20/1993	9	1.8	12.0
East Sound	6/22/1993	8	1.8	16.0	East Sound	6/22/1993	9	1.8	16.0
East Sound	8/17/1993	8	1.8	17.0	East Sound	8/17/1993	9	1.8	17.0
East Sound	11/30/1993	8	2.0	8.0	East Sound	11/30/1993	9	1.8	8.0
East Sound	2/1/1994	8	1.8	8.0	East Sound	2/1/1994	9	1.8	8.0
East Sound	3/15/1994	8	1.8	9.0	East Sound	3/15/1994	9	1.8	9.0
East Sound	5/9/1994	8	2.0	12.0	East Sound	5/9/1994	9	2.0	12.0
East Sound	7/7/1994	8	1.8	16.0	East Sound	7/7/1994	9	1.8	16.0
East Sound	9/27/1994	8	2.0	15.0	East Sound	9/27/1994	9	1.8	15.0
East Sound	11/8/1994	8	1.8	10.0	East Sound	11/8/1994	9	1.8	10.0
East Sound	2/1/1995	8	1.8	9.0	East Sound	2/1/1995	9	1.8	9.0
East Sound	4/5/1995	8	1.8	11.0	East Sound	4/5/1995	9	1.8	11.0
East Sound	6/28/1995	8	1.8	15.0	East Sound	6/28/1995	9	1.8	15.0
East Sound	8/3/1995	8	1.8	18.0	East Sound	8/3/1995	9	1.8	17.0
East Sound	10/12/1995	8	1.8	13.0	East Sound	10/12/1995	9	1.8	13.0
East Sound	12/20/1995	8	70.0	8.0	East Sound	12/20/1995	9	1.8	8.0
East Sound	2/7/1996	8	1.8	7.0	East Sound	2/7/1996	9	1.8	7.0
East Sound	4/30/1996	8	1.8	12.0	East Sound	4/30/1996	9	1.8	11.0
East Sound	6/18/1996	8	1.8	15.0	East Sound	6/18/1996	9	1.8	15.0
East Sound	8/27/1996	8	31.0	14.0	East Sound	8/27/1996	9	1.8	14.0
East Sound	10/30/1996	8	1.8	10.0	East Sound	10/30/1996	9	1.8	10.0
East Sound	12/18/1996	8	1.8	7.0	East Sound	12/18/1996	9	2.0	7.0
East Sound	2/12/1997	8	1.8	7.0	East Sound	2/12/1997	9	1.8	7.0
East Sound	4/29/1997	8	1.8	11.0	East Sound	4/29/1997	9	1.8	11.0
East Sound	6/24/1997	8	1.8	15.0	East Sound	6/24/1997	9	1.8	15.0
East Sound	7/9/1997	8	1.8	15.0	East Sound	7/9/1997	9	1.8	15.0
East Sound	10/22/1997	8	2.0	11.0	East Sound	10/22/1997	9	1.8	11.0
East Sound	12/17/1997	8	1.8	9.0	East Sound	12/17/1997	9	1.8	9.0

Table 12. DOH Water Quality Data for Marine Sites in East Sound, Orcas Island.

Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)	Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)
East Sound	11/1/1988	13	2.0		East Sound	11/1/1988	14	1.8	
East Sound	11/3/1988	13	2.0		East Sound	11/3/1988	14	7.8	
East Sound	11/3/1988	13	1.8		East Sound	11/3/1988	14	2.0	
East Sound	3/27/1989	13	1.8	8.0	East Sound	3/27/1989	14	2.0	8.0
East Sound	3/29/1989	13	1.8	7.5	East Sound	3/29/1989	14	1.8	8.0
East Sound	3/29/1989	13	1.8	8.0	East Sound	3/29/1989	14	1.8	8.0
East Sound	6/26/1990	13	1.8	19.0	East Sound	6/26/1990	14	1.8	18.0
East Sound	6/26/1990	13	1.8	19.0	East Sound	6/26/1990	14	1.8	18.0
East Sound	6/27/1990	13	1.8	18.0	East Sound	6/27/1990	14	1.8	19.0
East Sound	6/27/1990	13	1.8	18.0	East Sound	6/27/1990	14	1.8	18.0
East Sound	6/28/1990	13	1.8	17.0	East Sound	6/28/1990	14	1.8	18.0
East Sound	6/28/1990	13	1.8	18.0	East Sound	6/28/1990	14	1.8	19.0
East Sound	10/8/1991	13	1.8	12.0	East Sound	10/8/1991	14	1.8	12.0
East Sound	10/8/1991	13	1.8	12.0	East Sound	10/8/1991	14	1.8	13.0
East Sound	10/9/1991	13	1.8	12.0	East Sound	10/9/1991	14	1.8	12.0
East Sound	10/9/1991	13	1.8	14.0	East Sound	10/9/1991	14	1.8	14.0
East Sound	10/10/1991	13	1.8	12.0	East Sound	10/10/1991	14	1.8	12.0
East Sound	10/10/1991	13	1.8	13.0	East Sound	10/10/1991	14	1.8	12.0
East Sound	2/20/1992	13	1.8	8.0	East Sound	2/20/1992	14	2.0	8.0
East Sound	4/2/1992	13	1.8	14.0	East Sound	4/2/1992	14	1.8	14.0
East Sound	6/18/1992	13	1.8	16.0	East Sound	6/18/1992	14	4.5	16.0
East Sound	8/25/1992	13	1.8	17.0	East Sound	8/25/1992	14	1.8	17.0
East Sound	9/28/1992	13	1.8	13.0	East Sound	9/28/1992	14	1.8	13.0
East Sound	2/2/1993	13	1.8	7.0	East Sound	2/2/1993	14	1.8	7.0
East Sound	3/16/1993	13	1.8	8.0	East Sound	3/16/1993	14	1.8	8.0
East Sound	4/20/1993	13	1.8	12.0	East Sound	4/20/1993	14	1.8	11.0
East Sound	6/22/1993	13	1.8	16.0	East Sound	6/22/1993	14	1.8	16.0
East Sound	8/17/1993	13	1.8	18.0	East Sound	8/17/1993	14	1.8	18.0
East Sound	11/30/1993	13	1.8	8.0	East Sound	11/30/1993	14	1.8	8.0
East Sound	2/1/1994	13	1.8	8.0	East Sound	2/1/1994	14	1.8	8.0
East Sound	3/15/1994	13	1.8	9.0	East Sound	3/15/1994	14	2.0	9.0
East Sound	5/9/1994	13	1.8	12.0	East Sound	5/9/1994	14	2.0	12.0
East Sound	7/7/1994	13	1.8	17.0	East Sound	7/7/1994	14	1.8	17.0
East Sound	9/27/1994	13	1.8	15.0	East Sound	9/27/1994	14	1.8	15.0
East Sound	11/8/1994	13	1.8	10.0	East Sound	11/8/1994	14	1.8	10.0
East Sound	2/1/1995	13	1.8	8.0	East Sound	2/1/1995	14	2.0	9.0
East Sound	4/5/1995	13	1.8	11.0	East Sound	4/5/1995	14	1.8	11.0
East Sound	6/28/1995	13	1.8	15.0	East Sound	6/28/1995	14	1.8	15.0
East Sound	8/3/1995	13	1.8	17.0	East Sound	8/3/1995	14	2.0	17.0
East Sound	10/12/1995	13	1.8	13.0	East Sound	10/12/1995	14	2.0	13.0
East Sound	12/20/1995	13	1.8	9.0	East Sound	12/20/1995	14	1.8	8.0
East Sound	2/7/1996	13	2.0	7.0	East Sound	2/7/1996	14	1.8	8.0
East Sound	4/30/1996	13	1.8	12.0	East Sound	4/30/1996	14	2.0	12.0
East Sound	6/18/1996	13	1.8	15.0	East Sound	6/18/1996	14	1.8	16.0
East Sound	8/27/1996	13	2.0	14.0	East Sound	8/27/1996	14	2.0	14.0
East Sound	10/30/1996	13	1.8	10.0	East Sound	10/30/1996	14	1.8	10.0
East Sound	12/18/1996	13	1.8	7.0	East Sound	12/18/1996	14	1.8	7.0
East Sound	2/12/1997	13	1.8	7.0	East Sound	2/12/1997	14	1.8	7.0
East Sound	4/29/1997	13	1.8	11.0	East Sound	4/29/1997	14	1.8	11.0
East Sound	6/24/1997	13	1.8	15.0	East Sound	6/24/1997	14	1.8	15.0
East Sound	7/9/1997	13	1.8	15.0	East Sound	7/9/1997	14	2.0	15.0
East Sound	10/22/1997	13	1.8	11.0	East Sound	10/22/1997	14	1.8	11.0
East Sound	12/17/1997	13	1.8	9.0	East Sound	12/17/1997	14	6.8	9.0

Table 12. DOH Water Quality Data for Marine Sites in East Sound, Orcas Island.

Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)	Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)
East Sound	11/1/1988	15	1.8		East Sound	11/1/1988	16	2.0	
East Sound	11/3/1988	15	2.0		East Sound	11/3/1988	16	2.0	
East Sound	11/3/1988	15	2.0		East Sound	11/3/1988	16	1.8	
East Sound	3/27/1989	15	2.0	8.0	East Sound	3/27/1989	16	1.8	8.0
East Sound	3/29/1989	15	1.8	8.0	East Sound	3/29/1989	16	1.8	7.5
East Sound	3/29/1989	15	1.8	8.0	East Sound	3/29/1989	16	1.8	8.0
East Sound	6/26/1990	15	1.8	16.0	East Sound	6/26/1990	16	1.8	18.0
East Sound	6/26/1990	15	1.8	16.0	East Sound	6/26/1990	16	1.8	18.0
East Sound	6/27/1990	15	1.8	20.0	East Sound	6/27/1990	16	1.8	18.0
East Sound	6/27/1990	15	1.8	18.0	East Sound	6/27/1990	16	1.8	18.0
East Sound	6/28/1990	15	2.0	17.0	East Sound	6/28/1990	16	4.0	17.0
East Sound	6/28/1990	15	1.8	18.0	East Sound	6/28/1990	16	4.0	18.0
East Sound	10/8/1991	15	1.8	12.0	East Sound	10/8/1991	16	2.0	12.0
East Sound	10/8/1991	15	1.8	12.0	East Sound	10/8/1991	16	1.8	13.0
East Sound	10/9/1991	15	1.8	11.0	East Sound	10/9/1991	16	1.8	12.0
East Sound	10/9/1991	15	2.0	13.0	East Sound	10/9/1991	16	2.0	13.0
East Sound	10/10/1991	15	1.8	12.0	East Sound	10/10/1991	16	1.8	12.0
East Sound	10/10/1991	15	1.8	12.0	East Sound	10/10/1991	16	1.8	13.0
East Sound	2/20/1992	15	1.8	8.0	East Sound	2/20/1992	16	4.0	8.0
East Sound	4/2/1992	15	1.8	13.0	East Sound	4/2/1992	16	1.8	14.0
East Sound	6/18/1992	15	1.8	16.0	East Sound	6/18/1992	16	1.8	16.0
East Sound	8/25/1992	15	1.8	17.0	East Sound	8/25/1992	16	1.8	17.0
East Sound	9/28/1992	15	1.8	13.0	East Sound	9/28/1992	16	1.8	13.0
East Sound	2/2/1993	15	1.8	6.0	East Sound	2/2/1993	16	1.8	7.0
East Sound	3/16/1993	15	1.8	8.0	East Sound	3/16/1993	16	2.0	8.0
East Sound	4/20/1993	15	1.8	11.0	East Sound	4/20/1993	16	1.8	11.0
East Sound	6/22/1993	15	1.8	16.0	East Sound	6/22/1993	16	1.8	16.0
East Sound	8/17/1993	15	9.3	18.0	East Sound	8/17/1993	16	1.8	17.0
East Sound	11/30/1993	15	1.8	8.0	East Sound	11/30/1993	16	1.8	8.0
East Sound	2/1/1994	15	1.8	8.0	East Sound	2/1/1994	16	1.8	8.0
East Sound	3/15/1994	15	1.8	9.0	East Sound	3/15/1994	16	1.8	9.0
East Sound	5/9/1994	15	1.8	12.0	East Sound	5/9/1994	16	1.8	12.0
East Sound	7/7/1994	15	4.5	18.0	East Sound	7/7/1994	16	2.0	17.0
East Sound	9/27/1994	15	1.8	15.0	East Sound	9/27/1994	16	1.8	15.0
East Sound	11/8/1994	15	1.8	10.0	East Sound	11/8/1994	16	1.8	10.0
East Sound	2/1/1995	15	2.0	9.0	East Sound	2/1/1995	16	2.0	9.0
East Sound	4/5/1995	15	1.8	11.0	East Sound	4/5/1995	16	1.8	11.0
East Sound	6/28/1995	15	1.8	15.0	East Sound	6/28/1995	16	1.8	15.0
East Sound	8/3/1995	15	1.8	18.0	East Sound	8/3/1995	16	2.0	18.0
East Sound	10/12/1995	15	2.0	13.0	East Sound	10/12/1995	16	1.8	13.0
East Sound	12/20/1995	15	1.8	9.0	East Sound	12/20/1995	16	1.8	9.0
East Sound	2/7/1996	15	1.8	7.0	East Sound	2/7/1996	16	4.5	7.0
East Sound	4/30/1996	15	1.8	12.0	East Sound	4/30/1996	16	1.8	12.0
East Sound	6/18/1996	15	1.8	16.0	East Sound	6/18/1996	16	1.8	15.0
East Sound	8/27/1996	15	23.0	14.0	East Sound	8/27/1996	16	1.8	14.0
East Sound	10/30/1996	15	1.8	9.0	East Sound	10/30/1996	16	1.8	10.0
East Sound	12/18/1996	15	1.8	7.0	East Sound	12/18/1996	16	1.8	7.0
East Sound	2/12/1997	15	1.8	7.0	East Sound	2/12/1997	16	1.8	7.0
East Sound	4/29/1997	15	4.5	11.0	East Sound	4/29/1997	16	1.8	11.0
East Sound	6/24/1997	15	2.0	15.0	East Sound	6/24/1997	16	2.0	15.0
East Sound	7/9/1997	15	4.5	15.0	East Sound	7/9/1997	16	2.0	15.0
East Sound	10/22/1997	15	1.8	11.0	East Sound	10/22/1997	16	1.8	11.0
East Sound	12/17/1997	15	4.5	9.0	East Sound	12/17/1997	16	2.0	9.0

Table 12. DOH Water Quality Data for Marine Sites in East Sound, Orcas Island.

Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)	Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)
East Sound	9/27/1994	17	240.0	15.0					
East Sound	11/8/1994	17	23.0	10.0					
East Sound	2/1/1995	17	4.5	9.0					
East Sound	4/5/1995	17	1.8	11.0					
East Sound	6/28/1995	17	33.0	15.0					
East Sound	8/3/1995	17	1.8	18.0					
East Sound	10/12/1995	17	1.8	13.0					
East Sound	12/20/1995	17	1.8	9.0					
East Sound	2/7/1996	17	1.8	6.0					
East Sound	4/30/1996	17	1.8	12.0					
East Sound	6/18/1996	17	1.8	15.0					
East Sound	8/27/1996	17	49.0	14.0					
East Sound	10/30/1996	17	1.8	10.0					
East Sound	12/18/1996	17	1.8	7.0					
East Sound	2/12/1997	17	1.8	7.0					
East Sound	4/29/1997	17	1.8	11.0					
East Sound	6/24/1997	17	1.8	15.0					
East Sound	7/9/1997	17	2.0	15.0					
East Sound	10/22/1997	17	33.0	11.0					
East Sound	12/17/1997	17	4.5	9.0					

Table 13. DOH Water Quality Data for Marine Sites in Mackaye Harbor, Lopez Island.

Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)	Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)
Mackaye Harbor	9/25/1990	1	1.8	13.0	Mackaye Harbor	9/25/1990	2	1.8	13.0
Mackaye Harbor	9/25/1990	1	1.8	13.0	Mackaye Harbor	9/25/1990	2	1.8	13.0
Mackaye Harbor	9/26/1990	1	1.8	12.0	Mackaye Harbor	9/26/1990	2	1.8	13.0
Mackaye Harbor	9/26/1990	1	1.8	13.0	Mackaye Harbor	9/26/1990	2	1.8	14.0
Mackaye Harbor	9/27/1990	1	1.8	12.0	Mackaye Harbor	9/27/1990	2	1.8	12.0
Mackaye Harbor	9/27/1990	1	2.0	13.0	Mackaye Harbor	9/27/1990	2	2.0	13.0
Mackaye Harbor	5/7/1991	1	1.8	10.0	Mackaye Harbor	5/7/1991	2	1.8	10.0
Mackaye Harbor	5/7/1991	1	1.8		Mackaye Harbor	5/7/1991	2	1.8	
Mackaye Harbor	5/9/1991	1	1.8	10.0	Mackaye Harbor	5/9/1991	2	1.8	10.0
Mackaye Harbor	5/9/1991	1	1.8	10.0	Mackaye Harbor	5/9/1991	2	1.8	10.0
Mackaye Harbor	2/19/1992	1	1.8	8.0	Mackaye Harbor	2/19/1992	2	1.8	8.0
Mackaye Harbor	4/1/1992	1	1.8	10.0	Mackaye Harbor	4/1/1992	2	2.0	11.0
Mackaye Harbor	6/17/1992	1	1.8	14.0	Mackaye Harbor	6/17/1992	2	1.8	14.0
Mackaye Harbor	8/27/1992	1	1.8	13.0	Mackaye Harbor	8/27/1992	2	1.8	13.0
Mackaye Harbor	9/30/1992	1	1.8	11.0	Mackaye Harbor	9/30/1992	2	2.0	11.0
Mackaye Harbor	2/4/1993	1	2.0	7.0	Mackaye Harbor	2/4/1993	2	1.8	7.0
Mackaye Harbor	3/18/1993	1	1.8	8.0	Mackaye Harbor	3/18/1993	2	1.8	8.0
Mackaye Harbor	4/22/1993	1	1.8	10.0	Mackaye Harbor	4/22/1993	2	1.8	10.0
Mackaye Harbor	8/19/1993	1	7.8	14.0	Mackaye Harbor	8/19/1993	2	1.8	14.0
Mackaye Harbor	12/2/1993	1	1.8	9.0	Mackaye Harbor	12/2/1993	2	1.8	9.0
Mackaye Harbor	2/3/1994	1	1.8	8.0	Mackaye Harbor	2/3/1994	2	1.8	8.0
Mackaye Harbor	5/10/1994	1	1.8	12.0	Mackaye Harbor	5/10/1994	2	1.8	13.0
Mackaye Harbor	8/24/1994	1	1.8	13.0	Mackaye Harbor	8/24/1994	2	4.5	14.0
Mackaye Harbor	9/28/1994	1	1.8	13.0	Mackaye Harbor	9/28/1994	2	1.8	13.0
Mackaye Harbor	10/26/1994	1	1.8	11.0	Mackaye Harbor	10/26/1994	2	1.8	11.0
Mackaye Harbor	11/7/1994	1	1.8	10.0	Mackaye Harbor	11/7/1994	2	1.8	10.0
Mackaye Harbor	2/8/1995	1	1.8	8.0	Mackaye Harbor	2/8/1995	2	1.8	8.0
Mackaye Harbor	4/6/1995	1	1.8	10.0	Mackaye Harbor	4/6/1995	2	1.8	10.0
Mackaye Harbor	6/28/1995	1	1.8	14.0	Mackaye Harbor	6/28/1995	2	1.8	14.0
Mackaye Harbor	8/3/1995	1	1.8	14.0	Mackaye Harbor	8/3/1995	2	1.8	16.0
Mackaye Harbor	9/19/1995	1	1.8	14.0	Mackaye Harbor	9/19/1995	2	1.8	14.0
Mackaye Harbor	10/12/1995	1	1.8	13.0	Mackaye Harbor	10/12/1995	2	1.8	13.0
Mackaye Harbor	12/21/1995	1	1.8	9.0	Mackaye Harbor	12/21/1995	2	1.8	9.0
Mackaye Harbor	2/8/1996	1	6.8	8.0	Mackaye Harbor	2/8/1996	2	1.8	8.0
Mackaye Harbor	5/1/1996	1	13.0	11.0	Mackaye Harbor	5/1/1996	2	1.8	10.0
Mackaye Harbor	6/19/1996	1	2.0	11.0	Mackaye Harbor	6/19/1996	2	1.8	12.0
Mackaye Harbor	8/28/1996	1	1.8	13.0	Mackaye Harbor	8/28/1996	2	1.8	12.0
Mackaye Harbor	10/31/1996	1	1.8	10.0	Mackaye Harbor	10/31/1996	2	1.8	10.0
Mackaye Harbor	12/19/1996	1	1.8	7.0	Mackaye Harbor	12/19/1996	2	1.8	7.0
Mackaye Harbor	2/13/1997	1	1.8	7.0	Mackaye Harbor	2/13/1997	2	1.8	6.0
Mackaye Harbor	4/30/1997	1	1.8	10.0	Mackaye Harbor	4/30/1997	2	2.0	10.0
Mackaye Harbor	6/25/1997	1	1.8	12.0	Mackaye Harbor	6/25/1997	2	2.0	12.0
Mackaye Harbor	7/10/1997	1	4.5	11.0	Mackaye Harbor	7/10/1997	2	1.8	11.0
Mackaye Harbor	10/23/1997	1	2.0	11.0	Mackaye Harbor	10/23/1997	2	1.8	11.0
Mackaye Harbor	12/18/1997	1	2.0	9.0	Mackaye Harbor	12/18/1997	2	1.8	9.0

Table 13. DOH Water Quality Data for Marine Sites in Mackaye Harbor, Lopez Island.

Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)	Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)
Mackaye Harbor	9/25/1990	3	2.0	13.0	Mackaye Harbor	9/25/1990	4	1.8	13.0
Mackaye Harbor	9/25/1990	3	1.8	13.0	Mackaye Harbor	9/25/1990	4	1.8	13.0
Mackaye Harbor	9/26/1990	3	1.8	13.0	Mackaye Harbor	9/26/1990	4	1.8	13.0
Mackaye Harbor	9/26/1990	3	1.8	14.0	Mackaye Harbor	9/26/1990	4	1.8	14.0
Mackaye Harbor	9/27/1990	3	1.8	13.0	Mackaye Harbor	9/27/1990	4	1.8	13.0
Mackaye Harbor	9/27/1990	3	1.8	13.0	Mackaye Harbor	9/27/1990	4	1.8	14.0
Mackaye Harbor	5/7/1991	3	1.8	10.0	Mackaye Harbor	5/7/1991	4	2.0	10.0
Mackaye Harbor	5/7/1991	3	4.5		Mackaye Harbor	5/7/1991	4	1.8	
Mackaye Harbor	5/9/1991	3	2.0	10.0	Mackaye Harbor	5/9/1991	4	1.8	10.0
Mackaye Harbor	5/9/1991	3	1.8	10.0	Mackaye Harbor	5/9/1991	4	11.0	10.0
Mackaye Harbor	2/19/1992	3	1.8	8.0	Mackaye Harbor	2/19/1992	4	1.8	8.0
Mackaye Harbor	4/1/1992	3	1.8	11.0	Mackaye Harbor	4/1/1992	4	2.0	11.0
Mackaye Harbor	6/17/1992	3	1.8	14.0	Mackaye Harbor	6/17/1992	4	1.8	14.0
Mackaye Harbor	8/27/1992	3	1.8	14.0	Mackaye Harbor	8/27/1992	4	6.8	14.0
Mackaye Harbor	9/30/1992	3	2.0	12.0	Mackaye Harbor	9/30/1992	4	4.5	12.0
Mackaye Harbor	2/4/1993	3	1.8	7.0	Mackaye Harbor	2/4/1993	4	2.0	7.0
Mackaye Harbor	3/18/1993	3	1.8	8.0	Mackaye Harbor	3/18/1993	4	1.8	8.0
Mackaye Harbor	4/22/1993	3	13.0	10.0	Mackaye Harbor	4/22/1993	4	1.8	10.0
Mackaye Harbor	8/19/1993	3	2.0	15.0	Mackaye Harbor	8/19/1993	4	1.8	15.0
Mackaye Harbor	12/2/1993	3	1.8	9.0	Mackaye Harbor	12/2/1993	4	2.0	9.0
Mackaye Harbor	2/3/1994	3	1.8	8.0	Mackaye Harbor	2/3/1994	4	1.8	8.0
Mackaye Harbor	5/10/1994	3	1.8	13.0	Mackaye Harbor	5/10/1994	4	2.0	13.0
Mackaye Harbor	8/24/1994	3	1.8	14.0	Mackaye Harbor	8/24/1994	4	2.0	14.0
Mackaye Harbor	9/28/1994	3	2.0	14.0	Mackaye Harbor	9/28/1994	4	2.0	14.0
Mackaye Harbor	10/26/1994	3	4.5	11.0	Mackaye Harbor	10/26/1994	4	4.5	11.0
Mackaye Harbor	11/7/1994	3	2.0	10.0	Mackaye Harbor	11/7/1994	4	1.8	10.0
Mackaye Harbor	2/8/1995	3	1.8	8.0	Mackaye Harbor	2/8/1995	4	1.8	8.0
Mackaye Harbor	4/6/1995	3	4.0	10.0	Mackaye Harbor	4/6/1995	4	1.8	10.0
Mackaye Harbor	6/28/1995	3	1.8	15.0	Mackaye Harbor	6/28/1995	4	1.8	15.0
Mackaye Harbor	8/3/1995	3	1.8	16.0	Mackaye Harbor	8/3/1995	4	1.8	16.0
Mackaye Harbor	9/19/1995	3	1.8	15.0	Mackaye Harbor	9/19/1995	4	2.0	15.0
Mackaye Harbor	10/12/1995	3	2.0	13.0	Mackaye Harbor	10/12/1995	4	4.0	13.0
Mackaye Harbor	11/28/1995	3	140.0	11.0	Mackaye Harbor	11/28/1995	4	4.0	10.9
Mackaye Harbor	12/21/1995	3	1.8	9.0	Mackaye Harbor	12/21/1995	4	13.0	9.0
Mackaye Harbor	1/23/1996	3	2.0	8.0	Mackaye Harbor	1/23/1996	4	6.8	9.0
Mackaye Harbor	2/8/1996	3	2.0	8.0	Mackaye Harbor	2/8/1996	4	4.0	8.0
Mackaye Harbor	3/28/1996	3	1.8	11.0	Mackaye Harbor	3/28/1996	4	1.8	11.0
Mackaye Harbor	5/1/1996	3	1.8	11.0	Mackaye Harbor	5/1/1996	4	1.8	11.0
Mackaye Harbor	6/19/1996	3	1.8	13.0	Mackaye Harbor	6/19/1996	4	1.8	12.0
Mackaye Harbor	8/28/1996	3	2.0	13.0	Mackaye Harbor	8/28/1996	4	2.0	13.0
Mackaye Harbor	10/31/1996	3	1.8	10.0	Mackaye Harbor	10/31/1996	4	1.8	10.0
Mackaye Harbor	12/19/1996	3	1.8	7.0	Mackaye Harbor	12/19/1996	4	7.8	7.0
Mackaye Harbor	2/13/1997	3	2.0	7.0	Mackaye Harbor	2/13/1997	4	1.8	7.0
Mackaye Harbor	4/30/1997	3	1.8	10.0	Mackaye Harbor	4/30/1997	4	1.8	10.0
Mackaye Harbor	6/25/1997	3	4.5	13.0	Mackaye Harbor	6/25/1997	4	2.0	13.0
Mackaye Harbor	7/10/1997	3	17.0	11.0	Mackaye Harbor	7/10/1997	4	1.8	11.0
Mackaye Harbor	10/23/1997	3	1.8	11.0	Mackaye Harbor	10/23/1997	4	1.8	11.0
Mackaye Harbor	12/18/1997	3	1.8	9.0	Mackaye Harbor	12/18/1997	4	4.0	9.0

Table 13. DOH Water Quality Data for Marine Sites in Mackaye Harbor, Lopez Island.

Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)	Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)
Mackaye Harbor	9/25/1990	5	1.8	14.0	Mackaye Harbor	9/25/1990	6	1.8	13.0
Mackaye Harbor	9/25/1990	5	1.8	14.0	Mackaye Harbor	9/25/1990	6	1.8	14.0
Mackaye Harbor	9/26/1990	5	1.8	14.0	Mackaye Harbor	9/26/1990	6	1.8	14.0
Mackaye Harbor	9/26/1990	5	1.8	14.0	Mackaye Harbor	9/26/1990	6	1.8	14.0
Mackaye Harbor	9/27/1990	5	1.8	14.0	Mackaye Harbor	9/27/1990	6	1.8	14.0
Mackaye Harbor	9/27/1990	5	2.0	14.0	Mackaye Harbor	9/27/1990	6	1.8	15.0
Mackaye Harbor	5/7/1991	5	1.8	10.0	Mackaye Harbor	5/7/1991	6	2.0	10.0
Mackaye Harbor	5/7/1991	5	1.8		Mackaye Harbor	5/7/1991	6	1.8	
Mackaye Harbor	5/9/1991	5	2.0	10.0	Mackaye Harbor	5/9/1991	6	2.0	10.0
Mackaye Harbor	5/9/1991	5	1.8	10.0	Mackaye Harbor	5/9/1991	6	1.8	10.0
Mackaye Harbor	2/19/1992	5	1.8	8.0	Mackaye Harbor	2/19/1992	6	1.8	8.0
Mackaye Harbor	4/1/1992	5	1.8	11.0	Mackaye Harbor	4/1/1992	6	1.8	11.0
Mackaye Harbor	6/17/1992	5	1.8	14.0	Mackaye Harbor	6/17/1992	6	1.8	15.0
Mackaye Harbor	8/27/1992	5	1.8	14.0	Mackaye Harbor	8/27/1992	6	1.8	15.0
Mackaye Harbor	9/30/1992	5	1.8	12.0	Mackaye Harbor	9/30/1992	6	1.8	12.0
Mackaye Harbor	2/4/1993	5	1.8	7.0	Mackaye Harbor	2/4/1993	6	1.8	7.0
Mackaye Harbor	3/18/1993	5	1.8	8.0	Mackaye Harbor	3/18/1993	6	1.8	8.0
Mackaye Harbor	4/22/1993	5	2.0	10.0	Mackaye Harbor	4/22/1993	6	1.8	10.0
Mackaye Harbor	8/19/1993	5	1.8	17.0	Mackaye Harbor	8/19/1993	6	1.8	16.0
Mackaye Harbor	12/2/1993	5	7.8	9.0	Mackaye Harbor	12/2/1993	6	4.0	9.0
Mackaye Harbor	2/3/1994	5	2.0	8.0	Mackaye Harbor	2/3/1994	6	1.8	8.0
Mackaye Harbor	5/10/1994	5	1.8	13.0	Mackaye Harbor	5/10/1994	6	1.8	13.0
Mackaye Harbor	8/24/1994	5	1.8	14.0	Mackaye Harbor	8/24/1994	6	1.8	14.0
Mackaye Harbor	9/28/1994	5	2.0	14.0	Mackaye Harbor	9/28/1994	6	1.8	14.0
Mackaye Harbor	10/26/1994	5	1.8	11.0	Mackaye Harbor	10/26/1994	6	7.8	11.0
Mackaye Harbor	11/7/1994	5	1.8	10.0	Mackaye Harbor	11/7/1994	6	1.8	10.0
Mackaye Harbor	2/8/1995	5	2.0	8.0	Mackaye Harbor	2/8/1995	6	1.8	8.0
Mackaye Harbor	4/6/1995	5	2.0	10.0	Mackaye Harbor	4/6/1995	6	1.8	10.0
Mackaye Harbor	6/28/1995	5	1.8	15.0	Mackaye Harbor	6/28/1995	6	1.8	15.0
Mackaye Harbor	8/3/1995	5	1.8	17.0	Mackaye Harbor	8/3/1995	6	1.8	17.0
Mackaye Harbor	9/19/1995	5	1.8	15.0	Mackaye Harbor	9/19/1995	6	2.0	15.0
Mackaye Harbor	10/12/1995	5	1.8	13.0	Mackaye Harbor	10/12/1995	6	1.8	13.0
Mackaye Harbor	12/21/1995	5	1.8	9.0	Mackaye Harbor	12/21/1995	6	1.8	9.0
Mackaye Harbor	2/8/1996	5	1.8	8.0	Mackaye Harbor	2/8/1996	6	1.8	8.0
Mackaye Harbor	5/1/1996	5	1.8	11.0	Mackaye Harbor	5/1/1996	6	1.8	11.0
Mackaye Harbor	6/19/1996	5	1.8	13.0	Mackaye Harbor	6/19/1996	6	2.0	13.0
Mackaye Harbor	8/28/1996	5	2.0	13.0	Mackaye Harbor	8/28/1996	6	1.8	13.0
Mackaye Harbor	10/31/1996	5	2.0	10.0	Mackaye Harbor	10/31/1996	6	1.8	10.0
Mackaye Harbor	12/19/1996	5	1.8	7.0	Mackaye Harbor	12/19/1996	6	1.8	7.0
Mackaye Harbor	2/13/1997	5	2.0	7.0	Mackaye Harbor	2/13/1997	6	2.0	7.0
Mackaye Harbor	4/30/1997	5	1.8	10.0	Mackaye Harbor	4/30/1997	6	1.8	10.0
Mackaye Harbor	6/25/1997	5	2.0	13.0	Mackaye Harbor	6/25/1997	6	1.8	13.0
Mackaye Harbor	7/10/1997	5	2.0	11.0	Mackaye Harbor	7/10/1997	6	1.8	11.0
Mackaye Harbor	10/23/1997	5	1.8	11.0	Mackaye Harbor	10/23/1997	6	1.8	11.0
Mackaye Harbor	12/18/1997	5	7.8	9.0	Mackaye Harbor	12/18/1997	6	2.0	9.0

Table 13. DOH Water Quality Data for Marine Sites in Mackaye Harbor, Lopez Island.

Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)	Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)
Mackaye Harbor	9/25/1990	7	1.8	14.0	Mackaye Harbor	9/25/1990	8	1.8	13.0
Mackaye Harbor	9/25/1990	7	1.8	14.0	Mackaye Harbor	9/25/1990	8	2.0	14.0
Mackaye Harbor	9/26/1990	7	1.8	14.0	Mackaye Harbor	9/26/1990	8	2.0	14.0
Mackaye Harbor	9/26/1990	7	1.8	14.0	Mackaye Harbor	9/26/1990	8	1.8	14.0
Mackaye Harbor	9/27/1990	7	1.8	14.0	Mackaye Harbor	9/27/1990	8	2.0	14.0
Mackaye Harbor	9/27/1990	7	2.0	15.0	Mackaye Harbor	9/27/1990	8	1.8	15.0
Mackaye Harbor	5/7/1991	7	7.8	10.0	Mackaye Harbor	5/7/1991	8	1.8	10.0
Mackaye Harbor	5/7/1991	7	4.5		Mackaye Harbor	5/7/1991	8	2.0	
Mackaye Harbor	5/9/1991	7	4.5	10.0	Mackaye Harbor	5/9/1991	8	1.8	10.0
Mackaye Harbor	5/9/1991	7	1.8	11.0	Mackaye Harbor	5/9/1991	8	1.8	10.0
Mackaye Harbor	2/19/1992	7	1.8	8.0	Mackaye Harbor	2/19/1992	8	1.8	8.0
Mackaye Harbor	4/1/1992	7	1.8	11.0	Mackaye Harbor	4/1/1992	8	1.8	11.0
Mackaye Harbor	6/17/1992	7	1.8	15.0	Mackaye Harbor	6/17/1992	8	1.8	16.0
Mackaye Harbor	8/27/1992	7	1.8	15.0	Mackaye Harbor	8/27/1992	8	1.8	15.0
Mackaye Harbor	9/30/1992	7	4.5	12.0	Mackaye Harbor	9/30/1992	8	2.0	12.0
Mackaye Harbor	2/4/1993	7	1.8	7.0	Mackaye Harbor	2/4/1993	8	4.5	7.0
Mackaye Harbor	3/18/1993	7	1.8	8.0	Mackaye Harbor	3/18/1993	8	2.0	8.0
Mackaye Harbor	4/22/1993	7	2.0	10.0	Mackaye Harbor	4/22/1993	8	1.8	10.0
Mackaye Harbor	8/19/1993	7	1.8	16.0	Mackaye Harbor	8/19/1993	8	1.8	15.0
Mackaye Harbor	12/2/1993	7	2.0	9.0	Mackaye Harbor	12/2/1993	8	7.8	9.0
Mackaye Harbor	2/3/1994	7	2.0	8.0	Mackaye Harbor	2/3/1994	8	1.8	8.0
Mackaye Harbor	5/10/1994	7	1.8	13.0	Mackaye Harbor	5/10/1994	8	1.8	13.0
Mackaye Harbor	8/24/1994	7	1.8	14.0	Mackaye Harbor	8/24/1994	8	1.8	15.0
Mackaye Harbor	9/28/1994	7	1.8	15.0	Mackaye Harbor	9/28/1994	8	1.8	15.0
Mackaye Harbor	10/26/1994	7	4.0	11.0	Mackaye Harbor	10/26/1994	8	4.5	11.0
Mackaye Harbor	11/7/1994	7	1.8	10.0	Mackaye Harbor	11/7/1994	8	1.8	10.0
Mackaye Harbor	2/8/1995	7	1.8	8.0	Mackaye Harbor	2/8/1995	8	4.5	9.0
Mackaye Harbor	4/6/1995	7	1.8	10.0	Mackaye Harbor	4/6/1995	8	1.8	10.0
Mackaye Harbor	6/28/1995	7	1.8	14.0	Mackaye Harbor	6/28/1995	8	1.8	14.0
Mackaye Harbor	8/3/1995	7	1.8	16.0	Mackaye Harbor	8/3/1995	8	1.8	16.0
Mackaye Harbor	9/19/1995	7	1.8	15.0	Mackaye Harbor	9/19/1995	8	1.8	15.0
Mackaye Harbor	10/12/1995	7	1.8	13.0	Mackaye Harbor	10/12/1995	8	1.8	13.0
Mackaye Harbor	12/21/1995	7	2.0	9.0	Mackaye Harbor	12/21/1995	8	1.8	9.0
Mackaye Harbor	2/8/1996	7	4.5	8.0	Mackaye Harbor	2/8/1996	8	1.8	8.0
Mackaye Harbor	5/1/1996	7	1.8	11.0	Mackaye Harbor	5/1/1996	8	1.8	10.0
Mackaye Harbor	6/19/1996	7	1.8	13.0	Mackaye Harbor	6/19/1996	8	1.8	13.0
Mackaye Harbor	8/28/1996	7	1.8	14.0	Mackaye Harbor	8/28/1996	8	1.8	14.0
Mackaye Harbor	10/31/1996	7	1.8	10.0	Mackaye Harbor	10/31/1996	8	1.8	10.0
Mackaye Harbor	12/19/1996	7	1.8	7.0	Mackaye Harbor	12/19/1996	8	4.0	7.0
Mackaye Harbor	2/13/1997	7	2.0	7.0	Mackaye Harbor	2/13/1997	8	4.5	7.0
Mackaye Harbor	4/30/1997	7	1.8	10.0	Mackaye Harbor	4/30/1997	8	1.8	10.0
Mackaye Harbor	6/25/1997	7	1.8	13.0	Mackaye Harbor	6/25/1997	8	1.8	13.0
Mackaye Harbor	7/10/1997	7	1.8	11.0	Mackaye Harbor	7/10/1997	8	2.0	11.0
Mackaye Harbor	10/23/1997	7	1.8	11.0	Mackaye Harbor	10/23/1997	8	1.8	11.0
Mackaye Harbor	12/18/1997	7	2.0	10.0	Mackaye Harbor	12/18/1997	8	4.5	10.0

Table 13. DOH Water Quality Data for Marine Sites in Mackaye Harbor, Lopez Island.

Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)	Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)
Mackaye Harbor	9/25/1990	9	1.8	13.0	Mackaye Harbor	9/25/1990	10	1.8	13.0
Mackaye Harbor	9/25/1990	9	1.8	13.0	Mackaye Harbor	9/25/1990	10	1.8	13.0
Mackaye Harbor	9/26/1990	9	1.8	14.0	Mackaye Harbor	9/26/1990	10	1.8	14.0
Mackaye Harbor	9/26/1990	9	1.8	14.0	Mackaye Harbor	9/26/1990	10	1.8	14.0
Mackaye Harbor	9/27/1990	9	1.8	14.0	Mackaye Harbor	9/27/1990	10	1.8	13.0
Mackaye Harbor	9/27/1990	9	2.0	15.0	Mackaye Harbor	9/27/1990	10	1.8	14.0
Mackaye Harbor	5/7/1991	9	1.8	10.0	Mackaye Harbor	5/7/1991	10	2.0	11.0
Mackaye Harbor	5/7/1991	9	1.8		Mackaye Harbor	5/7/1991	10	1.8	
Mackaye Harbor	5/9/1991	9	2.0	10.0	Mackaye Harbor	5/9/1991	10	1.8	10.0
Mackaye Harbor	5/9/1991	9	1.8	10.0	Mackaye Harbor	5/9/1991	10	2.0	11.0
Mackaye Harbor	2/19/1992	9	1.8	8.0	Mackaye Harbor	2/19/1992	10	1.8	8.0
Mackaye Harbor	4/1/1992	9	1.8	11.0	Mackaye Harbor	4/1/1992	10	1.8	11.0
Mackaye Harbor	6/17/1992	9	1.8	15.0	Mackaye Harbor	6/17/1992	10	1.8	15.0
Mackaye Harbor	8/27/1992	9	1.8	15.0	Mackaye Harbor	8/27/1992	10	4.5	15.0
Mackaye Harbor	9/30/1992	9	1.8	12.0	Mackaye Harbor	9/30/1992	10	1.8	11.0
Mackaye Harbor	2/4/1993	9	1.8	7.0	Mackaye Harbor	2/4/1993	10	1.8	7.0
Mackaye Harbor	3/18/1993	9	2.0	8.0	Mackaye Harbor	3/18/1993	10	1.8	8.0
Mackaye Harbor	4/22/1993	9	1.8	10.0	Mackaye Harbor	4/22/1993	10	2.0	10.0
Mackaye Harbor	8/19/1993	9	1.8	16.0	Mackaye Harbor	8/19/1993	10	1.8	16.0
Mackaye Harbor	12/2/1993	9	1.8	9.0	Mackaye Harbor	12/2/1993	10	1.8	9.0
Mackaye Harbor	2/3/1994	9	1.8	8.0	Mackaye Harbor	2/3/1994	10	1.8	8.0
Mackaye Harbor	5/10/1994	9	1.8	13.0	Mackaye Harbor	5/10/1994	10	1.8	13.0
Mackaye Harbor	8/24/1994	9	1.8	14.0	Mackaye Harbor	8/24/1994	10	1.8	14.0
Mackaye Harbor	9/28/1994	9	1.8	15.0	Mackaye Harbor	9/28/1994	10	2.0	15.0
Mackaye Harbor	10/26/1994	9	2.0	11.0	Mackaye Harbor	10/26/1994	10	13.0	11.0
Mackaye Harbor	11/7/1994	9	1.8	10.0	Mackaye Harbor	11/7/1994	10	1.8	10.0
Mackaye Harbor	2/8/1995	9	1.8	9.0	Mackaye Harbor	2/8/1995	10	2.0	9.0
Mackaye Harbor	4/6/1995	9	1.8	10.0	Mackaye Harbor	4/6/1995	10	2.0	10.0
Mackaye Harbor	6/28/1995	9	1.8	14.0	Mackaye Harbor	6/28/1995	10	1.8	14.0
Mackaye Harbor	8/3/1995	9	1.8	16.0	Mackaye Harbor	8/3/1995	10	1.8	16.0
Mackaye Harbor	9/19/1995	9	1.8	15.0	Mackaye Harbor	9/19/1995	10	1.8	15.0
Mackaye Harbor	10/12/1995	9	1.8	13.0	Mackaye Harbor	10/12/1995	10	1.8	13.0
Mackaye Harbor	12/21/1995	9	1.8	9.0	Mackaye Harbor	12/21/1995	10	1.8	9.0
Mackaye Harbor	2/8/1996	9	1.8	8.0	Mackaye Harbor	2/8/1996	10	2.0	8.0
Mackaye Harbor	5/1/1996	9	1.8	10.0	Mackaye Harbor	5/1/1996	10	1.8	11.0
Mackaye Harbor	6/19/1996	9	1.8	13.0	Mackaye Harbor	6/19/1996	10	1.8	12.0
Mackaye Harbor	8/28/1996	9	1.8	14.0	Mackaye Harbor	8/28/1996	10	2.0	14.0
Mackaye Harbor	10/31/1996	9	2.0	10.0	Mackaye Harbor	10/31/1996	10	1.8	10.0
Mackaye Harbor	12/19/1996	9	1.8	8.0	Mackaye Harbor	12/19/1996	10	2.0	8.0
Mackaye Harbor	2/13/1997	9	1.8	7.0	Mackaye Harbor	2/13/1997	10	4.5	7.0
Mackaye Harbor	4/30/1997	9	1.8	10.0	Mackaye Harbor	4/30/1997	10	17.0	10.0
Mackaye Harbor	6/25/1997	9	1.8	14.0	Mackaye Harbor	6/25/1997	10	1.8	12.0
Mackaye Harbor	7/10/1997	9	2.0	11.0	Mackaye Harbor	7/10/1997	10	7.8	11.0
Mackaye Harbor	10/23/1997	9	1.8	11.0	Mackaye Harbor	10/23/1997	10	1.8	11.0
Mackaye Harbor	12/18/1997	9	1.8	10.0	Mackaye Harbor	12/18/1997	10	1.8	10.0

Table 14. DOH Water Quality Data for Marine Sites in Hunter Bay, Lopez Island.

Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)	Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)
Hunter Bay	6/27/1989	12	1.8		Hunter Bay	6/27/1989	13	1.8	
Hunter Bay	6/28/1989	12	1.8		Hunter Bay	6/28/1989	13	2.0	
Hunter Bay	6/28/1989	12	1.8		Hunter Bay	6/28/1989	13	1.8	
Hunter Bay	6/29/1989	12	1.8		Hunter Bay	6/29/1989	13	1.8	
Hunter Bay	6/29/1989	12	1.8		Hunter Bay	6/29/1989	13	1.8	
Hunter Bay	7/24/1990	12	1.8	13.0	Hunter Bay	7/24/1990	13	1.8	13.0
Hunter Bay	7/24/1990	12	1.8	13.0	Hunter Bay	7/24/1990	13	1.8	13.0
Hunter Bay	7/25/1990	12	1.8	13.0	Hunter Bay	7/25/1990	13	1.8	13.0
Hunter Bay	7/25/1990	12	1.8	15.0	Hunter Bay	7/25/1990	13	1.8	13.0
Hunter Bay	7/26/1990	12	1.8	12.0	Hunter Bay	7/26/1990	13	2.0	12.0
Hunter Bay	7/26/1990	12	1.8	13.0	Hunter Bay	7/26/1990	13	2.0	14.0
Hunter Bay	6/18/1991	12	2.0	11.0	Hunter Bay	6/18/1991	13	4.0	11.0
Hunter Bay	6/18/1991	12	1.8	14.0	Hunter Bay	6/18/1991	13	1.8	12.0
Hunter Bay	6/19/1991	12	2.0	11.0	Hunter Bay	6/19/1991	13	1.8	11.0
Hunter Bay	6/19/1991	12	1.8	16.0	Hunter Bay	6/19/1991	13	1.8	14.0
Hunter Bay	6/20/1991	12	13.0	11.0	Hunter Bay	6/20/1991	13	1.8	11.0
Hunter Bay	6/20/1991	12	4.5	11.0	Hunter Bay	6/20/1991	13	1.8	11.0
Hunter Bay	2/19/1992	12	1.8	9.0	Hunter Bay	2/19/1992	13	1.8	8.0
Hunter Bay	4/1/1992	12	1.8	12.0	Hunter Bay	4/1/1992	13	1.8	12.0
Hunter Bay	6/17/1992	12	1.8	13.0	Hunter Bay	6/17/1992	13	1.8	13.0
Hunter Bay	8/27/1992	12	1.8	14.0	Hunter Bay	9/30/1992	13	1.8	12.0
Hunter Bay	9/30/1992	12	1.8	12.0	Hunter Bay	2/4/1993	13	1.8	7.0
Hunter Bay	2/4/1993	12	1.8	8.0	Hunter Bay	3/18/1993	13	1.8	9.0
Hunter Bay	3/18/1993	12	1.8	9.0	Hunter Bay	4/22/1993	13	1.8	11.0
Hunter Bay	4/22/1993	12	1.8	11.0	Hunter Bay	6/24/1993	13	1.8	12.0
Hunter Bay	6/24/1993	12	1.8	13.0	Hunter Bay	8/19/1993	13	1.8	13.0
Hunter Bay	8/19/1993	12	13.0	13.0	Hunter Bay	12/2/1993	13	1.8	9.0
Hunter Bay	12/2/1993	12	7.8	9.0	Hunter Bay	2/3/1994	13	2.0	8.0
Hunter Bay	2/3/1994	12	1.8	8.0	Hunter Bay	3/17/1994	13	1.8	8.0
Hunter Bay	3/17/1994	12	2.0	9.0	Hunter Bay	5/10/1994	13	1.8	12.0
Hunter Bay	5/10/1994	12	1.8	12.0	Hunter Bay	7/7/1994	13	1.8	14.0
Hunter Bay	7/7/1994	12	4.5	16.0	Hunter Bay	9/27/1994	13	1.8	14.0
Hunter Bay	9/27/1994	12	1.8	13.0	Hunter Bay	11/7/1994	13	1.8	10.0
Hunter Bay	11/7/1994	12	1.8	10.0	Hunter Bay	2/8/1995	13	1.8	9.0
Hunter Bay	2/8/1995	12	1.8	9.0	Hunter Bay	6/28/1995	13	2.0	14.0
Hunter Bay	6/28/1995	12	1.8	14.0	Hunter Bay	8/3/1995	13	1.8	14.0
Hunter Bay	8/3/1995	12	1.8	14.0	Hunter Bay	10/12/1995	13	1.8	13.0
Hunter Bay	10/12/1995	12	1.8	13.0	Hunter Bay	12/21/1995	13	1.8	9.0
Hunter Bay	12/21/1995	12	1.8	9.0	Hunter Bay	2/8/1996	13	2.0	8.0
Hunter Bay	2/8/1996	12	4.5	8.0	Hunter Bay	5/1/1996	13	1.8	11.0
Hunter Bay	5/1/1996	12	2.0	10.0	Hunter Bay	6/19/1996	13	1.8	12.0
Hunter Bay	6/19/1996	12	1.8	12.0	Hunter Bay	8/28/1996	13	1.8	13.0
Hunter Bay	8/28/1996	12	2.0	14.0	Hunter Bay	10/31/1996	13	2.0	10.0
Hunter Bay	10/31/1996	12	1.8	10.0	Hunter Bay	12/19/1996	13	1.8	7.0
Hunter Bay	12/19/1996	12	1.8	7.0	Hunter Bay	2/13/1997	13	1.8	7.0
Hunter Bay	2/13/1997	12	1.8	7.0	Hunter Bay	4/30/1997	13	1.8	10.0
Hunter Bay	4/30/1997	12	1.8	10.0	Hunter Bay	6/25/1997	13	2.0	11.0
Hunter Bay	6/25/1997	12	1.8	11.0	Hunter Bay	7/10/1997	13	1.8	11.0
Hunter Bay	7/10/1997	12	1.8	11.0	Hunter Bay	10/23/1997	13	1.8	11.0
Hunter Bay	10/23/1997	12	1.8	11.0	Hunter Bay	12/18/1997	13	1.8	10.0
Hunter Bay	12/18/1997	12	1.8	10.0					

Table 14. DOH Water Quality Data for Marine Sites in Hunter Bay, Lopez Island.

Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)	Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)
Hunter Bay	6/27/1989	14	1.8		Hunter Bay	6/27/1989	15	1.8	
Hunter Bay	6/28/1989	14	2.0		Hunter Bay	6/28/1989	15	2.0	
Hunter Bay	6/28/1989	14	2.0		Hunter Bay	6/28/1989	15	1.8	
Hunter Bay	6/29/1989	14	2.0		Hunter Bay	6/29/1989	15	1.8	
Hunter Bay	6/29/1989	14	1.8		Hunter Bay	6/29/1989	15	1.8	
Hunter Bay	7/24/1990	14	1.8	13.0	Hunter Bay	6/29/1989	15	1.8	
Hunter Bay	7/24/1990	14	1.8	14.0	Hunter Bay	7/24/1990	15	1.8	13.0
Hunter Bay	7/25/1990	14	1.8	13.0	Hunter Bay	7/24/1990	15	1.8	13.0
Hunter Bay	7/25/1990	14	1.8	14.0	Hunter Bay	7/25/1990	15	2.0	13.0
Hunter Bay	7/26/1990	14	1.8	12.0	Hunter Bay	7/25/1990	15	1.8	13.0
Hunter Bay	7/26/1990	14	1.8	13.0	Hunter Bay	7/26/1990	15	1.8	13.0
Hunter Bay	6/18/1991	14	1.8	11.0	Hunter Bay	7/26/1990	15	1.8	14.0
Hunter Bay	6/18/1991	14	2.0	13.0	Hunter Bay	6/18/1991	15	1.8	11.0
Hunter Bay	6/19/1991	14	1.8	11.0	Hunter Bay	6/18/1991	15	1.8	12.0
Hunter Bay	6/19/1991	14	1.8	15.0	Hunter Bay	6/19/1991	15	2.0	11.0
Hunter Bay	6/20/1991	14	17.0	11.0	Hunter Bay	6/19/1991	15	1.8	14.0
Hunter Bay	6/20/1991	14	13.0	11.0	Hunter Bay	6/20/1991	15	1.8	10.0
Hunter Bay	2/19/1992	14	1.8	9.0	Hunter Bay	6/20/1991	15	1.8	11.0
Hunter Bay	4/1/1992	14	1.8	12.0	Hunter Bay	2/19/1992	15	1.8	9.0
Hunter Bay	6/17/1992	14	1.8	13.0	Hunter Bay	4/1/1992	15	1.8	12.0
Hunter Bay	8/27/1992	14	1.8	15.0	Hunter Bay	6/17/1992	15	1.8	12.0
Hunter Bay	8/27/1992	14	1.8	15.0	Hunter Bay	8/27/1992	15	1.8	16.0
Hunter Bay	9/30/1992	14	1.8	12.0	Hunter Bay	9/30/1992	15	1.8	11.0
Hunter Bay	2/4/1993	14	1.8	7.0	Hunter Bay	2/4/1993	15	1.8	8.0
Hunter Bay	3/18/1993	14	1.8	8.0	Hunter Bay	3/18/1993	15	1.8	8.0
Hunter Bay	4/22/1993	14	1.8	11.0	Hunter Bay	4/22/1993	15	1.8	11.0
Hunter Bay	6/24/1993	14	2.0	12.0	Hunter Bay	6/24/1993	15	1.8	12.0
Hunter Bay	8/19/1993	14	1.8	13.0	Hunter Bay	8/19/1993	15	1.8	13.0
Hunter Bay	12/2/1993	14	1.8	9.0	Hunter Bay	12/2/1993	15	1.8	9.0
Hunter Bay	2/3/1994	14	1.8	8.0	Hunter Bay	2/3/1994	15	2.0	8.0
Hunter Bay	3/17/1994	14	1.8	8.0	Hunter Bay	3/17/1994	15	1.8	9.0
Hunter Bay	5/10/1994	14	1.8	12.0	Hunter Bay	5/10/1994	15	1.8	12.0
Hunter Bay	7/7/1994	14	1.8	14.0	Hunter Bay	7/7/1994	15	1.8	14.0
Hunter Bay	9/27/1994	14	1.8	14.0	Hunter Bay	9/27/1994	15	1.8	12.0
Hunter Bay	11/7/1994	14	2.0	10.0	Hunter Bay	11/7/1994	15	2.0	10.0
Hunter Bay	2/8/1995	14	1.8	9.0	Hunter Bay	2/8/1995	15	1.8	9.0
Hunter Bay	6/28/1995	14	1.8	14.0	Hunter Bay	6/28/1995	15	1.8	14.0
Hunter Bay	8/3/1995	14	1.8	14.0	Hunter Bay	8/3/1995	15	1.8	14.0
Hunter Bay	10/12/1995	14	1.8	13.0	Hunter Bay	10/12/1995	15	1.8	13.0
Hunter Bay	12/21/1995	14	2.0	8.0	Hunter Bay	12/21/1995	15	2.0	9.0
Hunter Bay	2/8/1996	14	11.0	8.0	Hunter Bay	2/8/1996	15	1.8	8.0
Hunter Bay	5/1/1996	14	1.8	10.0	Hunter Bay	5/1/1996	15	1.8	10.0
Hunter Bay	6/19/1996	14	1.8	12.0	Hunter Bay	6/19/1996	15	1.8	12.0
Hunter Bay	8/28/1996	14	1.8	14.0	Hunter Bay	8/28/1996	15	1.8	13.0
Hunter Bay	10/31/1996	14	1.8	10.0	Hunter Bay	10/31/1996	15	1.8	10.0
Hunter Bay	12/19/1996	14	1.8	8.0	Hunter Bay	12/19/1996	15	1.8	8.0
Hunter Bay	2/13/1997	14	1.8	7.0	Hunter Bay	2/13/1997	15	1.8	7.0
Hunter Bay	4/30/1997	14	1.8	10.0	Hunter Bay	4/30/1997	15	1.8	10.0
Hunter Bay	6/25/1997	14	1.8	10.0	Hunter Bay	6/25/1997	15	1.8	10.0
Hunter Bay	7/10/1997	14	1.8	11.0	Hunter Bay	7/10/1997	15	1.8	11.0
Hunter Bay	10/23/1997	14	1.8	11.0	Hunter Bay	10/23/1997	15	1.8	11.0
Hunter Bay	12/18/1997	14	1.8	10.0	Hunter Bay	12/18/1997	15	1.8	10.0

Table 15. DOH Water Quality Data for Marine Sites in Mud Bay, Lopez Island.

Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)	Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)
Mud Bay	6/27/1989	6	1.8		Mud Bay	6/27/1989	7	1.8	
Mud Bay	6/28/1989	6	1.8		Mud Bay	6/28/1989	7	2.0	
Mud Bay	6/28/1989	6	1.8		Mud Bay	6/28/1989	7	1.8	
Mud Bay	6/29/1989	6	1.8		Mud Bay	6/29/1989	7	1.8	
Mud Bay	6/29/1989	6	1.8		Mud Bay	6/29/1989	7	2.0	
Mud Bay	7/24/1990	6	1.8	14.0	Mud Bay	7/24/1990	7	1.8	13.0
Mud Bay	7/24/1990	6	1.8	14.0	Mud Bay	7/24/1990	7	1.8	13.0
Mud Bay	7/25/1990	6	1.8	14.0	Mud Bay	7/25/1990	7	1.8	13.0
Mud Bay	7/25/1990	6	1.8	15.0	Mud Bay	7/25/1990	7	1.8	15.0
Mud Bay	7/26/1990	6	1.8	13.0	Mud Bay	7/26/1990	7	1.8	13.0
Mud Bay	7/26/1990	6	1.8	15.0	Mud Bay	7/26/1990	7	1.8	15.0
Mud Bay	6/18/1991	6	2.0	12.0	Mud Bay	6/18/1991	7	1.8	12.0
Mud Bay	6/18/1991	6	1.8	14.0	Mud Bay	6/18/1991	7	1.8	14.0
Mud Bay	6/19/1991	6	2.0	14.0	Mud Bay	6/19/1991	7	1.8	14.0
Mud Bay	6/19/1991	6	1.8	14.0	Mud Bay	6/19/1991	7	2.0	14.0
Mud Bay	6/19/1991	6	1.8	15.0	Mud Bay	6/19/1991	7	1.8	15.0
Mud Bay	6/19/1991	6	1.8	15.0	Mud Bay	6/19/1991	7	1.8	16.0
Mud Bay	6/20/1991	6	1.8	13.0	Mud Bay	6/20/1991	7	1.8	12.0
Mud Bay	6/20/1991	6	1.8	12.0	Mud Bay	6/20/1991	7	1.8	12.0
Mud Bay	2/19/1992	6	1.8	8.0	Mud Bay	2/19/1992	7	1.8	8.0
Mud Bay	4/1/1992	6	1.8	12.0	Mud Bay	4/1/1992	7	1.8	12.0
Mud Bay	6/17/1992	6	1.8	14.0	Mud Bay	6/17/1992	7	1.8	14.0
Mud Bay	8/27/1992	6	1.8	15.0	Mud Bay	8/27/1992	7	1.8	14.0
Mud Bay	9/30/1992	6	1.8	12.0	Mud Bay	9/30/1992	7	1.8	12.0
Mud Bay	2/4/1993	6	1.8	7.0	Mud Bay	2/4/1993	7	1.8	7.0
Mud Bay	3/18/1993	6	1.8	9.0	Mud Bay	3/18/1993	7	1.8	9.0
Mud Bay	4/22/1993	6	1.8	10.0	Mud Bay	4/22/1993	7	1.8	11.0
Mud Bay	6/24/1993	6	2.0	14.0	Mud Bay	6/24/1993	7	1.8	14.0
Mud Bay	8/19/1993	6	2.0	14.0	Mud Bay	8/19/1993	7	1.8	15.0
Mud Bay	12/2/1993	6	7.8	9.0	Mud Bay	12/2/1993	7	2.0	9.0
Mud Bay	2/3/1994	6	2.0	8.0	Mud Bay	2/3/1994	7	1.8	8.0
Mud Bay	3/17/1994	6	1.8	9.0	Mud Bay	12/21/1995	7	4.0	8.0
Mud Bay	5/10/1994	6	1.8	13.0	Mud Bay	2/8/1996	7	1.8	8.0
Mud Bay	7/7/1994	6	1.8	14.0	Mud Bay	5/1/1996	7	2.0	10.0
Mud Bay	9/27/1994	6	1.8	15.0	Mud Bay	6/19/1996	7	1.8	13.0
Mud Bay	11/7/1994	6	1.8	10.0	Mud Bay	8/28/1996	7	1.8	13.0
Mud Bay	2/8/1995	6	1.8	9.0	Mud Bay	10/31/1996	7	4.5	10.0
Mud Bay	6/28/1995	6	1.8	14.0	Mud Bay	12/19/1996	7	1.8	7.0
Mud Bay	8/3/1995	6	1.8	15.0	Mud Bay	2/13/1997	7	2.0	7.0
Mud Bay	10/12/1995	6	1.8	13.0	Mud Bay	4/30/1997	7	1.8	10.0
Mud Bay	12/21/1995	6	1.8	9.0	Mud Bay	6/25/1997	7	1.8	12.0
Mud Bay	2/8/1996	6	2.0	8.0	Mud Bay	7/10/1997	7	1.8	12.0
Mud Bay	5/1/1996	6	1.8	11.0	Mud Bay	10/23/1997	7	1.8	11.0
Mud Bay	6/19/1996	6	1.8	13.0	Mud Bay	12/18/1997	7	2.0	9.0
Mud Bay	8/28/1996	6	4.0	14.0					
Mud Bay	10/31/1996	6	1.8	10.0					
Mud Bay	12/19/1996	6	1.8	7.0					
Mud Bay	2/13/1997	6	1.8	7.0					
Mud Bay	4/30/1997	6	1.8	10.0					
Mud Bay	6/25/1997	6	1.8	12.0					
Mud Bay	7/10/1997	6	1.8	12.0					
Mud Bay	10/23/1997	6	2.0	11.0					
Mud Bay	12/18/1997	6	2.0	9.0					

Table 15. DOH Water Quality Data for Marine Sites in Mud Bay, Lopez Island.

Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)	Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)
Mud Bay	6/27/1989	8	1.8		Mud Bay	6/27/1989	9	1.8	
Mud Bay	6/28/1989	8	7.8		Mud Bay	6/28/1989	9	4.0	
Mud Bay	6/28/1989	8	2.0		Mud Bay	6/28/1989	9	2.0	
Mud Bay	6/29/1989	8	1.8		Mud Bay	6/29/1989	9	1.8	
Mud Bay	6/29/1989	8	1.8		Mud Bay	6/29/1989	9	1.8	
Mud Bay	7/24/1990	8	1.8	13.0	Mud Bay	7/24/1990	9	1.8	13.0
Mud Bay	7/24/1990	8	1.8	14.0	Mud Bay	7/24/1990	9	1.8	13.0
Mud Bay	7/25/1990	8	2.0	13.0	Mud Bay	7/25/1990	9	1.8	13.0
Mud Bay	7/25/1990	8	1.8	15.0	Mud Bay	7/25/1990	9	1.8	13.0
Mud Bay	7/26/1990	8	1.8	13.0	Mud Bay	7/26/1990	9	1.8	13.0
Mud Bay	7/26/1990	8	1.8	14.0	Mud Bay	7/26/1990	9	1.8	14.0
Mud Bay	6/18/1991	8	1.8	12.0	Mud Bay	6/18/1991	9	2.0	12.0
Mud Bay	6/18/1991	8	1.8	14.0	Mud Bay	6/18/1991	9	1.8	14.0
Mud Bay	6/19/1991	8	1.8	14.0	Mud Bay	6/19/1991	9	1.8	12.0
Mud Bay	6/19/1991	8	1.8	14.0	Mud Bay	6/19/1991	9	1.8	13.0
Mud Bay	6/19/1991	8	1.8	14.0	Mud Bay	6/19/1991	9	1.8	12.0
Mud Bay	6/19/1991	8	1.8	16.0	Mud Bay	6/19/1991	9	1.8	15.0
Mud Bay	6/20/1991	8	2.0	12.0	Mud Bay	6/20/1991	9	1.8	12.0
Mud Bay	6/20/1991	8	1.8	12.0	Mud Bay	6/20/1991	9	1.8	12.0
Mud Bay	2/19/1992	8	2.0	8.0	Mud Bay	2/19/1992	9	1.8	8.0
Mud Bay	4/1/1992	8	1.8	12.0	Mud Bay	4/1/1992	9	1.8	12.0
Mud Bay	6/17/1992	8	1.8	14.0	Mud Bay	6/17/1992	9	1.8	13.0
Mud Bay	8/27/1992	8	1.8	15.0	Mud Bay	8/27/1992	9	1.8	14.0
Mud Bay	9/30/1992	8	1.8	12.0	Mud Bay	9/30/1992	9	1.8	12.0
Mud Bay	2/4/1993	8	1.8	7.0	Mud Bay	2/4/1993	9	1.8	7.0
Mud Bay	3/18/1993	8	1.8	9.0	Mud Bay	3/18/1993	9	2.0	9.0
Mud Bay	4/22/1993	8	1.8	12.0	Mud Bay	4/22/1993	9	1.8	12.0
Mud Bay	6/24/1993	8	2.0	14.0	Mud Bay	6/24/1993	9	1.8	14.0
Mud Bay	8/19/1993	8	1.8	14.0	Mud Bay	8/19/1993	9	1.8	14.0
Mud Bay	12/2/1993	8	1.8	9.0	Mud Bay	12/2/1993	9	2.0	9.0
Mud Bay	2/3/1994	8	4.5	8.0	Mud Bay	2/3/1994	9	1.8	8.0
Mud Bay	12/21/1995	8	1.8	8.0	Mud Bay	12/21/1995	9	1.8	8.0
Mud Bay	2/8/1996	8	6.8	8.0	Mud Bay	2/8/1996	9	1.8	8.0
Mud Bay	5/1/1996	8	1.8	11.0	Mud Bay	5/1/1996	9	1.8	11.0
Mud Bay	6/19/1996	8	1.8	13.0	Mud Bay	6/19/1996	9	1.8	12.0
Mud Bay	8/28/1996	8	1.8	14.0	Mud Bay	8/28/1996	9	1.8	14.0
Mud Bay	10/31/1996	8	4.5	10.0	Mud Bay	10/31/1996	9	1.8	10.0
Mud Bay	12/19/1996	8	1.8	7.0	Mud Bay	12/19/1996	9	1.8	7.0
Mud Bay	2/13/1997	8	7.8	7.0	Mud Bay	2/13/1997	9	1.8	7.0
Mud Bay	4/30/1997	8	1.8	10.0	Mud Bay	4/30/1997	9	1.8	10.0
Mud Bay	6/25/1997	8	1.8	12.0	Mud Bay	6/25/1997	9	2.0	11.0
Mud Bay	7/10/1997	8	2.0	11.0	Mud Bay	7/10/1997	9	1.8	11.0
Mud Bay	10/23/1997	8	6.8	11.0	Mud Bay	10/23/1997	9	1.8	11.0
Mud Bay	12/18/1997	8	2.0	9.0	Mud Bay	12/18/1997	9	1.8	9.0

Table 15. DOH Water Quality Data for Marine Sites in Mud Bay, Lopez Island.

Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)	Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)
Mud Bay	6/27/1989	10	1.8		Mud Bay	6/27/1989	11	1.8	
Mud Bay	6/28/1989	10	1.8		Mud Bay	6/28/1989	11	1.8	
Mud Bay	6/28/1989	10	1.8		Mud Bay	6/28/1989	11	1.8	
Mud Bay	6/29/1989	10	1.8		Mud Bay	6/29/1989	11	1.8	
Mud Bay	6/29/1989	10	1.8		Mud Bay	6/29/1989	11	1.8	
Mud Bay	7/24/1990	10	1.8	13.0	Mud Bay	7/24/1990	11	2.0	13.0
Mud Bay	7/24/1990	10	1.8	14.0	Mud Bay	7/24/1990	11	1.8	13.0
Mud Bay	7/25/1990	10	1.8	13.0	Mud Bay	7/25/1990	11	1.8	13.0
Mud Bay	7/25/1990	10	1.8	14.0	Mud Bay	7/25/1990	11	1.8	13.0
Mud Bay	7/26/1990	10	1.8	12.0	Mud Bay	7/26/1990	11	2.0	12.0
Mud Bay	7/26/1990	10	1.8	15.0	Mud Bay	7/26/1990	11	1.8	14.0
Mud Bay	6/18/1991	10	1.8	12.0	Mud Bay	6/18/1991	11	1.8	12.0
Mud Bay	6/18/1991	10	1.8	14.0	Mud Bay	6/18/1991	11	1.8	14.0
Mud Bay	6/19/1991	10	1.8	12.0	Mud Bay	6/19/1991	11	1.8	11.0
Mud Bay	6/19/1991	10	1.8	14.0	Mud Bay	6/19/1991	11	1.8	13.0
Mud Bay	6/19/1991	10	1.8	15.0	Mud Bay	6/20/1991	11	1.8	11.0
Mud Bay	6/19/1991	10	1.8	15.0	Mud Bay	6/20/1991	11	1.8	11.0
Mud Bay	6/20/1991	10	1.8	12.0	Mud Bay	2/19/1992	11	1.8	9.0
Mud Bay	6/20/1991	10	1.8	12.0	Mud Bay	4/1/1992	11	1.8	11.0
Mud Bay	2/19/1992	10	1.8	8.0	Mud Bay	6/17/1992	11	1.8	14.0
Mud Bay	4/1/1992	10	1.8	12.0	Mud Bay	8/27/1992	11	1.8	14.0
Mud Bay	6/17/1992	10	1.8	14.0	Mud Bay	9/30/1992	11	1.8	12.0
Mud Bay	8/27/1992	10	1.8	15.0	Mud Bay	2/4/1993	11	1.8	8.0
Mud Bay	8/27/1992	10	1.8	15.0	Mud Bay	3/18/1993	11	1.8	9.0
Mud Bay	9/30/1992	10	1.8	12.0	Mud Bay	4/22/1993	11	1.8	11.0
Mud Bay	2/4/1993	10	2.0	7.0	Mud Bay	6/24/1993	11	1.8	13.0
Mud Bay	3/18/1993	10	1.8	9.0	Mud Bay	8/19/1993	11	1.8	14.0
Mud Bay	4/22/1993	10	1.8	11.0	Mud Bay	12/2/1993	11	1.8	9.0
Mud Bay	6/24/1993	10	1.8	14.0	Mud Bay	2/3/1994	11	1.8	8.0
Mud Bay	8/19/1993	10	1.8	15.0	Mud Bay	3/17/1994	11	1.8	8.0
Mud Bay	12/2/1993	10	2.0	9.0	Mud Bay	5/10/1994	11	1.8	13.0
Mud Bay	2/3/1994	10	1.8	8.0	Mud Bay	7/7/1994	11	1.8	14.0
Mud Bay	5/10/1994	10	1.8	13.0	Mud Bay	9/27/1994	11	1.8	14.0
Mud Bay	7/7/1994	10	1.8	15.0	Mud Bay	11/7/1994	11	1.8	10.0
Mud Bay	9/27/1994	10	1.8	14.0	Mud Bay	2/8/1995	11	1.8	9.0
Mud Bay	11/7/1994	10	2.0	10.0	Mud Bay	6/28/1995	11	1.8	14.0
Mud Bay	2/8/1995	10	7.8	9.0	Mud Bay	8/3/1995	11	1.8	15.0
Mud Bay	6/28/1995	10	1.8	15.0	Mud Bay	10/12/1995	11	1.8	13.0
Mud Bay	8/3/1995	10	1.8	15.0	Mud Bay	12/21/1995	11	1.8	9.0
Mud Bay	10/12/1995	10	1.8	13.0	Mud Bay	2/8/1996	11	1.8	8.0
Mud Bay	12/21/1995	10	1.8	9.0	Mud Bay	5/1/1996	11	1.8	10.0
Mud Bay	2/8/1996	10	1.8	8.0	Mud Bay	6/19/1996	11	1.8	12.0
Mud Bay	5/1/1996	10	1.8	10.0	Mud Bay	8/28/1996	11	2.0	13.0
Mud Bay	6/19/1996	10	1.8	13.0	Mud Bay	10/31/1996	11	1.8	10.0
Mud Bay	8/28/1996	10	1.8	14.0	Mud Bay	12/19/1996	11	2.0	7.0
Mud Bay	10/31/1996	10	1.8	10.0	Mud Bay	2/13/1997	11	1.8	7.0
Mud Bay	12/19/1996	10	1.8	7.0	Mud Bay	4/30/1997	11	1.8	10.0
Mud Bay	2/13/1997	10	1.8	7.0	Mud Bay	6/25/1997	11	2.0	11.0
Mud Bay	4/30/1997	10	1.8	10.0	Mud Bay	7/10/1997	11	1.8	11.0
Mud Bay	6/25/1997	10	1.8	11.0	Mud Bay	10/23/1997	11	2.0	11.0
Mud Bay	7/10/1997	10	2.0	11.0	Mud Bay	12/18/1997	11	1.8	10.0
Mud Bay	10/23/1997	10	1.8	11.0					
Mud Bay	12/18/1997	10	1.8	10.0					

Table 16. DOH Water Quality Data for Marine Sites in Upright Channel, Lopez Island.

Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)	Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)
Upright Channel	9/27/1994	6	1.8	12.0	Upright Channel	6/19/1996	7	1.8	12.0
Upright Channel	11/8/1994	6	1.8	10.0	Upright Channel	8/27/1996	7	1.8	12.0
Upright Channel	2/1/1995	6	1.8	9.0	Upright Channel	10/31/1996	7	1.8	10.0
Upright Channel	2/8/1995	6	2.0	9.0	Upright Channel	12/19/1996	7	2.0	7.0
Upright Channel	4/5/1995	6	1.8	10.0	Upright Channel	2/12/1997	7	1.8	7.0
Upright Channel	4/6/1995	6	1.8	9.0	Upright Channel	4/29/1997	7	1.8	10.0
Upright Channel	6/27/1995	6	1.8	13.0	Upright Channel	4/30/1997	7	1.8	10.0
Upright Channel	6/28/1995	6	1.8	15.0	Upright Channel	6/24/1997	7	1.8	12.0
Upright Channel	8/2/1995	6	1.8	14.0	Upright Channel	6/25/1997	7	1.8	11.0
Upright Channel	8/3/1995	6	1.8	14.0	Upright Channel	7/9/1997	7	1.8	11.0
Upright Channel	10/11/1995	6	2.0	13.0	Upright Channel	7/10/1997	7	1.8	11.0
Upright Channel	10/12/1995	6	1.8	12.0	Upright Channel	10/22/1997	7	4.5	11.0
Upright Channel	12/21/1995	6	1.8	9.0	Upright Channel	10/23/1997	7	1.8	11.0
Upright Channel	2/7/1996	6	1.8	8.0	Upright Channel	12/17/1997	7	1.8	10.0
Upright Channel	2/8/1996	6	1.8	8.0	Upright Channel	12/18/1997	7	1.8	10.0
Upright Channel	5/1/1996	6	1.8	10.0					
Upright Channel	6/19/1996	6	1.8	13.0	Upright Channel	11/8/1994	8	1.8	10.0
Upright Channel	8/27/1996	6	1.8	13.0	Upright Channel	2/1/1995	8	23.0	9.0
Upright Channel	10/31/1996	6	1.8	10.0	Upright Channel	2/8/1995	8	1.8	9.0
Upright Channel	12/19/1996	6	1.8	7.0	Upright Channel	4/5/1995	8	1.8	10.0
Upright Channel	2/12/1997	6	1.8	7.0	Upright Channel	4/6/1995	8	1.8	9.0
Upright Channel	4/29/1997	6	1.8	10.0	Upright Channel	6/27/1995	8	1.8	13.0
Upright Channel	4/30/1997	6	1.8	10.0	Upright Channel	6/28/1995	8	1.8	15.0
Upright Channel	6/24/1997	6	1.8	12.0	Upright Channel	8/2/1995	8	1.8	14.0
Upright Channel	6/25/1997	6	1.8	11.0	Upright Channel	8/3/1995	8	1.8	14.0
Upright Channel	7/9/1997	6	1.8	11.0	Upright Channel	10/11/1995	8	1.8	13.0
Upright Channel	7/10/1997	6	1.8	11.0	Upright Channel	10/12/1995	8	1.8	12.0
Upright Channel	10/22/1997	6	2.0	11.0	Upright Channel	12/21/1995	8	1.8	9.0
Upright Channel	10/23/1997	6	1.8	11.0	Upright Channel	2/7/1996	8	1.8	8.0
Upright Channel	12/17/1997	6	1.8	10.0	Upright Channel	2/8/1996	8	2.0	8.0
Upright Channel	12/18/1997	6	1.8	10.0	Upright Channel	5/1/1996	8	1.8	10.0
Upright Channel	9/27/1994	7	1.8	12.0	Upright Channel	6/19/1996	8	1.8	14.0
Upright Channel	11/8/1994	7	1.8	10.0	Upright Channel	8/27/1996	8	1.8	13.0
Upright Channel	2/1/1995	7	2.0	9.0	Upright Channel	10/31/1996	8	2.0	10.0
Upright Channel	2/8/1995	7	1.8	9.0	Upright Channel	12/19/1996	8	1.8	7.0
Upright Channel	4/5/1995	7	1.8	9.0	Upright Channel	2/12/1997	8	1.8	7.0
Upright Channel	4/6/1995	7	2.0	9.0	Upright Channel	4/29/1997	8	1.8	10.0
Upright Channel	6/27/1995	7	1.8	13.0	Upright Channel	4/30/1997	8	1.8	10.0
Upright Channel	6/28/1995	7	1.8	15.0	Upright Channel	6/24/1997	8	1.8	12.0
Upright Channel	8/2/1995	7	1.8	14.0	Upright Channel	6/25/1997	8	1.8	11.0
Upright Channel	8/3/1995	7	1.8	14.0	Upright Channel	7/9/1997	8	1.8	12.0
Upright Channel	10/11/1995	7	1.8	13.0	Upright Channel	7/10/1997	8	1.8	11.0
Upright Channel	10/12/1995	7	1.8	12.0	Upright Channel	10/22/1997	8	1.8	11.0
Upright Channel	12/21/1995	7	1.8	9.0	Upright Channel	10/23/1997	8	1.8	11.0
Upright Channel	2/7/1996	7	1.8	8.0	Upright Channel	12/17/1997	8	2.0	10.0
Upright Channel	2/8/1996	7	13.0	8.0	Upright Channel	12/18/1997	8	1.8	10.0
Upright Channel	5/1/1996	7	1.8	10.0					

Table 16. DOH Water Quality Data for Marine Sites in Upright Channel, Lopez Island.

Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)	Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)
Upright Channel	12/21/1995	10	2.0	9.0	Upright Channel	2/7/1996	11	4.5	8.0
Upright Channel	2/7/1996	10	1.8	8.0	Upright Channel	2/8/1996	11	4.0	8.0
Upright Channel	2/8/1996	10	2.0	8.0	Upright Channel	5/1/1996	11	2.0	9.0
Upright Channel	5/1/1996	10	1.8	10.0	Upright Channel	6/19/1996	11	1.8	12.0
Upright Channel	6/19/1996	10	1.8	12.0	Upright Channel	8/27/1996	11	2.0	12.0
Upright Channel	8/27/1996	10	1.8	12.0	Upright Channel	10/31/1996	11	1.8	10.0
Upright Channel	10/31/1996	10	1.8	10.0	Upright Channel	12/19/1996	11	2.0	7.0
Upright Channel	12/19/1996	10	1.8	7.0	Upright Channel	2/12/1997	11	1.8	7.0
Upright Channel	2/12/1997	10	1.8	7.0	Upright Channel	4/29/1997	11	1.8	10.0
Upright Channel	4/29/1997	10	1.8	10.0	Upright Channel	4/30/1997	11	1.8	10.0
Upright Channel	4/30/1997	10	1.8	10.0	Upright Channel	6/24/1997	11	1.8	12.0
Upright Channel	6/24/1997	10	1.8	12.0	Upright Channel	6/25/1997	11	1.8	11.0
Upright Channel	6/25/1997	10	1.8	11.0	Upright Channel	7/9/1997	11	1.8	12.0
Upright Channel	7/9/1997	10	1.8	11.0	Upright Channel	7/10/1997	11	1.8	11.0
Upright Channel	7/10/1997	10	1.8	11.0	Upright Channel	10/22/1997	11	1.8	11.0
Upright Channel	10/22/1997	10	1.8	11.0	Upright Channel	10/23/1997	11	1.8	11.0
Upright Channel	10/23/1997	10	1.8	11.0	Upright Channel	12/17/1997	11	2.0	10.0
Upright Channel	12/17/1997	10	1.8	10.0	Upright Channel	12/18/1997	11	1.8	10.0
Upright Channel	12/18/1997	10	1.8	10.0					

Table 17. DOH Water Quality Data for Marine Sites in Shoal Bay, Lopez Island.

Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)	Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)
Shoal Bay	6/27/1989	1	1.8	12.5	Shoal Bay	6/27/1989	2	1.8	12.0
Shoal Bay	6/28/1989	1	1.8		Shoal Bay	6/28/1989	2	1.8	
Shoal Bay	6/28/1989	1	1.8		Shoal Bay	6/28/1989	2	1.8	
Shoal Bay	6/29/1989	1	6.8		Shoal Bay	6/29/1989	2	1.8	
Shoal Bay	6/29/1989	1	1.8		Shoal Bay	6/29/1989	2	1.8	
Shoal Bay	6/29/1989	1	1.8		Shoal Bay	6/29/1989	2	1.8	
Shoal Bay	7/24/1990	1	1.8	14.0	Shoal Bay	7/24/1990	2	2.0	13.0
Shoal Bay	7/24/1990	1	1.8	13.0	Shoal Bay	7/24/1990	2	1.8	14.0
Shoal Bay	7/25/1990	1	2.0	13.0	Shoal Bay	7/25/1990	2	1.8	13.0
Shoal Bay	7/26/1990	1	1.8	13.0	Shoal Bay	7/25/1990	2	1.8	14.0
Shoal Bay	7/26/1990	1	2.0	14.0	Shoal Bay	7/26/1990	2	1.8	13.0
Shoal Bay	5/8/1991	1	4.5	10.0	Shoal Bay	7/26/1990	2	1.8	14.0
Shoal Bay	5/8/1991	1	2.0	10.0	Shoal Bay	5/8/1991	2	13.0	10.0
Shoal Bay	6/18/1991	1	4.5	11.0	Shoal Bay	5/8/1991	2	1.8	10.0
Shoal Bay	6/18/1991	1	1.8	13.0	Shoal Bay	6/18/1991	2	1.8	11.0
Shoal Bay	6/19/1991	1	1.8	12.0	Shoal Bay	6/18/1991	2	1.8	13.0
Shoal Bay	6/19/1991	1	1.8	14.0	Shoal Bay	6/19/1991	2	1.8	12.0
Shoal Bay	6/20/1991	1	1.8	11.0	Shoal Bay	6/19/1991	2	1.8	13.0
Shoal Bay	6/20/1991	1	1.8	11.0	Shoal Bay	6/19/1991	2	1.8	13.0
Shoal Bay	2/20/1992	1	1.8	8.0	Shoal Bay	6/20/1991	2	1.8	11.0
Shoal Bay	4/2/1992	1	1.8	12.0	Shoal Bay	6/20/1991	2	1.8	12.0
Shoal Bay	6/18/1992	1	1.8	15.0	Shoal Bay	2/20/1992	2	49.0	8.0
Shoal Bay	8/25/1992	1	1.8	16.0	Shoal Bay	4/2/1992	2	1.8	11.0
Shoal Bay	9/28/1992	1	1.8	13.0	Shoal Bay	6/18/1992	2	1.8	15.0
Shoal Bay	3/16/1993	1	1.8	9.0	Shoal Bay	8/25/1992	2	1.8	16.0
Shoal Bay	6/22/1993	1	2.0	13.0	Shoal Bay	9/28/1992	2	1.8	13.0
Shoal Bay	8/17/1993	1	2.0	13.0	Shoal Bay	3/16/1993	2	1.8	8.0
Shoal Bay	12/1/1993	1	2.0	9.0	Shoal Bay	6/22/1993	2	7.8	14.0
Shoal Bay	2/1/1994	1	1.8	9.0	Shoal Bay	8/17/1993	2	1.8	13.0
Shoal Bay	3/15/1994	1	1.8	10.0	Shoal Bay	12/1/1993	2	17.0	9.0
Shoal Bay	5/9/1994	1	4.5	13.0	Shoal Bay	2/1/1994	2	1.8	9.0
Shoal Bay	7/7/1994	1	1.8	14.0	Shoal Bay	3/15/1994	2	1.8	10.0
Shoal Bay	9/27/1994	1	1.8	15.0	Shoal Bay	5/9/1994	2	1.8	13.0
Shoal Bay	11/8/1994	1	1.8	10.0	Shoal Bay	7/7/1994	2	1.8	13.0
Shoal Bay	2/1/1995	1	1.8	9.0	Shoal Bay	9/27/1994	2	1.8	14.0
Shoal Bay	2/8/1995	1	2.0	9.0	Shoal Bay	11/8/1994	2	1.8	10.0
Shoal Bay	4/5/1995	1	1.8	9.0	Shoal Bay	2/1/1995	2	2.0	8.0
Shoal Bay	4/6/1995	1	1.8	1.0	Shoal Bay	2/8/1995	2	4.0	9.0
Shoal Bay	6/27/1995	1	1.8	14.0	Shoal Bay	4/5/1995	2	1.8	10.0
Shoal Bay	8/2/1995	1	2.0	15.0	Shoal Bay	4/6/1995	2	1.8	10.0
Shoal Bay	8/3/1995	1	11.0	14.0	Shoal Bay	6/27/1995	2	1.8	14.0
Shoal Bay	10/11/1995	1	13.0	13.0	Shoal Bay	8/2/1995	2	1.8	15.0
Shoal Bay	12/21/1995	1	1.8	9.0	Shoal Bay	8/3/1995	2	1.8	14.0
Shoal Bay	2/8/1996	1	2.0	8.0	Shoal Bay	10/11/1995	2	17.0	13.0
Shoal Bay	5/1/1996	1	1.8	10.0	Shoal Bay	12/21/1995	2	2.0	9.0
Shoal Bay	6/19/1996	1	1.8	13.0	Shoal Bay	2/8/1996	2	170.0	8.0
Shoal Bay	8/28/1996	1	1.8	14.0	Shoal Bay	5/1/1996	2	1.8	10.0
Shoal Bay	10/31/1996	1	2.0	10.0	Shoal Bay	6/19/1996	2	1.8	13.0
Shoal Bay	12/19/1996	1	2.0	7.0	Shoal Bay	8/28/1996	2	79.0	14.0
Shoal Bay	4/29/1997	1	17.0	10.0	Shoal Bay	10/31/1996	2	2.0	10.0
Shoal Bay	6/24/1997	1	2.0	13.0	Shoal Bay	12/19/1996	2	1.8	7.0
Shoal Bay	7/10/1997	1	1.8	12.0	Shoal Bay	4/29/1997	2	1.8	10.0
Shoal Bay	10/22/1997	1	1.8	11.0	Shoal Bay	6/24/1997	2	2.0	13.0
Shoal Bay	10/23/1997	1	1.8	11.0	Shoal Bay	7/10/1997	2	1.8	12.0
Shoal Bay	12/18/1997	1	1.8	10.0	Shoal Bay	10/22/1997	2	1.8	11.0
					Shoal Bay	10/23/1997	2	1.8	11.0
					Shoal Bay	12/18/1997	2	1.8	9.0

Table 17. DOH Water Quality Data for Marine Sites in Shoal Bay, Lopez Island.

Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)	Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)
Shoal Bay	6/27/1989	3	1.8	12.5	Shoal Bay	6/27/1989	4	1.8	12.0
Shoal Bay	6/28/1989	3	1.8		Shoal Bay	6/28/1989	4	1.8	
Shoal Bay	6/28/1989	3	1.8		Shoal Bay	6/28/1989	4	1.8	
Shoal Bay	6/29/1989	3	1.8		Shoal Bay	6/29/1989	4	4.0	
Shoal Bay	6/29/1989	3	1.8		Shoal Bay	6/29/1989	4	1.8	
Shoal Bay	6/29/1989	3	1.8		Shoal Bay	6/29/1989	4	1.8	
Shoal Bay	7/24/1990	3	1.8	14.0	Shoal Bay	7/24/1990	4	1.8	14.0
Shoal Bay	7/24/1990	3	1.8	13.0	Shoal Bay	7/24/1990	4	1.8	14.0
Shoal Bay	7/25/1990	3	1.8	13.0	Shoal Bay	7/25/1990	4	1.8	13.0
Shoal Bay	7/26/1990	3	1.8	13.0	Shoal Bay	7/25/1990	4	2.0	13.0
Shoal Bay	7/26/1990	3	1.8	13.0	Shoal Bay	7/25/1990	4	1.8	13.0
Shoal Bay	5/8/1991	3	6.8	10.0	Shoal Bay	7/26/1990	4	1.8	14.0
Shoal Bay	5/8/1991	3	1.8	10.0	Shoal Bay	7/26/1990	4	1.8	13.0
Shoal Bay	6/18/1991	3	1.8	11.0	Shoal Bay	5/8/1991	4	4.5	10.0
Shoal Bay	6/18/1991	3	1.8	13.0	Shoal Bay	5/8/1991	4	4.5	10.0
Shoal Bay	6/19/1991	3	1.8	14.0	Shoal Bay	6/18/1991	4	1.8	11.0
Shoal Bay	6/19/1991	3	1.8	14.0	Shoal Bay	6/18/1991	4	1.8	13.0
Shoal Bay	6/20/1991	3	1.8	11.0	Shoal Bay	6/19/1991	4	1.8	14.0
Shoal Bay	6/20/1991	3	1.8	11.0	Shoal Bay	6/19/1991	4	1.8	15.0
Shoal Bay	2/20/1992	3	1.8	8.0	Shoal Bay	6/20/1991	4	1.8	11.0
Shoal Bay	4/2/1992	3	1.8	12.0	Shoal Bay	6/20/1991	4	1.8	11.0
Shoal Bay	6/18/1992	3	1.8	15.0	Shoal Bay	2/20/1992	4	1.8	8.0
Shoal Bay	8/25/1992	3	1.8	15.0	Shoal Bay	4/2/1992	4	1.8	12.0
Shoal Bay	9/28/1992	3	1.8	13.0	Shoal Bay	6/18/1992	4	1.8	15.0
Shoal Bay	3/16/1993	3	1.8	8.0	Shoal Bay	8/25/1992	4	1.8	15.0
Shoal Bay	6/22/1993	3	1.8	13.0	Shoal Bay	9/28/1992	4	1.8	13.0
Shoal Bay	8/17/1993	3	2.0	13.0	Shoal Bay	3/16/1993	4	1.8	8.0
Shoal Bay	12/1/1993	3	1.8	9.0	Shoal Bay	6/22/1993	4	1.8	12.0
Shoal Bay	2/1/1994	3	2.0	8.0	Shoal Bay	8/17/1993	4	1.8	13.0
Shoal Bay	3/15/1994	3	1.8	10.0	Shoal Bay	12/1/1993	4	1.8	9.0
Shoal Bay	5/9/1994	3	1.8	12.0	Shoal Bay	2/1/1994	4	1.8	9.0
Shoal Bay	7/7/1994	3	1.8	13.0	Shoal Bay	3/15/1994	4	1.8	9.0
Shoal Bay	9/27/1994	3	1.8	14.0	Shoal Bay	5/9/1994	4	1.8	12.0
Shoal Bay	11/8/1994	3	1.8	10.0	Shoal Bay	7/7/1994	4	1.8	13.0
Shoal Bay	2/1/1995	3	4.5	9.0	Shoal Bay	9/27/1994	4	1.8	14.0
Shoal Bay	2/8/1995	3	2.0	9.0	Shoal Bay	11/8/1994	4	1.8	10.0
Shoal Bay	4/5/1995	3	1.8	9.0	Shoal Bay	2/1/1995	4	1.8	9.0
Shoal Bay	4/6/1995	3	1.8	9.0	Shoal Bay	2/8/1995	4	1.8	9.0
Shoal Bay	6/27/1995	3	1.8	14.0	Shoal Bay	4/5/1995	4	1.8	10.0
Shoal Bay	8/2/1995	3	1.8	15.0	Shoal Bay	4/6/1995	4	1.8	9.0
Shoal Bay	8/3/1995	3	1.8	14.0	Shoal Bay	6/27/1995	4	1.8	14.0
Shoal Bay	10/11/1995	3	2.0	13.0	Shoal Bay	8/2/1995	4	1.8	15.0
Shoal Bay	12/21/1995	3	1.8	9.0	Shoal Bay	8/3/1995	4	1.8	14.0
Shoal Bay	2/8/1996	3	4.5	8.0	Shoal Bay	10/11/1995	4	1.8	13.0
Shoal Bay	5/1/1996	3	1.8	10.0	Shoal Bay	12/21/1995	4	1.8	9.0
Shoal Bay	6/19/1996	3	1.8	14.0	Shoal Bay	2/8/1996	4	1.8	8.0
Shoal Bay	8/28/1996	3	1.8	14.0	Shoal Bay	5/1/1996	4	1.8	10.0
Shoal Bay	10/31/1996	3	1.8	10.0	Shoal Bay	6/19/1996	4	1.8	12.0
Shoal Bay	12/19/1996	3	2.0	7.0	Shoal Bay	8/28/1996	4	4.5	14.0
Shoal Bay	4/29/1997	3	1.8	10.0	Shoal Bay	10/31/1996	4	2.0	10.0
Shoal Bay	6/24/1997	3	1.8	14.0	Shoal Bay	12/19/1996	4	1.8	7.0
Shoal Bay	7/10/1997	3	1.8	11.0	Shoal Bay	4/29/1997	4	1.8	10.0
Shoal Bay	10/22/1997	3	1.8	11.0	Shoal Bay	6/24/1997	4	1.8	14.0
Shoal Bay	10/23/1997	3	1.8	11.0	Shoal Bay	7/10/1997	4	1.8	11.0
Shoal Bay	12/18/1997	3	1.8	10.0	Shoal Bay	10/22/1997	4	2.0	11.0
					Shoal Bay	10/23/1997	4	7.8	11.0
					Shoal Bay	12/18/1997	4	2.0	10.0

Table 17. DOH Water Quality Data for Marine Sites in Shoal Bay, Lopez Island.

Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)	Waterbody	Date	ID	Fecal Coliform (MPN/100mL)	Surface Temp (°C)
Shoal Bay	6/27/1989	5	1.8		Shoal Bay	2/8/1996	5	1.8	8.0
Shoal Bay	6/28/1989	5	1.8		Shoal Bay	5/1/1996	5	1.8	10.0
Shoal Bay	6/28/1989	5	1.8		Shoal Bay	6/19/1996	5	1.8	12.0
Shoal Bay	6/29/1989	5	1.8		Shoal Bay	8/28/1996	5	1.8	13.0
Shoal Bay	6/29/1989	5	1.8		Shoal Bay	10/31/1996	5	1.8	10.0
Shoal Bay	6/29/1989	5	1.8		Shoal Bay	12/19/1996	5	1.8	7.0
Shoal Bay	7/24/1990	5	1.8	14.0	Shoal Bay	4/29/1997	5	1.8	10.0
Shoal Bay	7/24/1990	5	1.8	14.0	Shoal Bay	6/24/1997	5	1.8	13.0
Shoal Bay	7/25/1990	5	1.8	13.0	Shoal Bay	7/10/1997	5	1.8	12.0
Shoal Bay	7/25/1990	5	2.0	13.0	Shoal Bay	10/22/1997	5	1.8	11.0
Shoal Bay	7/25/1990	5	2.0	14.0	Shoal Bay	10/23/1997	5	1.8	11.0
Shoal Bay	7/26/1990	5	1.8	13.0	Shoal Bay	12/18/1997	5	1.8	10.0
Shoal Bay	7/26/1990	5	1.8	12.0					
Shoal Bay	5/8/1991	5	1.8	10.0	Shoal Bay	7/10/1997	6	1.8	
Shoal Bay	5/8/1991	5	1.8	10.0	Shoal Bay	10/22/1997	6	220.0	
Shoal Bay	6/18/1991	5	1.8	11.0	Shoal Bay	10/23/1997	6	79.0	
Shoal Bay	6/18/1991	5	1.8	12.0	Shoal Bay	12/18/1997	6	4.5	
Shoal Bay	6/19/1991	5	1.8	14.0					
Shoal Bay	6/19/1991	5	1.8	15.0					
Shoal Bay	6/20/1991	5	1.8	11.0					
Shoal Bay	6/20/1991	5	1.8	11.0					
Shoal Bay	2/20/1992	5	1.8	8.0					
Shoal Bay	4/2/1992	5	1.8	10.0					
Shoal Bay	6/18/1992	5	1.8	12.0					
Shoal Bay	8/25/1992	5	1.8	16.0					
Shoal Bay	9/28/1992	5	1.8	12.0					
Shoal Bay	3/16/1993	5	1.8	9.0					
Shoal Bay	6/22/1993	5	1.8	12.0					
Shoal Bay	8/17/1993	5	1.8	13.0					
Shoal Bay	12/1/1993	5	2.0	9.0					
Shoal Bay	2/1/1994	5	2.0	9.0					
Shoal Bay	3/15/1994	5	1.8	9.0					
Shoal Bay	5/9/1994	5	1.8	12.0					
Shoal Bay	7/7/1994	5	1.8	13.0					
Shoal Bay	9/27/1994	5	1.8	13.0					
Shoal Bay	11/8/1994	5	2.0	10.0					
Shoal Bay	2/1/1995	5	1.8	8.0					
Shoal Bay	2/8/1995	5	1.8	9.0					
Shoal Bay	4/5/1995	5	1.8	9.0					
Shoal Bay	4/6/1995	5	1.8	9.0					
Shoal Bay	6/27/1995	5	1.8	14.0					
Shoal Bay	8/2/1995	5	1.8	15.0					
Shoal Bay	8/3/1995	5	1.8	14.0					
Shoal Bay	10/11/1995	5	1.8	13.0					
Shoal Bay	12/21/1995	5	1.8	9.0					

