SAANICH INLET PROTECTION SOCIETY

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Enterococcus Water Quality Testing Program

Brentwood Bay 2026

July 1st 2026

Abstract

Saanich Inlet Protection Society (SIPS), in co-operation with Surfrider Foundation's Blue Water Task Force, started testing water quality in Brentwood Bay in January 2026. The program is designed to detect potential sewage contamination by testing for bacteria. Sampling takes place monthly with some exceptions. Sampling locations include streams, storm water drains and marine mooring fields in and around Brentwood Bay. A standard protocol used by Island Health in assessing water safety for swimming is used.

All the work reported (sample collection, transport, analysis and reporting) is done by volunteers (Annex 3). Many others volunteered but have not yet been asked to work.

Results to date have shown high counts of enterococcus bacteria occur frequently in an area at the head of the bay around Sluggett Creek, Daphne Creek and Port Royale. A second area where high bacteria counts occur is south of the ferry terminal. SIPS has examined recent records from CRD surveys of storm drains (testing for E.coli) and Island Health surveys of swimming beaches. Both these surveys document a history of contamination at these same locations.

Anecdotal information suggests that this contamination is from sewage. However to trace the source it is helpful to distinguish human waste from faeces of other animals. For this purpose, we propose to test for the presence of caffeine. CRD Environmental Sciences have agreed to sample caffeine this summer in selected locations.

Note to the Reader

SIPS sample sites are listed in Annex 1
All existing and continuing water quality testing programs are described in Annex 2
Volunteers are acknowledged in Annex 3

Why SIPS is Concerned about Water Quality in Brentwood Bay

Saanich Inlet Protection Society (SIPS) has been interested in the health of the coastal environment for the entire 35 years of our existence.

SIPS has been alarmed by reports of high contamination from both Island Health and from CRD Environmental Science. Both programs have reported occasional and unexplained enterococcus or E.coli concentrations at similar locations but at different times. In addition, a 2025 sewer overflow just south of the ferry terminal contaminated coastal waters to an unknown extent for an unknown, but presumed lengthy, time.

These situations and other related programs, see Annex 2, were discussed at the SIPS Roundtable held September 11th 2025 at the Willis Point Fire Hall and again at the SIPS Roundtable May 14th 2026 at the Keating X Road Fire Hall.

An outcome of discussions at the May 2026 Roundtable was that systematic monitoring is required to understand potential sewage contaminant threats. To ensure accuracy monitoring must use standard testing methods analysed by an accredited laboratory. Samples would be collected at agreed locations throughout the year and analysed at Surfrider Foundation's Blue Water Task Force Laboratory.

As the major concern is potential for sewage contamination, SIPS decided to initially focus on a widely accepted method of sampling for bacteria originating from the human gut. The standard test for sewage contamination in salt water is enterococcus bacteria. This bacterium tolerates a wide range of environmental conditions and can persist in cold salt water. Opportunistic clinical infections caused by enterococcus include such illnesses as; UTI, meningitis, diverticulitis, and bacteremia amongst other infections. In fresh water the indicator test is for E.coli. This test is used for storm water contamination surveys by CRD Environmental Sciences.

To compare results the threshold for enterococcus contamination in a single sample is a count of 70 cfu/100mL[1] and for E.coli the equivalent threshold is a count of 400cfu/100mL.

An important caveat is that enterococcus can occur in the intestines of animals other than humans including domestic pets, farm animals and wild animals including birds. The simplest method to distinguish human sources from all other sources is to simultaneously sample for the presence of caffeine while sampling enterococcus or E.coli. Caffeine does not occur naturally and is only consumed by humans. Another method is to test for sucralose but this test is very expensive.

[1] cfu means colony forming units, Health Canada Guidelines

Selection of Sampling Locations

Sampling locations were selected based on three probable sources of contamination:

1. Storm Water Drains
2. Streams, and
3. Pleasure Boat Mooring Fields.

As a guide we selected storm drains identified as problematic by the CRD Storm Water Drain Survey for the Saanich Peninsula. One major stream (Tod Creek) and three minor streams (Daphne Creek, Sluggett Creek, and Butchart Creek) empty into the Bay. They are all included in the CRD Storm Drain survey.

We also sampled offshore waters in and around three major mooring fields: at the entrance to Tod Inlet, north of the White Lady Reef off Brentwood Drive, and north of the Brentwood Bay – Mill Bay ferry route off Saunders Lane.

Sampling Locations

Six locations are accessed by boat. They include all three mooring fields, Butchart Cove, the estuary of Tod Creek (in Tod Inlet) and the shoreline south of the ferry terminal and east of the marina.

Two locations on the Tsartlip IR have also been added in cooperation with Tsartlip Marine Guardians. These and seven other sample sites are accessed by land. The fifteen (15) samples are the maximum that can currently be processed for SIPS by the Victoria Surfrider laboratory.

The locations currently in use are listed in Annex 1.

Sampling Procedure

All sampling teams are two persons. Volunteers are listed in Annex 3.

Sample collection follows the Surfrider Blue Water Task Force (SBWTF) protocol which is also illustrated on their web site video. Their laboratory is operated by volunteers only on Sundays.

Sample bags were supplied by Surfrider. Instructions are to collect samples after 1300 hours on a predetermined Sunday. The samples are immediately placed in a cooler and deposited in a cooler at the address of the volunteer driver before 1600 hours. All samples must be obtained and delivered on time following the SBWTF protocol. Samples were driven to the Surfrider Victoria Laboratory and delivered to Lynn Wharram, a fully qualified Surfrider Blue Water Task Force officer. Each sample is prepared for analysis by Lynn and incubated for 24 hours. Results are recorded by Surfrider and transmitted to SIPS.

Results to July 1st 2026

Saanich inlet Protection Society
In Co-operation with Surfrider Foundation
Blue Water Task Force South Vancouver Island

Brentwood Bay Water Quality Tests for Enterococcus

Location	04-Jan	08-Feb	08-Mar	03-May	07-Jun
Blank / Control	Good	Good	Good	Good	Good
Tod Inlet Entrance Moorage	<10	<10	None	<10	<10
Saunders Lane Moorage	<10	20	None	<10	<10
White Lady North Moorage	31	41	None	<10	<10
3136 Tsartlip Viewing Stand	None	None	None	NA	NA
3136 B Tsartlip Boat Launch	None	None	None	NA	NA
T1-1 Tod Inlet Drain North of Beach*	<10	None	None	None	None
Sluggett Creek at Hagan	41	41	31	63	109
3145 Clarke Rd Access	72	30	164	20	98
3146 Sluggett Creek Estuary	233	31	20	40	245
3149 Daphne Creek above 2nd Bridge	31	<10	None	203	31
3150 Port Royale Storm Drain	52	<10	20	63	1243
3153 - Butchart Cove	<10	<10	None	<10	<10
3154 - Tod Creek Estuary	<10	None	None	<10	<10
Brentwood Resort Shoreline	None	63	None	<10	10
3142 South Ferry Storm Drain	None	41	<10	62	20
3143 Brentwood Lodge Storm Drain	None	86	None	20	10
Tod Mooring*	None	10	None	None	None

NNNN* Discontinued
March 8: Strong winds prevented sampling from boats

Interpretation
MPN Most Probable Number, Single Sample
>70 Increased Illness Risk
MPN 40-69
MPN 30-39
MPN <30

The high counts from June 7th occurred after a lengthy dry spell followed by an intense local rainstorm the day before samples were collected.

The highly seasonal Tod Inlet Mooring will again be tested when boats use the Inlet.

We next compare these results with test results reported by CRD Environmental Sciences and Island Health.

CRD Data for Brentwood Bay

The continuing stormwater testing program conducted by CRD Environmental Sciences obtained sample data shown in the table below for 2025 and 2026. Please note that CRD only tests freshwater and uses E.coli as the indicator of contamination, not enterococcus bacteria. Exceptionally high counts (with a MPN greater than 200, which is elevated, and those with a MPN greater than 400 - the safe swimming threshold) are highlighted in yellow. The three most troublesome sample locations are:

1. Sluggett Creek (reported as SW 3146)
2. Port Royale (SW 3150), and
3. Clarke Road (SW 3145).

SIPS samples all these sites and nearby locations, see Table on the previous page.

Note that the counts are extremely variable both in the CRD and the SIPS samples.

CRD Parks and Environmental Services
Brentwood Bay Storwmater Discharges, recent E.coli data
*** E coli CFU/100mL**

Discharge ID	Location	Sample Date	Escherichia Coli*
SW3136	Intersection of Ettiene and Tsartlip Rd	2025-05-21	37
SW3138	south side of of Tsarlip boat launch parking lot	2025-05-21	38
SW3138	south side of of Tsarlip boat launch parking lot	2025-08-28	61
SW3141	Under ferry wharf at foot of Verdier Ave	2026-04-21	1
SW3142	north of ferry wharf at foot of Verdier	2025-02-24	36
SW3142	north of ferry wharf at foot of Verdier	2025-08-28	390
SW3142	north of ferry wharf at foot of Verdier	2026-04-21	21
SW3143A	2m southeast of Willow Tree on south side of Verdier A	2026-04-21	1
SW3144	15m north of Brentwood Inn wharf	2026-04-21	13
SW3145	Foot of Clarke Road	2025-02-24	3000
SW3145	Foot of Clarke Road	2026-04-21	2
SW3145A	Devonshire beach access, south side of 7078 Brentwc	2025-02-24	8
SW3145A	Devonshire beach access, south side of 7078 Brentwc	2026-04-21	18
SW3146	Brentwood Drive near Marchant Road	2025-02-24	6100
SW3146	Brentwood Drive near Marchant Road	2025-08-28	230
SW3146	Brentwood Drive near Marchant Road	2026-04-21	60
SW3148	east of Port Royale development under wooden bridge	2025-02-24	17
SW3148	east of Port Royale development under wooden bridge	2026-04-21	6
SW3149	east end of Port Royale at Anglers Lane	2025-02-24	23
SW3150	below Port Royale Walkway, 40 m east of wharf	2025-02-24	210
SW3150	below Port Royale Walkway, 40 m east of wharf	2025-08-28	50
SW3150	below Port Royale Walkway, 40 m east of wharf	2026-04-21	4200
SW3154	south of Butchart Gardens in Tod inlet, Tod Creek	2025-08-28	10

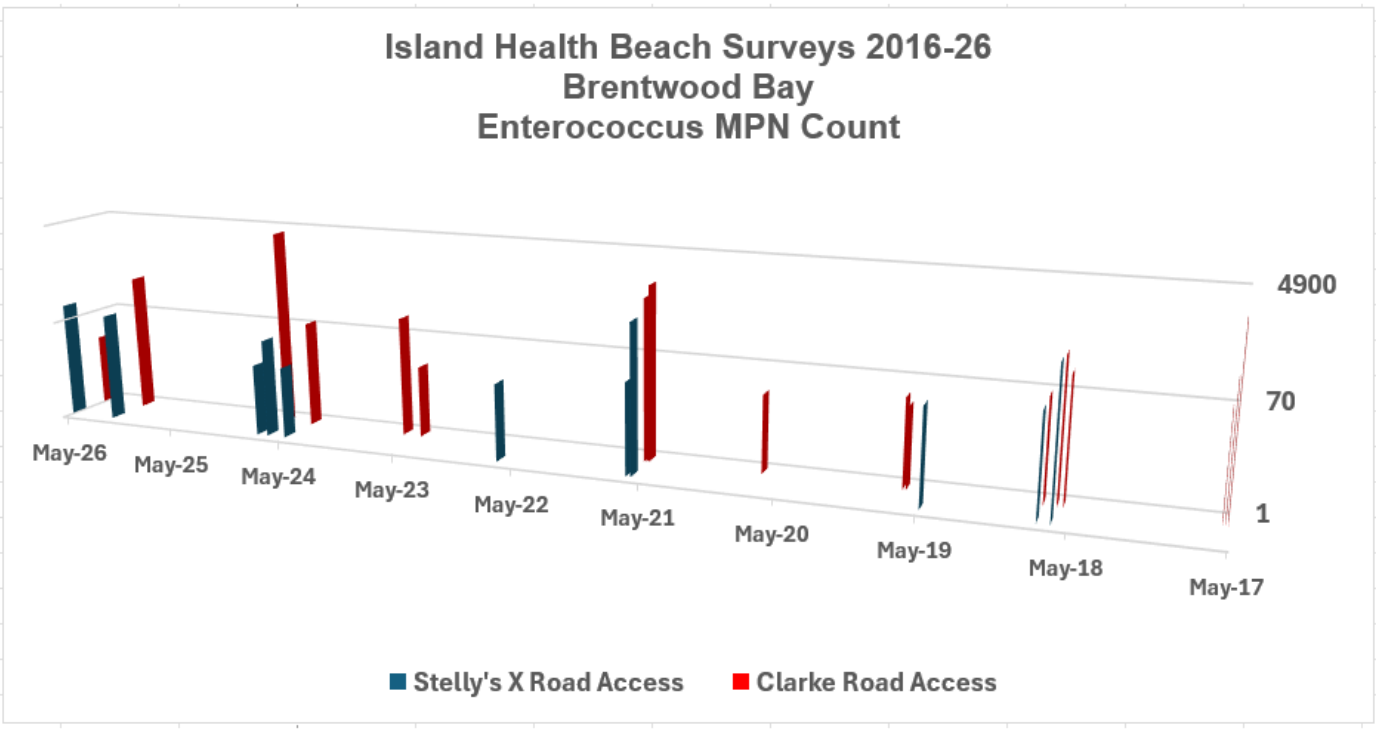
Island Health Beach Surveys

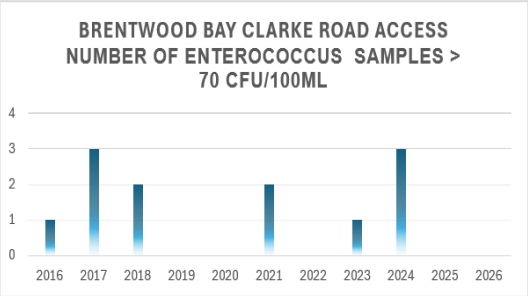
Each summer Island Health, in co-operation with local governments, samples coastal waters for swimming safety. Enterococcus are counted in saltwater samples using the same protocol as Surfrider Foundation. Two beaches are sampled in Brentwood Bay – Clarke Road access and Stelly's X Road access. Recently samples have also been collected at the beach in Tod Inlet which to date have always tested clean.

Selected data for the last ten years are shown in the table and the chart below. Occasional extreme numbers alternate with lower and often clean counts. Note the chart uses a logarithmic y-axis to accommodate the extremely high counts. A single enterococcus count of greater than 70 exceeds the safe swimming threshold. The highest counts for the last ten years at the Clarke Road and Stelly's X Road beach access sample sites are:

Clarke Road Beach Access			**Stelly's X Road Beach Access**		
	Count	Multiple over Safe Threshold		Count	Multiple over Safe Threshold
August 2024	3,800	54x	June 2021	490	7.0x
May 2017	1,800	26x	July 2018	400	5.7x
June 2021	1,350	19x	June 2026	300	4.3x

Selected test results for each of the last ten years (2017-2026) are shown in the chart below. Note that a count of 70 is the safe swimming threshold.





Island Health swimming safety tests are usually performed once each month, only in the summer. If the count is high, further tests maybe made at short intervals. At the Clarke Road access counts are often high and have been throughout the last ten years. The chart at left shows the number of samples each year above the safe swimming threshold of 70.

Results from Off-Shore Moorage Areas

It should not be surprising that sewage discharges from both live-aboards and recreational vessels are sufficiently diluted by the ocean that significant concentrations of enterococcus do not appear in our offshore samples. The one exception is the White Lady Reef North Mooring Field which is near the frequently contaminated discharges at Clarke Road, Sluggett Creek, and Port Royale. This mooring field is also near the head of the bay with particularly slow flushing rates. We expect the newly formed Saanich Inlet Clean Water Society initiative, to restart the Pumpty Dumpty sewage pump out boat, will reduce this source of contamination.

What We Know

Over the first six months of the SIPS water quality sampling, five samples were obtained from most of the 15 selected locations. Samples had to be collected on Sundays, at low tide and with suitable weather conditions. Despite these constraints the program has identified some distinct problem locations.

Persistently high enterococcus counts are found at four sites at the head of Brentwood Bay. They are:

Sluggett Creek (both locations – Estuary and at Hagan)
Port Royale Storm Drain
Clark Road Beach Access, and
Daphne Creek.

Other locations with high counts are the storm drains around the **ferry wharf** and the **White Lady North Moorage**.

As expected, these problem areas are also reflected in data from the CRD storm drain surveys and the Island Health beach safety reports. The beach reports also identify the **Stelly's X Road** access as having recurring high levels of contamination. SIPS has not sampled this location.

Here is what we know about these situations.

1. **Sluggett Creek** drains a large catchment area of urban Brentwood Bay Village. Sources of contamination may be sewage overflow issues, and/or cross connections, and/or excessive pet excrement. Caffeine analysis could help explain the situation. University of Victoria analysis of coastal waters in Brentwood Bay found caffeine present in all samples.

2. **Port Royale** storm drain empties into the semi enclosed basin formed by Anglers Anchorage marina and the Port Royal shoreline. This basin receives water from Daphne Creek as well as the storm drain. Anecdotal information suggests that the sewer system is periodically overwhelmed, backs up and overflows into the storm drainage system. The enterococcus count in June was the highest of all SIPS samples in all months. **SIPS has concluded that this is the highest priority situation for investigation and correction.**

3. **Clarke Road** Beach Access. This situation is well known and has persisted for many years as documented by both the Island Health summer surveys and the CRD storm drain surveys. The environmental situation is similar to Sluggett Creek with a heavily urban catchment area, open ditches with the possibility of cross connections with sewers, sewage back ups and overflows and pet excrement. The three highest enterococcus counts of the last ten years have all been found at the Clarke Road beach access by Island Health. The highest

(3,800) is over 50 times the safe swimming threshold. It is about time for it to be properly diagnosed and corrected.

4. **Daphne Creek**. Significant high counts of enterococcus have been found in each of the five surveys SIPS has performed. This situation is similar to Sluggett Creek, with a heavily urban catchment area with potential sewer contamination. It also has possibilities for run-off from farm animal wastes. Daphne Creek contributes to contamination of the waters around Anglers Anchorage Marina. It also needs attention and correction.

5. **Ferry Wharf** Storm Drains. The sewer overflow below the Brentwood Bay resort in 2025, which went undetected for months, focussed attention on this area. A lack of monitoring of the sewer by the District and no effort by the District to post warnings of the known contamination created distrust by the public. This situation prompted SIPS to begin these systematic surveys. While high counts were found in February the more recent numbers are acceptable. It should also be noted that in August last year (2025) a high count of 390 E.coli was reported by CRD.

6. **Stelly's X Road.** The storm drain discharge is usually dry except immediately after rainfall. The shoreline is partially enclosed by reefs and Sluggett Point with very restricted circulation and flushing. Island Health periodically finds high enterococcus counts with resulting swimming advisories, most recently in June this year. Sources are unknown.

Next Steps

1. CRD has agreed to add caffeine testing this year at six locations recommended by SIPS. This will happen during the summer surveys of storm drains.
2. SIPS will continue sampling for the remainder of this year on a monthly basis if possible. We will include an additional seasonal sampling site in Tod Inlet.
3. SIPS has made all our data available to the District Council and staff as well as to the CRD. It is available on the SIPS website. We will continue to make our data freely available as soon as it is complete.
4. SIPS requests the District to urgently investigate the sources of contamination at the six troublesome locations we report above.

Annex 1: Status of SIPS Sample Sites

Location by Type*	Notes
Storm Drains	
3134 Tsartlip IR	With permission and co-operation of TSARTLIP
3137Tsartlip IR Boat Ramp	With permission and co-operation of TSARTLIP
3138 Stelly's X Rd	Dry (Discontinued)
3139 Saunders Lane	Inaccessible (Discontinued)
3142 South Ferry Storm Drain	Low Tide Only
3143 Brentwood Resort Storm Drain	Low Tide Only
Brentwood Resort Shoreline	Boat Access
3145 Clarke Rd Access	Public Access
3150 Port Royale Storm Drain	Path Access
T1-1 Tod Inlet	No Drain (Discontinued)
Minor Streams	
3153 Butchart Cove	Boat Access
3149 Daphne Creek	District Park
3146 Sluggett Creek Estuary	Land Owner Permission
Sluggett Creek (Hagan)	Land Owner Participant
Major Stream	
3154 Tod Creek Estuary	Boat Access
Mooring Fields	
Saunders Lane	Boat Access
Tod Inlet Entrance	Boat Access
White Lady North	Boat Access
Tod Inlet	Boat Access (Discontinued)
Total Samples	

Status of Sample Locations

* Number refers to CRD Storm Drain Identification

Ambient Conditions recorded for each sampling location

Air Temp	^{o}C
Sea Water Temp	^{o}C
Sky	% Cloud cover
Wave Height	Cm
Wind (Gusts)	Direction Km/hr (km/hr)
Significant Rain Last 24 hrs	mm

Revised Sampling Locations 2026

A number of adjustments were made to the sample locations initially selected January 4th 2026. They revised locations are:

1. In Tod Inlet the CRD Storm Drain location T1-1 has been discontinued as no drain was found at this location and no other rationale for a sample at this site could be discerned.
2. Two CRD storms drains north of the Ferry Wharf have been discontinued. CRD 3138 was dry and drains only a short section of paved street. CRD 3139 was high on the bank, was also dry and very difficult to access.
3. New locations were added as follows:
    a. South Ferry Storm Drain, CRD 3142. This is a large diameter pipe draining Verdier Road and Verdier Park.
    b. Brentwood Resort Storm Drain CRD 3143. This is near but not connected to the sewer that overflowed after blockage by tree roots in 2025.
    c. Brentwood Resort Shoreline. Just off-shore immediately in front of the resort, centred on the area contaminated by the sewer overflow.
4. A concern in late winter was the mooring of several live-aboard vessels in Tod Inlet. It was decided to sample the waters close to these vessels but after the vessels relocated no further sampling is planned.
5. SIPS identified two potential sampling locations on storm drains serving the TSARTLIP IR. Sampling in cooperation with Tsartlip Marine Guardians and with approval of Band Council at these locations began in May 2026.

A total of 15 locations are currently being sampled. Six locations require boat access. Access to these locations is weather dependent, in March high winds prevented safe boat access and no samples were obtained from these locations.

Note that 15 samples is the current maximum number of samples that can be handled by the Surfrider at one time.

Annex 2: Existing and Continuing Water Quality Sampling Programs in Brentwood Bay

Several governments and NGOs are also concerned with marine water quality. These include:

1. **Peninsula Streams Society** which monitors chemical and sediment contaminants of major streams entering the Inlet with funding provided by the District of Central Saanich. The only stream monitored by PSS in the vicinity of Brentwood Bay is Hagan Creek which discharges to salt water at the northern boundary of the TSARTLIP IR.
2. **CRD Environmental Servi**ces monitors most storm water outfalls on the Saanich Peninsula semi-annually for bacterial and chemical contaminants. This program uses E.coli as the indicator of contamination. Many outfalls in Brentwood Bay are monitored and many of these locations are also included in the SIPS sampling program.
3. **Raincoast Conservation Foundation** in partnership with CRD, Tsartlip First Nation, WSANEC Leadership Council, and Friends of Tod Creek has sampled for a comprehensive suite of contaminants in the Tod Creek watershed since 2023. Tod Creek is a major stream entering Brentwood Bay in which RCF has confirmed sewage contamination.
4. **Island Health** in cooperation with local governments tests for bacterial contamination of swimming beaches during the summer. Samples have been collected for ten years. Two sites are in Brentwood Bay, and both sites have shown very high counts of enterococcus over the years.
5. **Surfrider Foundation Canada** tests for bacterial contamination at a variety of beaches on south Vancouver Island, year-round. Surfrider is our partner and conducts analysis of all our samples at their certified downtown Victoria laboratory.
6. **UVic Earth and Ocean Scienc**es uses the Inlet as a “living lab for oceanography” doing periodic surveys to train students in methods for chemical and biologic water quality and sediment analysis.

Annex 3: Volunteers

SIPS wishes to acknowledge all the volunteers that have contributed to this work.

Surfrider Foundation's **Lynn Wharram** Analysis of Samples at the Laboratory

Volunteer Coordination and Management:

Roger Hebert, Carolyn Nichol, Michael Simmons

Assembly and Delivery of Samples:

Petra Allen

Sample Collection:

Roni Anderson, Alison Bird, Marilyn Brown, Ian Cameron, Pat Food, Sandra Foss, John Gormley, Roger Hebert, Viki Kolatkova, Geoff Krause, Verena Tunnicliffe, Ben Vanzetta, Ling Zhang

And to many others who volunteered but who we have not yet asked to contribute.