SAN JUAN COUNTY WATER QUALITY MONITORING SITES

LOPEZ, ORCAS AND SAN JUAN ISLANDS

UPDATED 2008

SAN JUAN ISLANDS
CONSERVATION
DISTRICT
SAN JUAN COUNTY, WASHINGTON

A summary of water quality sampling sites, settings and adjacent land use in San Juan County (results are from data collected in 2005).

Monitoring data assessment is based on the target water quality thresholds (Washington State, Class AA standards). Water quality parameters included water temperature, pH, dissolved oxygen, turbidity, and fecal coliform.

Water Quality Standards for Class AA Surface Waters of Washington State:
San Juan County (Fresh Water)

Parameter	Standard
Temperature	≤ 16° C (60.8° F)
pH	6.5 – 8.5
Dissolved Oxygen	≥ 9.5 mg/L
Turbidity	≤ 5 NTU over background
Fecal Coliform	≤ 50 colonies/100 mL
	≤ 10% of all samples exceeding 100 colonies/100 mL
	Geo-mean: ≤ 50 colonies/100 mL

For more information and data please contact the Friday Harbor Labs K-12 Outreach Program Visit their website (http://depts.washington.edu/fhlk12/Monitoring%20Projects/Monitor.htm).

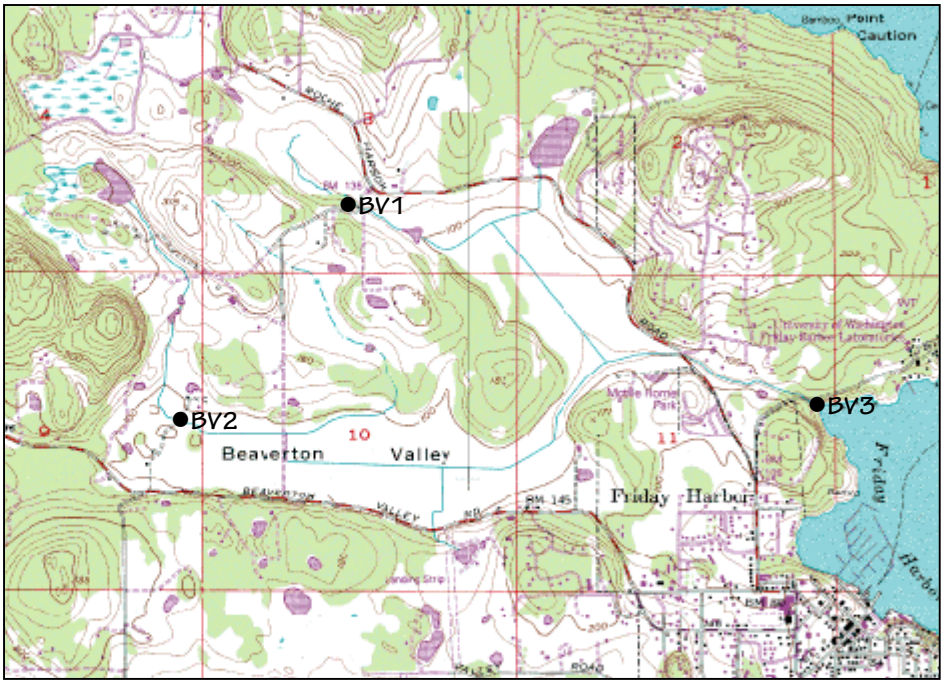
Or San Juan Islands Conservation District at 360.378.6621
http://www.sanjuanislandscd.org/Information/Water_Quality/Water_Quality.html

San Juan Island Watershed Sampling Sites

Beaverton Valley (BV) Watershed Sites

We no longer sample BV1 or BV2 deemed not priority sites. Sampled from 3/2002-1/2006.

SITE BV-1: Stopped sampling 2006



Is .1 miles on Halvorson Rd. from Roche Harbor Rd. N48°33.23' W123°03.03'. This location is close to the start of the east branch of this watershed. The stream travels through an area that is forested on one side of the stream and open fields with some light grazing by horses and cows on the other side of the stream. Site BV-1 represents the northern branch of the Beaverton Valley drainage system, the stream travels through pasture and grazing land fed by drainage from surrounding hills. Land cover is pasture in the lower elevations and forested cover in the higher regions. Land use includes rural residential and agricultural land use. Site BV-1 met Class AA standards for temperature, pH and turbidity. Water quality problems included low dissolved oxygen in >90% of samples, and high fecal coliform counts in > 10% of samples tested. Low flows combined with influence from surrounding livestock pastureland may be contributing these to these results.

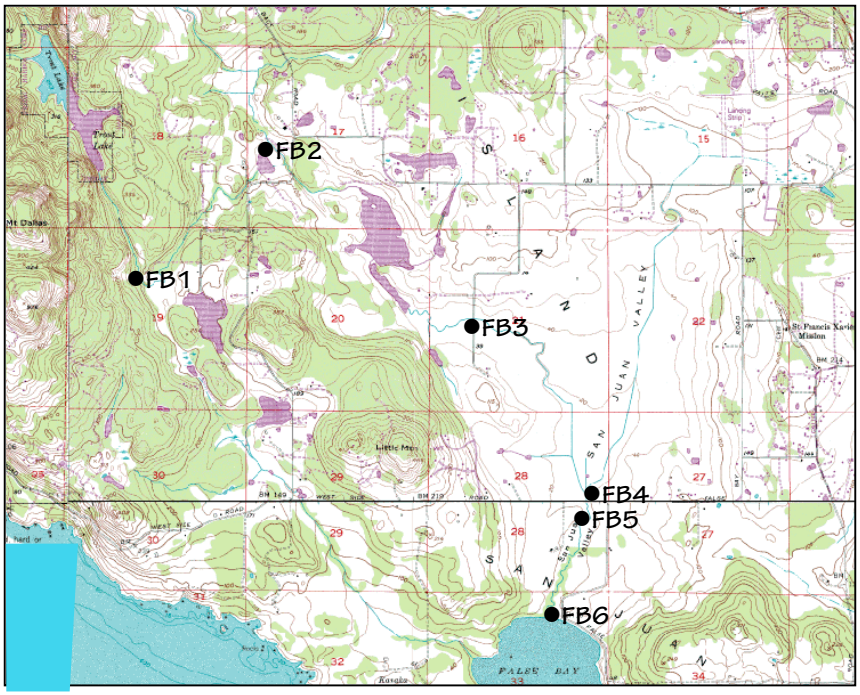
SITE BV-2: Stopped sampling 2006

Is .2 miles on Barn Swallow Way from Beaverton Valley Rd. N48°32.65' W123°03.77'. This location is close to the start of the west branch of this watershed. At this location there are a few homes and a small sheep farm. Site BV-2 receives flows from the southern segment of the Beaverton Valley drainage basin, commencing from a extensive wetland system to the north and draining through open pasture. Wooded riparian vegetation border the drainage in some portions of the flow channel. Land cover is pasture in the lower elevations and forested cover in the surrounding hills. Surrounding land use included agricultural use (small livestock) and rural residential development. Site BV-2 met Class AA standards for temperature, pH and turbidity. Water quality problems included low dissolved oxygen in >50% of samples, and elevated fecal coliform counts in 20% of samples tested. Low flows combined with influence from surrounding livestock pastureland may be contributing these to these results.

SITE BV-3 (til 2008):

Is .3 miles on University Rd. from Tucker Rd. N48°30.88' W123°04.65'. The two branches of the BV watershed joined upstream from this site. The stream at this site travels through the forest and is about a eighth of a mile from the mouth of Friday Harbor Bay. The north and south branches of the Beaverton Valley drainage system merge upstream before flowing to Site BV-3. Surrounding

upland drainage travels through mature forestland owned by the University of Washington (UW) before flowing into Friday Harbor. Before entering the U.W. forested property, the stream collects drainage from upstream rural residential development and agricultural pasture / grazing land. The lower 500 to 800 ft of this stream flows through mature forest before entering marine receiving waters. Site BV-3 met Class AA standards for all parameters tested (temperature, pH , dissolved oxygen, turbidity and fecal coliform).



False Bay (FB) Watershed

SITE FB-1 (til 2008):
Is .3 miles on Julie Rd. from .4 miles on Kielh Rd. from .7 miles on Wold Rd. N48°31.10' W123°07.06'. This location is approximately a half mile from its origin at Trout Lake (the town of Friday Harbor's water reservoir). At this point the stream has just traveled through forested areas and has not been impacted by residential or agriculture activity. Site FB-1 is located near the outflow from Trout Lake, the drinking water source for the Town of Friday Harbor. Upstream cover is mature forest. There is some rural residential development upstream, but drainage primarily moves thru undisturbed forestland. This site is the highest monitoring point in the FB watershed.
Site FB-1 met Class AA standards for temperature, pH and turbidity. Water quality problems included slightly low dissolved oxygen in approximately 50% of samples, and elevated fecal coliform counts in approximately 30% of samples tested.

SITE FB-2 (til 2008):
Is .1 mile on Club Mud Rd., the first right off Wold Rd. N48°31.74' W123°06.15'. This location is a tributary – Nettles Creek that runs into False Bay Creek. It travels through an area of a few homes and some pastureland. Site FB-2 is located in Nettles Creek, a tributary fed by the northwestern portion of the FB drainage system. Nettles Creek merges with the Trout Lake drainage (Site FB-1) approximately 1000 ft. downstream from Site FB-2. Surrounding land cover is a mix of pasture and forest land. Land uses include agricultural use (livestock, pasture, hayland) and rural residential development. Site FB-2 met Class AA standards for temperature, pH and turbidity. Water quality problems included slightly low dissolved oxygen in approximately 30% of samples, and high fecal coliform counts in 50% of samples tested.

SITE FB-3 (til 2008):
Is .9 miles down Valley Farm Rd. from San Juan Valley Rd. N48°30.87' W123°04.64'. This location of False Bay Creek runs through mostly pastureland that is hayed and sometimes grazed by cattle. Site FB-3 is located in the San Juan Valley agricultural plain. The site is surrounded by grazing land. Livestock have open access to the stream. Site FB-3 receives drainage collected from the northwestern third of the FB watershed. Site FB-3 met Class AA standards for pH. Water quality

problems included elevated to high water temperatures in >30% or samples, low dissolved oxygen in 30% of samples, elevated turbidity in approximately 25% of samples and high fecal coliform counts in >50% of samples tested.

We stopped sampling at FB4 and FB5 in 10/2003, water was only present for 2 or 3 months during the year and therefore the sites were determined not be a priority sites.

SITE FB-4: Stopped sampling 2003
Is approximately a .1 mile walk into a field off Bailer Hill Rd., where False Bay Rd. intersects it. N48°30.17' W123°03.70'. This location is a tributary that runs down the east side of San Juan Valley into False Bay Creek. At the point the stream has traveled through a couple of miles of pastureland that is grazed by cattle. Site FB-4 is fed by drainage from the northeastern third of the FB watershed. The entire drainage segment travels open pasture / grazing land. Site FB-4 is approximately 300 ft. before merging with the primary San Juan Valley stream which drains to False Bay. Cattle have open access to the stream. Site FB-4 met Class AA standards for temperature and dissolved oxygen. Water quality problems included slightly elevated pH, high turbidity levels and high fecal coliform.

SITE FB-5: Stopped sampling 2003
Is .1 mile west of False Bay Rd. on the north side of Bailer Hill Road. N48°30.00' W123°03.84'. This location is where the east (FB #3) and west fork of the False Bay Creek join together. Just prior to this point the west branch of False Bay Creek spreads out into a large wetland that has traveled through some pastureland grazed by cattle. Site FB-5 is fed by upstream drainages (Trout Lake drainage, Nettles Creek drainage, and San Juan Valley agricultural plain). Just upstream from this site the west branch of the False Bay watershed drainage spreads out into a large, fresh water marsh. The area is surrounded by pastureland and cattle grazing. Only one sampling was obtained from this site due to site limitations. Therefore, no assessment is available.

SITE FB-6 (til 2008):
Is a short walk to the west from .7 miles on False Bay Rd. from Bailer Hill Rd. N48°29.49' W123°04.07'. This location is about an eighth of a mile from the mouth of False Bay. It is surrounded by pasture land. Site FB-6 is located about 1/8 mile from the mouth of False Bay. This portion of stream contains a well-vegetated riparian buffer from adjacent grazing land. The property is owned by the University of Washington. Site FB-6 met Class AA standards for pH. Water quality problems included elevated to high water temperatures in approximately 30% or samples, low dissolved oxygen in roughly 30% of samples, elevated to high turbidity in >60% of samples and high to very high fecal coliform counts in >80% of samples tested.

Westcott Bay Watershed WB7 (after 2005 til 2008): A seasonal stream that drains directly into Westcott Bay. This site is located on Westcott Dr. just before you enter the Westcott Bay Sea Farms property. It is on the NW side of the road at the culvert. The surrounding area is forested and residential development.

Lopez Watershed Sampling Sites

SITE SB-1 (til 2008):
Swifts Bay Watershed. Site is at concrete culvert going under Cross Rd. Turn right onto Cross Rd from Center Rd. and is about .1 miles down. The surrounding area is forested with some residential development and pasture land. There is a pond NE of the site. It is a seasonal steam draining the Swifts Bay watershed. The monitoring site is buffered by forested riparian vegetation, and receives runoff from surrounding rural residential development and agricultural pasture and grazing land. The site is approximately 1,500 ft. upstream from the Swifts Bay tidal lagoon and marsh that empties into marine receiving waters (Port Stanley). Site SB-1 met Class AA standards for water temperature, dissolved oxygen and pH. Water quality problems included elevated turbidity in 100% of samples and high fecal coliform counts in >50% of samples tested.

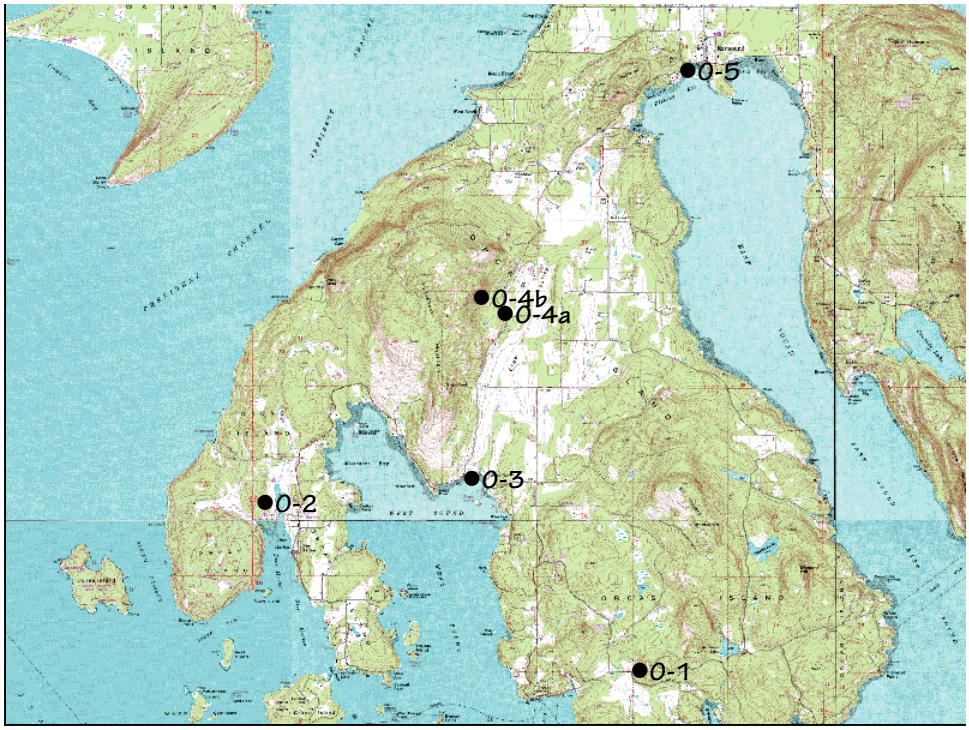
SITE FM-2 (til 2008):
Fisherman Bay Watershed. Site is at a culvert on Lopez Rd., just right off of Weeks Road, located on the right hand side of the road under a Big Douglas fir tree. The area is mostly residential with the sewage treatment plant .25 miles north of the site. N 48°31' 38.4" WFM-2 is a seasonal drainage that collects runoff from a small, but well developed area north of Lopez Village. The site is approximate 100 ft. from the shoreline near the inlet of Fisherman Bay. This site receives drainage from residential development to the north and east. Site FM-2 met Class AA standards for water temperature, pH and fecal coliform. Water quality problems included elevated turbidity in approximately 40% of samples and low dissolved oxygen in approximately 40% of samples tested.

SITE LV-7 (til 2008):
Lopez Village. This site is located in Lopez Village on Lopez Rd. across the street from the Love Dog Restaurant in the field that is adjacent to Weeks Wetland . Sampling is done at the culvert that drains directly into Weeks Wetland. Site is a seasonal drainage that collects upland runoff from residential and commercial development in Lopez Village. The site has shows deterioration due to removal of vegetation in and around the drainage channel for utility work. Site FM-3 met Class AA standards for water temperature, pH, dissolved oxygen and fecal coliform. Water quality problems included elevated turbidity in 50% of samples.

SITE DB-4 (til 2008):
Davis Bay Watershed. DB4: This site is located in the wooded gully on Davis Bay Rd., just west of Rock "R" Dr. at the white culvert marker. Sampling is done on the north side of the road before the water enters the large culvert. The surrounding are is mostly wooded and pasture land. N48° 27' 49.8" W122° 54' 10.5". The site is a seasonal drainage. The site is surrounded by forest riparian habitat. Upstream drainage travels thru agricultural land with some rural residential development. Site DB-4 met Class AA standards for water temperature, dissolved oxygen, pH, and turbidity. Water quality problems included elevated to high fecal coliform counts in 25% of samples tested.

SITE DB-5 (now MH5 (til 2008):
Mackaye Harbor. Located on Richardson Rd. north of Davis Bay Rd. turn off. Sampling is done on the west side of the road just beyond the stone bridge. The surrounding area is residential and pasture land. Private property. N48° 27' 42.8" W122° 54' 07.3" Site MH-5 is a seasonal drainage. Drainage at the site travels thru forested vegetation and travels downstream by way of a manmade channel running adjacent a residential property and on towards Davis Bay. Land use above this point is primarily agricultural pastureland. Site MH-5 met Class AA standards for water temperature, pH, turbidity and fecal coliform. Water quality problems included slightly low dissolved oxygen in roughly 35% of samples tested.

ORCAS ISLAND WATERSHED SAMPLING SITES



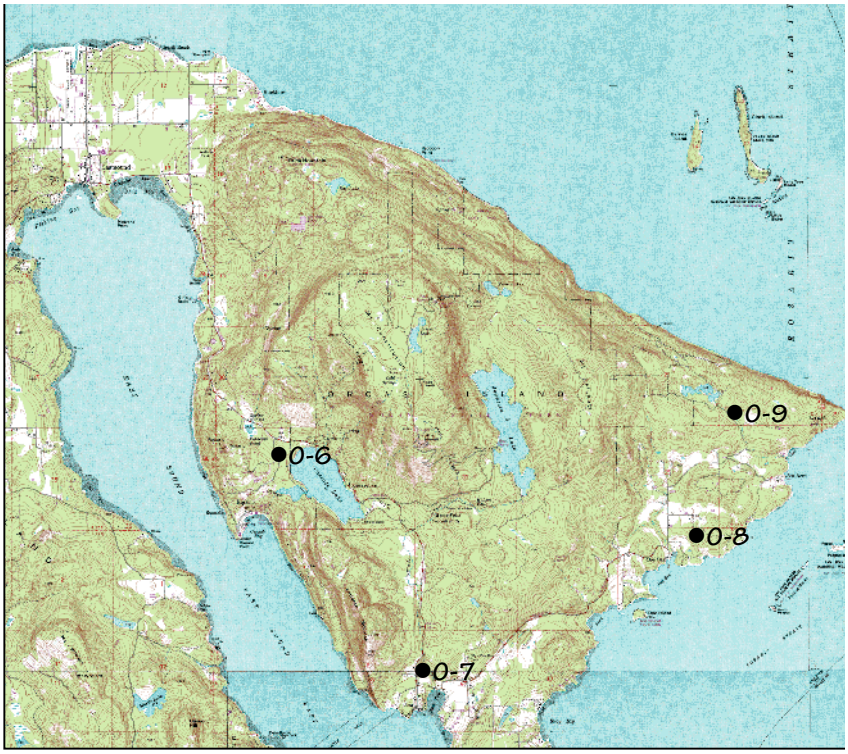
SITE O-1 (til 2008):
Site is in the Westsound watershed. Surrounding land cover is forested. The stream collects drainage from rural residential and pasture. Site O-1 met Class AA standards for water temperature. Water quality problems included low dissolved oxygen in >40% of samples, slightly low pH in less than 10% of samples, slightly elevated turbidity in roughly 15% of samples tested, and high fecal coliform counts in 25% of samples tested.

SITE O-2: Stopped sampling
Site is a dispersed, met meadow area located about 100 yards upstream from the head of Deer Harbor at the northern most tip of the shoreline and mud flats. Site O-2 met Class AA standards for dissolved oxygen, pH, turbidity and fecals coliform. Water quality problems included elevated to high water temperature in 50% of samples.

SITE O-3 (til 2008):
Site is located at the mouth of a seasonal stream, known as Crow Valley Creek, that drains the Crow Valley agricultural plain and surrounding hills that make up the Westsound watershed. This stream is the primary drainage for the Westsound watershed. The site contains wooded riparian vegetation and flows next to a private residence before reaching the shoreline. Site O-3 met Class AA standards for pH and turbidity. Water quality problems included elevated to high water temperature in 25% of samples, low dissolved oxygen in >40% of samples, and high fecal coliform in approximately 25% of samples tested. Site O-2 met Class AA standards for dissolved oxygen, pH, turbidity and fecals coliform. Water quality problems included elevated to high water temperature in 50% of samples.

SITE O-4a: Stopped sampling
Site O-4a is part of the Crow Valley drainage channel (the primary channel draining the Westsound watershed), and is centrally located in the Crow Valley agricultural plain. This site contains some wooded riparian buffer. Upstream land is primarily maintained for livestock. Downstream land use is a mix of residential and pasture. The site was dry during much of the year reducing the amount of water quality data generated at this site. Site O-4a met Class AA standards for water temperature, pH, and turbidity. Water quality problems included low dissolved oxygen in 30% of samples, and high fecal coliform in >50% of samples tested.

SITE O-4b: Stopped sampling
A seasonal drainage that feeds into Crow Valley Creek. The site collects drainage from surrounding wooded hillsides and runs through open pasture before merging with the Crow Valley Creek. The site remained dry for the majority of the sampling period, reducing the amount of water quality data generated at this site. Site O-4b met Class AA standards for all parameters tested.



SITE O-5 (til 2008):
Site 0-5 represents Eastsound runoff. The site receives stormwater from urban density residential and commercial land in Eastsound. Site O-5 met Class AA standards for pH, and turbidity. Water quality problems included elevated to high water temperature in roughly 30% of samples, low dissolved oxygen in >40% and high fecal coliform in >30% of samples.

SITE O-6: Stopped sampling
Site O-6 carries seasonal flows through forested land on it's way to East Sound. This site collects upstream surface drainage from forested land and rural residential land use north and west of the monitoring site. Site O-6 met Class AA standards for water temperature, pH, and turbidity. Water quality problems included low dissolved oxygen in >30% of samples, and high fecal coliform in approximately 15% of samples tested.

SITE O-7: Stopped sampling
Site O-7 is a seasonal drainage that collects runoff from surrounding hills which then drains to Buck Bay. The upland drainage travels through sloping forested land with rural residential development. Site O-7 met Class AA standards for water temperature, pH, turbidity and fecal coliform. Water quality problems included low dissolved oxygen in approximately 30% of samples.

Site O-7a (replaced O-7 (after 2005 til 2008):
Seasonal stream that drains into Buck Bay. The site is located approximately 0.3 miles down Young Rd and is on the SW side of the road at the concrete culvert (opposite the pond). The stream is dammed upstream of the site. The upland drainage travels through sloping forested land with rural residential development and pasture.

SITE O-8 (til 2008):
Site is located in a seasonal channel that drains the Doe Bay watershed. The site is contains forested riparian habitat. Upstream of the site is forested land with rural residential use and pastureland. Site O-8 met Class AA standards for water temperature, pH, and turbidity. Water quality problems included low dissolved oxygen in roughly 60% of samples, and very high to extreme fecal coliform counts in >50% of samples tested.

SITE O-9: Stopped sampling
Site O-9 contains forested riparian vegetation. The site is in a seasonal drainage located just outside the entrance of the Eagle Lake Community. The upstream landscape is a mix of forested land and rural residential development. Site O-9 met Class AA standards for water temperature, pH, and turbidity. Water quality problems included low dissolved oxygen in >50% of samples, and high fecal coliform in 30% of samples tested.