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**Chuckanut Bay Pollution Identification and Correction Project
Final Report for the
Whatcom Marine Resources Committee
September 23, 2014 through September 30, 2015**

Whatcom County Public Works – Natural Resources

For

Whatcom County Marine Resources Committee

September 30, 2015



Overview

North Chuckanut Bay is a recreational shellfish harvesting area of 65 acres with 9,347 feet of shoreline (Department of Health, Shoreline Survey, 1994). The bay is very shallow consisting primarily of mud flats with pockets of gravel substrate supporting many species of clams, including littlenecks, manila, butter, horse, and cockles. There have been concerns about bacteria levels in Chuckanut Bay for about 20 years. Initial water quality samples collected between 1989 and 1991 showed elevated levels at the sampling station closest to the shellfish harvesting area, just outside the railroad trestle. In 1994, The Washington Department of Health (DOH) conducted a shoreline survey of Chuckanut Bay Park. The resulting report recommended that the recreational shellfish harvesting area in the bay should be closed because of water quality and sewage disposal conditions. However, the area has always been popular for recreational harvest despite the health advisory/shellfish closure.

In November 2008, DOH began fecal coliform sampling at marine and freshwater sites inside the trestle over North Chuckanut Bay. These sites were chosen to augment freshwater sites already sampled on a monthly basis by the Whatcom MRC. Seven sampling events occurred between November 2008 and July 2009. Fecal coliform levels were high in both freshwater and marine sites, especially during the spring and summer months of April through July. In July 2009, DOH decided to discontinue sampling until further improvements were made to suspected fecal coliform inputs to the bay.

The water quality in this area, though poor, is not as degraded as the water quality found in other areas of Whatcom County, such as Drayton Harbor or Portage Bay. Therefore, this area does not rank high in terms of allocating state resources and staff time.

Starting in 2013, the MRC has been working with the Whatcom County Health Department, Whatcom County Natural Resources, citizen volunteers, and the local community to conduct more intensive sampling, and community outreach, to establish community-driven Pollution Identification and Correction (PIC) program in the North Chuckanut Bay area. All project partners have communicated with DOH to determine the criteria that need to be met to have the area considered for reclassification, which are:

- 1) No sewage in the bay
- 2) No other pollution sources (animal or human)
- 3) Marine standard: geometric mean ≤ 14 ; 90th percentile ≤ 43 . (30 samples are needed to calculate those statistics.)

This project was included as a local Near-Term Action (NTA) for the 2014-16 Puget Sound Action Agenda update. The MRC is considered the “owner” of this NTA and has been following up with quarterly reporting to the Puget Sound Partnership on the status of specific performance measures and milestones.

Project Goals and Objectives

The goal of this project is to implement a Pollution Identification and Control Project in North Chuckanut Bay to restore the recreational shellfish area through a partnership of community groups and local agencies, identify bacteria sources, and to guide water quality improvement projects to reduce bacteria levels. This program includes:

- Monitoring
- Community Outreach
- Technical and financial assistance for on-site sewer systems (OSS) and O&M
- Stormwater retrofits

2015 Milestones

Beginning in February 2015, the MRC began water quality monitoring in both the marine water and freshwater around Chuckanut Bay in order to characterize fecal coliform levels within the Chuckanut watershed and seasonal variation of those bacteria levels, identify potential sources of bacteria and guide water quality improvement projects, attain water quality standards, and protect beneficial uses of the area (including recreational shellfish harvesting).



North Chuckanut Bay PIC water quality stations. Map created by: Austin Rose, Whatcom County Public Works – Natural Resources, February 2015.

Seven freshwater sites and five marine sites are sampled on either a monthly or bi-monthly basis. These sites were established with input from the DOH and an analysis of freshwater inputs entering the bay. Surface grab samples are taken to measure fecal coliform bacteria and flow is estimated to calculate bacterial loadings to the marine environment. Salinity is measured at all marine stations and those freshwater stations with tidal influence. Samples in the freshwater and marine water are taken simultaneously – typically at high tide – and then submitted to an Ecology certified lab for testing. Whatcom County Public Works – Natural Resources is currently providing funding for lab costs.

The MRC has conducted 12 sampling events since February 2015 using local volunteers including students from Western Washington University. All volunteers were trained in water quality sampling by the MRC and through a training that was held in June 2015 by the MRC and other local organizations and agencies. MRC staff are in consistent communication with County Health and DOH staff, sharing water quality data, and inquiring about any recommended revisions to the sampling regime. The DOH needs at least thirty water quality samples in order to make a determination on delegating state resources towards opening of the shellfish harvest area. It is not clear from the data collected at this time whether the trend in water quality meets the standards necessary for DOH to considering re-opening the shellfish harvest area. The sample results thus far have shown higher levels of bacteria at the mouth of Chuckanut Creek – which is not an area where the public typically harvests shellfish – though, there have been low bacteria results upstream. Some high counts have also been seen coming from Woodstock Farm area (south end of the bay) – which narrows down both Woodstock Farm and the Chuckanut Village community as places to target outreach and investigate potential sources of bacteria discharging to the bay.

Summary and Next Steps

The project is expected to continue through August 2016 in order to attain thirty water quality samples, continue targeted education and outreach, and source tracking. The MRC is continuously aiming to establish a consistent volunteer base for this project. Starting in fall 2016 new committed volunteers from the Washington Conservation Corps and the Surfrider Foundation Blue Water Task Force team will be assisting with monitoring. The MRC is aiming to conduct more targeted outreach in the area – specifically reaching residents with on-site sewage systems in the Chuckanut Village. Outreach includes education on picking up pet waste, proper maintenance of on-site sewage systems, and decreasing access to easy food

attracting urban wildlife (i.e. raccoons). MRC champion, Chris Brown, will assist with opportunities for the MRC to provide updates on water quality to the community through neighborhood association meetings and other community meetings. Once more samples have been gathered to provide an appropriate review of water quality trends, data will be posted on the MRC website. The Whatcom County Health Department will evaluate on-site sewage systems in the drainage area with a goal of repairing 100% of identified failing systems by Spring 2016.

After discussions with DOH, the sampling the MRC is leading in this area is extremely beneficial to help DOH make a determination on re-opening this area to recreational shellfish harvest. This area is not of high priority in Whatcom County, though it provides a precious resource to the community. The MRC can provide the resources to improve water quality in this area that other local jurisdictions and community groups cannot. This project is also creating community connections to water quality issues by using local volunteers, and encouraging public and neighborhood awareness of the value of restoring health shellfish habitat.