

Takshanuk Watershed Council

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Haines Safe Swimming BEACH Monitoring FY 2012 Final Report



Prepared for:

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Alaska Clean Water Action BEACH Grant #12B-02

July 1, 2011-June 30, 2012

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Executive Summary

In July 2011 the Takshanuk Watershed Council (TWC) and Alaska Department of Environmental Conservation (ADEC) teamed up to monitor the levels of harmful bacteria at swimming beaches in Haines, Alaska. With funding and guidance from ADEC the TWC monitored levels of Fecal Coliform and Enterococci on a weekly basis from 7/13/11 to 8/31/11 and 5/3/12 to 6/28/12. All of the samples were below the safe limits with the exception of one from Portage Cove on August 31, 2011. A repeat sample of this beach two days later indicated the bacteria levels were again within the safe swimming limits. In addition, to monitoring harmful bacteria levels at beaches TWC initiated an education and outreach program to help inform the community of Haines. This program included newsletters, PSA's, Electronic media, and an MOU with the Haines, Borough. In conclusion the Haines Community has become interested in water-quality issues because of this study and TWC has started looking at other water-quality issues.



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Introduction

Every year thousands of beaches in the United States are posted with warnings that the water is contaminated and may be harmful to human health. Today, most beaches in Alaska are either not consistently monitored or not monitored at all, so visitors and residents face risks of illness from swimming and other activities in coastal areas that contain disease-causing microbes.



Figure 1 Standup Paddle-Boarding at Portage Cove, Haines, AK.

The beaches in the Haines Borough are a major tourist attraction as well as a valuable addition to the daily life of local residents. The Haines Borough receives thousands of visitors annually including cruise ship passengers and independent travelers. Water-based recreational activities include: fishing, wildlife viewing, sea kayaking, kite-surfing, snorkeling, scuba diving, standup paddle boarding, and tide pooling. Beach-based recreational activities include picnicking, hiking, camping, beach combing, dog walking, and swimming. Beaches in the Haines Borough are also used for Haines Borough School District educational programs.

Although water quality is generally thought to be good, there is a lack of testing to confirm this assumption. Other areas such as Cook Inlet, Alaska thought of their water quality as generally good however, once testing was instituted they found nearly 20% of their samples exceeded EPA's suggested levels of *E. coli*. There were two primary goals of the Haines Beach Monitoring project. The first was to initiate monitoring at the most widely used recreational beaches (Portage Cove and Lutak) in the Haines Borough to provide the community with data on harmful bacteria levels. The second goal was to increase public awareness of potential sources and the health risks associated with bacterial contamination.

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Methods and Results

In June 2011 the Takshanuk Watershed Council (TWC) and Alaska Department of Environmental Conservation (ADEC) identified Portage Cove and Lutak beaches as the primary swimming beaches in the Haines Borough. Prior to beginning the sampling the ADEC BEACH Water Quality Monitoring and Pathogen Detection Quality Assurance Project Plan (QAPP) was revised for sampling Haines Beaches. In addition, an MOU was established with the Haines Borough, outlining the roles and responsibilities of how to notify the public and limit access to the beaches in the case of an exceedance.

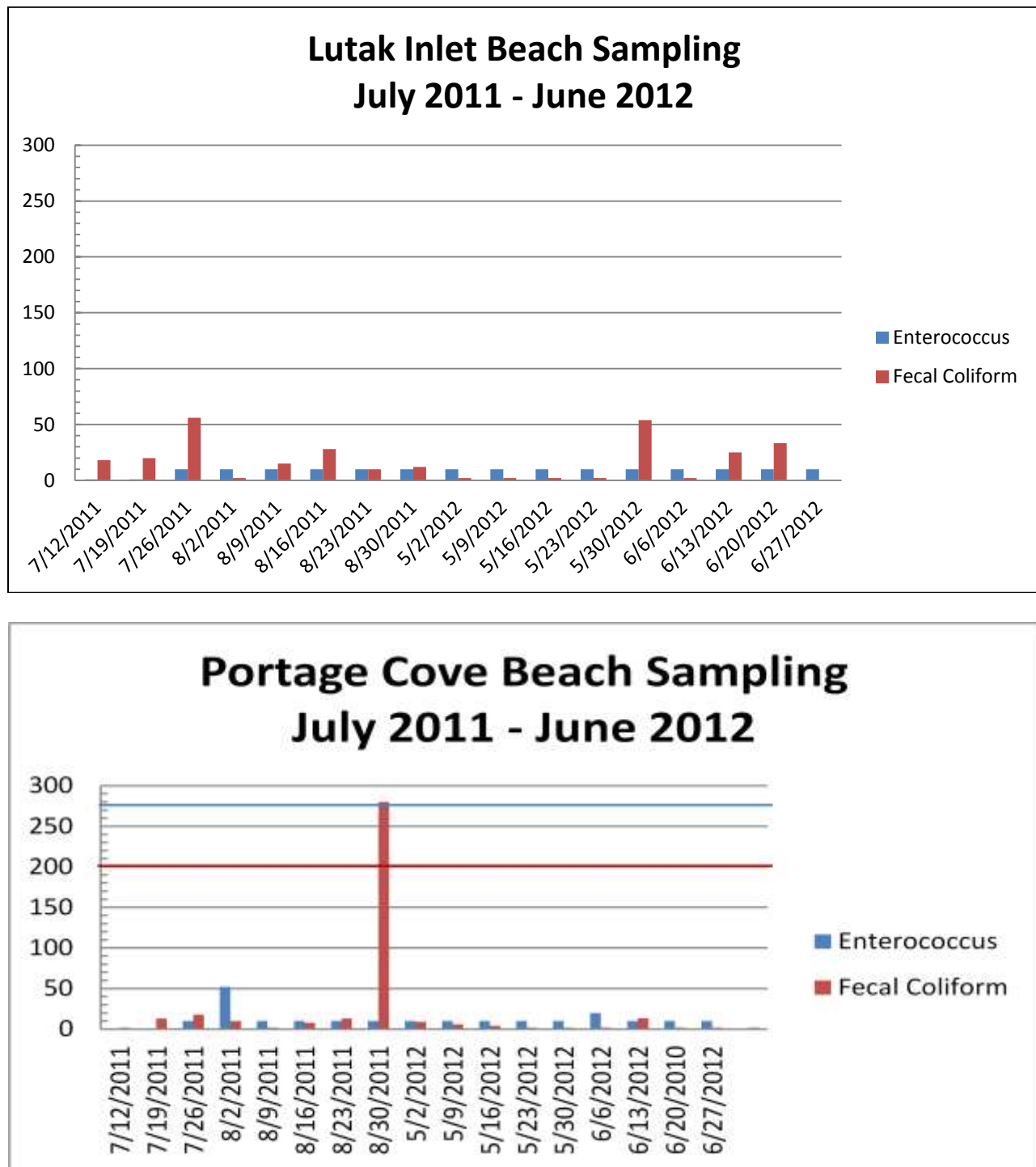
In July 2011, employees and volunteers from TWC were trained by ADEC water-quality monitoring experts in the proper sampling technique using the methods outlined in the QAPP. Following training a sampling schedule was established to sample Portage Cove and Lutak beaches once a week for Fecal Coliform and Enterococci during the summer of 2011 and spring of 2012. In addition, a single replicate sample was taken alternating beaches and sampling parameters each week. To account for changing conditions and potential inputs of harmful bacteria GIS hydrologic maps were developed for both Portage Cove and Lutak beaches (Appendix A1-3). These maps were taken to the sampling site each week and combined with a beach survey to account for any changes in sampling conditions.

Portage Cove and Lutak beaches were sampled once a week from 7/13/2011 to 8/31/2011 and 5/3/2012 to 6/28/2012 for Fecal Coliform and Enterococci. All of the samples were below the safe limits with the exception of one from Portage Cove on August 31, 2011 (Figure 2). A repeat sample of this beach two days later indicated the bacteria levels were again within the safe swimming limits.

In addition, to conducting the sampling TWC initiated an education and outreach program to both inform the public and gather information. To help inform the community TWC used PSA's, Facebook, and Newsletters. As well TWC presented the water-quality data at the Haines Earthday and posted informational letters around town in public places. To ensure TWC understood how beaches in Haines, were being used TWC conducted a survey of residents and visitors on beach activities and usage (Figure 3).

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Figure 2 Results of testing for Portage Cove and Lutak beaches.



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Figure 3 TWC's Beach Newsletter

Takshanuk Watershed Council's BEACH Newsletter Summer & Winter 2011/2012

Every year thousands of beaches in the United States are posted with warnings that the water is contaminated and may be harmful to human health. Today, most beaches in Alaska are either not consistently monitored or not monitored at all, so visitors and residents face risks of illness from swimming and other activities in coastal areas that contain disease-causing microbes. For this reason the Takshanuk Watershed Council (TWC) has partnered with the Alaska Department of Environmental Conservation (DEC) to monitor bacteria levels at swimming beaches in Haines, AK.

TWC started monitoring Lutak Inlet and Portage Cove beaches on July 12th, 2011 and concluded sampling in Sept. Sampling will begin again in the spring of 2012 and continue through June. Sampling results for 2011 showed that bacteria levels were well below the safe swimming level limits set by DEC with one exception. However, a second sample reviewed bacteria levels well under the safe swimming levels.

Table 1. Survey of 45 Haines residents and their activity at Lutak Inlet and Portage Cove.		
Activity	Lutak Inlet	Portage Cove
Swimming/Bathing	14	18
Beach combing/ Walking	27	35
SCUBA	1	1
Surfing	0	0
Windsurfing	1	1
Kayaking	12	10
Boating	24	22
Hiking	19	22
Camping	10	11
Picnicking	25	28
Harvesting of coastal marine resources	27	23
Other activities included: Wildlife viewing; Flower Observation; Mushroom Hunting; Dog Walking; Photography.		

*If you have any questions, please contact Takshanuk Watershed Council at 907-766-3542, www.takshanuk.org, or julia.scott@takshanuk.org.

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Conclusion

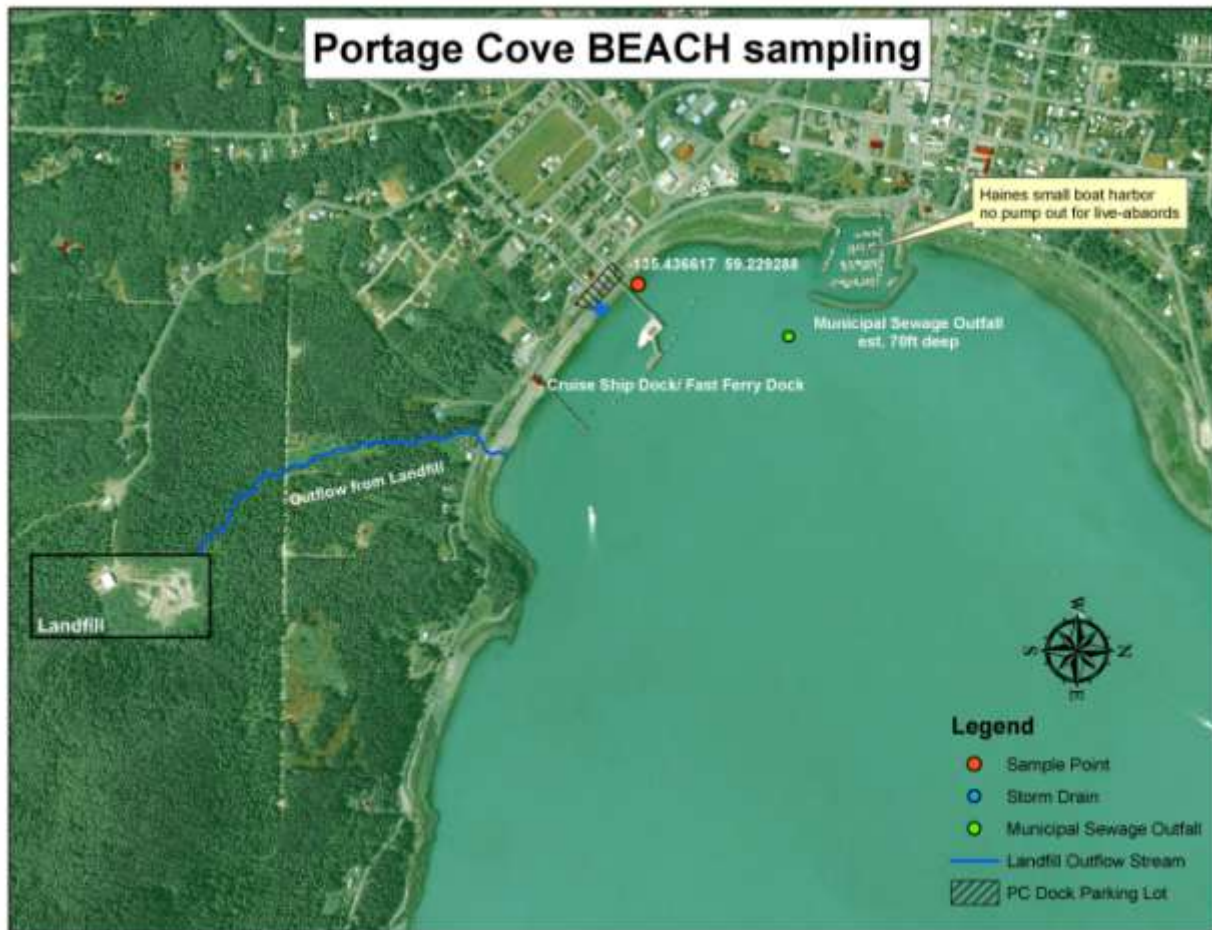
In the summer of 2011 and spring of 2012 the levels of harmful bacteria at the swimming beaches in Haines were below the safe level for recreational contact with the exception of one day in late August 2011. While this information is useful for the Haines community the greater benefit has been the increased interest in water-quality issues throughout the community. Since TWC initiated this study with the help of ADEC the Haines Borough Assembly and the local Chilkoot Tribe has engaged TWC for more water-quality studies and consultations. This increased interest has lead to TWC being involved with testing water-quality from the Haines Landfill, Paralytic Shellfish Poisoning, and will continue working with ADEC on water-quality issues.

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Appendix A

The mission of Takshanuk Watershed Council is to provide stewardship for the Chilkat, Chilkoot and Ferebee River systems. Through restoration, education, research, and community involvement we will benefit the natural ecology, economy and quality of life valued by all residents.

Appendix A-1. Map of Portage Cove, Haines, AK with sampling location and potential sources of contamination.



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Appendix A-2. Map of the Haines Landfill which composts the municipal sewer sludge and is a potential source of contamination. TWC has documented bacterial contamination in the stream exiting the landfill.



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Appendix A-3. Map of Lutak Inlet, Haines, AK with sampling location and potential sources of contamination.



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