Swimming Beaches

On a warm day, the waters of Puget Sound present an alluring invitation to wade, swim, or SCUBA dive. Although many of our beaches meet high standards for water quality, every year beaches are closed to the public because of high bacteria counts.

In 2011, one quarter of our monitored beaches were unsafe for swimming because they failed to meet water quality standards. Swimming in contaminated waters can result in a variety of illnesses and other unpleasant outcomes. As our region grows in population, we can expect both an increase in the demand for recreational swimming opportunities, and in the sources of contamination from wastewater and stormwater runoff.

Clean water, free of harmful bacteria or chemicals, is an important goal in our efforts to restore and protect the Sound. We want the water to be as clean as possible so that we can enjoy the Sound without worrying about our health.

Photo Credit: Jon Bridgman, Puget Sound Partnership

Swimming Beaches

INDICATOR:

Conditions of Swimming Beaches

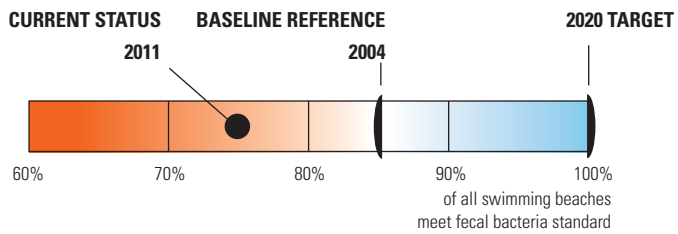
Indicator lead: Julie Lowe, Washington Department of Ecology

TARGET:

To have all monitored beaches in Puget Sound meet standards for what is called *enterococcus*, a type of fecal bacteria.

PROGRESS:

IS THE TARGET MET?	NO	IS THERE PROGRESS?	NO



In 2011, 75% of all monitored swimming beaches met fecal bacteria standards, which is down 12% from the 2004 baseline reference of 85%.

Progress Towards 2020 Target

Statewide monitoring of water quality at marine recreational beaches was initiated in 2004 by the Washington State's BEACH (Beach Environment Assessment, Communication, and Health) program. The target of 100% of all monitored swimming beaches meeting the EPA standards has not been met to date. Furthermore, no progress has been made relative to the 2004 baseline. In fact, the percent of core swimming beaches meeting standards initially improved, but subsequently declined, indicating that the conditions at swimming beaches have somewhat worsened.

What Is This Indicator?

The swimming beaches indicator reflects marine water quality conditions in areas heavily used for recreation. Conditions are measured using the percent of monitored Puget Sound swimming beaches that meet EPA water quality standards for the fecal bacteria *enterococcus*. Swimming beaches not meeting *enterococci* water quality standards indicate poor water quality that can result in negative human health outcomes such as gastrointestinal illnesses, respiratory illnesses, and skin infections.

Washington's BEACH Program was launched in 2003 in response to the BEACH Act, which amended the US Clean Water Act in 2000. A collaboration between the Department of Ecology and Department of Health, the program monitors high use/high risk beaches throughout the Puget Sound and Washington's coast.

The number of monitored beaches varied from year to year (Table 1). However, a total of approximately 47 core swimming beaches are monitored every year. Core beaches are those that are heavily used by the public and also present a higher risk to human health. A certain number of additional swimming beaches are monitored every year depending on funding, public

input, and local health jurisdiction feedback.

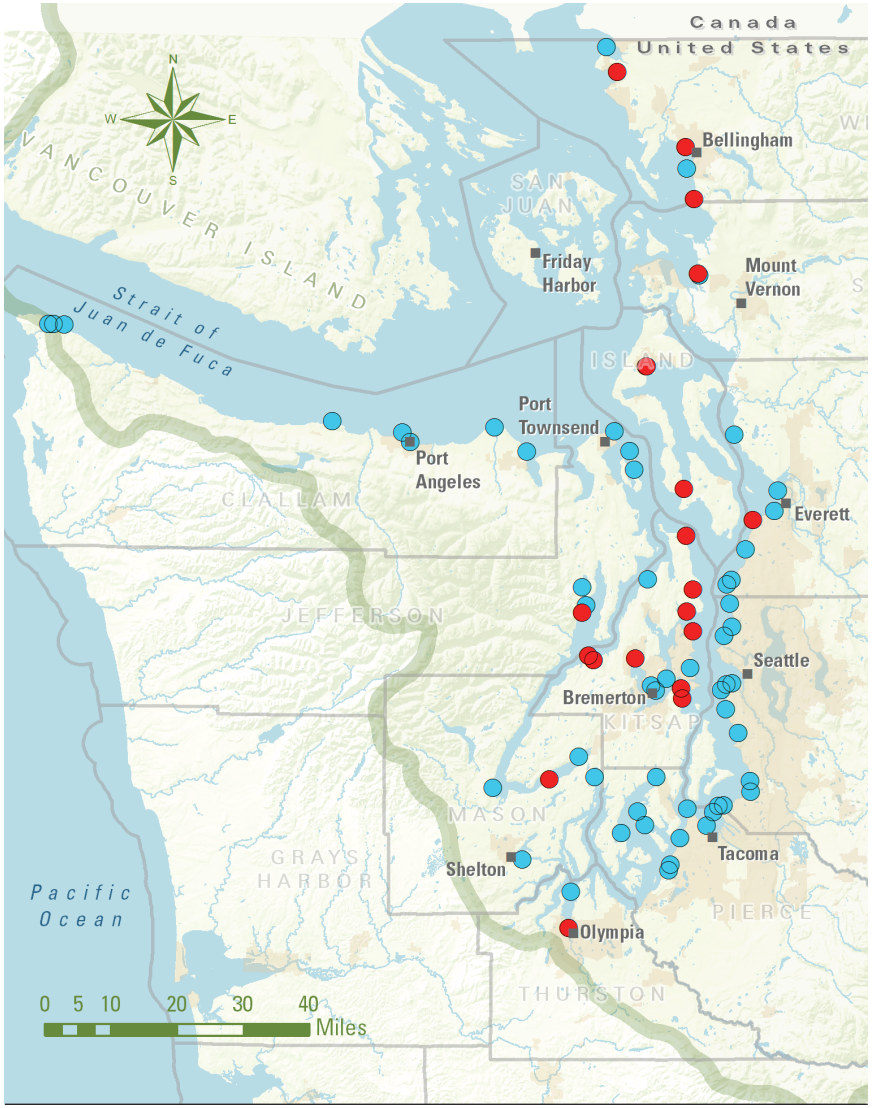
For the purposes of this indicator, a beach is considered to meet EPA standards for a particular year if the beach has only one or less instance of a weekly result greater than or equal to 104 cfu/100mL.

The output of the indicator goal may not adequately reflect a long-term outlook for the quality of our beaches, since the number of beaches monitored changes from year to year.

Interpretation of Data

Status and Trend

Overall, the majority of monitored swimming beaches met *enterococcus* standards every year since 2004, the first year when the program was in full operation (Table 1). However, the number of beaches meeting the standards has varied from year to year ranging from a low of 74% in 2010 to a high of 88% in 2005 (Table 1). Monitored swimming beaches that did not meet standards in 2011 are scattered throughout Central and North Puget Sound (Figure 1).



Swimming Beaches Monitoring 2011

Passed	Cities and Urban Growth Areas
Failed	County border
	Salish Sea Basin boundary

Figure 1. Distribution of all monitored swimming beaches, categorized by whether they passed or failed to meet water quality standards during the 2011 swimming season. *Source: Washington Department of Ecology, BEACH program*

Swimming Beaches

Furthermore, some swimming beaches have had multiple violations since 2004. Five of the 19 swimming beaches that failed to meet standards in 2011 are considered beaches with chronic bacteria issues, namely:

- Freeland County Park, Holmes Harbor
- Larrabee State Park, Wildcat Cove
- Pomeroy Park, Manchester Beach
- Silverdale Waterfront Park
- Windjammer Park

The remaining 14 Puget Sound beaches that did not meet standards failed to do so during routine weekly sampling; however, they have met the standard on most occasions.

When the sample size is reduced to just the core beaches and tracked over time, the number of beaches meeting standards has slightly decreased since 2004, although numbers have varied from year to year (Figure 2).

Core Puget Sound Swimming Beaches Meeting *Enterococcus* Standards
Annual, 2004-2011

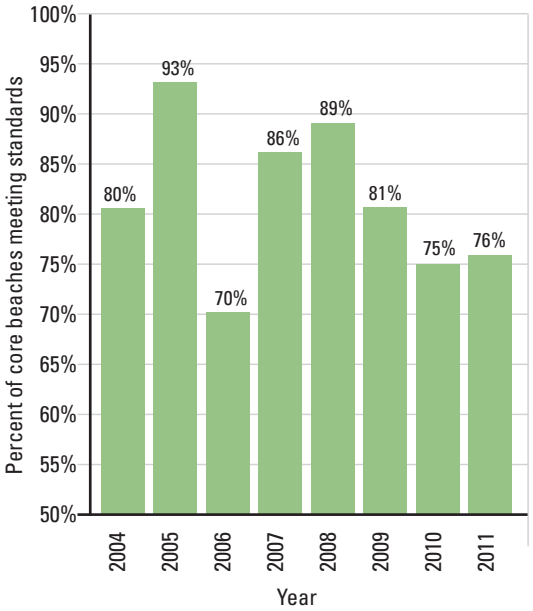


Figure 2. The percentage of core Puget Sound swimming beaches meeting *enterococcus* standards every year since 2004.
Source: Washington Department of Ecology, BEACH program

Monitoring Results for Conditions at All Monitored Swimming Beaches in Puget Sound.

	2004	2005	2006	2007	2008	2009	2010	2011
Number of swimming beaches sampled	68	67	71	62	53	68	46	75
Percentage of swimming beaches failing to meet standards	15%	12%	20%	12%	13%	22%	26%	25%
Percentage of swimming beaches meeting standards	85%	88%	80%	87%	87%	78%	74%	75%

Table 1. Monitoring results for conditions at swimming beaches in Puget Sound.
Source: Washington Department of Ecology, BEACH program