

## Stream Health

City role: indirect

Percentage of stream sampling locations with Water Quality Index greater than 40; and percentage of twelve significant streams with BIBI score of 35 or greater

### WQI Scores Greater than 40

Baseline ('05):	25%	Trend: n/a*
Observed ('12):	100%	
Objective:	n/a	

\* data does not support trend analysis

### B IBI Scores of 35 or Greater

Baseline ('11):	18%	Trend: n/a*
Observed ('12):	0%	
Objective:	n/a	

\* data does not support trend analysis

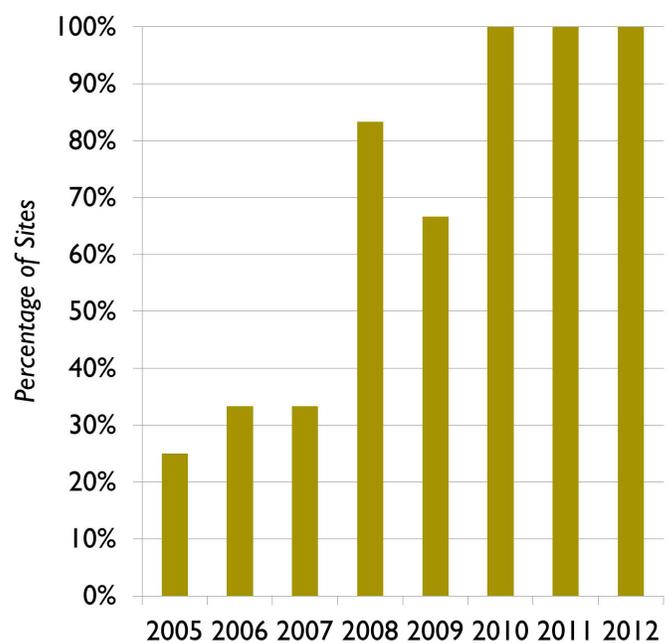
The Washington State Department of Ecology developed a Water Quality Index (WQI) tool that synthesizes a variety of water quality field data into one score between zero and 100. WQI scores of 80 and above indicate a stream can support fish and wildlife and is safe for human contact. Streams with scores between 40 and 79 are considered “marginal.” WQI scores of less than 40 indicate streams are of “greatest concern.”

To determine a stream’s WQI score, eight water quality parameters are measured:

1. temperature (high temperature is bad)
2. dissolved oxygen (low concentration is bad)
3. pH (acidity too high or too low is bad)
4. fecal coliform bacteria (pathogens, high is bad)
- 5-6. nitrogen and phosphorous (nutrients, high is typically bad)
- 7-8. total suspended solids and turbidity (high is typically bad)

In 2009 the City implemented an updated WQI sampling protocol. Results from past years have been restated to conform to the new protocol. Water quality samples are now collected on a monthly basis over the water year (October to September). Samples are not taken during, or soon after, rain storms. This change produces more accurate index values as the WQI was designed to measure non-storm-related, low-flow stream conditions. Water quality typically declines during periods of stormwater runoff.

## Percentage of Sites with WQI Greater than 40



Trend analysis from year to year using an index value is not scientifically sound.

The Benthic Index of Biotic Integrity (B IBI), also known as the “bug index” is a measure of the ecological health of Redmond streams and whether or not they can support native habitat. A score of 35 or higher is necessary to support native habitat. Scores range from 10 to 50.

Source: City of Redmond Natural Resources  
Updated March 2013