

Bacteria Water Quality Objectives Project, Lahontan Water Board

January 27, 2015

The Lahontan Water Board staff is engaged in a multi-year project to assess bacteria concentrations in the region's surface waters, evaluate the data relative to the existing bacteria water quality objective of 20 cfu/100 mL, and modernize the objective to an *E.coli* standard. This Fact Sheet presents background and preliminary bacteria data.

Since most of the Lahontan region is remote and inaccessible for collecting and analyzing water quality samples within strict holding times, the sampling locations were focused on accessible water bodies with high recreational uses.

Based on the approximate 3,500 water samples analyzed for fecal coliform bacteria from 2008 to 2013, we are able to draw these preliminary conclusions about the Lahontan region's water quality:

- About 73% of the water samples met the current bacteria water quality objective with less than 20 cfu/100 mL coliform bacteria ("cfu" is colony forming units and "mL" is milliliters of water). The watersheds and land uses draining to these areas are largely remote, have little to no development or human/livestock influences, and represent roughly 77% of the approximate 11.7 million acres of watersheds sampled in the region.
- About 25% of the water samples contained coliform bacteria concentrations ranging from 20-200 cfu/100 mL. The watersheds and land uses draining to these areas are typically influenced by a moderate level of development or human/livestock land uses and represent roughly 6% of the approximate 11.7 million acres of watersheds sampled in the region.
- About 2% of the water samples contained coliform bacteria concentrations more than 200 cfu/100 mL. The watersheds and land uses draining to these areas are commonly influenced by a high level of development or human/livestock land uses and represent roughly 17% of the approximate 11.7 million acres of watersheds sampled in the region. The coliform bacteria concentrations in these water bodies typically fluctuates throughout the year with low bacteria concentrations (<50 cfu/100 mL) in the winter when human/livestock influences are absent and higher concentrations in the spring, summer, and fall, ranging from 50 to more 300 cfu/100 mL.

[Attachment 1](#) contains maps showing the sampling sites. The results are displayed in four groupings and color-coded for ease of interpretation.

[Attachment 2](#) contains analytical data of fecal coliform and *E.coli* bacteria for all of the region's sample sites. The 30-day geomean calculation is provided where appropriate.