

## Section 7

# Conclusions

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For more than a century, Portland drinking water customers have reaped the extraordinary benefits of a source that, due to its natural environment and concerted community efforts to preserve its natural features, provides water of exceptional quality. Long before the term “source water protection” was coined or the need for regulatory structures to protect people and the environment was identified, the most basic tenet of public health protection for drinking water—keeping it separated from contamination sources—was applied on a landscape scale within the Bull Run watershed. The overriding public health approach for Bull Run drinking water has always been remarkably simple and effective: keep harmful substances from entering the water in the first place. The approach, confirmed as effective by a long record of water quality and public health data, has enabled the Portland Water Bureau to provide finished drinking water while avoiding the need for filtration or other technologies to address source water contamination.

Bull Run’s situation runs counter to the overwhelming majority of drinking water sources throughout the United States, and the need for national primary drinking water regulations to ensure the public health protection of the nation is unquestioned. The LT2 rule in particular has a clear impetus and ongoing purpose to prevent the transmission of disease through drinking water. Waterborne disease outbreaks have had tragic consequences in recent decades. Every person using drinking water within the United States should have assurance that the water he or she consumes is safe.

The purpose of this document has been to convey that, with regard to Bull Run source water, Portland drinking water customers have assurances of safety that meet and exceed those of other water systems in the country. Additionally, the document has demonstrated achievement of the rigorous standards established in the LT2 rule and Safe Drinking Water Act for meeting the treatment requirements of the rule through an approved variance.

The Portland Water Bureau has conducted an unprecedented documentation of the general absence of *Cryptosporidium* in the Bull Run watershed—in the wildlife scat that poses the only potentially significant source of the pathogen, at several upstream locations where and when the presence of the pathogen would be most likely to occur, and most importantly, at the raw water intake where source water is introduced into the drinking water system. Here, Portland detected no *Cryptosporidium* in the raw water despite sampling a large enough volume to meet the threshold established by EPA as the agency’s primary criterion for variance eligibility. This documentation corresponds with public health data demonstrating the low incidence of cryptosporidiosis in the community and the consensus view of local and national public health experts that the risk of exposure to *Cryptosporidium* of any type—and in particular to the type most associated with illness in humans—is very low in Bull Run water.

The fundamental attributes of the Bull Run responsible for the lack of *Cryptosporidium* in drinking water are the watershed controls that restrict human access and activities and the natural ecology that both limits the population and density of wildlife and the overland transport of pathogens. These attributes are both long-standing and enduring, as city code and federal law mandate that Portland and its federal partners continue protecting the Bull Run according to the watershed stewardship policies that have emerged over the last three decades. Proposed monitoring will provide both ongoing feedback about these attributes and a mechanism for Portland and public health officials to develop appropriate management and community responses, if necessary, to ensure continued public health protections for Portland drinking water customers. With monitoring in place, Portland customers will have public health assurances regarding *Cryptosporidium* in their drinking water that exceed those provided by the LT2 rule for systems treating for the pathogen.

## 7.1 Summary

The fundamental purpose of the LT2 rule is to achieve a highly protective and nationally consistent level of protection against the transmission of cryptosporidiosis through drinking water. Portland's primary basis for requesting a variance to comply with the treatment requirements of the rule is water quality sampling results that demonstrate a risk for exposure to infectious *Cryptosporidium* that is as low as, or lower than, that of water systems complying with the LT2 rule through treatment. This has been demonstrated during the intensive one-year sampling program and will be confirmed into the future through ongoing monitoring. With extremely limited sources of *Cryptosporidium* present other than wildlife, a long history of no *Cryptosporidium* detections at the raw water intake, and public health surveillance data showing no evidence of endemic waterborne cryptosporidiosis in the community, it is clear that additional treatment to address *Cryptosporidium* is not merited at this time for the Bull Run source.

On all these grounds, and with the support of the details included in this document, Portland respectfully asserts that, for the Portland water system, a treatment technique for *Cryptosporidium* is not necessary to protect public health due to the nature of Bull Run raw water source, and that a variance to the treatment requirements of the LT2 rule is justified.