

Mid-Yakima River Basin Bacteria TMDL Report – RSBOJC Public Comments

- The report is of questionable accuracy because of the infrequency of testing and the outdated results. For example, the cited USGS samples were collected in the Moxee Drain in 1988, 1999, and 2000. This is now 20-year-old data which would not identify the numerous changes that have occurred in this area.
- Agriculture practices have changed as many water users have changed irrigation practices, including more reliance on sprinkler and drip irrigation. Irrigation water providers such as Selah-Moxee Irrigation District and the Roza Irrigation District in the Moxee basin, along with the farmer and orchardist water users have piped many formerly open ditches. These changes have substantially reduced the amounts of surface return flows that enter the drains and ditches identified in the report.
- The report should recognize that many of the identified “streams” are in reality irrigation canals, ditches, or drainage ditches delivering irrigation water or draining irrigation return flows (i.e., Moxee Drain, Hubbard Canal, Roza Canal). These irrigation facilities are primarily man-made structures whose purpose is to deliver or drain irrigation flows.
- The irrigation and drainage facilities are not intended to be used for “recreational” purposes. The public is strongly discouraged from entering or using these waters for safety reasons. The facilities will never be “fishable” or “swimmable” because they are not designed to be used for those purposes and the safety protocols already in place to prevent such use. It is questionable whether any of these irrigation facilities should be identified on the 303(d) listing as they will never be used for recreational purposes.
- The report also fails to recognize or adequately characterize the source of these waters in the Moxee basin. The Roza Canal, Moxee Canal, and Hubbard Canal all receive their water through irrigation facilities that divert out of the Yakima River. The waters that end up in the Moxee drain, the Drainage Irrigation District facilities, and other drains, are comprised of irrigation return flows. The Moxee basin does not have any natural flows of streams or creeks. All waters are return flows derived from the productive irrigated lands in the Moxee basin.
- There is no “Moxee Creek.” The waters in this drainage canal incorrectly identified as “Moxee Creek” again all come from irrigation return flows. This is also evidenced by the fact there is no measurements of waters or “streams” above the irrigated farmlands. Any ephemeral streams identified in the Report come from the snow melt and the occasional storm event. As evidenced by the small amount of rainfall for the Moxee basin, these drains will be dry for most, if not all of the year, but for irrigation.
- It has been well established in the scientific community based on previous research studies that there are different methodologies and/or techniques for measuring *E. coli* concentration in surface water grab samples. Several analytical testing methods allow the enumeration of *E. coli* to be

reported in units of most probable number (MPN) per 100 mL in addition to conventional methods where the units are reported in colony forming units (CFU) per 100 mL. Both unit forms are also recognized and listed in Table 200 (2) (b) Primary Contact Recreation in Fresh Water for *E. coli* Criteria under the current version of Chapter 173-201A WAC (Water Quality Standards for Surface Waters of the State of Washington). It is recommended to include the MPN per 100 mL units in all sections of this TMDL report where *E. coli* criteria for State Water Quality Standards is listed or discussed. One example is “Table 7: Applicable State water quality bacteria criteria” in the middle section of page 9 of this TMDL report.

- On page 62, second paragraph under the Moxee Canal subheading, the sentence reads “During the 2005 irrigation year, the Moxee Canal was sampled only at Bell Rd (37-FM-7 / 37-IS-3)”. However, the site description of the Site ID 37-FM-7 / 37-IS-3 in Table 11 on page 35 lists the Site Description as Moxee Canal @ Beaudry Road. Also, the latitude and longitude coordinates for this same Site ID 37-FM-7 / 37-IS-3 from Table 11 takes you to a map location where there is no waterbody currently present. It is recommended to modify these discrepancies for clarification purposes.
- There are a few instances in this TMDL report where a geometric mean value (GMV) is being calculated, and then compared to the geometric mean criteria for *Fecal coliform* in Table 200 (2) (b) Primary Contact Recreation in Fresh Water under the current version of Chapter 173-201A WAC (Water Quality Standards for Surface Waters of the State of Washington). However, the sentence in bullet point Table 200 (2) (b) (i) under the current version of Chapter 173-201A states “A minimum of three samples is required to calculate a geometric mean for comparison to the geometric mean criteria”, in this case for bacterial indicators. Therefore, one example in the TMDL report shows that there was only one sample in a dataset where N=1, such as for Site ID 37-FM-4 / 37-IS-2 in Table 34 on page 60. It is recommended that the geometric mean calculation requirement for comparison to the *E. coli* and *Fecal coliform* geomean criterion be considered where on several occasions in this TMDL report there are less than three samples identified in a dataset.
- At the end of the sentence one of the first paragraph on page 76, Figure 35 is cited as reference to sampling site locations along DID #11. However, Figure 34 on the same page of 76 illustrates the DID #11 sampling sites. Figure 35 on page 78 shows an Illicit connection smoke testing. In addition, a similar situation occurs later in sentence five of the same paragraph on page 76 where Figure 15 is referenced; meanwhile, Figure 15 on page 25 is a drainage area map of the Cowiche Creek sub-basin. It is recommended to modify these discrepancies for clarification purposes.