

MEMORANDUM BCWA

Date: September 2, 2015
To: Joni Nuttle, WQCD
From: Russell N. Clayshulte, Manager BCWA
Re: BMPs Applied to Kerr/ Swede Gulch



The BCWA has developed *Fact Sheet 51- Reducing Risk of E. coli Contamination of Waterways*. This fact sheet defines some of the steps that were used on Kerr/ Swede Gulch and will be applied throughout the watershed whenever an E. coli problem is identified. In essence, the fact sheet defines a process that serves as a management tool to reduce the risk of E. coli contamination in all stream segments.

After the original low priority 303(d) listing for E. coli, the BCWA conducted investigations along Kerr/ Swede Gulches to identify potential sources. Since there is no centralized wastewater service to this area, all home sites use OWTS for sanitary service. The BCWA identified locations of OWTS in the lower drainage and made a preliminary evaluation to determine if there was surfacing wastewater. No obvious septic system failures were observed. There were several functional outhouses in the lower drainage identified by the BCWA that were addressed by Jefferson County Public Health and no longer pose a potential contamination source. The BCWA also identified the locations of stabling operations throughout the drainage. The BCWA had conversations with several landowners and stabling operations. In the lower drainage, a horse stable on Kerr Gulch provided a stream buffer by moving the primary stabling area away from the stream. The owner was also willing to remove manure stockpiles immediately adjacent to Kerr Gulch. On Swede Gulch, the owner of a larger stabling operation voluntarily hauled off three trailers of manure reducing the loading potential of E. coli entering Swede Gulch. Jefferson County and the BCWA are currently exploring more options to address water quality degradation caused by stabling and grazing operations.

The four-point monitoring program established by the BCWA has been an effective strategy to identify and document potential contamination along the lower Kerr/ Swede Gulch drainage. The monitoring has allowed the BCWA to track low level E. coli and nutrient loading from OWTS, horse stabling operations, clear-cutting operations, nonpoint sources and forested lands, even under adverse conditions.

The BCWA suspected the house located at the mouth of Kerr Gulch was the primary source for the original E. coli value that caused the listing. This house had been allowed to install a non-standard vertical septic system due to space limitations, which directly discharged into Kerr Gulch. The septic system's leach field was severely undersized for the conditions. After this house burned down, there was no longer a measureable E. coli problem for Kerr/ Swede Gulches at this monitoring site. As requested by the BCWA, Jefferson County Public Health will require an advanced OWTS to serve a new house built on this lot. In the mean time, the BCWA continued the monitoring program to verify no other major sources of E. coli contamination were present in the lower drainage.

The BCWA developed and implements *BCWA Policy 4: Review Policy for Manure Management and Stabled or Confined Animal Nutrient Generation*. This policy provides Jefferson County with a tool to address water quality concerns associated with stabling operations.

The BCWA considers the disposal of, including but not limited to, household waste, construction waste, yard waste, organic material (e.g., pine needles) or other plant materials into waterways within the watershed as nonpoint source pollution (*BCWA Policy 18 Illegal Material Dumping as a Pollutant in Bear Creek Watershed*). This form of waste disposal can harm water quality and is not an acceptable practice in the watershed. These incidents of illegal material dumping are reported to and addressed by the proper authorities (e.g., Jefferson County staff) for appropriate responses.