Indirect Agricultural Reuse to Improve Water Management and Enhance Water Quality in the Treasure Valley

Jack R. Harrison, Ph.D.
1337 E Fall Ct.
Boise, ID 83706
Telephone: 208-861-1654
hyqual@cableone.net

Water quality in the Treasure Valley is directly linked to water management in and along the Boise River. This talk will examine this linkage and discuss "indirect reuse" as a critical method needed to reduce levels of sediment, phosphorus and bacteria in the lower Boise River watershed and downstream. In addition to reducing levels of these "Pollutants of Concern" (as referred to in EPA stormwater permits) pesticides, emerging or other contaminants can also be reduced.

Generally source reductions are the key to reducing the contaminants. However, we have another opportunity in this watershed, which can be termed indirect reuse. This is reuse of water that is taken from a tributary, drain or the shallow groundwater, and used to irrigate agricultural cropland land. This is already occurring throughout the lower valley. But we have the opportunity to increase this form of reuse through cooperative efforts if we can develop and support urban/rural partnerships. This method of water quality improvement was discussed in the early 1990's during preliminary Boise River TMDL planning. It was assessed in more detail by USBR in 1994 where multiple diversions were identified. However, currently most of the focus on non-point source load reduction has been directed toward "On-Farm" BMPs (via 319 and other federal support programs) and stormwater management activities implemented under NPDES permits.

In this talk, I will compare the On-Farm and stormwater BMPs with examples of ongoing and proposed Indirect Reuse projects. I will show how this can provide more reliable water delivery to irrigators (as needed to help address climate change) while improving water quality throughout the valley. And, while my primary focus is phosphorus reduction, I will also provide insight into the potential for sediment and bacteria reductions.