Bill Stalzer

From: Dan Nickel [DNickel@watershedco.com]
Sent: Friday, July 11, 2014 3:51 PM
To: Bill Stalzer
Subject: Whetstone Hollow and Dry Creek

Bill,
Per our earlier phone conversations I thought it would be good to provide a brief summary of our recent thoughts on both Whetstone Hollow Creek and Dry Creek. I support the removal of both waterbodies from consideration as Shorelines of the State.

Whetstone Hollow
Recent evaluation from Patricia Olson at the Dept. of Ecology indicates that Whetstone Hollow Creek likely does not meet the 20 cfs mean annual flow criteria. Ms. Olson re-ran the USGS regression analysis under several precipitation models: 1) the 2003 version by Higgins (USGS) which used 20 inches of precipitation; 2) 16.4 inches of precipitation based on better PRISM grid; and 3) 18.6 inches taken from PRISM grids at the Touchet River near Bolles. I recently spoke with Larry Hooker of the Walla Walla Conservation District and Larry indicated that the Conservation District had two relevant long-term precipitation data sets, ones from near Bolles Bridge, which is about 6 miles above the mouth of Whetstone Hollow. These data sets indicate that the annual average precipitation for this area is someone between 14 and 18 inches. Larry noted that using an average value of 16 inches would likely be most appropriate. Per Ms. Olson's revised analysis, a precipitation value of around 16 inches per year results in a mean annual flow in Whetstone Hollow Creek somewhere around 14 to 15 cubic feet per second (cfs).

Dry Creek
Stream gage data for lower Dry Creek is available from 2002 through 2009. While this data set is fairly continuous, there are gaps throughout during both wet and dry periods. In summary, this dataset indicates that the mean annual flow in Dry Creek is approximately 18.6 cfs. Upon further investigation of missing data, there is a high likelihood that the mean annual flow value is lower than 18.6 cfs due to the preponderance of unrecorded dates during low flow periods. Dry Creek was originally included in the County's Shoreline Master Program since stream flow models predicted a mean annual flow of 20cfs starting just downstream from Dixie. However, the hydrology across the landscape along Dry Creek has changed dramatically over the past couple of decades. Per Larry Hooker at the Walla Walla Conservation District, there greater than 500 acres of CREP plantings along Dry Creek, almost all below Dixie. These plantings provide a functioning buffer to Dry Creek, but also minimize surface and subsurface flow to Dry Creek via uptake. Over this same period of time, agricultural practices have shifted from dry land farming to other methods which include needs for irrigation withdrawals. Therefore, it appears that the existing condition, as indicated by the stream gage data, is no longer above 20 cfs mean annual flow.

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